CITY OF CALIFORNIA CITY

2020 URBAN WATER MANAGEMENT PLAN

JUNE 2023

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ACRONYMS AND ABBREVIATIONS

Act	Urban Water Management Planning Act of 1983
AF	acre-feet
AL	Regulatory Action Level
AVEK	Antelope Valley-East Kern Water Agency
City	City of California City
cf	cubic feet
CII	Commercial, Industrial, and Institutional
CWC	California Water Code
DMMs	Demand Management Measures
City	City of California City
GPCD	Gallons per Capita per Day
GSA	Groundwater Sustainability Agency
Guidebook	*2020 Guidebook for Urban Water Suppliers*
MCL	maximum contaminant level
MG	million gallons
MGD	million gallons per day
mg/L	milligrams per liter
mph	miles per hour
PWS	Public Water System
QK	Quad Knopf, Inc.
RAA	running annual average
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SR	State Route
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
UWMP	Urban Water Management Plan
WDR	Waste Discharge Requirements
WSCP	water shortage contingency plan
WWTP	wastewater treatment plant
^{0}F	degrees Fahrenheit

SECTION 1 - INTRODUCTION AND LAY DESCRIPTION

1.1 - Overview

This document presents the 2020 Urban Water Management Plan (UWMP) for the City of California City (City) as required by the Urban Water Management Planning Act of 1983 (Act). It was prepared in cooperation with City staff to address the requirements in California Water Code Division 6, Part 2.6, sections 10610 through 10656. Throughout this 2020 UWMP is italicized text quoting specific requirements of the Act. The quoted text precedes sections relevant to a specific portion of the Act to serve as an aid to the reader. A copy of the Act is included as Appendix A. Section 1 describes the general background and purpose of an UWMP, previous City plans, as well as this 2020 UWMP's organization and contents.

1.2 - Background and Purpose

Water Code section 10617 defines an "urban water supplier" as a public or private 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. If qualified as an urban water supplier, a public or private supplier is required to create or update an UWMP every five years and submit it to the Department of Water Resources (DWR) for review and approval. The purpose of the Act to ensure that urban water suppliers are adequately planning.

An UWMP is a planning tool that was created to help generally guide the actions of urban water suppliers in successfully preparing for potential water supply disruptions and issues. It provides a framework for long-term water planning and informs the public of a supplier's long-term resource planning to ensure adequate water supplies for existing and future demands. An UWMP is not a substitute for project-specific planning documents, nor was it intended to be so mandated by the State Legislature DWR.

The Act requires that an UWMP include historic, current, and future supplies and demands for water; address conservation measures, describe potential supply deficiencies during drought conditions and the ability to mitigate these conditions; compare total projected water use and supply sources over 20 years in 5-year increments for a single-dry water year and for dry water years; and include provisions for recycled water use, demand management measures, and a water shortage contingency plan.

To assist urban water suppliers in preparing UWMP's DWR developed the *2020 Guidebook for Urban Water Suppliers* (Guidebook). The Guidebook is updated every five years to address any changes in State legislation (such as SB X7-7) and all requirements of the Act. The 2020 Guidebook reflects new legislation, provides information to the public regarding water suppliers and water management programs, and provides a framework for minimizing the negative effects of potential water shortages. Additionally, the Guidebook provides a general layout for how UWMPs could be organized. This 2020 UWMP largely utilizes the Guidebook's layout.

1.3 - Lay Description

Based on the results of this UWMP, the City has a reliable water supply (via groundwater wells and the ability to purchase water from AVEK) and is not vulnerable to seasonal and climatic shortages. There is no current need to supplement or replace the existing water sources available to the City with alternative sources or water demand management measures.

As shown in the table below from Section 7 of this UWMP, future water supplies are anticipated to not only meet, but exceed demands in normal year conditions through year 2040.

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	2,894	2,905	2,916	2,933	2,950
Demand totals *(autofill from Table 4-3)*	1,415	1,514	1,622	1,742	1,871
Difference	1,479	1,391	1,294	1,191	1,079

1.4 - Document Organization and Contents

The content and format of this 2020 UWMP is designed to meet the requirements of the Guidebook dated August 2020 and contains the following sections:

Section 1 – UWMP Introduction and Lay Description: This section provides an overview of the Act and CWC requirements, document organization, and a discussion of the importance and extent of the City's water management planning efforts.

Section 2 – Plan Preparation: This section provides information on the UWMP development process, including coordination and outreach efforts.

Section 3 – System Description: This section provides a detailed description of the City's current water system.

Section 4 – Customer Water Use: This section describes and quantifies the current and projected water uses within the City's service area.

Section 5 – Conservation Target Compliance: This section describes the methods used for calculating the City's baseline and target water consumption. It will describe whether the City has met the 20-percent conservation mandate by 2020.

Section 6 – System Supplies: This section describes and quantifies the current and projected sources of water available to the City.

Section 7 – Water Supply Reliability: This section describes the reliability of the City water supply and projects that reliability for 20 years. Such reliability is projected for normal, single-dry, and multiple-dry years.

Section 8 – Water Shortage Contingency Planning: This section provides the City's staged plan for dealing with water shortages, including a catastrophic supply interruption.

Section 9 – Demand Management Measures: This section describes the City's efforts to promote conservation and to reduce demand on its water supply and specifically addresses several demand management measures.

Section 10 – Plan Adoption, Submittal, and Implementation: This section describes the steps to be taken to adopt and submit the 2020 UWMP and to make it publicly available. It also includes a discussion of the City's plan for implementation of the 2020 UWMP.

SECTION 2 - PLAN PREPARATION

2.1 - Basis for Preparing a Plan

2.1.1 - OVERVIEW

CWC 10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

CWC 10620(b). Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

CWC 10621(a). Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

The City currently supplies approximately 742 million gallons (MG) of water per year and maintains 4,437 service connections, which is above the 3,000-connection threshold identified in CWC Section 10617.

This 2020 UWMP has been prepared by Quad Knopf, Inc. a California corporation, dba QK, as an independent contractor to the City. Accordingly, and as set forth herein, this 2020 UWMP has been prepared in accordance with the Act, SB X7-7, and the technical guidance documentation prepared and published by DWR.

2.1.2 - PUBLIC WATER SYSTEMS

California Health and Safety Code section 116275(h) defines a "Public Water System" (PWS) as a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. PWS's are regulated by the State Water Resources Control Board (SWRCB), Division of Drinking Water.

PWS data reported to the SWRCB is used to determine whether a retail supplier has reached the UWMP reporting threshold of 3,000 or more connections or 3,000 acre-feet of water supplied DWR. Table 2-1 describes the City's PWS information and, as noted above, the City currently supplies water to 4,437 connections. The City is not a wholesale water supplier.

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			
1510032	City of California City	4,437	1,279
	TOTAL	4,437	1,279

2.2 - Regional Planning

The City is a part of the Fremont Valley Integrated Regional Water Management Group (IRWMG), consisting of California City, Mojave Public Utility District (MPUD) and Antelope Valley East Kern Water Agency (AVEK). The IRWMG was officially accepted by the state and is working on an Integrated Regional Water Management Plan (IRWMP).

2.3 - Individual Planning and Compliance

This 2020 UWMP is intended to address those aspects of the Act and SB X7-7, which are under the control of the City, specifically water supply and water use. The City is undertaking individual reporting to address all requirements for applicable uses served within the City's service area (see Table 2-2).

Table 2-2: Plan Identification

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)**		

2.4 - Calendar Year and Units of Measure

As shown in Table 2-3, the City is a retailer that reports on a calendar year basis and uses million gallons MG as the unit of measure when reporting water volumes. This 2020 UWMP includes water use and planning data for calendar years.

Table 2-3: Agency Identification

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

2.5 - Coordination and Outreach

CWC 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.

CWC 10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of 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 hearing to any City or county within which the supplier provides water supplies. A privately

owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

While preparing this 2020 UWMP, the City coordinated its efforts with relevant local agencies to ensure that the data and issues are presented accurately and encouraged public involvement in full compliance with CWC 10642.

2.5.1 - *Coordination Within the City*

The preparation of this 2020 UWMP was coordinated with all appropriate City staff. copies of the 2020 UWMP were made available to City staff for comment and revision prior to adoption.

2.5.2 - *Wholesale and Retail Coordination*

The City is the sole water supplier for the area and thus the City did not seek regional participation. However, the efforts to prepare this UWMP were coordinated with appropriate agencies to provide the most accurate and clear assessment of the water supply situation in the City.

Table 2-4 Retail: Water Supplier Information Exchange

Submittal Table 2-4 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name *(Add additional rows as needed)*
AVEK
NOTES: The City does not supply Wholesale water, the City receives wholesale water from AVEK.

2.5.3 - *Coordination with Other Agencies and the Community*

The City coordinated with AVEK, MPUD, KCWA, and Kern County in the preparation of this 2020 UWMP. The City has met the 60-day local agency notification requirement of CWC Section 10621(b).

Coordinating Agencies[1]	Participated in Developing the Plan	Commented on the	Attended Public Meetings	Was Contacted for Assistance	Was Sent a Copy of the Plan	Was Sent a Notice of Intention to Adopt
Antelope Valley East Kern (AVEK)				X		X
Mojave Public Utility District (MPUD)				X		X
Kern County Water Agency (KCWA)				X		X
Kern County Development Services Agency				X		X
Kern County Supervisor (District 2)				X		X

2.5.4 - *NOTICE TO CITIES AND COUNTIES*

CWC 10620 (d)(3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

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 the plan…

The City's 2020 UWMP will be available for the public, AVEK, MPUD, KCWA, and Kern County for a 60-day review prior to the UWMP public hearing from July 5, 2023 through September 26, 2023. Written comments on the 2020 UWMP must be postmarked by September 26, 2023. Submit written comments to:

City of California City
21000 Hacienda Blvd.
California City, CA 93505

Copies of the 2020 UWMP will be available for review at the City's main office. See *Section 10 – Plan Adoption, Submittal, and Implementation* for more information on notifications to the public, cities, and counties.

SECTION 3 - SYSTEM DESCRIPTION

3.1 - Service Area

10631(a). Describe the service area of the supplier.

California City is located in southeastern Kern County in the SWRCB South Lahontan Region, approximately 100 miles northeast of Los Angeles and 70 miles southeast of Bakersfield. California City is the third geographically largest city in California with an area of 203.4 square miles. The City is near Highway 58 and Highway 14, which links the City to the other parts of the state.

The single largest land use is open space, consisting of 63.3 percent of the land area. Most of the City's residents live in the "First Community" which contains about 9,600 acres and most of the multi-family and smaller single-family residential lots. The "Second Community", which is located to the east of the center of California City, consists of larger lots and is currently sparsely populated. Sewer service is available in portions of the "First Community"; all other areas are served by septic tanks with onsite subsurface disposal.

3.2 - System

The City currently has a service population of approximately 15,333 people (see *Section 3.4 – Service Area Population and Demographics*). In 2020, approximately 742 MG of water was delivered to an estimated 4,437 water service connections of which approximately 4,273 (96%) are residential services. The remainder are for commercial and industrial uses.

The City currently utilizes six groundwater wells and surface water purchased from AVEK for its water supply. The City's groundwater wells currently have the capability to produce 5 ,100 gallons per minute. The City has six primary wells. All production wells are disinfected with sodium hypochlorite and meet all drinking water quality standards set by Federal and State health agencies. Well 3 (700 gpm) runs on natural gas and is available in the event of a power outage. The wells are located in the First Community. Water levels in the wells range from 339 to 497 feet below ground surface. Future plans include the re-construction or re-habilitation of Well 1 (550 gpm) and Well 11 (300 gpm).

The City maintains approximately 313 miles of water main lines ranging in size from 4 to 16-inches in diameter and a 20-inch transmission line connects the City wells to the reservoirs located in the foothills. The city has 7 different pressure zones to maintain pressure ranges between 50 and 100 psi. One zone has pressures as high as 130 psi and the city is planning on installing a PRV to reduce this pressure. Most residential and commercial connections have pressure reducing regulators. Customer meters are typically located on the property line and the average length of customer service lines is 25 feet.

The City maintains 5 above ground water storage reservoirs totaling 5.85 MG. These tanks are Reservoir B1 (2.5 MG), Reservoir C2 (1 MG), Reservoir D3 (1 MG), Reservoir E4 (1 MG) and Rancho Reservoir (0.350 MG).

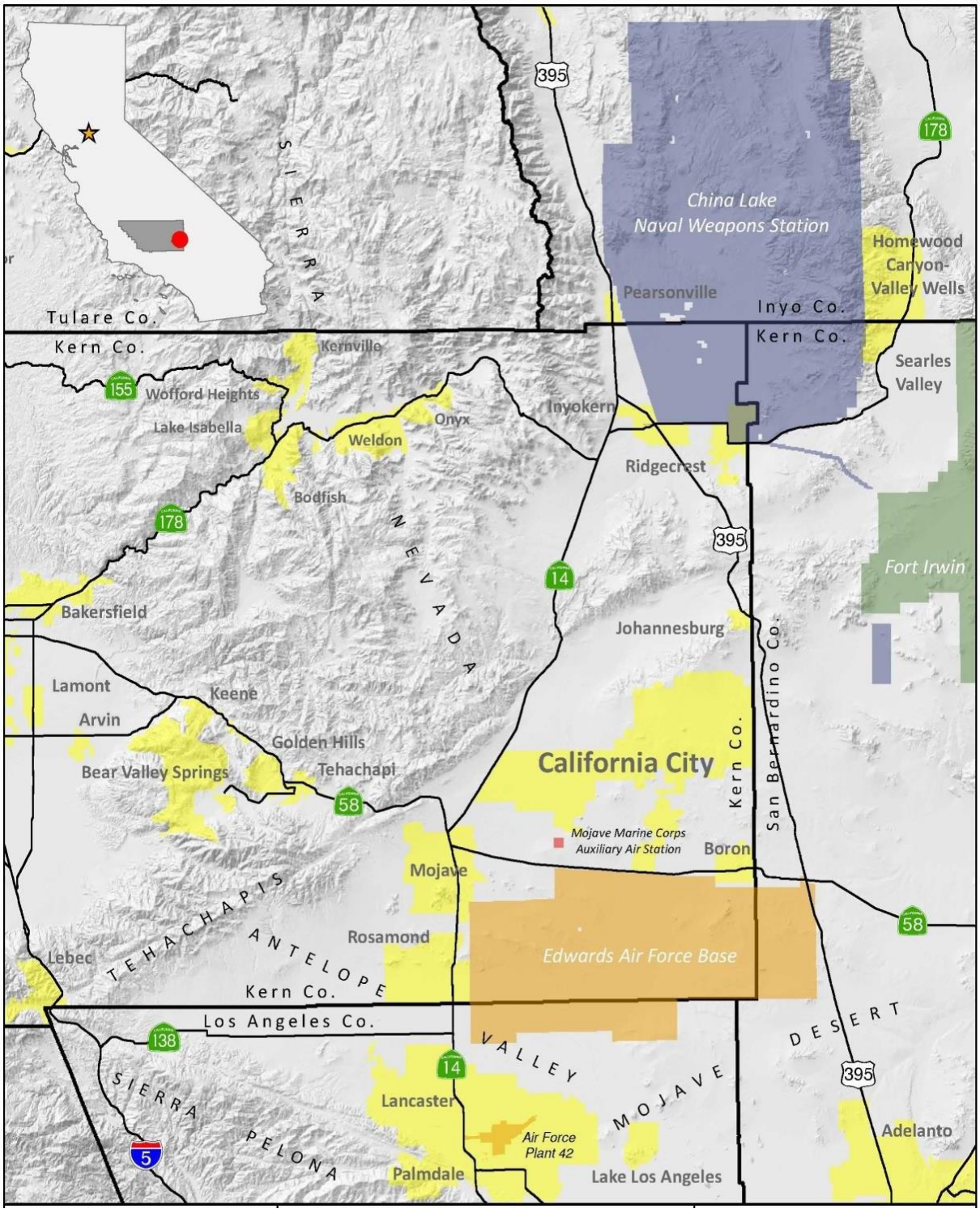

Figure 3-1
Regional Location

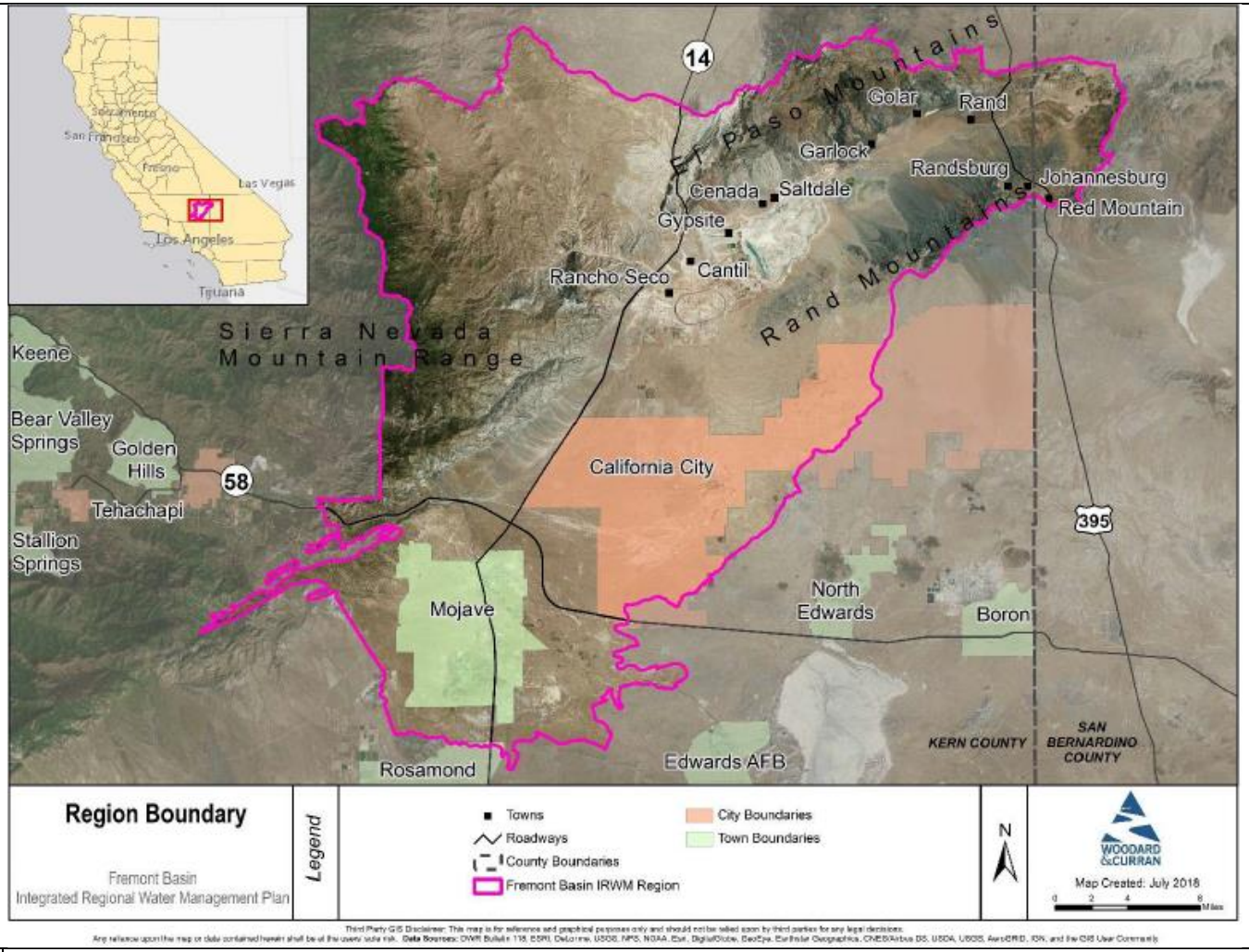

Figure 3-2
Service Area

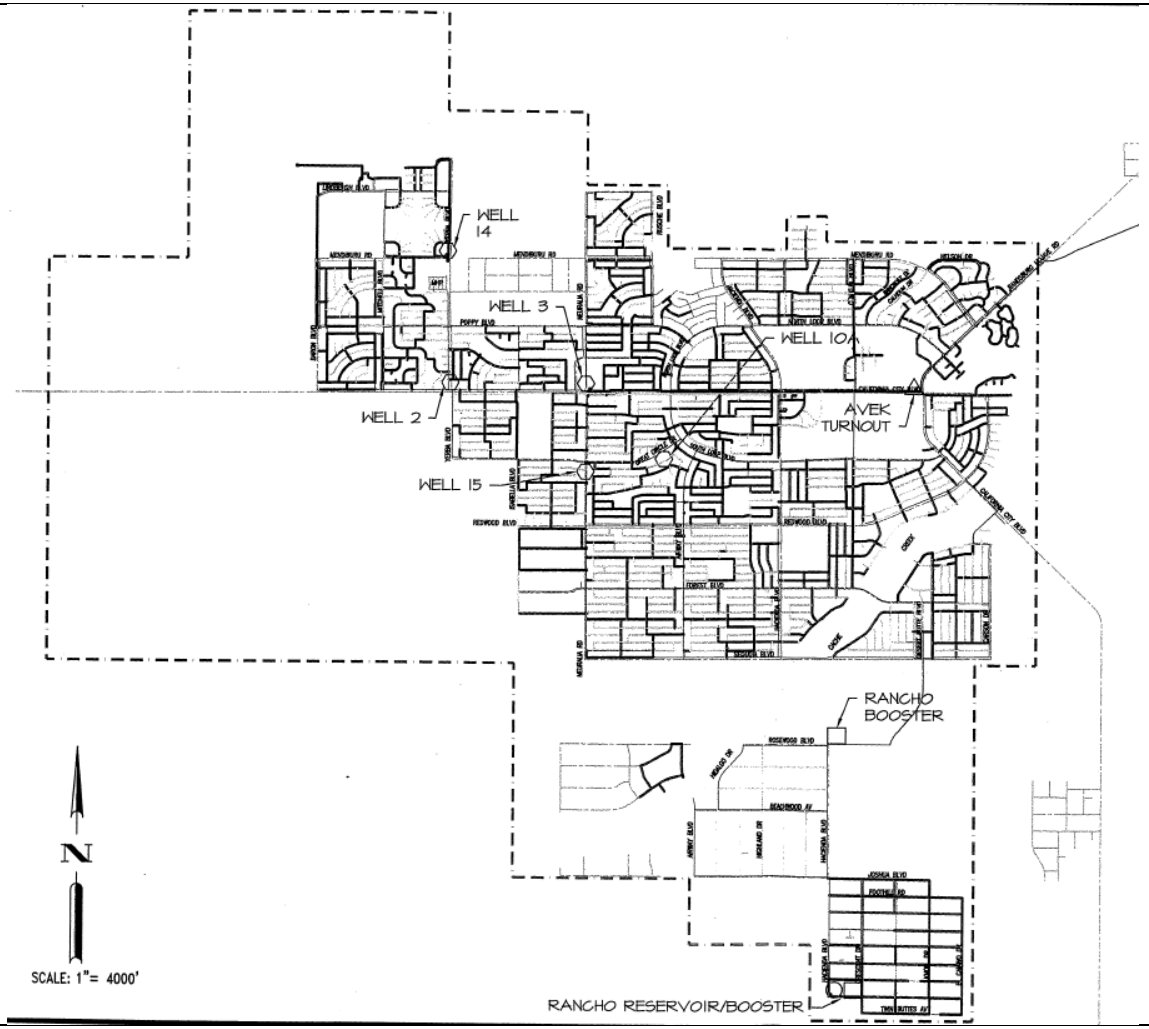

Figure 3-3
Well Locations

3.3 - Climate

10631(a). Describe the climate of the service area of the supplier.

The City is located in the high desert with an elevation range of 2,300 to 4,000 feet above sea level. Its climate is semi-arid, which provides for warm, dry weather in the summer and mild cooler weather in the winter. Rainfall for the area is less than 6-inches annually, with about 75 percent occurring in December through March. The precipitation varies considerably from year to year, with a prolonged drought occurring from 1945 to 1964 and several shorter drought periods within the last ten years. Because precipitation occurs predominantly in the winter months, when landscaping and agricultural water demand is at the lowest, summer water demand is 3 to 5 times that of the winter months.

Climatic data within the service area is summarized as follows:

Month	Monthly Average Rainfall (inches)	Average Min. Temperature (ºF)	Average Max. Temperature (ºF)	Monthly Average Temperature (ºF)	Average Pan Evaporation (inches)	Monthly Average ETo (Zone 17) (inches per month)
January	1.2	34.2	57.8	46.0	0.00	1.86
February	1.27	37.1	61.2	49.2	4.65	2.80
March	0.93	41.0	64.7	52.9	6.45	4.65
April	0.3	46.3	71.3	58.8	9.97	6.00
May	0.09	55.1	79.9	67.5	13.59	8.06
June	0.03	63.8	89.9	76.9	15.33	9.00
July	0.11	69.8	97.7	83.8	17.21	9.92
August	0.15	68.0	96.4	82.2	16.0	8.68
September	0.21	60.3	89.0	74.7	11.83	6.60
October	0.24	50.3	78.5	64.4	8.28	4.34
November	0.53	40.2	65.7	53.0	4.76	2.70
December	0.87	32.9	57.2	45.1	3.52	1.86
Annual Total/Averages	5.93	49.9	75.8	62.9	111.59	66.50
Source: Western Regional Climate Center; Mojave, CA Station 045756						

The extreme high temperatures often exceed 100 degrees Fahrenheit from May through September. Because of its high desert location, humidity levels are very low and it is often

windy. This gives California City one of the state's highest pan evaporation and reference evapo-transpiration (ETo) rates. The high evaporation and ETo rates result in significantly higher water usage for landscape irrigation than other areas in California.

3.4 - Service Area Population and Demographics

16031(a). Indicate the current population of the service area.

16031(a). Provide population projections for in five-year increments to 20 years or as far as data is available.

The population of California City was consistently near 3,000 residents from 1965 to 1980. From 1980 to 1990, the population grew to approximately 6,000. From 1990 to 2000, the population continued to increase at a similar rate, reaching 8,385 citizens. Since 2000 the rate of growth has increased slightly to a total population of 14,120 (2010 Census). Most growth was a result of employment opportunities at Edwards Air Force Base, Rio Tinto (Borax) Mine, Mojave Air and Space Port and the California City Correctional Center (CCC).

Using the number of connections provided by the City, current and projected population for the service area was calculated through 2045. The results are presented in Table 3-1.

Table 3-1 Retail: Population - Current and Projected

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	15,333	16,518	17,795	19,170	20,651	22,247

3.5 - Other Demographic Factors

16031(a). Describe other demographic factors affecting the supplier's water management planning.

There are no unique or pertinent community demographic characteristics which will influence future population growth or water usage.

SECTION 4 - SYSTEM WATER USE

A system's water use is determined by the amount of water conveyed by a distribution system, that is used by a water agency and its customers for any purpose, including non-potable water uses, water losses, and other nonrevenue water. This section describes and quantifies the City's current water use and water use projections by individual land use sector through the year 2040.

4.1 - Water Types

4.1.1 - *POTABLE AND RAW WATER*

Potable water is water intended for human consumption, which is delivered through a public water system, and regulated by a State or local health agency. Raw water is untreated water that is used in its natural state. The City supplies potable water to residences, commercial, industrial businesses, and institutions and does not supply raw water. *Section 6 – System Supplies* provides a full description of the City's potable supply including the source, quality, and groundwater levels.

4.1.2 - *RECYCLED WATER*

Recycled water is municipal wastewater that has been treated to a specified quality to enable it to be used again. Wastewater from the City is discharged to and treated by the City of California City. The City currently uses recycled water to provide water to the pond in the City's park.

4.2 - Water Use

16031(e)(1). Quantify past, current, and projected water use, identifying the uses.

The quantifications of past, current, and projected water use include the following land use sectors in five-year increments:

- Single-family residential – lot with a free-standing building containing one dwelling unit;
- Multi-family residential – multiple dwelling units contained within one building or several buildings within one complex;
- Commercial – water users that provide or distribute a product or service;
- Industrial – water users that are primarily the manufacturer or processor of materials as defined by North American Industry Classification System code sectors 31 to 33, or entities that are water users and primarily engage in research and development;
- Institutional and government – water users dedicated to public service, including education, courts, churches, hospitals, government facilities, and nonprofit research institutions; and
- Landscape – water connections that supply water solely for landscape irrigation.

The following sectors are not included in this UWMP because they are not applicable to the City:

- Conjunctive use – the City does not apply a management strategy where surface water is managed in conjunction with an underground aquifer;
- Groundwater recharge – the City does not manage or intentionally replenish natural groundwater supplies using manmade conveyance;
- Saline water intrusion barriers – the City does not inject water into a freshwater aquifer to prevent intrusion of salt water;
- Agricultural – the City does not supply water for commercial agricultural irrigation;
- Surface water augmentation – the City does not place recycled water in a surface water reservoir as a source of domestic drinking water supply; and
- Wetlands or wildlife habitat – the City does not use water for a managed environmental use to improve any environmental conditions. Water is used to supplement a man-made, concrete lined pond in the City Park. The pond is ornamental and is not a wetlands or wildlife habitat.
- Past, current, and projected losses within the system were tabulated.
- The following sectors are not included in this UWMP because they are exclusively associated with wholesale demand and, because the City is exclusively a retailer (see Table 2-3), these sectors are not applicable:
    - Sales to other agencies – the City does not make water sales to other agencies;
    - Exchanges – the City does not exchange water with other agencies; and
    - Transfers – the City does not transfer water to other agencies as defined by the CWC as a temporary or long-term change in the point of diversion, place of use, or purpose of use.

4.2.1 - *CURRENT WATER USE*

This section describes the different types of land use sectors and their 2020 individual water demand within the City service area. Pursuant to the UWMP Standardized Tables provided by DWR, the City has provided, in Table 4-1, the 2020 water demand volume by land use sector.

As shown in Table 4-1, the City experienced a water demand of 1,279 MG in the year 2020. All water distributed through the City service area is potable drinking water. The City produces most of its water supply through pumping groundwater using City facilities. The City does purchase water from AVEK that is used as a source of domestic drinking water when pressure in the system drops below a certain point.

Table 4-1 Retail: Demands for Potable and Raw Water – Actual

4.2.2 - *PROJECTED WATER USE*

Pursuant to the UWMP Standardized Tables provided by DWR, the City has provided, in Table 4-2, the projected demands for water by land use and, in Table 4-3, the total projected water demands for the City. Total projected demands for the City do not include the use of any raw or recycled water and only include potable water. The total gross water demands include the recycled water used in the park pond.

Table 4-2 Retail: Demand for Potable and Raw Water – Projected (MG)

Submittal Table 4-2 Retail: Use for Potable and Non-Potable[1] Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use[2] *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		452	486	524	564	608
Multi-Family		25	27	29	31	33
Commercial		231	249	268	289	311
		0	0	0	0	0
		0	0	0	0	0
Landscape		80	87	93	101	108
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
Losses		366	395	425	458	493
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	TOTAL	1,154	1,243	1,340	1,443	1,555

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.* [2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

Table 4-3 Retail: Total Water Demands (MG)

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*	1,071	1,154	1,243	1,340	1,443	1,555
Recycled Water Demand[1] *From Table 6-4*	250	261	271	282	299	316
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	1,321	1,415	1,514	1,622	1,742	1,871

[1] Recycled water demand fields will be blank until Table 6-4 is complete

*[2] Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

4.3 - Distribution System Water Losses

10631(e)(3)(A). Report the distribution system water loss for the most recent 12-month period available.

Distribution system water losses (also known as "real losses") are the physical water losses from the water distribution system and the supplier's storage facilities, up to the point of customer consumption. These losses are reported in Tables 4-1 and 4-4.

It is currently estimated that the water losses from the City's distribution system are 30.4% of water produced and therefore, the volume of water loss is reported as 389.00 MG. These losses are largely attributed to water line breaks and water theft.

Table 4-4 Retail: 12 Month Water Loss Audit Reporting (MG)

Submittal Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2014	389.00

** Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.*

4.4 - Estimating Future Water Savings

CWC 10631(e)(4)(A). If available and applicable to an urban water supplier, water use projections may 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.

CWC 10631(e)(4)(B). To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

Water savings from codes, standards, ordinances, or transportation and land use plans are also known as "passive savings." These various factors generally decrease the water use for new and future customers compared to historical customers.

As shown in Table 4-5, this 2015 UWMP does not display or account for future water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans. This does not preclude the City from adopting codes, standards, ordinances, or transportation and land use plans in the future that would result in water savings. If such adoptions occur, they would be reflected in future UWMPs for the City.

4.5 - Water Use for Lower Income Households

CWC 10631.1(a). The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any City, county, or City and county in the service area of the supplier.

Future water projections include water savings as they are based on reducing gpcd by 2 gpcd per year through several water saving management methods the City is using. Regarding Low Income, the City is located in rural California were typically low income, very low income, moderate income, and higher income residence and homes are mingled together throughout the City. The City does not solicit income information. Low-income projections are included in the single and multi-family dwelling line in Table 4-2 above.

Table 4-5 Retail Only: Inclusion in Water Use Projections

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	No
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.	
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes

SECTION 5 - BASELINES AND TARGETS

On November 10, 2009, California Governor Arnold Schwarzenegger signed into law SB X7-7. SB X7-7 mandates conservation targets for all urban retail water entities supplying potable municipal water to more than 3,000 customers or delivering more than 3,000-acre feet of potable water per year to end users. The conservation target of 20% by 2020 on a GPCD basis must be complied with to be eligible for State water grants and loans. The City is not subject to agricultural-related provisions of SB X7-7 since it does not supply agricultural water.

CWC 10608.20(e). An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

CWC 10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

This section includes analysis for the City's baselines and targets to meet SB X7-7 mandates for 2015 and 2020. This analysis reports on the progress of the City in meeting water use targets and is reported using a standardized form provided by DWR.

5.1 - SB X7-7 Verification Form

To demonstrate SB X7-7 compliance, retail water agencies are required to complete the SB X7-7 Verification Form and submit the standardized tables provided by DWR with their 2020 UWMPs. Please note that the tables in the SB X7-7 Verification Form will follow a different numbering format than the rest of this 2020 UWMP, and will begin with "SB X7-7," followed by the table number.

5.1.1 - *BASELINE PERIOD*

CWC 10608.12(b). "Base daily per capita water use" means any of the following:

(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years

to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

Urban retail water suppliers that used less than 10% recycled water in 2008 must utilize a 10-year baseline period for measuring its SB X7-7 compliance that ends no earlier than December 31, 2004 and no later than December 31, 2010. Water use GPCD must be calculated and reported for two baseline periods, the 10- or 15- year baseline (Baseline) and the 5-year baseline (Target Confirmation). The following table provides information about the baseline period ranges for this analysis.

SB X7-7 Table 1: Baseline Period Ranges

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	1,331	Million Gallons
	2008 total volume of delivered recycled water	251	Million Gallons
	2008 recycled water as a percent of total deliveries	19%	**See Note 1**
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	2001	
	Year ending baseline period range[3]	2010	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2006	
	Year ending baseline period range[4]	2010	

[1] *If the 2008 recycled water delivery is less than 10 percent of total water deliveries, then the 10-15year baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater of total deliveries, the 10-15 year baseline period is a continuous 10- to 15-year period.*

[2] *The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.*

[3] *The ending year for the 10-15 year baseline period must be between December 31, 2004 and December 31, 2010.*

[4] *The ending year for the 5 year baseline period must be between December 31, 2007 and December 31, 2010.*

5.1.2 - *SERVICE AREA POPULATION*

CWC 10608.20(f). When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

Several population estimation methodologies are available to retail water agencies. As shown in SB X7-7 Table 2 below, these can include use of DOF data, persons-per-connection based on census year data, the DWR population tool, or a different methodology proposed

by the water agency. As shown in SB X7-7 Table 2, this 2020 UWMP uses the Department of Finance tables.

As discussed in *Section 3.4 – Service Area Population and Demographics*, it was determined that the 2020 population of the service area was 15,333 people and that the annual increase in population is estimated to be 1.5%.

SB X7-7 Table 2: Method for Population Estimates

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine 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 SB X7-7 Table 3 provides the population estimates for the baseline periods and 2020 calendar year. Year 1 for the 10- to 15-year baseline population is 2001 and Year 1 for the 5-year baseline population is 2006.

SB X7-7 Table 3: Service Area Population

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	2001	10,816
Year 2	2002	10,977
Year 3	2003	11,138
Year 4	2004	11,301
Year 5	2005	11,687
Year 6	2006	12,528
Year 7	2007	13,705
Year 8	2008	14,556
Year 9	2009	14,338
Year 10	2010	14,120
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2006	12,528
Year 2	2007	13,705
Year 3	2008	14,556
Year 4	2009	14,338
Year 5	2010	14,120

5.1.3 - *ANNUAL GROSS WATER USE*

CWC 10608.12(g). "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.

(2) The net volume of water that the urban retail water supplier places into long-term storage.

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

The City's major source of water into its distribution system is groundwater with purchased AVEK water when pressure in the system drops below a certain point. SB X7-7 Table 4 provides the 10- to 15-year baseline, 5-year baseline, and 2020 compliance year water use.

SB X7-7 Table 4: Annual Gross Water Use (MG)*

SB X7-7 Table 4: Annual Gross Water Use *									
			Deductions						Million Gallons
Baseline Year *Fm SB X7-7 Table 3*		Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	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.*	Annual Gross Water Use	
10 to 15 Year Baseline - Gross Water Use									
Year 1	2001	1,308			-		-	1,308	
Year 2	2002	1,320			-		-	1,320	
Year 3	2003	1,335			-		-	1,335	
Year 4	2004	1,641			-		-	1,641	
Year 5	2005	1,573			-		-	1,573	
Year 6	2006	1,714			-		-	1,714	
Year 7	2007	1,764			-		-	1,764	
Year 8	2008	1,664			-		-	1,664	
Year 9	2009	1,598			-		-	1,598	
Year 10	2010	1,423			-		-	1,423	
Year 11	0	-			-		-	-	
Year 12	0	-			-		-	-	
Year 13	0	-			-		-	-	
Year 14	0	-			-		-	-	
Year 15	0	-			-		-	-	
10 - 15 year baseline average gross water use									1,534
5 Year Baseline - Gross Water Use									
Year 1	2006	1,714			-		-	1,714	
Year 2	2007	1,764			-		-	1,764	
Year 3	2008	1,664			-		-	1,664	
Year 4	2009	1,598			-		-	1,598	
Year 5	2010	1,423			-		-	1,423	
5 year baseline average gross water use									1,633

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

The City's uses do not include exported water, indirect recycled water, water delivered for agricultural use, or process water. Therefore, the annual gross water use does not include deductions for these categories.

5.1.4 - *AVERAGE DAILY PER CAPITA WATER USE*

In SB X7-7 Table 5, the average daily per capita water use is calculated by dividing the volume of "Annual Gross Water Use" by the service area population.

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)

SB X7-7 Table 5: Baseline Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2001	10,816	1,308	331
Year 2	2002	10,977	1,320	329
Year 3	2003	11,138	1,335	328
Year 4	2004	11,301	1,641	398
Year 5	2005	11,687	1,573	369
Year 6	2006	12,528	1,714	375
Year 7	2007	13,705	1,764	353
Year 8	2008	14,556	1,664	313
Year 9	2009	14,338	1,598	305
Year 10	2010	14,120	1,423	276
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**338**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2006	12,528	1,714	375
Year 2	2007	13,705	1,764	353
Year 3	2008	14,556	1,664	313
Year 4	2009	14,338	1,598	305
Year 5	2010	14,120	1,423	276
5 Year Average Baseline GPCD				**324**

The results of SB X7-7 Table 5 are summarized in SB X7-7 Table 6 and shows the following:

- The 10- to 15-year baseline period identified a water usage for the City of 338 GPCD.
- The 5-year baseline identified a water usage for the City of 324 GPCD.
- For calendar year 2020, the City's water usage was 229 GPCD.

SB X7-7 Table 6: Gallons Per Capita Per Day, Summary

SB X7-7 Table 6: Baseline GPCD *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	338
5 Year Baseline GPCD	324

CWC 10608.20(b). An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

(1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

(2) The per capita daily water use that is estimated using the sum of the following performance standards:

> *(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.*
>
> *(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.*
>
> *(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.*

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010.

Of the four methods, the City has chosen the first method (80% of urban retail water supplier's baseline per capita daily water use) (see SB X7-7 Table 7) and calculated the baseline and target GPCD consistent with CWC Section 10608.20(b)(3) and as set forth in the State's 20X2020 Water Conservation Plan.

SB X7-7 Table 7: 2020 Target Method

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		**Supporting Tables**
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D
☐	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator *Located in the WUE Data Portal at wuedata.water.ca.gov* Resources *button*

5.1.5 - *TARGET GPCD REDUCTIONS*

The City has calculated the 2020 target (80% of urban retail water supplier's baseline per capita daily water use) at 270 GPCD (see SB X7-7 Table 7-A).

SB X7-7 Table 7-A: Target Method 1

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
338	**270**

CWC 10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

The 5-year baseline period identified a maximum year 2020 compliance target of 324 GPCD to meet the intent of CWC Section 10608.22. This is the Maximum 2020 Target as shown in SB X7-7 Table 7-F.

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target					
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	Calculated 2020 Target [2]			Confirmed 2020 Target[4]
		As calculated by supplier in this SB X7-7 Verification Form	Special Situations[3]		
			Prorated 2020 Target	Population Weighted Average 2020 Target	
324	308				**308**

[1] ***Maximum 2020 Target*** *is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.*

[2] ***Calculated 2020 Target*** *is the target calculated by the Supplier based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target. Supplier may only enter one calculated target.*

[3] ***Prorated targets and population weighted target*** *are allowed for special situations only. These situations are described in Appendix P, Section P.3*

[4] ***Confirmed Target*** *is the lesser of the Calculated 2020 Target (C5, D5, or E5) or the Maximum 2020 Target (Cell B5)*

5.2 - Baselines and Targets Summary

CWC Section10608.16 mandates that the City achieve a 20% reduction from baseline usage by 2020. The City has calculated the five-year baseline at 354 GPCD, and the 2020 target at 237 GPCD. Table 5 summarizes the baseline periods used by the City and the 2020 usage targets that were calculated in Section 5.1.

SB X7-7 Table 5: Baselines and Target Summary

SB X7-7 Table 5: Baseline Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2001	10,816	1,308	331
Year 2	2002	10,977	1,320	329
Year 3	2003	11,138	1,335	328
Year 4	2004	11,301	1,641	398
Year 5	2005	11,687	1,573	369
Year 6	2006	12,528	1,714	375
Year 7	2007	13,705	1,764	353
Year 8	2008	14,556	1,664	313
Year 9	2009	14,338	1,598	305
Year 10	2010	14,120	1,423	276
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**338**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2006	12,528	1,714	375
Year 2	2007	13,705	1,764	353
Year 3	2008	14,556	1,664	313
Year 4	2009	14,338	1,598	305
Year 5	2010	14,120	1,423	276
5 Year Average Baseline GPCD				**324**

The actual capita daily water usage for the fiscal year ending in 2020 is 229 GPCD, which meets the 2020 target of 267 GPCD as shown in Table 5-2.

CWC 10608.24(d)(2). If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in

paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

SB X7-7 Table 5-2: 2015 Compliance

SB X7-7 Table 9: 2020 Compliance							
Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD Enter "0" if Adjustment Not Used			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
229	-	-	-	-	229	272	**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.*

SECTION 6 - SYSTEM SUPPLIES

CWC 10631(b). Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).

This section describes and quantifies sources of water available to the City. As discussed in *Section 4 – System Water Use*, the City produces most of its water supply through pumping groundwater using City facilities. The City does have the ability to purchase AVEK to supplement the groundwater supplies when needed. This section also discusses future water projects and provides a summary of existing and planned sources of water.

6.1 - Purchased or Imported Water

California City utilizes three water sources: groundwater, imported surface water and recycled water. Imported surface water can be purchased from AVEK through standing agreements with the City. Additional supplies are available from AVEK and increased groundwater pumping is also available. Recycled water is also an available water source. Recycled Water will be discussed in section 6.5 below. As the City grows and new homes are connected to the sewer system, additional recycled water will be produced and available.

The Wonder Acres area of California has a separate water system. Water for this area is purchased from AVEK but "wheeled" through the MPUD system. The City pays a "wheeling" charge for water delivered by MPUD. AVEK water delivered from MPUD is used exclusively in the Wonder Acres area, near Highway 14 and California City Boulevard. Currently, there are 38 service connections with water consumption remaining relatively consistent. Discussions with the General Manager of the Mojave Public Utilities District indicated that increased water supply to this community would not be a problem. The current agreement limits this water supply to a peak of 500 gpm. A 1978 agreement provides for delivery of AVEK water that is transferred to California City via MPUD's infrastructure.

The City has significant more water rights than it currently uses. Further discussion of the ground water will be covered in Section 6.2. The City ground water (well) production is not limited by water rights but by pumping capacity.

6.2 - Groundwater

CWC 10631(b). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of 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.

(2) 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 basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overed or has projected that the basin will become overed if present management conditions continue, 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 eliminate the long-term over condition.

(3) 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.

(4) 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.

6.2.1 - *BASIN DESCRIPTION*

The City lies within the Fremont Valley Groundwater sub-basin (FVGB) of the South Lahontan Hydrologic Study Area. The sub-basin is identified as sub-basin 6-46 in the Department of Water Resources Bulletin 118. The basin is 523 square miles (334,720 acres) of which 203 square miles (129,920 acres) is located under California City proper. The Muroc Fault traverses the sub-basin, dividing it into two smaller sub-basins with California City on the north and Mojave on the south. The California City sub-basin (CCSB) contains approximately 142,451 acres (Stetson 2008) and potentially 1,382,000 acre-feet of storage capacity; however, estimates of the storage capacity range greatly with a high estimate of 5,700,000 acre- feet in 1955, when the basin was considered full. Within the City boundary, the FVGB groundwater storage was estimated at approximately 1,980,000 acre-feet in 1955 and 1,650,000 acre-feet in 2007 (Stetson 2008).

The CCSB is hydraulically connected to the Antelope Valley Groundwater Basin (AVGB) by the alluvial filled narrows between the Castle Butte and the Twin Buttes; groundwater is able to move between the two valleys in this area. There are several other faults in the sub-basin, Garlock Fault and El Paso Fault system, which run on the north and west side of the sub-basin, respectively, which act as a restrictive groundwater barrier on the west and northwest side of the sub-basin between the Tehachapi, Piute and El Paso Mountains and the FVGB.

The CCSB has one area of depression, the now-dry Koehn Lake. According to Stetson, groundwater in the sub-basin flows from the alluvial fans along the mountains towards this

depression. This flow stems in part from the AVGB, which contributes up to 2,570 afy (Stetson 2008). The City, on average, pumps 3,300 acre feet (1075 MG) per year from the aquifer, which provides the customers with approximately 75 percent of their potable water supply.

The City of California City purchased all water rights based on an agreement/contract dated March 21, 1960 between Born Valley Water Development Company and Boron Valley Community Service District which later became California City Service District. California City owns the water right stated as follows "All water rights, all right, title and interest in and to all water in, on and underlying the surface of the land (herein referred to as "Water Rights") within the boundaries of or which may subsequently flow into that area designated Area A (California City proper - 203 square miles). At that time the water right was producing 32,000 acre-feet (10,427 MG) 10.8 times more the current annual extraction rate of the city (964 MG). The city has 10.8 times more water right than they are currently pumping and at current maximum pumping capacity of (2680.56 MG) they could only utilize 25.7% of the owned water right.

California City, Mojave, and AVEK have now formed the FVGB IRWMG and are working on the IRWMP for the basin to protect their water rights from outside influences.

Basin Levels and Storage

The average groundwater elevation in 2010, according to the USGS groundwater field data, was 297 feet, which is a decrease of approximately 29 feet from the groundwater elevation of 268 feet in 1953.

Currently California City, Mojave, and Cantil are the only major entities drawing significant quantities of water from the basin and California City is by far the largest. In 2016 California City pumped 1,179.89 MG (3620 acre-feet), Mojave pumped 152.20 MG (467acre-feet), and Cantil pumped 2.43 MG (7.46 acre-feet). Basin Total 1,334.5 MG (4095 acre-feet) being extracted from the basin annually. The basin (Number 6-64) is approximately 523 square miles (334,720 acers) per the DWR Bulletin 118. Based on basin area (4,095 acre-feet/334,720 acers) X (12in/1ft) = 0.1468 inches (2.5%) of the

5.93 inches of the average rain fall each year would need to make it into the basin aquafer to maintain recharge. The Western Regional Climate Center; Mojave, CA Station 045756 indicates an annual total average rainfall of 5.93 inches. This along with the fact that the basin sustained 32,000 acre-feet, over 5 times more extraction, for 10 to 15 years during the 1960s early 1970s when the area was predominantly agricultural substantiate the fact that the current rate of extraction defiantly does not exceed the rate of recharge. And the basin is not in over.

Basin Water Quality

The chemical character of groundwater in the South Lahontan Region is variable, but often contains calcium or sodium bicarbonate. In basins with closed drainages, water character often changes from calcium-sodium bicarbonate near the margins of the basin, to sodium chloride or chloride sulfate beneath a dry lake. It is not uncommon for concentrations of dissolved constituents to rise dramatically toward a dry lake where saturation of mineral salts is reached. The total dissolved solids (TDS) content of groundwater is high in many of the basins in this region. Some of the contaminants affecting groundwater use in the region include arsenic, gross alpha particle activity, uranium, fluoride, TDS, and boron. (DWR, 2015)

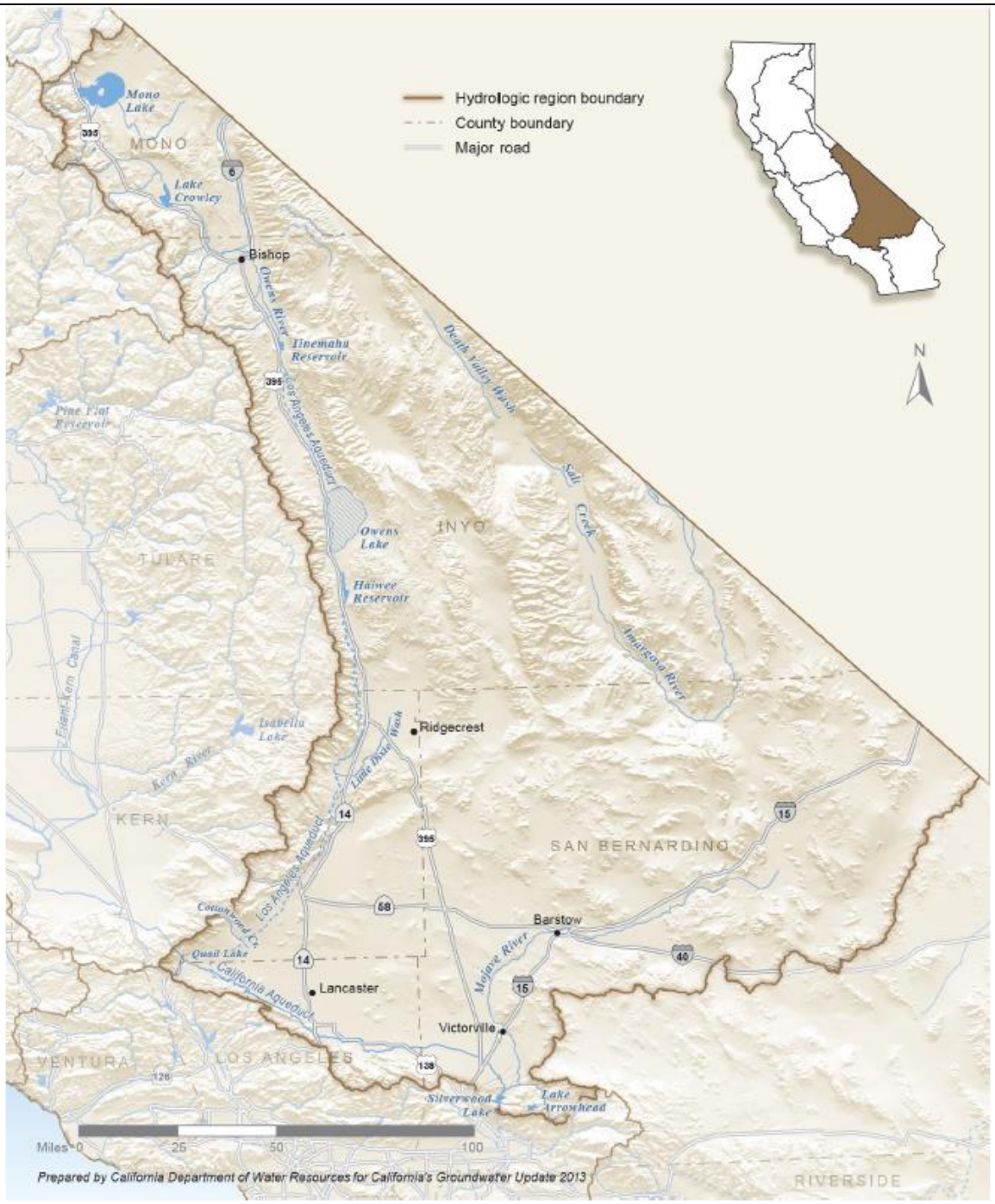

Figure 6-1
South Lahontan Hydrologic Region

6.2.2 - *GROUNDWATER MANAGEMENT*

An adjudicated groundwater basin exists where, because of a lawsuit, the court decides who extracts from the basin, how much they extract, and who will manage the basin. The Fremont Valley Subbasin is not adjudicated, as defined by California DWR. Therefore, there are no limitations placed on groundwater pumpage volumes due to adjudication.

The City is not required to form or join a groundwater sustainability agency (GSA) since it is not in a high or medium priority basin. The South Lahontan Basin is categorized as low priority.

6.2.3 - *OVER CONDITIONS*

As required by CWC section 10631(b)(2), for basins that have not been adjudicated, information as to whether DWR has identified the basin or basins as overed or has projected that the basin will become overed, an UWMP must include a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term over condition.

According to DWR, the Fremont Valley Subbasin is not listed as a critically overed basin (California Department of Water Resources, 2015). According to DWR Bulletin 118-80, "critical conditions of over" in a basin is "when continuation of present water management practices would probably result in significant adverse over-related environmental, social, or economic impacts" (DWR, 2015).

6.2.4 - *GROUNDWATER PUMPING*

The City has historically relied on groundwater pumping for a large portion 75% of its water supply (see table 6.1 below). This table also show the quantities of groundwater the City has pumped over the last five years with a maximum of 1,279 MG in 2020. 1,279 MG is around 56.1% of the total pumping capacity 2,278.5 MG.

The following tables show the quantities of groundwater the City has pumped in the last five years through 2020.

The amount of groundwater pumped by the City over the last 5 years is shown in Table 6-1. The amount of groundwater projected to be pumped in 5-year increments over the next 20 years is shown in Table 4-2 in *Section 4 – System Water Use*.

Table 6-1 Retail: Groundwater Volume Pumped

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	Fremont Valley	1205	1223	1241	1260	1279
	TOTAL	1,205	1,223	1,241	1,260	1,279
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						

6.3 - Surface Water

The City routinely receives water from AVEK and MPUD. AVEK water is more expensive for the city than pumping ground water. For this reason, the City intends to retain and maintain its AVEK use and rights of use but will try to minimize its use to minimize costs. In the event of an emergency, it is possible the City may be able to increase the water supply from one or both these agencies on a temporary basis. However, if the situation is drought-related, it is likely the water supplied from AVEK will be affected by the same situation and an increased supply to California City may not be possible. AVEK has developed water banking facilities to mitigate the variability of the State Water Project supply. With only 77% pumping capacity projected though 2045, the City can easily increase its groundwater pumping and or implement restrictions on its customers to make sure demand does not exceed available supply.

6.4 - Stormwater

The City does not intentionally divert stormwater for beneficial use within its potable water distribution system. There are no plans for the City to use stormwater to offset water supply.

6.5 - Wastewater or Recycled Water

CWC 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

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

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

(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.

The City of California City owns and operates a 1.5 MGD extended aeration activated sludge tertiary treatment facility (WWTP) and all domestic sewer collection systems within the City limits. The collection systems are gravity fed and only receive domestic wastewater (no storm water runoff). Currently, approximately 30 percent of the City is served by the WWTP. The remaining area is served by onsite septic systems.

The existing California City Wastewater Treatment Facility is designed to treat an average flow of 1.5 MGD and peak flow of 3.0 MGD. Currently, the average influent flow is 0.8 MGD. The present treatment process includes an influent pump station, head works consisting of a Parshall flume, mechanical bar screen and sonic flow meter. Secondary treatment consists of one extended aeration activated sludge basin, (split into two cells) two clarifiers and a return activated sludge (RAS) waste activated sludge (WAS) pump station. The tertiary treatment facilities consist of filter influent pump station, a chemical mixing/flocculation tank, storage facilities for polymer, alum and chlorine, tertiary sand filters and sodium hypochlorite disinfection.

Sludge treatment and disposal consists of pumping WAS to 5 lined sand type sludge beds for dewatering and solar drying. The existing sludge drying beds have a total area of 15,000 square feet. Dried sludge is removed and disposed at the authorized site, currently a landfill.

During a normal recycled water year the city collects approximately 19% of total potable water production shown in table 6.5-1 or 220 MG. 75% of this water 165 MG is recycled and

used for irrigation at the golf course. During winter months once storage basins are full, a percentage, around 1% or 2.2 MG must be diverted to percolation ponds. Approximately 24% or 52.8 MG is lost due to evaporation during processing. see Table 6.5-1 below for historical Recycled Water quantities and normal year quantities. Table 6.5-2 Summarizes the data for 2015.

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

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 2020 service area covered by wastewater collection system *(optional)*					
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *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*
California City	Metered	225	California City	California City	Yes	No
Total Wastewater Collected from Service Area in 2020:		225				
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3 .*						

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 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	Recycled Outside of Service Area	Instream Flow Permit Requirement
California City	Wastewater	Seven	DID-681501180	Percolation	No	Tertiary	225	2	167	0	0
						Total	225	2	167	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

Table 6-4 Retail: Wastewater Treatment and Discharged in 2020

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:	California City
Name of Supplier Operating the Recycled Water Distribution System:	California City
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)		2 (MG)	Irrigation	Tertiary	2	2	2	2	2	2
Golf course irrigation		248 (MG)	Golf course irrigation	Tertiary	248	259	269	280	297	314
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)										
				Total:	250	261	271	282	299	316
				2020 Internal Reuse						

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

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

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)	2	74
Golf course irrigation	248	250
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	250	324
[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.		

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

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.		
	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.*			

6.6 - Desalinated Water Opportunities

CWC 16031(h). Describe desalinated water project opportunities for long-term supply.

The City has no feasible opportunity for the development of a water desalination system as a long-term supply. With no nearby or convenient sources of saline water to desalinate, the cost of providing the water and then treating would outweigh the benefits.

6.7 - Exchange and Transfer Opportunities

CWC 10631(d). Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The City routinely receives water from AVEK and MPUD. AVEK water is more expensive for the city than pumping ground water. For this reason, the City intends to retain and maintain its AVEK use and rights of use but will try to minimize its use to minimize costs. In the event of an emergency, it is possible the City may be able to increase the water supply from one or both these agencies on a temporary basis. However, if the situation is drought-related, it is likely the water supplied from AVEK will be affected by the same situation and an increased supply to California City may not be possible. AVEK has developed water banking facilities to mitigate the variability of the State Water Project supply. With only 77% pumping capacity projected though 2045, the City can easily increase its groundwater pumping and or implement restrictions on its customers to make sure demand does not exceed available supply.

6.8 - Future Water Projects

CWC 10631(g). 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 average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

The City's water system contains a large percentage of steel water mains which were constructed in the 1960s. These water mains are susceptible to corrosion over time and are very prone to leakage. The Water Master Plan 2002 recommended a water main replacement program be implemented to replace all steel mains. The completion of the water main replacement program is expected to substantially reduce the volume of "unaccounted" water lost by leakage.

Well #01

The well and casing are in place the plan is to install a new pump and pump controls, verify water quality then connect the pumped water to the water transmission system.

Well #11

The well and casing are in place the plan is to install a new pump and pump controls, verify water quality then connect the pumped water to the water transmission system.

Scada System Upgrades

The California City Water mains and distribution systems are aging and as such the City has found that the tighter the controls are on the system the less pressure waves/spikes occur. Three key components have allowed for this control: First the major wells have been equipped with VFDs allowing them to turn on and off slowly. Second, a new transmission line was installed separating distribution from production systems. The distribution system is no longer exposed to the required production pressures to push the water to the storage tanks. Third, The SCADA system has been upgraded/re-commissioned such that pressures at critical points can be monitored, controlled, and High presser spikes have been eliminated. These SCADA systems will continue to be improved and additional pressure monitoring locations commissioned to allow historical review and tighter control.

Waterline to Wonder Acres

Wonder Acres is currently served with water from the Mojave PUD through the City. A 12-inch or 16-inch water line from the City to Wonder Acres would supply City water to Wonder Acres and provide for water service along California City Boulevard. Wonder Acres would require a 2.5 MG water storage tank to provide adequate storage and fire flow.

Replacement of Steel Water Lines

Due to the age of the miles of steel water lines, three to four water main breaks are reported every day. An ongoing plan will include replacement of all steel water lines with PVC C900 or C905.

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

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.					
	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						
Well #01	No		Rebuild/Recommission	2025	All Year Types	289 MGY
Well #11	No		Rebuild/Recommission	2025	All Year Types	158 MGY
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						

6.9 - Groundwater Supplies Coordination

In 2014, the Legislature enacted the Sustainable Groundwater Management Act to address groundwater conditions throughout California. The CWC now requires 2020 UWMPs to be consistent with GSPs in areas where those plans have been completed by GSAs.

The City is not required to form or join a groundwater sustainability agency (GSA) since it is not in a high or medium priority basin. The South Lahontan Basin is categorized as low priority.

The City is coordinating with the with the Fremont Basin Integrated Regional Water Management Plan. The IRWMP was published in February 2019. The table below is from the February 2019 IRWMP and it shows the GSP implementation items and the projected timeline.

This 2020 UWMP is consistent with the GSP and the proposed projects and management actions.

Table 6-2: Projects in the Fremont Basin IRWM Region

Project Sponsor	Project Name
AVEK	Blending Intertie at Rosamond Water Treatment Plant
AVEK	North Feeder Chlorination Station
AVEK	North Feeder Pump Station
California City	Convert WWTP from Chlorine to UV
California City	Central Park Lake Restoration
California City	Chromium-6 Blending
California City	Fremont Valley Groundwater Basin Groundwater Sustainability Plan
California City	North Side and South Side Water Main Replacement
California City	Septic to Sewer Conversions
California City	Sewer Plant Headworks
California City	South Side Water Main Replacement Project
California City	Stormwater Capture and Recharge
California City	Well 4 Improvement
California City	Wonder Acres Tank and Booster Pump
Mojave Chamber of Commerce	Mojave H and I Streets Flood Control Project
MPUD	Wastewater Treatment Plant Headworks
MPUD	Well 30 Blending & Distribution System Enhancements
Rancho Seco	Booster Pump Building & Earth Work
Rancho Seco	Northern Fremont Valley Soil Stabilization and Revegetation
RCWD	Distribution System Isolation Valve
RCWD	Lockable Sampling Tabs
RCWD	New Water Meters for 300 Connections
RCWD	Shut-off Valves for Fire Hydrants

6.10 - Summary of Existing and Planned Sources of Water

As discussed above, the main source of water for the City is through groundwater pumping. Continued groundwater pumping is also the main planned source of water in the future. Since the Fremont Valley Subbasin is a non-adjudicated basin, there are currently no restrictions on groundwater pumping.

Because there is no current restriction on groundwater pumping, the limit of available water is the pump capacity of the five existing wells to pump groundwater. The pump capacity of the six wells to pump groundwater is shown in the following table.

The City's wells are estimated to provide 2,278.5 million gallons per year (4,335 gpm) based upon 85% of the maximum pumping capacity of the current wells (see table below). The table below deliberately excludes any AVEK water contribution.

Well #	Source Capacity (gpm)
2	950
3	700
10	750
14	850
15	1,000
16	850
TOTAL	5,100

In addition to the wells, California City maintains five above ground water storage reservoirs totaling 5.85 MG. These tanks are Reservoir B1 (2.5 MG), Reservoir C2 (1 MG), Reservoir D3 (1 MG), Reservoir E4 (1 MG) and Rancho Reservoir (0.350 MG). Assuming 85% of the storage tank listed capacity is available for water storage, 5 MG of storage is usable.

Table 6-8 Retail: Water Supplies – Actual

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	**2020**		
Drop down list May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	6 wells	742	Drinking Water	2,279
Surface water (not desalinated)	AVEK	11	Drinking Water	349
Recycled Water	Recycled Water	255	Recycled Water	255
	Total	1,008		2,883
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				

For the same reasons discussed above, it is assumed that the projected groundwater supply available to the City is also 2,279 MG for each of the projected years (see Table 6-9). Actual projected groundwater supply may change during the next UWMP cycle in response to the results of GSPs developed in the Fremont Valley Subbasin to comply with SGMA.

Table 6-9 Retail: Water Supplies – Projected

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											
Groundwater (not desalinated)	85% of well pump capacity of all groundwater wells	2,279	2,279	2,279	2,279	2,279	2,279	2,279	2,279	2,279	2,279
Surface water (not desalinated)	AVEK	349	349	349	349	349	349	349	349	349	349
Recycled Water	Recycled Water	266	266	277	277	288	288	305	305	322	322
	Total	2,894	2,894	2,905	2,905	2,916	2,916	2,933	2,933	2,950	2,950
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*											

SECTION 7 - WATER SUPPLY RELIABILITY ASSESSMENT

CWC 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.

All UWMPs must include an assessment of the reliability of their water supplies. The water supply and demand assessment must compare the total projected water use with the projected water supply, in 5-year increments, through the next 20 years. This section presents a comparison of the water demands and supplies within the City's service area, and assesses supply versus demand during normal years, single dry water years, and multiple dry water years. This section describes the long-term reliability of the City's water supply while *Section 8 – Water Shortage Contingency Planning* provides short-term reliability planning that may require immediate action, such as a drought or a catastrophic supply interruption.

7.1 - Constraints on Water Sources

CWC 10631(c)(2). For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

This section discusses the reliability of water supplies and their vulnerability to seasonal and climatic shortages. The City has historically used mostly groundwater to meet all of their water demands. Groundwater supplies are not immediately impacted by droughts, and, as a result, there is no history of any water supply deficiencies for the City water system. Even during the 1976-1977 droughts, records indicate a sufficient supply of water.

Historically, the City has obtained over 20 percent of its water supply from AVEK. The source of AVEK water is the State Water Project with the water delivered through the California Aqueduct. The AVEK water is thus subject to variability in supply and in reliability. The supply variability is a function of hydrologic conditions in northern California. The reliability is a function of environmental conditions in the Sacramento-San Joaquin River Delta. The Delta is extremely vulnerable to earthquakes, rising sea levels and droughts. If there is a water shortage, AVEK or its customers could enact shortage measures that protect against extended drought conditions. When this occurs, California City will utilize more groundwater.

Regarding the groundwater supply, the most likely reasons the City would have a deficiency would be due to coliform contamination, pump failure, well collapse or other mechanical or structural failure. Another scenario would be a declining groundwater table due to lack of recharge. In this scenario, well pumps would need to be lowered and/or the well deepened. The City has a goal to maintain sufficient standby well capacity to meet peak month water

demand with the largest well out of service. With sufficient standby well capacity, a short term loss of a well would not affect overall water supply.

In addition, the most immediate threat of water shortage could arise from damage due to an earthquake, or an extended power outage. An exceptionally long hot spell during summer months or high winds causing power outages are the main concern due to climate. Customers are encouraged to water lawns during early morning hours and for shorter period of time when temperatures exceed normal. The water system is gravity fed from a 2.5 MG tank, kept a minimum two-thirds full at all times. During an extended power supply emergency, the City can institute a water conservation emergency which would limit water use.

7.2 - Reliability by Type of Year

CWC 10620(f). An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

CWC 10631(c)(1). Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(A) An average water year.

(B) A single-dry water year.

(C) Multiple-dry water years.

There are two aspects of supply reliability that can be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. The second aspect is climate related and involves the availability of water during mild or severe drought periods. This section compares water supplies and demands during three water scenarios: average or normal water year, single-dry water year, and multiple-dry water years. These scenarios are defined as follows:

- Average year – a year, or an averaged range of years, that most closely represents the median runoff levels and patterns. The supply quantities for this condition are derived from historical average yields. Within this document the terms "normal" and "average" are used interchangeably.
- Single-dry year – the year with the lowest water supply availability. Generally considered to be the lowest annual runoff for a watershed since the water-year beginning in 1903.
- Multiple-dry years – the lowest average water supply availability to the agency for a consecutive multiple year period (three years or more). Generally considered to be the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.

Drought years for the hydrologic region can be determined by referencing DWR's Chronological Reconstructed Sacramento and San Joaquin Valley Water Year Hydrologic Classification Indices 1995 to 2015 (WSIHIST) (California Department of Water Resources, 2016). The City is currently experiencing a multiple dry year cycle, which started in 2012 and has continued through 2015. Within this multiple dry year period, the City still could meet all its water demands without the need to implement water management tools. Also, the impact of an extreme single dry year such as 2015 did not impact the ability of the City to meet all its water demands. Supply reliability for average water years such as 2010 and multiple and single dry years is shown in Table 7-1. The reliability of water service, which is subject to proper operation and maintenance of the City's water distribution system and its ability to deliver the water, is discussed in *Section 6 – System Supplies*.

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

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	**Base Year** If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	**Available Supplies if Year Type Repeats**	
		☐ 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**
Average Year	2008-2015	2279	100%
Single-Dry Year	2015	2279	100%
Consecutive Dry Years 1st Year	2012	2279	100%
Consecutive Dry Years 2nd Year	2013	2279	100%
Consecutive Dry Years 3rd Year	2014	2279	100%
Consecutive Dry Years 4th Year			
Consecutive Dry Years 5th Year			
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.*			

Therefore, the City has a reliable water supply and is not vulnerable to seasonal and climatic shortages. There is no current need for plans to supplement or replace the existing water

sources available to the City with alternative sources or water demand management measures.

7.3 - Supply and Demand Assessment

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 total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry 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.

7.3.1 - *AVERAGE (OR NORMAL) YEAR*

Normal year supply and demand projections and differences are presented in Table 7-2.

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

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	2,894	2,905	2,916	2,933	2,950
Demand totals *(autofill from Table 4-3)*	1,415	1,514	1,622	1,742	1,871
Difference	1,479	1,391	1,294	1,191	1,079

As shown in Table 7-2, future water supplies are anticipated to not only meet, but far exceed demands in normal year conditions through year 2040.

7.3.2 - *SINGLE DRY YEAR*

Projected supplies were compared to the increased demands for a single-dry year and are presented in Table 7-3.

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

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	2,894	2,905	2,916	2,933	2,950
Demand totals*	1,415	1514.42665	1,622	1,742	1,871
Difference	1,479	1,391	1,294	1,191	1,079
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*					

As shown in Table 7-3, anticipated groundwater supplies are sufficient to meet all demands through the year 2040 even under single-year drought conditions.

7.3.3 - *Five Consecutive Dry-Year Reliability Assessment*

Projected supplies were compared to the increased demands for five-consecutive dry-year scenarios and are presented in Table 7-4.

Table 7-4 Retail: Five Consecutive Dry Years Supply and Demand Comparison

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	2,894	2,905	2,916	2,933	2,950
	Demand totals	1,415	1,514	1,622	1,742	1,871
	Difference	1,479	1,391	1,294	1,191	1,079
Second year	Supply totals	2,896	2,907	2,919	3,349	2,950
	Demand totals	1,415	1,514	1,622	1,742	1,871
	Difference	1,481	1,393	1,298	1,607	1,079
Third year	Supply totals	2,898	2,909	2,923	3,349	2,950
	Demand totals	1,415	1,514	1,622	1,742	1,871
	Difference	1,483	1,395	1,301	1,607	1,079
Fourth year	Supply totals	2,901	2,912	2,926	3,349	2,950
	Demand totals	1,415	1,514	1,622	1,742	1,871
	Difference	1,485	1,397	1,305	1,607	1,079
Fifth year	Supply totals	2,905	2,916	2,933	3,349	2,950
	Demand totals	1,415	1,514	1,622	1,742	1,871
	Difference	1,490	1,402	1,311	1,607	1,079
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						

As shown in Table 7-4, anticipated groundwater supplies are sufficient to meet all demands through the year 2040 even under multiple-dry year drought conditions.

7.3.4 - *DROUGHT RISK ASSESSMENT*

Water Code Section 10635(b)
Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

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

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

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

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

Projected total supplies and projected water use for the next five years (2021 to 2025) were compared and are presented in Table 7-5. The information in the table shows a significant surplus of water available each year. Based on this, on supply augmentation or use reduction savings are included. However, the City is always pursuing ways to decrease water usage and increase water savings. These items are described in Section 8 and Section 9 of this UWMP.

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

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	**Total**
Total Water Use	1,298
Total Supplies	2,279
Surplus/Shortfall w/o WSCP Action	981
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	981
Resulting % Use Reduction from WSCP action	0%
2022	**Total**
Total Water Use	1,317
Total Supplies	2,279
Surplus/Shortfall w/o WSCP Action	962
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	962
Resulting % Use Reduction from WSCP action	0%
2023	**Total**
Total Water Use	1,337
Total Supplies	2,279
Surplus/Shortfall w/o WSCP Action	942
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	942
Resulting % Use Reduction from WSCP action	0%
2024	**Total**
Total Water Use	1,357
Total Supplies	2,279
Surplus/Shortfall w/o WSCP Action	922
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	922
Resulting % Use Reduction from WSCP action	0%
2025	**Total**
Total Water Use	1,154
Total Supplies	2,279
Surplus/Shortfall w/o WSCP Action	1,125
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	1,125
Resulting % Use Reduction from WSCP action	0%

SECTION 8 - WATER SHORTAGE CONTINGENCY PLANNING

CWC 10632 (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.

The Act requires water agencies to incorporate a water shortage contingency plan (WSCP) focusing on the allocation of water supplies and the management of water consumption during periods of shortage due to extended drought or a water emergency. This Section describes the City's policies and ordinances to deal with water shortages. The City's water supply comes mainly from groundwater pumping. As discussed in *Section 7 – Water Supply Reliability Assessment*, the City has a reliable water supply and is not vulnerable to seasonal and climatic shortages for the normal, dry-year, and multiple dry-year scenarios through year 2040. This reliability conclusion is caveated by the fact that future compliance with SGMA may require the City to come up with alternative sources of water in the future based on the result of the GSP to be developed. However, the City can now pump as much water as is required to supply its needs.

The City's WSCP illustrates specific water supply conditions that trigger the activation of voluntary and mandatory rationing efforts. It explains what the ability is to meet projected short-term demands during extended dry periods and emphasizes some of the significant proactive measures that enhance the City's ability to respond to interruptions in water supply should a natural or manmade disaster occur. The contingency plan outlines the planned response to failures in the infrastructure of the water system in the event of an earthquake, extensive power outage, or another catastrophic event. Finally, this section provides details about prohibitions and penalties against specific water uses during water shortages and evaluates potential impacts to the water funds should water sales decrease because of supply shortages.

The City has enacted several actions related to water conservation.

California City adopted an Emergency Response Plan in 1999. They also participated in a functional disaster exercise in conjunction with County or State officials. Emergency exercises will be conducted annually. Although utility loss is covered in the plan, a more precise water contingency plan is as follows:

Triggering Events

1. Reductions in specific water supplies
2. Dropping groundwater level
3. Changes in water quality
4. System failures
5. Disaster

Stages of Action

City personnel first will evaluate the water shortage and recommend actions to Council and call a special meeting if needed.

Evaluation will be based on the following conditions:

1. Cause of water shortage
2. Possible duration of shortage
3. Amount of shortage based on % of normal water demand

8.1 - Stages of Actions

The City has prepared a 4-stage conservation plan to invoke during a declared water shortage. The plan includes voluntary and mandatory rationing depending on the severity of the water supply shortage.

Table 8-1 provides a summary of the one stage of action that has been enacted by the City's Board.

Table 8-1 Retail: Stages of Water Shortage Contingency Plan

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions** (*Narrative description*)
1	Up to 10%	Contamination loss or supply below normal
2	Up to 20%	Contamination loss or supply below normal
3	Up to 30%	Contamination loss or supply below normal
4	Up to 40%	Contamination loss or supply below normal
5	Up to 50%	Contamination loss or supply below normal
6	>50%	Contamination loss or supply below normal

8.2 - Prohibition on End Users

In compliance with CWC section 10632(a)(4) and CWC section 10632(a)(5), prohibitions on end users are defined in the City of California City's "No Waste" Ordinance includes prohibitions on various wasteful water uses such as lawn watering during mid-day hours, washing sidewalks and driveways with potable water, and allowing plumbing leaks to go uncorrected more than 24 hours after customer notification. The Fire Department personnel will also be notified to stop flowing hydrants (except when necessary).

As the water purveyor, the City of California City must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50 percent of normal supply during a severe or extended water

shortage. The rationing program triggering levels shown below were established to ensure that this goal is met.

Rationing stages may be triggered by a shortage in one water source or a combination of sources. Although an actual shortage may occur at any time during the year, a shortage (if one occurs) is usually forecasted by the Water Department on or about April 1 each year.

The City's potable water sources are groundwater and imported surface water. Rationing stages may be triggered by a supply shortage or by contamination in one source or a combination or source. Because shortages overlap stages, triggers automatically implement the more restrictive stage.

The City has established the following allocation method for each customer type.

- Single Family Hybrid of Per-capita and Percentage Reduction Multifamily Hybrid of Per-capita and Percentage Reduction
- Commercial Percentage Reduction
- Industrial Percentage Reduction
- GVT/Institutional Percentage Reduction
- Recreational Percentage Reduction-vary by efficiency
- New Customers Per-capita (no allocation for new landscaping during a declared water shortage).

Based on current and project customer demand, the Emergency Plan indicates the water allocated to each customer type by priority and rationing stage during a declared water shortage.

Individual customer allotments are based on a five-year period. This gives the city a more accurate view of the usual water needs of each customer and provides additional flexibility in determining allotments and reviewing appeals. However, no allotment may be greater than the amount used in the most recent year of the five-year based period.

The Public Works Director shall classify each customer and calculate each customer's allotment according to the Sample Water Rationing Allocation Method. The allotment shall reflect seasonal patterns. Each customer shall be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible, notice will be provided by other means. Any customer may appeal the Public Works Director's classification on the basis of use or the allotment on the basis of incorrect calculation.

Table 8-2 summarizes the mandatory restrictions and prohibitions placed on end users.

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses

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				
Always	Landscape - Restrict or prohibit runoff from landscape irrigation		Warning/Penalty	Yes
Always	Landscape - Limit landscape irrigation to specific times		Warning/Penalty	Yes
Always	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Warning/Penalty	Yes
Always	Other - Require automatic shut of hoses		Warning/Penalty	Yes
Always	Other - Prohibit use of potable water for construction and dust control		Allowed but higher rates charged	Yes

8.2.1 - *Landscape Irrigation*

The following summarizes landscape irrigation restrictions for Stage 1:

- Restrict or prohibit runoff from landscape irrigation;
- Limit landscape irrigation to specific times; and
- Limit landscape irrigation to specific days.

8.2.2 - *Commercial, Industrial, and Institutional (CII)*

The following summarizes CII restrictions for Stage 1:

- None.

8.2.3 - *Water Features and Swimming Pools*

The following summarizes restrictions on water features and swimming pools for Stage 1:

- Restrict water use for decorative water features, such as fountains.

8.2.4 - *Other Restrictions*

The following summarizes other restrictions for Stage 1:

- Require automatic shut off hoses.

8.3 - Penalties, Charges, Other Enforcement of Prohibitions

Any customer violating the regulations and restrictions on water use set forth in the "No Water" Ordinance shall receive a written warning for the first such violation. Upon a second violation, the customer shall receive a written warning and the City may disconnect services if the violation continues. The violator shall pay the cost of service disconnection and re-

connection. Any willful violation occurring subsequent to the issuance of the second written warning shall constitute a misdemeanor and may be referred to the Kern County District Attorney's office for prosecution pursuant. If water service is disconnected, it shall be restored only upon payment of the turn-on charge fixed by the City Council.

8.4 - Consumption Reduction Methods

In compliance with CWC section 10632(a)(5), consumption reduction methods are actions that are taken by the City to reduce water demand within the service area whereas the prohibitions (see Section 8.2) limit specific uses of water. DWR allows water agencies, such as the City, to make their own determinations as to which methods and which stages for employing the methods are most appropriate for a service area.

8.4.1 - *CONSUMPTION REDUCTION GOALS*

The consumption reduction goals for Shortage Level 6 is greater than 50% reduction.

8.4.2 - *CATEGORIES OF CONSUMPTION REDUCTION METHODS*

The following consumption reduction methods listed in the Guidelines have been implemented by the City:

- Expand Public Information Campaign – Examples include begin or enlarge media campaign; create bill insert with conservation information; write articles for local newspaper; conduct water efficiency workshops for different customer sectors.
- Improve Customer Billing –Examples include billing all metered users.
- Offer Water Use Surveys – Examples include City staff working with water users to identify areas of water waste and areas of conservation.
- Decrease Line Flushing – Examples include City staff decreasing the frequency of water line flushing and the volume of water discharged during a flushing event.
- Reduce System Water Loss – Examples include City staff making water line repairs in a timely manner and working to decrease water theft.
- Increase Water Waste Patrols – Examples include implement Water Waste Patrol program; increase staffing for Water Waste Patrol; increase authority of Water Waste Patrol.

Table 8-3 provides a summary of the consumption reduction methods currently employed by the City.

Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan – Consumption Reduction Methods

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			
Always	Expand Public Information Campaign	10%	
Always	Improve Customer Billing	5%	
Always	Offer Water Use Surveys	5%	
Always	Decrease Line Flushing	5%	
Always	Reduce System Water Loss	10%	
1 to 4	Increase Water Waste Patrols	10%	

8.5 - Determining Water Shortage Reductions

The following discussion is provided to comply with CWC section 10632(a)(9). The City's water system is supplied by groundwater wells and surface water. Each well has a flow meter that records the amount of water entering the City's distribution system. Additionally, the surface water supplied by AVEK is metered and monitored by the City. The City use these meters to monitor actual reductions in water use within the service area.

8.6 - Revenue and Expenditure Impacts

The following discussion is provided to comply with CWC section 10632(a)(7). Most operating costs for most water agencies are fixed rather than a function of the amount of water sold. Thus, when conservation programs are undertaken, it is frequently necessary to raise water rates because the revenue generated is based on lower total consumption while the costs, and resulting revenue required, are basically fixed. Typically, water rates need to be increased by the percentages listed in Table 8-1 when the indicated stages are implemented. However, reductions in water demands, especially peak demands, can delay the need to develop costly new water sources in growing communities. The City currently charges water customers a flat fee based on meter size plus a volumetric charge for water use.

The City does have an emergency fund for system upkeep. The City's water rates increased 3% a year per a Proposition 218 hearing in 2008. The increase was approved at the March 10, 2008 Board meeting. The City also reviews the water connection fees yearly for new developments. A portion of the fee is put in the capital improvements account and the other portion is placed in a separate account to help pay for the KDWD seeped water The City is currently considering establishing a fund to mitigate the impacts of a water shortage, particularly considering SGMA. The fund would then be used to stabilize water rates during periods of water shortage.

8.7 - Resolution or Ordinance

In compliance with CWC section 10632(a)(8), the City Council initially responded with urgency ordinances in 2015 to set forth State-issued and additional City water use policies

and restrictions to achieve the conservation mandated for the City, which had been 36%. Implementation of the urgency ordinance provisions did not yield the desired conservation results plus it became apparent to State and local officials that the drought and water crisis prompting mandated conservation would extend beyond 2015. Therefore, the Council later adopted Resolution No. 05-15-2623 to provide more consistent and long-term conservation policies and enforcement.

8.8 - Catastrophic Supply Interruption

The following discussion is provided to comply with CWC section 10632(a)(3). The Act refers to catastrophic interruptions as regional power outages, natural disasters, and other disasters that stop the water supply.

A disaster that damages the main water lines causing leakage and to loss or contamination of stored water supplies and or a disaster that causes power outages for extended periods of time, not allowing well operation, could potently deplete water storage reservoirs. Well #03 (700 gpm) (367.92 MG) is a Natural Gas well that can operate in the event of a power outage. Some of the risk associated with the disaster(s) are mitigated by the fact that the water storage tanks are in different sections of the City, and the eight wells are located thought the city. A disaster in one area hopefully would not affect or would have minimal effect on other areas.

8.9 - Seismic Risk Assessment and Mitigation Plan

Water Code Section 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.

In lieu of conducting their own seismic risk assessment, which can be a lengthy process, suppliers can comply with the CWC requirement by submitting the relevant local hazard mitigation plan or multihazard mitigation plan, if available. The City was one of the agencies that is included in the Kern County Hazard Mitigation Plan. The Kern County Hazard Mitigation Plan is included in this Plan as an attachment. An updated Kern County Hazard Mitigation Plan is scheduled to be completed by July 2021.

SECTION 9 - DEMAND MANAGEMENT MEASURES

CWC 10631(f). Provide a description of the supplier's water demand management measures. This description shall include all of the following:

CWC 10631(f)(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.

CWC 10631(f)(1)(B). The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

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

(vi) Water conservation program coordination and staffing support.

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

This section provides a comprehensive description of the water conservation programs that the City has implemented, is currently implementing, and plans to implement to meet urban water reduction targets. The City is not a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California and therefore, is not a member of the California Urban Water Conservation Council. For responding to the Act, the City will address the six Demand Management Measures (DMMs) described in CWC section 10631(f)(1)(B). Descriptions of the City's DMMs are provided below.

The City has water conservation and recycling programs in place. It takes the issues of water conservation seriously and is implementing best management practices (BMPs) as necessary to achieve those goals. California Department of Water Resources (DWR) has expanded on typical BMPs in the form of Demand Management Measures (DMMs), which are discussed below.

9.1 - Water Survey Program

This program involves making free water audits available, upon request, to all residential customers. The audit would include identification of any leaks inside or outside the home,

reviewing water usages with the customer and recommending improvements for the customer to implement.

California City has installed water meters on each water service connection. Within the city service area, residential meters are read on a monthly basis. The City requires separate irrigation meters for customers with large landscaping areas to distinguish outdoor water from indoor water use and for the facilitation of recycled water conversions. The City's CI, CII customers are required to have fire sprinkler systems, and since 2012, the City has required residential fire sprinklers in all new single and multi-family construction.

The City has been replacing its metering infrastructure with AMI since 2006 and is expecting to complete this process in 2019. With the AMI technology, meter readings are fed from meters to a handheld collector, which transmits meter reads to City computers. The information is then transformed into customer reports that detail water usages, time of use, and leak detection. The system increases meter reading accuracy and efficiency and provides hour-by-hour meter reads, significantly improving customer service levels. As of 2015, approximately 20% of the City customers are served by AMI.

Implementation of AMI will allow the City to automate meter reading and provide real-time water use data to City staff and customers that can be used to aggressively target leaks and atypically high-water use during normal years and periods of water shortage. Implementation of AMI will also increase City's communication with customers and allow customers to view water use in near real-time through the City's staff.

City crews provide water audits free of charge to customers who question or doubt the data being generated by their meters. The audits will at least consist of manual meter reads to confirm usage reported by a handheld data collection device used to electronically read meters.

City staff can also provide an assessment of a customer's water use by checking for leaks, irrigation use and signs of water wasting. Calls from customers requesting an audit total to less than six per calendar year and are generally performed to the satisfaction of the customer.

BUDGET: Meter retrofits and outreaching programs currently have an annual budget of

$150,000 for mostly contractual work. The staff costs for implementing this DMM are absorbed by the water enterprise operational budget.

9.2 - Residential Plumbing Retrofit

This DMM involves installing water savings devices within residences, business and other usage locations to reduce the amount of water used or to limit the amount of water delivered to the connection. These devices include low flow showerheads, faucet aerators with flow restrictors and low flow toilets. State law began requiring low-flow fixtures on all new

construction in 1978, with an increase in stringency of the regulation in 1992, which required Ultra-Low-Flush toilets.

The City requires all new construction to install low-flow devices such as toilets and showerheads but does not have an enforceable ordinance requiring the replacement of high flow fixtures for older homes and businesses with their low-flow counterparts. A citywide retrofit program for older service connections has not been conducted to date.

The City estimates that there over 3,500 single family units that were constructed before the low-flow fixture requirements. It's anticipated that funding and implementing retrofits for the older service connections would require one dedicated and certified staff member at an annual cost of $100,000 per year plus the cost of specific materials which the water enterprise does not have funding for at the present time.

BUDGET: No specific budget has been set-aside for this DMM at this time.

9.3 - Metering and Commodity Rates

The Metering DMM entails installing water meters on all new connections and implementing a plan to retrofit all existing unmetered connections.

The City's water system is fully metered and in full compliance with the State of California Assembly Bill No. 2572 (AB 2572). However, the continuing drought and water crisis along with the City's inability to consistently uphold the State's conservation standard has led to the citywide meter replacement and conversion to AMI reading system that will help in detecting usage abnormalities via radio communication. Once an AMI system is fully installed and operational, with a balance of approximately 2,000 meters needed to be upgraded and replaced. The coordination, funding and implementation of this plan will be completed by 2019.

BUDGET: The current annual budget for implementing this DMM is $480,000.

9.4 - Conservation Pricing

This DMM would implement a tiered water rate structure to encourage conservation. The City already has implemented this type of rate structure.

The current meter rate plan was approved in 2014. The typical water bill is made up using a fixed monthly charge based on the size of meter and water usage billed by tiers. The following tables detail the current tiered billing structure. At the time the current rate structure was approved, it was seen as a significant change, particularly for existing metered customers using the previous rate plan in which a fixed fee purchased an allowance of water before the usage rate could be assessed. Therefore, tiered usage rates and other more complicated plans that could have encouraged more conservation were not seen as practical options. Rather, the approved rates were seen as a first step and easier transition towards conservation that at least discouraged wasting. Since the current rates were approved, a

multi-year statewide drought and the State's enforcement of conservation measures and standards has prompted to the City to revisit tiered rates and other rate alternatives to compel its customers to be more proactive with conservation and engaged with our water crisis. In 2016, the Public Works Director informed the City Council that a comprehensive financial analysis be completed to develop rate alternatives that could achieve better conservation while still complying with the cost-of-service requirements set forth by Proposition 218.

9.5 - Public Education and Outreach

The following describes the public education and outreach efforts by the City to promote water conservation and other water-related topics.

The annual Consumer Confidence Report is mailed each year. The City uses these mailings when necessary to provide customers additional information on water conservation and other demand management measures. Display cases and bulletin boards at City facilities augment the mailings by providing a permanent posting of the most current City mailings.

The City monthly water bill distributed to all water service customers is another vehicle used by the City for public education purposes. The bill presents information regarding comparable previous year water usage so that the public can self-monitor their water demand. The bill also contains a space for public service announcements that are used to remind citizens of conservation and demand management measures.

9.6 - Programs to Assess and Manage Distribution System Real Loss

The City has several programs to manage distribution system loss.

1. Leak detection program
    - Daily water patrol helps to detect visible leaks.
    - Customer calls on possible water leaks, when received, are inspected the same day.
    - All leaks are repaired as soon as possible.
    - When repairing a leak, 1) underground dig alert is notified to let other utilities know of underground excavations and 2) the water leak is repaired.
2. Regular meter testing
    - Several meters are flow tested regularly throughout the City for accuracy.
    - Meters are also flow tested by request of a customer.
    - Meters are replaced, if needed.

9.7 - Water Conservation Program and Staffing Support

The following provides a description of the City's water conservation program and staffing support.

A Water Conservation Coordinator (WCC) would be responsible for coordinating water conservation programs and activities including the public information program and education program.

The has a full-time Water Conservation Coordinator and has also utilized available staff on a part-time basis to patrol all service areas of the City to monitor water use and enforce the water use policies. These patrols were routinely used during 2015, 2016 and played a major role in getting the City's water customers to reduce their water usage.

The City's 2016-2017 fiscal year budget calls for funding the City's first full-time meter department technicians that will primarily read and install meters but will also support the Conservation Coordinator to enforce water use policies.

BUDGET: The City budgets approximately $150,000 annually to fund the new meter technicians and Conservation Coordinator to ensure that water audit and leak detection programs are conducted.

The contact information for City-related water conservation program is provided below:

Joe Barragan, Public Works Director
(760) 373-7162

9.8 - Other Demand Management Measures That Impact GPCD

The City does not currently employ any other DMMs that affect GPCD.

9.9 - Planned Implementation to Achieve Water Use Targets

As required by CWC Section 10631(f)(1)(A), the City must describe the DMMs that it plans to implement to achieve its water use targets (see Table 5-1). The City plans to use all DMMs described above, if needed, to achieve its water use targets.

9.10 - Members of the California Urban Water Conservation Council

CWC 10631(i). For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

The City is not a member of the California Urban Water Conservation Council and therefore, need not comply with this section of the CWC.

SECTION 10 - PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

CWC 10621(b). Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any City or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any City or county that receives notice pursuant to this subdivision.

CWC 10621(d). Each urban water supplier shall update and submit its 2020 plan to the department by June 30, 2021.

CWC 10608.26(a). In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

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

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

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

CWC 10635(b). 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.

CWC 10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of 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 hearing to any City or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

CWC 10644(a)(1). An urban water supplier shall submit to the department, the California State Library, and any City or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any City or county within which the supplier provides water supplies within 30 days after adoption.

CWC 10644(a)(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.

CWC 10645. 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.

The City has notified all entities that have land use jurisdiction within its service area that it is reviewing and considering amendments to its 2020 UWMP. The City has served 60-day notice to these agencies on July 5, 2023 that its 2020 UWMP is under review and may be revised in concurrence with updated land use information, demand projections and new legislations. This 60-day notice also stated that a public hearing would be held on September 26, 2023 at 6 pm at 21000 Hacienda Boulevard, California City, CA 93505 to receive comments, questions, and suggestions regarding City's 2020 UWMP, and to address water supply reliability and management by the City for at least the next 20 years. Copies of the 60-day notices are included in Appendix C. A notice of public hearing was published in the local newspaper, notifying interested parties that the 2020 UWMP was available at the City for review; at the same time copies of the 2020 UWMP were forwarded to the DWR for review. Upon the completion of that review, and corrections based thereon, the City Board of Directors will adopt the UWMP.

Table 10-1 provides the cities and counties that received notice.

Table 10-1 Retail: Notification to Cities and Counties

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
California City	Yes	Yes
Mojave Public Utility District	Yes	Yes
State Water Resource Control	Yes	Yes
Antelope Vallet - East Kern Water	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Kern County	Yes	Yes

Submittal Table 10-1 Retail: Notifications to Water Agencies, Cities, and State		
Entity Name	**Beginning Date of 60 Day Notice**	**Notice of Public Hearing**
California City	7/14/2026	9/26/2026
Mojave Public Utility District	7/5/2023	9/26/2026
State Water Resource Control Board	7/5/2023	9/26/2026
Antelope Valley-East Kern Water Agency	7/5/2023	9/26/2026
Kern County Water Agency	7/5/2023	9/26/2026

In accordance with CWC section 10635(b), 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. Since the City is the urban water supplier for itself, this requirement does not apply.

The City held the public hearing at its regularly scheduled City Council meeting on September 26, 2023 in which the following was accomplished:

- Community input was taken regarding the 2020 UWMP.
- The economic impacts of the 2020 UWMP were considered.
- Information was provided on the City's baseline values, water use targets, and implementation plan required per Senate Bill X7-7.
- The City Council adopted Method 1 (80% of urban retail water supplier's baseline per capita daily water use) for determining its urban water use target per SB X7-7.

A copy of the signed resolution by the City Council adopting the 2020 UWMP is included in Appendix D. This UWMP includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

The City's 2020 UWMP will be provided to DWR per CWC section 10621 both in hardcopy and electronically. In addition, the City's 2020 UWMP will be provided to the California State Library and the agencies listed in Table 10-1 that have land use jurisdiction within its service area per CWC section 10644 no later than 30 days following its adoption. Copies of these letters of transmittal are included in Appendix E.

No later than 30 days after filing a copy of the 2020 UWMP with DWR, the City will make a hardcopy of its 2020 UWMP available for public review at the City during normal business hours.

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APPENDIX A
URBAN WATER MANAGEMENT PLANNING ACT OF 1983

APPENDIX B
CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE

APPENDIX C
60-DAY NOTICE

APPENDIX D
ADOPTED RESOLUTION

APPENDIX E
LETTER OF TRANSMITTAL

APPENDIX F
HAZARD MITIGATION

APPENDIX G

CHECKLIST ARRANGED BY SUBJECT

Water Code Section	Summary as Applies to UWMP	Subject	2020 Guidebook Location	2020 UWMP Location (Optional Column for Agency Review Use)
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5	Section 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 5.7.2	Section 5
10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.7	Section 5

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	Sections 5.2 and 5.5.7	Section 5
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	Section 5.1	N/A
10608.4	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	Section 5
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.	Demand Management Measures	Sections 9.2 and 9.3	Section 9.2 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	Sections 9.1 and 9.3	N/A
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Chapter 10	Section 10
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.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	Section D; Appendix D
10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	Section 10

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 60days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Sections 8.12, 10.4	Section 10
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	Sections 10.2.2, 10.3, and 10.5	Section 10
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 10.2	Section 10
10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	Section 10; Appendix E

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 10.5	Section 10; Appendix F
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 10.5	Section 10; Appendix F
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	Section 10
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	Section 10

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	Section 10
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	Section 2.1; Appendix E
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 2.5.2	Section 2.5; Section 10; Appendix D

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 2.6	Section 2.5; Section 10; Appendix D
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.	Summary	Chapter 1	Chapter 1
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	Section 3.1
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	Section 3.3
10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4	Section 3.4

10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	Section 3.5
10631(a)	Describe the land uses within the service area.	System Description	Section 3.5	Section 3
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	Section 3.4
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 6.2.8	Section 6
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	Section 6
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	System Supplies	Section 6.2	Section 6.2
	severe periods of drought.			

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
10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.1	Section 6
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	System Supplies	Section 6.2.2	Section 6.2
	the plan or authorization.			
10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.2	Section 6.2
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	Section 6.2.2	N/A

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 6.2.3	Section 6.2
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 6.2.4	Section 6.2
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	Section 6.2
10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	Section 6.7

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 6.8	Section 6.8
10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	Section 6.6
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	Section 2.5.1	N/A

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	N/A
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	Section 6.5
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.2	N/A
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	N/A

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	N/A
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	Section 6.5
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	Section 6.5
10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	Section 4.2
10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.3	Section 4.3

10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.2	Section 4.3
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	Section 4.5
10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8	Section 8
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	Section 8.2	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	Section 8.2	Section 8

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	Section 8
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	Section 8.3	N/A
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	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	Section 8.4
10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 8.4	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	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	Section 8.4
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	Section 8.5	Section 8

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	Section 8.5, 8.6	Section 8
10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 8.7	Section 8.7
10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Section 8.7	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 8.7	Section 8
10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.8	Section 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	Section 8.8	Section 8
10632(a)(8)(C)	Describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought.	Water Shortage Contingency Planning	Section 8.8	Section 8
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	Section 8.9	Section 8.9

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 8.10	Section 8.10
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 8.11	Section 8
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 7.4	Section 7

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	Chapter 7	Section 7
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry 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 7.3	Section 7.2
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	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	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 7.3	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	Section 7.3

10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change condition, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 7.3	Section 7.3
10631.2(a)	The UWMP must include energy intensity information as stated in the code.	System Suppliers, Energy Intensity	Section 6.4 and Appendix O	Section 6