# City of Coalinga

2020 Urban Water Management Plan

## **DRAFT**

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## Prepared for:

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## CITY OF COALINGA 2020 URBAN WATER MANAGEMENT PLAN

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#### LIST OF ACRONYMS AND ABBREVIATIONS

AB Assembly Bill AF Acre-feet

AWWA American Water Works Association

Black Water Black Water Consulting Engineers, Inc.

BMP Best management practice CCR Consumer Confidence Report

Census U.S. Census Bureau

CIMIS California Irrigation Management Information System

City City of Coalinga
County Fresno County

CSH Coalinga State Hospital

CUWCC California Urban Water Conservation Council

CVP Central Valley Project
CWC California Water Code

Delta Sacramento-San Joaquin Delta
DMM Demand management measure
DOF California Department of Finance

DRA Drought Risk Assessment

DWR California Department of Water Resources

ETo Evapotranspiration

Fresno COG Fresno County Council of Governments
General Plan City of Coalinga 2025 General Plan

gpcd Gallons per capita per day
GSP Groundwater Sustainability Plan

HCD California Department of Housing and Community Development

LAFCo Local Agency Formation Commission

Legislature State of California Legislature M&I Municipal and Industrial

MG Million gallons

mgd Million gallons per day
PVSP Pleasant Valley State Prison
Retail Supplier Urban retail water supplier

RWQCB California Regional Water Quality Control Board

SB Senate Bill

SB X7-7 Water Conservation Act of 2009

SOI Sphere of influence

State Water Board State Water Resources Control Board

TDS Total dissolved solids
TG Thousand Gallons
ULF Ultra-low flush

USBR United States Bureau of Reclamation
UWMP Urban Water Management Plan

UWMP Guidebook 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers



UWMPA Urban Water Management Plan Act WDR Waste Discharge Requirements WSCP Water Shortage Contingency Plan

WTP Water treatment plant
WUEdata Water Use Efficiency Data
WWTP Wastewater treatment plant





## 1 UWMP Introduction and Lay Description

## 1.1 Background and Purpose

## Legal Requirements:

#### CWC Section 10615:

"Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

The California Water Code (CWC) requires urban water suppliers within the state to prepare and adopt Urban Water Management Plans (UWMPs) for submission to the California Department of Water Resources (DWR). The UWMPs, which must be filed every five years, must satisfy the requirements of the Urban Water Management Planning Act (UWMPA) of 1983 including amendments that have been made to the Act and other applicable regulations. The UWMPA requires urban water suppliers servicing 3,000 or more connections or supplying more than 3,000 acre-feet (AF) of water annually, to prepare an UWMP.

The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions. This plan, which was prepared in compliance with the CWC, and as set forth in the 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers (May 2021) established by DWR (UWMP Guidebook), constitutes the City of Coalinga (City) 2020 UWMP. This 2020 UWMP was prepared in compliance with the UWMPA and the Water Conservation Bill of 2009 (Senate Bill [SB] X7-7) by Black Water Consulting Engineers, Inc. (Black Water) and the City.

## 1.2 Previous Urban Water Management Plan

The City previously updated their 2015 UWMP in March 2021. Following adoption, the 2015 UWMP was submitted to and approved by DWR. This 2020 UWMP serves as an update to the 2015 UWMP and complies with all new UWMP requirements and regulations.

#### 1.3 Urban Water Management Planning and the California Water Code

This section summarizes the CWC sections that are applicable to UWMPs.



#### 1.3.1 Urban Water Management Planning Act of 1983

In 1983, State Assembly Bill (AB) 797 modified the CWC Division 6, by creating the UWMPA. Several amendments to the original UWMPA, which were introduced since 1983, have increased the data requirements and planning elements to be included in UWMPs. Initial amendments to the UWMPA required that total projected water use be compared to water supply sources over the next 20 years, in 5-year increments. Recent DWR guidelines also suggest projecting through a 25-year planning horizon to maintain a 20-year timeframe until the next UWMP update has been completed. This is merely a guideline and not a requirement of the UWMPA. Therefore, the use of a 25-year planning horizon as opposed to a 20-year planning horizon is left up to the discretion of the agency. The City has opted to use a 20-year planning horizon for the purposes of this UWMP.

#### 1.3.2 Applicable Changes to the Water Code since 2015 UWMPs

Since the UWMPA was passed, the CWC has undergone significant expansion and revision since the 2015 UWMP was prepared. Prolonged droughts, groundwater overdraft, regulatory revisions, and changing climatic conditions not only affect each supplier's water reliability determinations, but also the broad picture of statewide water reliability overseen by DWR, the State Water Resources Control Board (State Water Board), and the State of California Legislature (Legislature). Accordingly, the UWMPA has grown to address changing conditions. Applicable changes to the CWC since the completion of the City's 2015 UWMP are summarized in **Table 1-1**.



Table 1-1 - Applicable Changes to the CWC Since 2015

Table 1-1 Applicable Chair	cwc	Legislative	
Topic	Sections	Bill	Summary
Five Consecutive Dry- Year Water Reliability	10635(a) and (b)	SB 606, 2019	The Legislature modified the dry-year water reliability planning from a "multiyear" time
Assessment	aa (a)		period to a "drought lasting five consecutive water years" designation.
Drought Risk Assessment	10635(b)	SB 606, 2019	The Drought Risk Assessment (DRA) requires a supplier to assess water supply reliability over a five-year period from 2021 to 2025.
Seismic Risk	10632.5	SB 664, 2016	Requires the UWMP to address seismic risk to various water system facilities and have a mitigation plan.
Energy Use	10631.2(a)	SB 606, 2018	Requires suppliers to include readily obtainable information on estimated amounts of energy use for their water supply extraction, treatment, distribution, storage, conveyance, and other water uses.
Water Loss Reporting for Five Years	10631(d)	AB 1414, 2019	Requires inclusion of the past five years of water loss audit reports in UWMPs.
Water Shortage Contingency Plan (WSCP)	10632	SB 606, 2019	Suppliers are required to prepare and adopt a WSCP.
Groundwater Supplies Coordination	10631	AB 1414, 2019	Requires UWMPs to be consistent with Groundwater Sustainability Plans (GSPs)
Lay Description	10630.5	SB 606, 2019	Requires inclusion of a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

# 1.4 UWMPs in Relation to Other Planning Efforts

The City is committed to providing a reliable and high-quality water supply to its customers. To ensure that the City will be able to continue to reliably serve the residents of Coalinga in the future, the City has conducted/participated in several important planning efforts that relate to water supply planning and are related to the UWMP. Some of the most recent water planning efforts are summarized below:

- City of Coalinga General Plan 2005-2025: In June 2009, the City adopted an update to its General Plan that guides land use and development for the Coalinga Planning Department through the year 2025. The General Plan focuses on the preservation and enhancement of the existing land while guiding community growth.
- Fresno Multi-Jurisdictional 2015-2023 Housing Elements: In April 2016, Fresno County (County) along with Coalinga and 11 other cities within the county coordinated to publish the 2015-2023



Housing Elements. The document identifies the community's housing needs, states the region's goals and objectives regarding housing production, rehabilitation, conservation to meet those needs, and defines the policies and programs the community will implement to achieve stated goals and objectives.

## 1.5 UWMP Organization

This 2020 UWMP contains the appropriate sections and tables required per the UWMPA and has been prepared based on guidance provided by the UWMP Guidebook. The required tables are included in the relevant sections and in **Appendix A**.

DWR's UWMP Checklist, as provided in the UWMP Guidebook, has been completed to demonstrate the UWMP's compliance with applicable requirements. A copy of the completed checklist is included in **Appendix B**. This plan is organized according to the recommended format provided in the UWMP Guidebook. The UWMP contains ten chapters, followed by appendices that provide supporting documentation for the information presented in the plan. The chapters are outlined below:

- Chapter 1 UWMP Introduction and Lay Description: This chapter provides background information for the 2020 UWMP and provides a description of the purpose of the plan.
- Chapter 2 Plan Preparation: This chapter includes information on the development of the 2020 UWMP and efforts in coordination and outreach.
- Chapter 3 System Description: This chapter describes the service area, population, and climate; presents an overview of the City's water distribution system; and describes the City's organizational structure and history.
- **Chapter 4 Water Use Characterization:** This chapter describes and quantifies the current and projected water uses within the City's service area.
- Chapter 5 SB X7-7 Baseline and Targets, and 2020 Compliance: This chapter describes the methods for calculating baseline and target water use consumption in the City. It also includes a calculation of the City's 2020 water use and determination of compliance with the 2020 target water use.
- Chapter 6 Water Supply Characterization: This chapter describes the current and projected sources of water available to the City. A description of potential recycled water use and supply availability is also included in this chapter.
- Chapter 7 Water Service Reliability and Drought Risk Assessment: This chapter describes the reliability of the City's current supply and evaluates the reliability for the next 20 years, including normal, single-dry years, and five consecutive dry years.
- Chapter 8 Water Shortage Contingency Plan: This chapter references the City's Water Shortage Contingency Plan (WSCP) which is provided as an appendix.
- Chapter 9 Demand Management Measures: This chapter describes the City's efforts to promote conservation, reduce water demand, and describes the City's demand management measures.
- Chapter 10 Plan Adoption, Submittal, and Implementation: This chapter describes the steps taken to adopt and submit the 2020 UWMP and make it publicly available. This chapter will also describe the City's plan to implement the UWMP.



## 1.6 Lay Description

#### Legal Requirements:

#### CWC Section 10630.5:

Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

The UWMP describes the City's water system, characterizes water use, describes the water supply sources for the City, and analyzes the reliability of the City's water service for normal, dry, and 5-year drought conditions for the next 20 years. To further improve the reliability of the City's water system, the WSCP identifies strategies to implement during water shortages and describes procedures for identifying the potential of a water shortage in the current year.

The City water system receives up to 10,000 AF (14,193 million gallons [MG]) of surface water through the federal Central Valley Project (CVP), which is supervised by the U.S. Bureau of Reclamation (USBR). In 2020, the City supplied 1,373 MG of potable water. Potable water demands are projected to increase to 2,218 MG by 2040 due to increases in the City population. The City's water supply is projected to sufficiently meet expected demands through 2040 without adding additional supplies.





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## 2 Plan Preparation

This chapter presents information on the development of the 2020 UWMP, including coordination and outreach efforts.

## 2.1 Basis for Preparing a Plan

#### Legal Requirements:

#### CWC Section 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.

#### CWC Section 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 Section 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.

## 2.1.1 Public Water Systems

The CWC defines an urban water supplier as "a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or supplies more than 3,000 AF of potable water annually at retail for municipal purposes." **Table 2-1 (DWR Table 2-1)** documents the number of municipal connections and the volume of water supplied in 2020. The City is considered an urban retail water supplier.

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

Submittal Table 2-1 Retail Only: Public Water Systems				
Public Water System Number	Public Water System   Number of Municipal   Water St		Volume of Water Supplied 2020 *	
Add additional rows as	needed			
CA1010004	City of Coalinga	4,027	1,373	
	TOTAL	4,027	1,373	
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.				
NOTES:				

# 2.2 Individual Planning and Compliance

Water agencies are given the option to develop UWMPs individually or collectively as a regional group. While efforts to prepare the UWMP were coordinated with appropriate agencies, this UWMP was developed for the City service area only, and the City is not participating in a Regional UWMP (**Table 2-2** (**DWR Table 2-2**)).



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

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)	
V	Individua	I UWMP		
		Water Supplier is also a member of a RUWMP		
		Water Supplier is also a member of a Regional Alliance		
	Regional Plan (RU)	Urban Water Management WMP)		
NOTES:				

# 2.3 Fiscal or Calendar Year and Units of Measure

Legal Requirements:

CWC Section 10608.20:

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

The City's 2020 UWMP has been prepared on a calendar year basis and includes planning data for the complete year of 2020. The City's reporting of water volumes in this 2020 UWMP is reported in MG. **Table 2-3** (**DWR Table 2-3**) summarizes the City's reporting methods for this 2020 UWMP.



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

Submittal Table 2-3: Supplier Identification				
Type of S	upplier (select one or both)			
	Supplier is a wholesaler			
>	Supplier is a retailer			
Fiscal or	Calendar Year (select one)			
Y	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 r	measure used in UWMP *			
(select fr	om drop down)			
Unit	MG			
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.				
NOTES:				

#### 2.4 Coordination and Outreach

## Legal Requirements:

#### CWC Section 10631:

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

The UWMPA requires that the UWMP identify the water agency's coordination with appropriate nearby agencies. While preparing the 2020 UWMP, the City coordinated its efforts with relevant agencies to ensure that the data and issues are presented accurately.



#### 2.4.1 Wholesale and Retail Coordination

The City does not receive wholesale water, nor does it plan to in the future (Table 2-4 (DWR Table 2-4)).

## Table 2-4 – Water Supplier Information Exchange (DWR Table 2-4)

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
Not Applicable
NOTES:

#### 2.4.2 Coordination with Other Agencies and the Community

## Legal Requirements:

#### CWC Section 10620:

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

#### CWC Section 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...

The City has coordinated with other appropriate agencies in the area, to the extent practicable. The following is a list of agencies and organizations that the City has contacted in the preparation of the 2020 UWMP:

- United States Bureau of Reclamation
- Westland's Water District
- Coalinga-Huron Unified School District

A copy of the letter sent to each of those agencies is in **Appendix C**.

#### 2.4.3 Notice to Cities and Counties



## Legal Requirements:

## CWC Section 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 City provided formal written notification to Fresno County and the public that the City's UWMP was being updated. In accordance with the UWMPA, this notification was provided at least 60 days prior to the public hearing of the plan. **Appendix C** contains copies of the outreach documents.





## 3 System Description

The UWMPA requires that the UWMP include a description of the water purveyor's service area and various aspects of the area served including climate, population, and other demographic factors. Unless otherwise noted, this 2020 UWMP uses the term "service area" to refer to the areas which the City provides potable water service.

## 3.1 General Description

#### Legal Requirements:

#### CWC Section 10631:

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

The City is located in the Pleasant Valley at the base of the coastal mountain range on the western side of California's Central Valley within Fresno County. The City is a public agency that provides water and sewer service to all residential, commercial, and industrial customers and for fire protection use. During 2020, the City served a total population of approximately 17,590 through 4,027 active service connections.

Located approximately 60 miles northeast from Coalinga is the city limits of Fresno, the Central Valley's largest city and the state's fifth largest city. Interstate 5 runs north to south approximately ten miles east of Coalinga. The County of Monterey lies to the west and Kings County to the east.

According to the U.S. Census Bureau (Census), there were 8,212 people living in Coalinga in 1990, 11,668 in 2000, 13,380 in 2010, and 17,590 in 2020. These population estimates represent an average annual growth rate of approximately 2.57 percent from 1990 through 2020. This increase in population is primarily a reflection of the regional growth pressures that are affecting the Central Valley as people living in more expensive regions look for affordable housing in the Valley and the opening of the California Department of State Hospitals-Coalinga in 2005.

The City is the governing agency and the sole purveyor of water within the City limits. The City adopted the City of Coalinga 2025 General Plan (General Plan) in June 2009 [1]. The General Plan assesses delineated land use areas referred to as the sphere of influence (SOI), which is larger than the City limits. The SOI includes land over which the City does not have complete jurisdiction; however, the City has the option to annex the land and develop it in the future.



According to the Fresno Local Agency Formation Commission (LAFCo), the City's SOI encompasses approximately 9.05 square miles (5,793 acres). Land uses within the City include single-family residential, multi-family residential, mixed use, commercial, manufacturing/business, public facilities, recreation, open space/conservation, agricultural, and street rights-of-way. The SOI is recognized as the ultimate growth boundary over the life of the City's current General Plan. This 2020 UWMP assumes that the SOI describes the future water system service area.

## 3.2 Service Area Boundary Maps

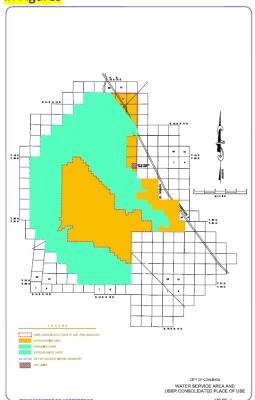
The service area map in **Figure 3-1** displays the City limits and the potable water service area boundary.





Figure 3-1 – Service Area Map

In Figures





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#### 3.3 Service Area Climate

#### Legal Requirements:

CWC Section 10631(a):

A plan shall... Describe the service area of the supplier, including ... climate...

CWC Section 10630:

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning... while accounting for impacts of climate change.

Climate within the City is typical of that of the Southern San Joaquin Valley, cool and foggy during the winters with little precipitation, and hot and dry summers with little to no rainfall. Coalinga enjoys a very high percentage of sunshine, averaging over 260 sunny days per year. The City's annual average precipitation is approximately 5.4 inches. Most of the annual precipitation occurs between November and March. The local annual average maximum daily temperature is 78.8°F and the annual average minimum daily temperature is 51.7°F. **Table 3-1** summarizes monthly average evapotranspiration (ETo) rates, rainfall, and temperature. ETo is the water lost through evaporation from the soil and surface water bodies, combined with plant transpiration. Local data was obtained from California Irrigation Management Information System (CIMIS) Station #205, located within the City limits.

Table 3-1 - City of Coalinga Climate Data

	Average ETo	Average Max Temperature	Average Min Temperature	Average Rainfall
Month	inches <sup>(a)</sup>	°F <sup>(b)</sup>	°F <sup>(b)</sup>	inches <sup>(b)</sup>
January	1.94	59.94	37.86	1.12
February	2.83	69.04	44.1	0.75
March	4.36	82.79	54.09	0.77
April	6.31	98.1	67.57	0.2
May	8.17	91.25	61.85	0.21
June	9.61	67.8	42.97	0.08
July	9.97	60.52	37.92	0.18
August	8.96	69.55	44.18	0.01
September	6.9	82.79	53.96	0.06
October	4.88	98.34	67.55	0.28
November	2.64	91.15	61.46	0.52
December	1.76	68.06	42.86	0.65
Total	68.33	78.28	51.36	4.83

<sup>(</sup>a) Source: CIMIS Website: www.cimis.water.ca.gov, Station 205 Coalinga, California, Monthly Average ETo Report, Printed July 2021.

These climate characteristics highly influence the City's water use. As described in Chapter 4, the City's water use in the summer months is significantly higher than that in the winter, reflecting increased water use for irrigation purposes during the hot, dry summers.

<sup>(</sup>b) Source: CIMIS Website: www.cimis.water.ca.gov, Station 205 Coalinga, California, Monthly Average Report, January 2011 – December 2020.



## 3.4 Service Area Population and Demographics

#### 3.4.1 Service Area Population

#### Legal Requirements:

## *CWC Section 10631(a):*

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

According to the Census, the City's population for the year 2020 was 17,590. The City has experienced steady population growth since 2010, and future projections anticipate further growth within the City. This steady increase in population is primarily a reflection of the regional growth pressures that are affecting the Central Valley as people living in more expensive regions look for affordable housing. The City's total population includes the urban population of the City, the population of the Pleasant Valley State Prison, and the population of the Coalinga State Hospital. The Pleasant Valley State Prison population fluctuated between 2,753 and 3,233 inmates in 2020 according to the California Department of Corrections and Rehabilitation 2020 Yearly Report. The California Department of State Hospitals Coalinga has 1,286 beds according to the California Department of State Hospitals website.

Anticipating increased demand from population growth and new enterprise are important aspects of the City's UWMP. This UWMP anticipates the effects of increased demand on water resources arising from sustained population growth. The City's population in 2020 of 17,590 was up from 13,380 at the 2010 Census, up from 11,668 at the 2000 Census, and up from 8,212 at the 1990 Census. Based on these population figures, the average annual growth rate of from 1990 to 2020 is approximately 2.57 percent. **Table 3-2 (DWR Table 3-1)** contains the projected population for the next 25 years, in 5-year increments, assuming a 2.57 percent annual average growth rate through 2040.

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

Table 5 2 Topulation Carrent and Trojected (2001, Table 5 2)									
Submittal Table 3-1 Retail: Population - Current and Projected									
Population Served	2020	2025	2030	2035	2040	2045(opt)			
	17,590	19,970	22,671	25,738	29,220	33,172			
NOTES:									



#### 3.4.2 Other Social, Economic, and Demographic Factors

#### Legal Requirements:

#### CWC Section 10631:

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

The City's median household income is \$62,522, and the poverty rate is 20.6%. The median age in the City is 32.1 years old, which is lower than the United States' median age of 38.1. According to the U.S. Census Bureau, over a third of the population in Coalinga speaks Spanish at home. 70.4% of the population has attained a high school diploma.

#### 3.5 Land Uses within Service Area

#### Legal Requirements:

#### CWC Section 10631(a):

The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities...

The City is predominantly comprised of single-family residential land use and public facilities with commercial, industrial, parks/open space/public uses, and multi-family residential land uses comprising the remaining areas. The General Plan serves as a blueprint for growth and development in the City. **Figure 3-2** shows the General Plan land use diagram.



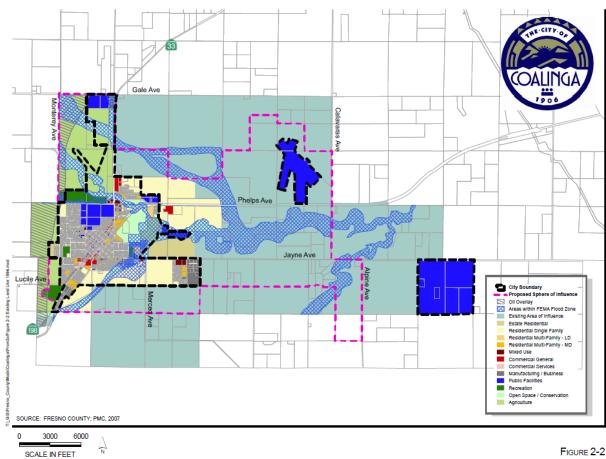
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Figure 3-2 - General Plan Land Use

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#### 4 Water Use Characterization

This chapter describes and quantifies the current and projected water demands within the City's service area.

#### 4.1 Non-Potable versus Potable Water Use

This chapter addresses demands that are met by potable water sources. Recycled water use is described separately in Chapter 6. The City does not use other non-potable water sources.

## 4.2 Past, Current, and Projected Water Use by Sector

#### Legal Requirements:

## CWC Section 10635:

(a) Every urban water Supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

#### *CWC Section 10631(d):*

- (1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following...
- (2) The water use projections shall be in the same five-year increments described in subdivision (a).
- (4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.
- (B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

The following sections describe past, current, and projected water use within the City for each of the ten water use sectors identified in CWC Section 10631(d).



#### 4.2.1 Water Use Sectors Listed in Water Code

#### Legal Requirements:

#### CWC Section 10631(d):

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

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

The water use sectors that are served by the water system include single-family residential, multi-family residential, and commercial. These classifications were used to analyze current consumption patterns. These classifications are defined as follows.

- **Single-family residential** A single-family dwelling unit. A lot with a free-standing building containing one dwelling unit that may include an accessory dwelling unit.
- **Multi-family residential** Multiple dwelling units contained within one building or several buildings within one complex.
- **Commercial** A water user that provides or distributes a product or service. Includes water used by retail establishments, office buildings, laundries, schools, prisons, hospitals, dormitories, nursing homes, and hotels.
- **Distribution System Water Losses** Water losses which occur due to distribution system leaks and other unmetered water uses (such as firefighting, main flushing, etc.).

The definitions for single-family residential and multi-family residential are consistent with the UWMP Guidebook. The City records for commercial, however, include the category defined as institutional in the 2020 UWMP Guidebook.

## 4.2.2 Water Use Sectors in Addition to Those Listed in Water Code

The water system does not serve additional water use sectors.

#### 4.2.3 Past Water Use

The City's past water use for 2016-2019 is shown in **Table 4-1**.

Table 4-1 – Past Water Use (2016-2
------------------------------------

		Water Use (MG)											
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2016	65	62	75	93	106	133	145	146	127	107	84	64	1,207
2017	62	56	76	91	118	135	157	153	134	111	86	79	1,258
2018	70	72	75	94	125	130	152	150	138	115	88	68	1,277
2019	63	55	68	98	116	129	149	142	146	141	92	67	1,266

# 4.2.4 Distribution System Water Loss

# Legal Requirements:

# *CWC Section 10631(d)(1):*

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

(J) Distribution system water loss....

# CWC Section 10631(d)(3):

- (A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.
- (B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.
- (C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

The last five years of water loss audit reporting are summarized in **Table 4-2 (DWR Table 4-4).** The water loss audits for 2016-2020 are in **Appendix D**.

Table 4-2 – Last Five Years of Water Loss Audit Reporting (DWR Table 4-4)

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting					
Volume of Water Loss <sup>1,2</sup>					
99					
48					
147					
112					
155					

<sup>&</sup>lt;sup>1</sup> Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.

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

NOTES: Volume of water loss with reporting period start date of 07/2020 was estimated based on available data.

CWC Section 10608.34(i) directs the State Water Board to "adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses." The proposed regulation would require urban water suppliers to meet individual volumetric water loss standards determined through a water system-specific economic model developed by the State Water Board. Pursuant to this law, urban retail water suppliers, such as the City, have annually submitted water loss audits to DWR since October 2017. Pre-rulemaking meetings and workshops were held in 2018-2020 and adoption of the proposed regulation is anticipated to occur in 2021. Once the economic model is finalized, the City can determine their individual volumetric water loss standard.

#### 4.2.5 Current Water Use

Table 4-3 (DWR Table 4-1) shows potable water use for 2020 by water use type.



Table 4-3 – Demands for Potable and Non-Potable Water – Actual (DWR Table 4-1)

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable <sup>1</sup> Water - Actual							
Use Type		2020 Actual					
Drop down list  May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume <sup>2</sup>				
Add additional rows as needed							
Single Family		Drinking Water	561				
Multi-Family		Drinking Water	46				
Commercial	includes Institutional	Drinking Water	611				
Losses		Drinking Water	155				
	1,373						

<sup>&</sup>lt;sup>1</sup> Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.

NOTES: From 2020 EAR

<sup>&</sup>lt;sup>2</sup> Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.



#### 4.2.6 Projected Water Use

# Legal Requirements:

## CWC Section 10635 (a):

Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

#### Water Code Section 10631:

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

# CWC Section 10631(d)(4):

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

**Table 4-4 (DWR Table 4-2)** summarizes the projected water use by use type for 2025 through 2040. The water use in **Table 4-4 (DWR Table 4-2)** was calculated using the following assumptions:

- 2020 Target SB X7-7 of 273 gallons per capita per day, further described in Chapter 5
- Population projections presented in Table 3-2 (DWR Table 3-1)
- Percentage water use by use type for future years was the same as for 2020
- 66 gpcd reduction in water use due to implementation of DWR Stage 3 shortage response actions. Refer to the WSCP.



The projections are conservative and do not consider potential water use reductions from codes, standards, ordinances, or transportation and land use plans.

Table 4-4 – Use for Potable and Non-Potable Water – Projected (DWR Table 4-2)

Submittal Table 4-2 Retail: Use for Potable and Non-Potable <sup>1</sup> Water - Projected							
Use Type		Report T		cted Wate nt that Re	r Use² cords are A	Available	
<u>Drop down list</u> May select each use multiple times  These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	2025	2030	2035	2040	2045 (opt)	
Add additional rows as needed							
Single Family		616	700	795	902		
Multi-Family		51	57	65	74		
Commercial		671	762	865	982		
Losses		170	193	220	249		
	TOTAL	1,509	1,713	1,945	2,208	0	

<sup>&</sup>lt;sup>1</sup> Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.

NOTES: Projected water use based on population projections from Table 3-1, and an assumed water demand of 273 gpcd, equivalent to the SB X7-7 2020 Target. An additional 66 gpcd reduction in demand due to implementation of DWR Stage 3 Shortage Response Actions were included. Projected water uses for each use type were proportionally increased based on their percentage of the total water use for 2020.

<sup>&</sup>lt;sup>2</sup> Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.



**Table 4-5 (DWR Table 4-3)** summarizes the total projected potable and non-potable water use in five-year increments from 2020 to 2040. The table includes recycled water demand, which will be further described in Chapter 6.

Table 4-5 – Total Water Use (Potable and Non-Potable) (DWR Table 4-3)

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	1,373	1,509	1,713	1,945	2,208	0		
Recycled Water Demand <sup>1</sup> From Table 6-4	0	0	0	0	0	0		
Optional Deduction of Recycled Water Put Into Long-Term Storage <sup>2</sup>								
TOTAL WATER USE	1,373	1,509	1,713	1,945	2,208	0		

<sup>1</sup>Recycled water demand fields will be blank until Table 6-4 is complete <sup>2</sup> 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 longterm storage from their reported demand. This value is manually entered into Table 4-3.

NOTES:

## 4.2.7 Characteristic Five-Year Water Use

#### Legal Requirements:

#### CWC 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...

- (3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period. [Emphasis added]
- (4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The characteristic five-year water use will be useful for preparing the five-year Drought Risk Assessment (DRA) in Chapter 7. **Table 4-6** shows the summarized characteristic five-year water use. The projections assume a straight-line population growth between 2020 and 2025 and a water demand of 208 gallons per



capita per day (gpcd). The per capita water demand is based on an unconstrained water demand of 273 gpcd, equivalent to the SB X7-7 2020 target water demand shown in **Table 5-1 (DWR Table 5-1)**. A 66 gpcd reduction due to implementation of standard water conservation alert measures (DWR Stage 3) described in the WSCP is included in the projections. It is expected that water use in the next five years may be even lower than projected since DWR Stage 4 water conservation alert measures have been implemented. However, this was not included in the five-year characteristic water use because it is unknown how long these measures will be in place.

Table 4-6 - Characteristic Five-Year Water Use

	Year				
Description	2021	2022	2023	2024	2025
Per capita water use, gpcd <sup>a</sup>	273	273	273	273	273
Population <sup>b</sup>	18,066	18,542	19,018	19,494	19,970
Total unconstrained water use, MG	1,800	1,848	1,895	1,942	1,990
Reduction due to Shortage Level 3 measures <sup>c</sup>	66	66	66	66	66
Total projected water use, MG	1,365	1,401	1,437	1,473	1,509

<sup>&</sup>lt;sup>a</sup> Assumes an unconstrained water demand of 273 gpcd, equivalent to the SB X7-7 2020 target demand from **Table 5-1 (DWR Table 5-1)** 

# 4.3 Water Use for Lower Income Households

# Legal Requirements:

#### CWC Section 10631.1:

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

#### California Health and Safety Code Section 50079.5 (a):

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

Coalinga's share of regional housing needs originates with the California Department of Housing and Community Development (HCD). HCD first estimates a statewide need for housing, which is broken down into regions, each of which then has an assigned share of estimated housing needs. The Fresno County Council of Governments (Fresno COG) is the local agency mandated by California Government Code §65554(a) to distribute the "Fair Share Allocation" of the regional housing need to each jurisdiction in Fresno County. The "Fair Share Allocation" of housing is a specific number of residential units, in different price ranges, assigned to each local jurisdiction, including the City.

b Projections assume a straight line increase in population from the 2020 and 2025 population data presented in **Table 3-2 (DWR Table 3-1)**.

<sup>&</sup>lt;sup>c</sup> Reduction due to DWR Stage 3 measures assumed to be 66 gpcd.



The Fresno COG's 2016 Multi-Jurisdictional Housing Element estimates that a total of 41,470 housing units will be needed in the County through the end of year 2023. The City of Coalinga's share of those units is 589 or approximately 1.42 percent. The 2016 Multi-Jurisdictional Housing Element also estimates that approximately 45 percent of the total housing needs in the City of Coalinga are for low-income households. The needs allocation is further classified as low income, very low income, and extremely low income. **Table 4-7** uses the housing projection needs to assume the percentage of homes with income levels 80% or less than the median household income. Using these percentages, the amount of water use for each type of low income household is calculated.

Table 4-7 - City of Coalinga Lower Income Household Water Demands

	Year					
Description	2020	2025	2030	2035	2040	
Total water use, MG <sup>a</sup>	1,373	1,477	1,670	1,888	2,415	
Total population <sup>b</sup>	17,199	19,450	21,995	24,873	28,128	
Low-income population <sup>c</sup>	7,722	8,733	9,876	11,168	12,629	
Low-income water demand, MG	272	293	332	375	480	

<sup>&</sup>lt;sup>a</sup> Total water use is from Table 4-4 (DWR Table 4-2).

As shown in **Table 4-8 (DWR Table 4-5)**, lower income demand projections presented in **Table 4-7** are included in the total water use projections provided in **Table 4-5**.

Table 4-8 – Inclusion in Water Use Projections (DWR Table 4-5)

Table 10 metable in trate. Obe 1 logicalis (2 trit lable 1 s)					
Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections					
Are Future Water Savings Included in Projections?  (Refer to Appendix K of UWMP Guidebook)  Drop down list (y/n)	Yes				
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.					
Are Lower Income Residential Demands Included In Projections?  Drop down list (y/n)	Yes				
NOTES:					

<sup>&</sup>lt;sup>b</sup> Total population is from **Table 3-2 (DWR Table 3-1)**.

 $<sup>^{\</sup>rm c}$  Low Income Population is estimated at 44.9% based on the Fresno COG Allocation.



# 4.4 Climate Change Considerations

## Legal Requirements:

#### CWC Section 10630:

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

# *CWC 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...

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

The climatic conditions of the central San Joaquin Valley demand careful water management practices because of the typically low amount of rainfall and short rainy season and high temperatures experienced in summer months. The average annual precipitation for the Coalinga area from 2011-2020 is 4.83 inches. The rainy season typically runs from the beginning of November till the end of April. Drought conditions are not uncommon and can last for multiple years. Summer water consumption varies directly with daily temperature maximums and the Coalinga region experiences temperatures over 100 degrees during the summer months.

Systems that rely heavily on surface water are vulnerable to changes in water supply when a shift in precipitation and runoff amounts reduce the amount of surface water available. The City is subject to significant water supply uncertainties and shortages due to dry hydrologic conditions. The amount of CVP water available each year for the City is based, among other factors, on the storage of winter precipitation and the control of spring runoff in the Sacramento and San Joaquin River basins. The schedule of CVP water conveyed to and diverted from these rivers is determined by state water right permits, judicial decisions, and state and federal obligations to maintain water quality, enhance environmental conditions, and prevent flooding. As a result, the City's surface water allocation may be decreased.

The City, as a water provider that is solely reliant upon the CVP, is subject to significant water supply uncertainties and shortages due to dry hydrologic conditions, compounded by operational and regulatory constraints both directly and indirectly related to the Endangered Species Act. Much of the previously available yield from the CVP is no longer available to contractors due to regulatory actions and court rulings that mandate reoperation and water releases for environmental purposes. This reallocation of water supply over the last couple of decades with no added storage to offset these impacts potentially means the City will experience shortages more frequently and more severely in the future.



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

With the adoption of the Water Conservation Act of 2009, also known as the SB X7-7, the State of California was required to reduce urban per capita water use by 20 percent by the year 2020 (i.e., "20 by 2020"). CWC Section 10608.16(a) states: "The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020." To achieve this statewide objective, the California Legislature required each urban retail water supplier (Retail Supplier) subject to the UWMPA to develop an urban water use target to help the state collectively achieve a 20-percent reduction.

This chapter provides a description of the methodology used to calculate the City's compliance with SB X7-7 requirements. The SB X7-7 Verification Form from the 2015 UWMP and the SB X7-7 Compliance Form are included in **Appendix E**.

# 5.1 Baseline and Target Calculations for 2020 UWMPs

## Legal Requirements:

CWC Section 10608.20 (g):

(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

The City calculated their SB X7-7 baselines and targets in their 2015 UWMP and did not have a situation, such as a change to the service area or customer base, to warrant recalculation of the baselines and targets. **Table 5-1 (DWR Table 5-1)** summarizes the SB X7-7 baseline and confirmed 2020 target from the SB X7-7 Verification Form.

Table 5-1 – Baselines and Targets Summary from SB X7-7 Verification Form (DWR Table 5-1)

Submittal Table 5-1 Baselines and Targets Summary From SB X7-7 Verification Form Retail Supplier or Regional Alliance Only							
Baseline Period	Start Year *   End Year *   Baseline   2020						
10-15 year	2001	2010	341	272			
5 Year	2006	2010 330		273			
*All cells in this table should be populated manually from the							

\*All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)

NOTES:



# 5.2 Methods for Calculating Population and Gross Water Use

This section describes the methods used for calculating population and gross water use for determining 2020 compliance with the SB X7-7 target.

# 5.2.1 Service Area Population

#### Legal Requirements:

# CWC Section 10608.20(e):

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

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

#### CWC Section 10644:

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

To calculate the compliance year gpcd, the population served in 2020 was estimated using DOF Demographic Research Unit Report E-4 data. U.S. Census 2020 decennial data was not available in time for completion of the 2020 UWMP. The service area boundaries for the City water system correspond by 95 percent or more with the boundaries of the City and, therefore, the DOF data for the City could be used for the service area population according to the 2020 DWR Guidebook. The service area population for 2020 is estimated as 17,199, as shown in **Table 3-2 (DWR Table 3-1)**.

#### 5.3 Gross Water Use

#### Legal Requirements:

# CWC Section 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.

#### California Code of Regulations Title 23 Division 2 Chapter 5.1 Article Section 596 (a):

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



Gross water use is defined as the measurable amount of water that enters the distribution system over a 12-month period, minus allowable exclusions. The gross water use for 2020 was 1,373 MG, as reported in **Table 4-3 (DWR Table 4-1)** and SB X7-7 Table 4 of the SB X7-7 2020 Compliance Form provided in **Appendix E**.

# 5.4 2020 Compliance Daily Per-Capita Water Use (GPCD)

# Legal Requirements:

#### CWC Section 10608.12:

(f) "Compliance daily per-capita water use" means the gross water use during the final year of the reporting period...

#### CWC Section 10608.20:

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

The City has calculated its actual 2020 water use for the 2020 calendar year in accordance with Methodology 3 of DWR's *Methodologies* document. As shown in **Table 5-2 (DWR Table 5-2)**, per capita water use in 2020 was 214 gpcd, which is below the 2020 target of 273 gpcd.

Table 5-2 – 2020 Compliance (DWR Table 5-2)

Submittal Table 5-2: 2020 Compliance From SB X7-7 2020 Compliance Form Retail Supplier or Regional Alliance Only							
	2020 GPCD		Did Supplier				
Actual 2020 GPCD*	Adjusted 2020 TOTAL 2020 GPCD* Adjustments* (Adjusted if applicable)		2020 Confirmed Target GPCD*	Achieve Targeted Reduction for 2020? Y/N			
214	0	214	273	Yes			
*All cells in this table should be populated manually from the supplier's SB							

X7-7 2020 Compliance Form and reported in Gallons per Capita per Day

(GPCD)

As detailed in CWC Section 10608.4, there are allowable adjustments that can be made to an agency's gross water use in 2020 for differences in evapotranspiration and rainfall, substantial changes to commercial or industrial water use, and/or substantial changes to institutional water use. However, because the City's per capita water use is in compliance, the City did not elect to include the allowable adjustments.



# 5.5 Regional Alliance

The City has chosen to comply with the requirements of SB X7-7 on an individual basis and is, therefore, not a participant in a regional alliance for SB X7-7 compliance.





# 6 Water Supply Characterization

# Legal Requirements:

## CWC Section 10631(b):

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

- (1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.
- (2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.
- (3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

# CWC 10631 (h):

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

The UWMPA requires that the UWMP include a description of the agency's existing and future water supply sources for the next 20 years. This chapter will provide the following information:

- Existing and planned sources of water
- Projections of the water supplies over five-year increments through 2040
- Description of anticipated availability under normal, single dry, and five-year droughts
- Description of the management of each supply in correlation
- Description of information pertinent to the reliability of the supplies, including considerations for climate change effects



# 6.1 Narrative Sections for Supplier's UWMP Water Supply Characterization

#### 6.1.1 Purchased or Imported Water

The City receives its potable water supply through a contract with the USBR. Raw water is conveyed to the City's water treatment plant (WTP) from the Coalinga Canal, which originates at the California Aqueduct. The City's agreement with the USBR requires the USBR to furnish the City with up to 10,000 AF of raw water per year through the CVP. The agreement was originally signed in 1968 and was upheld through interim contracts until a new agreement was signed on January 22, 2021.

# 6.1.2 Groundwater

#### Legal Requirements:

# CWC Section 10631(b)(4):

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

- (A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.
- (B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).
- (C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
- (D) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

The City's groundwater is of poor quality due to the high concentrations of sodium, sulfates, and total dissolved solids (TDS). This condition occurs at depths between 500 and 1,500 feet; therefore, groundwater is not considered a viable source of potable water within the Coalinga planning area. Even for crop irrigation, groundwater is considered only of "marginal acceptability" because the groundwater tends to increase the concentrations of salts in the soil, further decreasing its agricultural suitability. No groundwater sustainability plan has been adopted by the water supplier.



#### 6.1.3 Surface Water

Due to the poor groundwater quality in the area, all potable water utilized by the City is imported through the federal CVP supervised by the USBR. On October 28, 1968, the City entered a 40-year contract with the USBR for up to 10,000 AF of CVP water on an annual basis. This contract expired on December 31, 2008 and was succeeded by a series of interim renewal contracts pending completion of site-specific environmental analysis for the long-term contract renewal. On January 22, 2021, a long-term contract was signed between the City and the USBR (Contract No. 14-06-200-4173A-IR1-P) that established new rates and extended the City's right to pump up to 10,000 AF of water per year.

Raw water for the City flows from the Sacramento-San Joaquin Delta to the south into either the Delta-Mendota Canal or the CVP California Aqueduct, which discharges in the O'Neil Forebay. From the O'Neil Forebay, water continues to flow south into the California Aqueduct to the point of origination of the Coalinga Canal, approximately 15 miles northeast of the City where Highway 145 crosses over the California Aqueduct. After leaving the California Aqueduct, water is carried in the Coalinga Canal approximately 12 miles south to the City of Coalinga WTP intake. A raw water pump station then lifts the water from the Coalinga Canal to the City's conventional surface WTP.

#### 6.1.4 Stormwater

The City's stormwater collection system consists of several independent networks of storm drain inlets and pipes that either discharge into four permanent storm drain basins or the Warthan or Los Gatos Creeks. The City's storm drainage system operates as a gravity flow system and does not require the use of pump stations or lift stations. The existing storm drain system consists of pipes up to 48-inches in diameter and 12 drainage zones. Several portions of the storm drain system are severely undersized, and the system relies on aboveground surface flow through street curbs and gutters as a means of stormwater conveyance. The City does not have any existing facilities to recover stormwater for beneficial use such as recharge, irrigation, or reuse.



#### 6.1.5 Wastewater and Recycled Water

# Legal Requirements:

#### CWC Section 10633:

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

- (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
- (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
- (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.
- (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
- (e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
- (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
- (g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

The UWMPA requires that the UWMP address the opportunities for development of recycled water, including the description of existing recycled water applications, quantities of wastewater currently being treated to recycled water standards, limitations on the use of available recycled water, an estimate of projected recycled water use, the feasibility of said projected uses, and practices to encourage the use of recycled water.

#### 6.1.5.1 Recycled Water Coordination

# Legal Requirements:

# CWC Section 10633:

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



The City owns and operates a citywide wastewater collection and treatment system. The City does not currently recycle effluent discharged from their wastewater treatment facilities; however, the City will coordinate any future recycled water plans with local water, wastewater, groundwater, and planning agencies within and near the City's service area.

## 6.1.5.2 Wastewater Collection, Treatment, and Disposal

## Legal Requirements:

# CWC Section 10633(a):

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

The City collects and treats wastewater generated from residential and commercial customers; there are currently no significant industrial users that discharge into the sewer collection system. The City's existing sewer collection system is comprised of a network of over 42 miles of sewer pipelines with sizes ranging from six to 24-inches in diameter. The system also includes four sewer lift stations located at various locations within the City and their associated force mains. The sewer lift stations raise wastewater flows to higher elevation to continue gravity flow at reasonable slopes and depths.

As described in the City's General Plan, the backbone of the sewer collection system consists of a series of sewer trunk lines and sewer interceptors. The sewer inceptors typically include larger pipelines, approximately 21-inches or larger, while the sewer trunk lines typically range from 12- to 18-inches. The sewer trunk lines and sewer interceptors function to convey wastewater collected in the sewer system to the City's wastewater treatment plant (WWTP).

The City owns and operates the WWTP under California Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDR) Order No. 94-184. The WWTP treats and disposes municipal wastewater generated by residences and businesses within the City. The WWTP is located at the confluence of Los Gatos Creek and Warthan Creek, approximately one mile east of the City.

The City's WWTP has undergone two major modifications and additions over the last 40 years. According to WDR Order No. 76-180, the WWTP originally consisted of a primary clarifier followed by three oxidation ponds in series. Final disposal consisted of irrigating land controlled by the City and West Hills Community College for agricultural reclamation. At that time, the WWTP's treatment capacity was 0.6 MGD.

In 1980, the City submitted a Report of Waste Discharge for the expansion of the existing treatment capacity from 0.6 MGD to 0.93 MGD. The modifications consisted of influent screening followed by aerated facultative lagoons and stabilization ponds. Final effluent disposal was consistent with previous practices on City-owned land and West Hills Community College grounds. These modifications and additions were implemented in 1982. WDR Order No. 80-064 was adopted on May 26, 1980.

In 1991, the City submitted a Report of Waste Discharge in support of a change in operation and an increase in quantity of discharge. The treatment capacity was increased from 0.93 MGD to the current 1.34 MGD. The City completed the rehabilitation of the primary clarifier and aerobic digester, which were removed from service during the previous plant modification. The existing WWTP includes a bar screen,



a primary clarifier, an aerobic sludge digester, sludge drying beds, two aerated facultative lagoons each with a surface area of three acres, and three stabilization ponds having a total surface area of 11 acres. Undisinfected secondary treated effluent is pumped from one of the stabilization ponds to adjacent land for percolation.

**Tables 6-1 (DWR Table 6-2)** and **6-2 (DWR Table 6-3)** summarize information regarding the wastewater collection, treatment, and discharge within the service area in 2020.

Table 6-1 – Wastewater Collected within Service Area in 2020 (DWR Table 6-2)

Table 6-1 – Wastewater Collected within Service Area in 2020 (DWR Table 6-2)										
Submittal Table 6	Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020									
	There is no was table below.	There is no wastewater collection system. The supplier will not complete the table below.								
100%	Percentage of 2 (optional)	Percentage of 2020 service area covered by wastewater collection system (optional)								
100%		Percentage of 2020 service area population covered by wastewater collection system (optional)								
Waste	ewater Collectio	n	Recip	ient of Colle	cted Wastew	ater				
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? Drop Down List	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? Drop Down List	Is WWTP Operation Contracted to a Third Party? (optional) Drop Down List				
City of Coalinga	Metered	315	City of Coalinga	City of Coalinga	Yes	No				
Total Wastewa from Service A										
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.										
NOTES:										



ubmittal 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.											
					Does This				2020 volumes	;1	
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number (optional) <sup>2</sup>	Method of Disposal Drop down list	Plant Treat Wastewater Generated Outside the Service Area? Drop down list	Treatment Level Drop down list	Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
City of Coalinga	City of Coalinga	Domestic WWTP	WDR100029906	Percolation ponds	I No	Secondary, Undisinfected	315	253	0	0	N/A
						Total	315	253	0	0	0
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.  If the Wastewater Discharge ID Number is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at ttps://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility											

## 6.1.5.3 Recycled Water System Description

# Legal Requirements:

CWC Section 10633 (c):

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

The City's WWTP does not treat any wastewater to disinfected tertiary water standards to allow it to be used as a component of its water supply. Prior to 2003, the City relied on the nearby West Hills Community College Farm (College) for the disposal of its treated wastewater effluent. The College, either on their own land or on land owned by the City, was responsible for the City's wastewater disposal operations. However, in 2003, the College announced its plans to relocate their facility and develop the land where effluent was being disposed of. Without the College, the City did not have an effluent disposal method and began investigating alternative disposal methods.

While investigating disposal alternatives, the City found a landowner adjacent to the WWTP site who was interested in accepting the City's treated effluent. HCM Farms owned and operated about 448 acres of agricultural land adjacent to the WWTP and used the treated effluent to irrigate nonhuman consumption crops such as cotton, alfalfa, sudan grass, oat hay, and pasture. The City entered into an agreement with HCM Farms until 2010 when it was sold to Mouren Farms. Mouren Farms continued using recycled water from the City's WWTP until March 31, 2014.

Currently, treated effluent is pumped form one of the stabilization ponds to adjacent land, where the effluent percolates into the soil.



## 6.1.5.4 Potential, Current, and Projected Recycled Water Uses

## Legal Requirements:

#### CWC Section 10633:

- (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.
- (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
- (e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

**Table 6-3 (DWR Table 6-4)** indicates that no recycled water was used in 2020 nor is any projected for future use. The City's plan to use recycled water is uncertain and beyond the planning horizon of this document. The City's 2015 UWMP did not contain recycled water projections over the planning horizon, and **Table 6-4 (DWR Table 6-5)** reflects both the current non-use and 2015 projected no-use of recycled water by use type.

# Table 6-3 – Current and Projected Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4)

Submitt	Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area							
V	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.							
<sup>1</sup> Units of	<sup>1</sup> Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.							
NOTES:								

# Table 6-4 – 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5)

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual						
Y	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.					
<sup>1</sup> Units of measure (A	F, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.					
NOTE:						



## 6.1.5.5 Actions to Encourage and Optimize Future Recycled Water Use

#### Legal Requirements:

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

Water recycling options have been determined by the City to be infeasible or too expensive. Therefore, the City does not have plans to add recycled water to its system. Since recycled water options have been determined to be infeasible, **Table 6-5 (DWR Table 6-6)** shows no methods to expand the City's recycled water use.

Table 6-5 – Methods to Expand Future Recycled Water Use (DWR Table 6-6)

	as to Expand I attace need to a						
Submittal Table 6-6	Retail: Methods to Expand Future Re	cycled Water Use					
V	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 ne	eeded						
		Total	0				
*Units of measure (AF, CC	<b>CF, MG)</b> must remain consistent throughout the	UWMP as reported in T	able 2-3.				
NOTES:							

# 6.1.6 Desalinated Water Opportunities

# Legal Requirements:

#### *CWC Section 10631(q):*

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

Because the City is not located in a coastal area, seawater desalination is not applicable to the City and is not currently considered technically or economically feasible. In addition, the groundwater that underlies the City is not brackish in nature and does not require desalination. As such, the City does not have any plans to incorporate desalinated or treated brackish water into its supply portfolio.



#### 6.1.7 Water Exchanges and Transfers

# Legal Requirements:

*CWC Section 10631(c):* 

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

The UWMPA requires that the UWMP address the opportunities for transfers or exchanges.

#### 6.1.7.1 Exchanges

Currently there is no alternative potable water supply sources in the area that would lend itself to exchange opportunities.

#### 6.1.7.2 Transfers

The City has explored dry year water transfers with other agencies locally and statewide. It is estimated that up to 3,000 acre-feet of additional water from other customers within the San Luis Unit could be purchased by the City as emergency water supply in critically dry years. In critically dry years, the most likely source of additional water would be from agricultural customers that would sell their water allocation to the City and fallow their lands to make their allocated water available for transfer. However, this could potentially have a negative economic impact on the individual growers and the region.

## 6.1.8 Future Water Projects

# Legal Requirements:

#### *CWC Section 10631 (f):*

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

As shown in **Table 6-6 (DWR Table 6-7)** below, the City does not have any planned water supply projects or programs that will provide a quantifiable increase to the City's supply. As previously stated, the City relies solely on surface water for its water supply. The City has evaluated the feasibility of groundwater use; however, due to the high concentrations of sodium, sulfates, and TDS, the groundwater in the Coalinga area is not considered a viable source of potable water. Therefore, the City intends to meet its projected water demands through the continued use of surface water exclusively.



Table 6-6 – Expected Future Water Supply Projects or Program (DWR Table 6-7)

letail: Expected	Future Water Su	pply 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.									
	ome or all of the supplier's future water supply projects or programs are not compatible with this table and re described in a narrative format.								
Provide page loca	Provide page location of narrative in the UWMP								
Joint Project with	other suppliers?	Description (if needed)	Planned Implementation Year	Planned for Use in Year Type Drop Down List	Expected Increase in Water Supply to Supplier*				
Drop Down List (y/n)	If Yes, Supplier Name				This may be a range				
eded									
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.									
NOTES:									
	No expected futu water supply. Sup Some or all of the are described in a Provide page local Joint Project with Drop Down List (y/n) ded	No expected future water supply proportion water supply. Supplier will not come to some or all of the supplier's future are described in a narrative format.  Provide page location of narrative in Joint Project with other suppliers?  Drop Down List (y/n) If Yes, Supplier Name and ded	No expected future water supply projects or program water supply. Supplier will not complete the table be Some or all of the supplier's future water supply projected described in a narrative format.  Provide page location of narrative in the UWMP  Joint Project with other suppliers?  Description (if needed)  Drop Down List (y/n) If Yes, Supplier Name ded	water supply. Supplier will not complete the table below.  Some or all of the supplier's future water supply projects or programs are are described in a narrative format.  Provide page location of narrative in the UWMP  Joint Project with other suppliers?  Description (if needed)  Drop Down List (y/n) If Yes, Supplier Name ded	No expected future water supply projects or programs that provide a quantifiable increase 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 ware described in a narrative format.  Provide page location of narrative in the UWMP  Joint Project with other suppliers?  Description (if needed)  Drop Down List (y/n)  If Yes, Supplier Name  ded  Planned Implementation Year Type Drop Down List  Drop Down List (y/n)				

# 6.1.9 Summary of Existing and Planned Sources of Water

# Legal Requirements:

## CWC Section 10631:

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

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

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

This section describes the types of water that is supplied to the City and the quantity supplied by each water source.

#### 6.1.9.1 Description of Supplies

Currently, the City exclusively uses surface water purchased through the USBR. There are currently no plans for additional water supplies.



# 6.1.9.2 Quantification of Supplies

The actual (2020) water supplies for the City are summarized in **Table 6-7 (DWR Table 6-8)**. The projected water supplies for the City are summarized **in Table 6-8 (DWR Table 6-9)**.

Table 6-7 – Water Supplies – Actual (DWR Table 6-8)

Submittal Table 6-8 Retail: Water Supplies — Actual								
Water Supply	2020							
Drop down list  May use each category multiple times.  These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)				
Surface water (not desalinated)	Purchased from USBR	1,373						
	Total	1,373		0				
*Unite of management (AF CCF NAC) mount we		+ + 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	are were auted in	Table 2.2				

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

NOTES: From 2020 EAR

Table 6-8 – Water Supplies – Projected (DWR Table 6-9)

Water Supply		Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple	Additional Detail on	20	)25	20	)30	20	035	20	)40	2045	(opt)
times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		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 of Safe Yield (optional)
Add additional rows as needed											
Surface water (not desalinated)	Purchased from USBR	3,259		3,259		3,259		3,259			
	Total	3,259	0	3,259	0	3,259	0	3,259	0	0	0

NOTES: Reasonably available volume is the water supplied to the City by USBR. Per the City's water contract, USBR is required to furnish the City with up to 10,000 acre-feet of water per yea (approximately 3,259 MGY).

# 6.1.10 Special Conditions

Numerous special conditions may affect water supplies. The potential impacts of climate change on the City water supplies were discussed in Section 4.4. During drought conditions, the USBR may notify the City to decrease water usage to public health and safety needs only.



# 6.2 Energy Use

## Legal Requirements:

# CWC Section 10631.2. (a):

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

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

The City uses energy to pump and treat surface water through the City's WTP and from the WTP into the distribution system. Energy intensity was calculated using the tables provided by DWR. DWR Table O-1B was selected for reporting the water delivery product energy usage. The energy use tables for retail water delivery and wastewater are provided in **Appendix F**.



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# 7 Water Service Reliability and Drought Risk Assessment

The UWMPA requires that the UWMP address the reliability of the City's long-term water supplies. This includes a description of supply constraints which may impact the supply. Also included is a comparison between the City's supply and demand for a normal year, single-dry year, and five-consecutive year drought.

# 7.1 Water Service Reliability Assessment

## Legal Requirements:

# CWC Section 10635(a):

Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

Expected water service reliability pursuant to Section 10631 of the Water Code is assessed in the following sections.

# 7.1.1 Service Reliability – Constraints on Water Sources

# Legal Requirements:

#### CWC Section 10631 (b)(1):

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

Given there are a variety of circumstances that can render a source inconsistent, determining the supply reliability for the City is difficult because of the complex factors that accompany a water source. These factors include legal issues, environmental constraints, water quality, and climatic variations.

#### 7.1.1.1 Legal

Legal factors, including surface water contracts, can affect the reliability of a water distribution system or water supply. Since 1968, the City has maintained a water service contract with the USBR, under which the USBR has agreed to supply the City with up to 10,000 AF per year. When the original contract expired in 2008, the City maintained a series of interim renewal contracts pending the completion of site-specific environmental analysis for a long-term contract renewal, which was issued January 22, 2021.



The City's water contract with the USBR to take water from the Sacramento and San Joaquin River basins is the City's main source of water. As stated above, the City's current contract allows the City to divert 10,000 acre-feet of CVP water per year for municipal and industrial (M&I) purposes; however, this supply is subject to shortages due to climate and environmental regulations. In normal years, there are no specific rules on how much of the CVP water must be allocated, but, during dry periods allocations of water supplies for M&I purposes are subject to rules in the USBR's M&I Shortage Policy. The USBR's M&I Shortage Policy was developed to:

- Define water shortage terms and conditions applicable to all CVP M&I contractors, as appropriate.
- Establish CVP water supply levels that would sustain urban areas during droughts, and during severe or continuing droughts would assist the M&I contractors in their efforts to protect public health and safety.
- Provide information to M&I contractors for development of drought contingency plans.

M&I water supply shortage is the difference between total M&I demands and the sum of the reduced CVP allocation and additional secure sources of supply for M&I purposes. In a severe water supply shortage (including a "Water Shortage Emergency" declared by the governor of the State of California), the USBR could reduce CVP water deliveries to the City to a public health and safety water supply level, provided CVP water is available. In such an event, the City will have to implement water conservation measures to satisfy human consumption, sanitation, and fire protection requirements.

#### 7.1.1.2 Environmental

The status of environmental regulation in California is routinely changing due to new legislation, endangered species statuses, and other factors. Should new environmental legislation come into existence, it could potentially impact the City's available supply. The recent water supply reductions in the Delta are an example of environmental water needs versus community water supplies. The City does not anticipate environmental factors influencing surface water reliability.

## 7.1.1.3 Water Quality

The City's Consumer Confidence Reports (CCRs) for 2016 – 2020 (provided in **Appendix G**) summarize the City's water quality. The City's sole water source includes raw surface water obtained from the Sacramento-San Joaquin Delta (Delta). The water quality of the Delta is vulnerable to activities that occur near the source such as metal plating/finishing/fabricating, wood/pulp/paper processing and mills, and drinking water plants. Such activities can produce contaminants that may be detected in the water supply. In addition, the water quality of the Delta is also vulnerable to activities that are not associated with any detected contaminants such as concentrated aquatic animal production facilities, historic waste dumps/landfills, landfills/dumps, historic mining operations, and wastewater treatment plants and disposal facilities.

Potential water quality issues associated with the Delta could have an impact on water supply reliability in the near and long term. Further restrictions on pumping from the Delta could be imposed on the CVP due to water quality issues or new standards. In this event, the City's surface water allocation may be decreased; however, it is unknown how these possible future reductions in pumping will impact the City's surface water allocation.



Another source of water quality issues is potential contamination of water in the California Aqueduct or Coalinga Canal due to an intentional or unintentional spill of a contaminant. In this event, the emergency water reduction actions that are outlined in the City's Emergency Response Plan will be implemented.

#### 7.1.1.4 Climatic Factors

Climate change adds uncertainties to water supply planning. Changes to temperatures and precipitation patterns may impact water demands and supply availability. As discussed in Section 4.4, resource management strategies are being implemented to mitigate the effects of the potential impacts due to climate change.

# 7.1.2 Service Reliability – Year Type Characterization

This section addresses the reliability of the City's water supply in average, single dry, and multiple dry water years. The City uses the following water year definitions from the DWR 2020 Guidebook:

- Normal Year: a year, or an averaged range of years, that most closely represents the average
  water supply available to the agency. For the purposes of this UWMP, the terms "normal" and
  "average" are used interchangeably.
- **Single Dry Year:** the year that represents the lowest water supply available to the agency.
- **Five-Consecutive-Year Drought:** the driest five-year historical sequence for the supplier (Water Code Section 10612).

The City relies on surface water as its sole source for supply, which is susceptible to annual runoff fluctuations. The single dry year and five-consecutive-year drought supplies are representative of annual groundwater pumping during the recent 2012-2016 drought. Rainfall data indicates that 2012 was the driest year for the City and is considered representative of the single dry year condition. The average year supply was estimated based on rainfall records from 2011 to 2020. From this data, 2017 was determined to be a normal year.

**Table 7-1 (DWR Table 7-1)** summarizes the base years for the average, single dry, and five-consecutive-dry year periods. In addition, the available supply volume, and percent relative to the ten-year average (average year) is listed. Historically, the City's water service contract with the USBR requires the diversion of 10,000 acre-feet of CVP water per year for M&I purposes. As shown in **Table 7-1 (DWR Table 7-1)** below, during normal water years, it has been assumed that the City will receive 100 percent of their CVP allocation from the USBR, which is approximately 3,259 MG per year. In the event of a single or multipledry year period, the City's water allocation is adjusted based on historical water allocations corresponding to the base year listed in the table. The water allocations are calculated using M&I water use for the previous three years. **Table 7-2** shows the percentage M&I historic use allocated to the City in 2013-2016.



Table 7-1 – Basis of Water Year Data (DWR Table 7-1)

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)						
	Base Year	Available Supplies if Year Type Repeats				
Year Type	If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for		not comp provided Location	cation of available supplies is patible with this table and is elsewhere in the UWMP.		
	example, water year 2019-2020, use 2020	Quantification of available s provided in this table as eith volume only, percent only,				
		Volume Available *		% of Average Supply		
Average Year	2017	32	259	100%		
Single-Dry Year	2012	14	186	46%		
Consecutive Dry Years 1st Year	2012	14	186	46%		
Consecutive Dry Years 2nd Year	2013	14	186	46%		
Consecutive Dry Years 3rd Year	2014	13	336	41%		
Consecutive Dry Years 4th Year	2015	14	101	43%		
Consecutive Dry Years 5th Year	2016	12	215	37%		

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

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

NOTES: For 2013-2017, volume available is based on USBR allocations to the City for each year. The allocations were calculated as a percentage of the historic municipal and industrial use. 2012 is estimated as equal to the 2013 allocation due to unavailability of 2012 USBR allocation letter.

Table 7-2 – Historic M&I Use Allocated to City in 2013-2016

2013	2014	2015	2016
70%	63%	66%	55%

7-4



## 7.1.3 Service Reliability – Supply and Demand Comparison

# Legal Requirements:

## CWC Section 10635(a):

Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

## 7.1.3.1 Water Service Reliability – Normal Year

The availability of the City's water supplies in normal years are described in Chapter 6 and summarized in Table 7-2 (DWR Table 7-2). As shown in Table 7-2 (DWR Table 7-2), the City's normal year supplies are adequate to meet projected normal year demands. The information in the table is taken from information presented previously in Tables 4-5 and 6-8 (DWR Tables 4-3 and 6-9).

Table 7-3 – Normal Year Supply and Demand Comparison (DWR Table 7-2)

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison							
	2025	2030	2035	2040	2045 (Opt)		
Supply totals (autofill from Table 6-9)	3,259	3,259	3,259	3,259	0		
Demand totals (autofill from Table 4-3)	1,509	1,713	1,945	2,208	0		
Difference	1,750	1,546	1,314	1,051	0		
NOTES:							

# 7.1.3.2 Water Service Reliability – Single Dry Year

**Table 7-3 (DWR Table 7-3)** illustrates how the City will deal with the possibility of a reduced water supply in the event of a single-dry year period. During a single-dry year, it has been assumed that the City's CVP water allocation will be reduced to 70 percent of the City's M&I use. The projections indicate that the City has adequate water supply for a single-dry year.



Table 7-4 – Single Dry Year Supply and Demand Comparison (DWR Table 7-3)

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison								
	2025	2030	2035	2040	2045 (Opt)			
Supply totals*	1,779	2,020	2,293	2,603				
Demand totals*	1,509	1,713	1,945	2,208				
Difference	270	307	348	395	0			

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

NOTES: Supply total is based on 2013 USBR allocation adjusted for expected increase in M&I use.

# 7.1.3.3 Water Service Reliability – Five-Consecutive-Year Drought

Per CWC Section 10612, the five-consecutive-year drought is the driest five-year historical sequence for the supplier. The City's water supply and demand for the five-consecutive-year drought are assumed to follow the pattern presented in **Table 7-1 (DWR Table 7-1).** During a five-consecutive-year drought, it has been assumed that the City's CVP water allocation will be reduced to 70 percent of the City's M&I use during the first two years, 63 percent during the third year, 66 percent during the fourth year, and 55 percent during the fifth year. The projected supply for 2025-2050 is adjusted based on the expected change in M&I use due to population increases. Projected supplies were compared to the projected demands and are presented in **Table 7-4 (DWR Table 7-4)**. The projections indicate that the City will need to implement shortage reduction actions to ensure adequate supply by the fifth dry year.



Table 7-5 – Multiple Dry-Year Supply and Demand Comparison (DWR Table 7-4)

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	1,779	2,020	2,293	2,603	
	Demand totals	1,509	1,713	1,945	2,208	
	Difference	270	307	348	395	0
Second year	Supply totals	1,779	2,020	2,293	2,603	
	Demand totals	1,509	1,713	1,945	2,208	
	Difference	270	307	348	395	0
Third year	Supply totals	1,634	1,855	2,106	2,390	
	Demand totals	1,509	1,713	1,945	2,208	
	Difference	125	142	161	183	0
Fourth year	Supply totals	1,700	1,930	2,191	2,488	
	Demand totals	1,509	1,713	1,945	2,208	
	Difference	192	217	247	280	0
Fifth year	Supply totals	1,467	1,665	1,891	2,146	
	Demand totals	1,509	1,713	1,945	2,208	
	Difference	(42)	(48)	(54)	(61)	0
Sixth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

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

NOTES: Supply total is based on 2013-2016 USBR allocation adjusted for increase in population.



## 7.1.4 Description of Management Tools and Options

# Legal Requirements:

## CWC Section 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.

The City is implementing water management tools and options that will maximize local resources and minimize the need to import water from other regions. Water use is primarily controlled using demand management measures (DMMs) and implementation of the WSCP. These tools and options are described in other sections of the UWMP.

# 7.2 Drought Risk Assessment

# Legal Requirements:

# CWC 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.

This section provides a DRA based on plausible changes in climate, regulations, and other locally applicable criteria. A description of the data and methods used, basis for the supply shortage conditions, determination of the reliability of each source, and comparison of total water supplies and uses during a drought is provided below.

#### 7.2.1 DRA Data, Methods, and Basis for Water Shortage Conditions

The data used for the DRA is the multiple-dry year supply assumptions presented in **Table 7-4 (DWR Table 7-4)** and water demand projections assuming a per capita water use of 273 gpcd with a 66 gpcd reduction due to the assumed implementation of Shortage Level 1 - 3 actions (corresponding to City conservation Stage 1 prohibition and restrictions).



#### 7.2.2 DRA Water Source Reliability

Refer to Section 7.1.1 for more information on the reliability of the City's water source. During dry periods allocations of water supplies for M&I purposes are subject to rules in the USBR's M&I Shortage Policy. In a severe water supply shortage (including a "Water Shortage Emergency" declared by the governor of the State of California), the USBR could reduce CVP water deliveries to the City to a public health and safety water supply level. In such an event, the City will have to implement water conservation measures to satisfy human consumption, sanitation, and fire protection requirements.

# 7.2.3 DRA Total Water Supply and Use Comparison

The total water supply and use comparison was performed and is shown in **Table 7-5 (DWR Table 7-5).** The comparison indicates that the City has sufficient water supply to meet projected demands during a five-year drought if shortage response actions are implemented. The WSCP discusses measures for reducing water demands in case of water shortage conditions.





# Table 7-6 – Five-Year Drought Risk Assessment Tables (DWR Table 7-5)

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

2021	Total
Total Water Use	1,365
Total Supplies	1,609
Surplus/Shortfall w/o WSCP Action	244
Planned WSCP Actions (use reduction and supply augmentati	on)
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	244
Resulting % Use Reduction from WSCP action	0%

Total
1,401
1,652
n 251
tion)
t
t
) 251
n 0%

2023	Total	
Total Water Use	1,437	
Total Supplies	1,556	
Surplus/Shortfall w/o WSCP Action	119	
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit		
WSCP - use reduction savings benefit		
Revised Surplus/(shortfall)	119	
Resulting % Use Reduction from WSCP action	0%	

2024	Total
Total Water Use	1,473
Total Supplies	1,660
Surplus/Shortfall w/o WSCP Action	187
Planned WSCP Actions (use reduction and supply augmentati	on)
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	187
Resulting % Use Reduction from WSCP action	0%

2025	Total	
Total Water Use	1,509	
Total Supplies	1,467	
Surplus/Shortfall w/o WSCP Action	(42)	
Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit		
WSCP - use reduction savings benefit	75	
Revised Surplus/(shortfall)	33	
Resulting % Use Reduction from WSCP action	5%	



# 8 Water Shortage Contingency Plan

In response to the severe drought of 2012-2016, legislation was adopted in 2018 mandating that the UWMP include a WSCP that provides a detailed proposal for assessing water supply availability and response actions to water shortage conditions. The WSCP is to be a stand-alone document which will allow for amending the plan without amending the 2020 UWMP. The City WSCP is provided in **Appendix H**. Refer to the WSCP for the following DWR Tables:

- DWR Tables 8-1: WSCP Levels
- DWR Tables 8-2: Demand Reduction Actions
- DWR Tables 8-3: Supply Augmentation and Other Actions





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# 9 Demand Management Measures

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 its urban water use reduction targets.

## 9.1 Existing Demand Management Measures for Retail Suppliers

#### Legal Requirements:

#### CWC Section 10631:

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

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

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

(i)Water waste prevention ordinances.

(ii)Metering.

(iii)Conservation pricing.

(iv)Public education and outreach.

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

(vi)Water conservation program coordination and staffing support.

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

Demand management measures (DMMs) are specific actions a water supplier takes to support its water conservation efforts. The goal of this DMM Chapter is to provide a comprehensive description of the water conservation programs that the City has implemented, is currently implementing, and plans to implement in order to meet its urban water use reduction targets.

The City realizes the importance of DMMs to ensure a reliable future water supply. The City is committed to implementing water conservation programs to maximize sustainability in meeting future water needs for its customers. A description of the City's DMMs follows.

#### 9.1.1 Water Waste Prohibition Ordinances

This DMM consists of adopting and enforcing a water waste ordinance that explicitly states that the waste of water is to be prohibited. The ordinance must prohibit specific actions that waste water, such as excessive runoff from landscape irrigation, or use of a hose outdoors without a shut off nozzle. The City adopted a Water Conservation Ordinance in 2009, which amended Title 6 of the Coalinga Municipal Code by adding Chapter 4C, Water Conservation. Section 6-4C.06 through Section 6-4C.09 describe the City's



water conservation stages and enforcement penalties. The City is currently in DWR Stage 4, high conservation alert, of water conservation.

Water waste within the City is prevented by prohibiting the hosing of sidewalks, walkways, driveways, parking areas, patios, porches or verandas. In addition, water waste is prevented by prohibiting runoff into the street gutters, establishing a 72-hour time frame limit to fix leaks or breaks, requiring the use of outdoor hoses with a shut-off nozzle, and prohibiting watering during the heat of the day. The increased vigilance and enforcement by the City have been reflected in the per capita water use, which has declined approximately 22 percent from 273 GPCD in 2010 to 214 GPCD in 2020.

A copy of the Coalinga Municipal Code related to water conservation is provided in Appendix I.

#### 9.1.2 Metering

#### Legal Requirements:

#### CWC Section 526:

- (a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract... shall do both of the following:
- (1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings... located within its service area.

Water Code section 527

- (a) An urban water supplier that is not subject to Section 526 shall do both the following:
- (1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

In 1989, all customer classes within the City, excluding single-family residential, were metered. In the early 1990s, the City passed an ordinance requiring any single-family residential homeowner selling their home to install a water meter as a condition of the sale. By 1995, the number of single-family residential homes that remained without meters had been reduced to a point that the City opted to install meters on all remaining un-metered services. By the late 1990s, all the City water services were metered.

#### 9.1.3 Conservation Pricing

On November 1, 2020, Resolution No. 3989 was approved by the City which implemented a multi-year water rate increase (**Appendix J**). Each customer pays a base rate according to meter size, plus a charge per one thousand gallons used. **Table 9-1** summarizes the latest rate structure for the City.



Table 9-1 - Water Rate Schedule

	Effective in	Effective in	Effective in	Effective in	Effective in	Effective in
Meter Size	July 2015	Nov 2020	Nov 2021	Nov 2022	Nov 2023	Nov 2024
	-	<b>Urban Resident</b>	ial/Commercia	al Customers		
1"	\$23.81	\$27.62	\$29.83	\$32.22	\$33.19	34.19
1 ½"	\$95.20	\$110.43	\$119.26	\$128.80	\$132.66	\$136.64
2"	\$360.41	\$418.08	\$451.53	\$487.65	\$502.28	\$517.35
3"	\$809.27	\$938.75	\$1,013.85	\$1,094.96	\$1,127.81	\$1,161.64
4"	\$1,438.98	\$1,669.22	\$1,802.76	\$1,946.98	\$2,005.39	\$2,065.55
6"	\$3,239.70	\$3,758.05	\$4,058.69	\$4,383.39	\$4,514.89	\$4,650.34
8"	\$5 <i>,</i> 759.92	\$6,681.51	\$7,216.03	\$7,793.31	\$8,027.11	\$8,267.92
10"	\$6,398.89	\$7,422.71	\$8,016.53	\$8,657.85	\$8,917.59	\$9,185.12
Volumetric Charge (Residential)	\$2.02 / TG	\$2.28 / TG	\$2.46 / TG	\$2.66 / TG	\$2.74 / TG	\$2.82 / TG
Volumetric Charge (Commercial)	\$1.91 / TG	\$2.28 / TG	\$2.47 / TG	\$2.67 / TG	\$2.75 / TG	\$2.83 / TG
			ral Customers			
1"	\$32.92	\$39.50	\$42.66	\$46.07	\$47.45	\$48.87
1 ½"	\$131.77	\$158.12	\$170.77	\$184.43	\$189.96	\$195.66
2"	\$592.86	\$711.43	\$768.34	\$829.81	\$854.70	\$880.34
3"	\$1,333.57	\$1,600.28	\$1,728.30	\$1,866.56	\$1,922.56	\$1,980.24
4"	\$2,370.02	\$2,844.02	\$3,071.54	\$3,317.54	\$3,416.78	\$3,519.28
6"	\$5,335.79	\$6,402.95	\$6,915.19	\$7,468.41	\$7,692.46	\$7,923.23
8"	\$9,485.85	\$11,383.02	\$12,293.66	\$13,277.15	\$13,675.46	\$14,085.72
10"	\$10,539.67	\$12,647.60	\$13,659.41	\$14,752.16	15,194.72	\$15,650.56
Volumetric Charge	\$1.86 / TG	\$2.23 / TG	\$2.41 / TG	\$2.60 / TG	\$2.68 / TG	\$2.76 / TG
California Department of Corrections						
PVSP	\$11,156.00	\$12,940.96	\$13,976.24	\$15,094.34	\$15,547.17	\$16,013.59
CSH	\$3,152.78	\$3,657.22	\$3,949.80	\$4,265.78	\$4,393.75	\$4,525.56
Volumetric Charge	\$2.32 / TG	\$2.69 / TG	\$2.91 / TG	\$3.14 / TG	\$3.23 / TG	\$3.33 / TG

PVSP = Pleasant Valley State Prison

CSH = Coalinga State Hospital

TG = thousand gallons

During periods of drought, the City reserves the right to increase rates to encourage water conservation. On July 1, 2021, in response to the proclamation of a state emergency by the governor, the City passed Resolution No. 4037 which officially set in place high conservation alert and drought charges (**Appendix K**).



#### 9.1.4 Public Education and Outreach

The City distributes public water system information via U.S. mail to all water service customers, as well as having information available on the City's internet website and at City Hall. Also, when warranted, time-critical public information is dispersed through the local print media, radio station announcements, and public events.

Water use regulations and the annual CCR are mailed each year to all customers. The City takes advantage of these mailings when necessary to provide its customers additional information on water conservation and other demand management measures. The outdoor watering schedule is available on the City's website in English and Spanish. The City's website includes a page that discusses water conservation and has information about ongoing rebates and assistance programs. The City is committed to its public information program as an ongoing effort.

The City monthly water bill distributed to all water service customers is another vehicle used by the City for public education purposes. The bill mailing also contains public service announcements that are used to remind citizens of conservation and demand management measures.

## 9.1.5 Programs to Assess and Manage Distribution System Real Loss

The City conducts a water audit using software provided by American Water Works Association (AWWA) annually. **Appendix D** contains a copy of water audits for 2015-2019. The results from the water audits were previously discussed in Chapter 4. Water audits are performed on an annual basis to identify leakage trends and to determine if/when corrective action to address leakage may be warranted.

The City Public Works Department utilizes specialized equipment for leak detection on an as-needed basis. The City does not track the number of miles of pipeline surveyed or the number of repairs completed each year but will do so in the future.

# 9.1.6 Water Conservation Program Coordination and Staffing Support

Currently, the role of a water conservation coordinator for the City is shared among various City staff. As increased implementation of DMMs are brought into action, the City will create a part-time Water Conservation Coordinator position or assign specifically defined responsibilities to an existing position. These would likely include implementation, tracking, and coordination of water conservation programs, coordination with other agencies, and reporting to senior City staff.

#### 9.1.7 Other Demand Management Measures

The City supports additional programs that provide rebates and promote water conservation. These programs are further discussed in the subsequent sections.



## 9.1.7.1 Residential Plumbing Retrofit

The residential plumbing retrofit program benefits existing customers by reducing their water consumption while minimizing the impact of their lifestyle. State legislation requires the installation of efficient plumbing in new construction, and effective 1994 requires that only ultra-low flush (ULF) toilets be sold in California.

Several studies suggest that savings resulting from miscellaneous interior retrofit fixtures can range between 25 and 65 gallons per day per housing unit. The studies also suggest that installation of retrofit fixtures in older single-family homes tend to produce more savings, while newer multi-family homes tend to produce less savings per housing unit. Currently, the City requires ULF toilets in all new construction, but does not have a program to retroactively replace plumbing fixtures and appliances for residential customers. If available, the City will seek funding in the future to offer customers new water saving devices such as faucet aerators, water-saving shower heads and toilet tanks.

#### 9.1.7.2 Washing Machine Rebate

Washing machine rebate programs generally provide a financial incentive (rebate offer) to qualifying customers who install high efficiency washing machines in their home. Other regional municipalities that performed an economic analysis on this program concluded that it would have a low benefit-to-cost ratio. This program is not currently implemented in the City. However, the City will seek grant funding when available to offer rebate program to customers.

# 9.2 Reporting Implementation

#### 9.2.1 Implementation over the Past Five Years

#### Legal Requirements:

#### CWC Section 10631:

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

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

All DMMs discussed in Section 9.1 were implemented and will continue to be implemented by the City.



# 9.2.2 Implementation to Achieve Water Use Targets

# Legal Requirements:

# CWC Section 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 measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

The City implemented the DMMs discussed in Section 9.1 and was able to achieve the SB X7-7 2020 target as shown in **Table 5-2 (DWR Table 5-2)**.





# 10 Plan Adoption, Submittal, and Implementation

This chapter provides information regarding the addressing of the CWC requirements for public hearing, the UWMP adoption process, submitting and adopting the UWMP and making the document available to the public, plan implementation, and the process for amending an adopted UWMP.

#### 10.1 Inclusion of All 2020 Data

As indicated in Chapter 2, the City uses a calendar year for water supply and demand accounting. This 2020 UWMP includes data through December 2020.

# 10.2 Notice of Public Hearing

#### 10.2.1 Notice to Cities and Counties

#### Legal Requirements:

#### CWC Section 10621:

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

...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...

The City has provided formal written notification to Fresno County and other appropriate agencies that the City's UWMP was being updated for 2020. As shown in **Table 10-1 (DWR Table 10-1)**, this notification was provided at least 60 days prior to the public hearing of the plan. Copies of the Final UWMP will be provided to Fresno County no later than 30 days after its submission to DWR. Copies of notification letters are included in **Appendix C**.



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

Submittal Table 10-1 Retail: Notification to Cities and Counties			
City Name	60 Day Notice	Notice of Public Hearing	
Add additional rows as needed			
Coalinga	Yes		
County Name Drop Down List	60 Day Notice	Notice of Public Hearing	
Add additional rows as needed			
Fresno County	Yes		
NOTES:			

#### 10.2.2 Notice to the Public

#### Legal Requirements:

#### CWC Section 10642:

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

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

The City is committed to encouraging the active involvement of diverse social, cultural, and economic elements of its citizenry. On XXXXXX and XXXXXXX, the City placed a notice in the local newspaper stating that its UWMP was being updated and a WSCP was prepared and that a public hearing would be conducted to take testimony from members of the community. A copy of this notification is included in **Appendix C**. The Draft 2020 UWMP and Draft WSCP was made available for public inspection at the City Public Works Department, located at 155 West Durian. In addition, the City also posted a copy of the Draft



2020 UWMP and Draft WSCP on its website (<u>www.coalinga.com</u>). The notice of public hearing to the public is included in **Appendix C**.

## 10.3 Public Hearing and Adoption

# Legal Requirements:

#### CWC Section 10642:

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

Water Code Section 10608.26

- (a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:
- (1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.
- (2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.
- (3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.

#### 10.3.1 Public Hearing

A public hearing for the UWMP and WSCP was held on MONTH DAY, YEAR at the City Council Chamber. The hearing provided an opportunity for the City's customers, residents, and employees to learn and ask questions about the current and future water supply of the City. The plan adoption by City Council occurred on MONTH DAY, YEAR. The City Resolution is included in **Appendix L**.

## 10.3.2 Adoption

#### Legal Requirements:

# CWC Section 10642:

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

This UWMP was adopted by the City Council on MONTH DAY, YEAR. The WSCP was adopted by the City Council on MONTH DAY, YEAR. A copy of the adopted resolutions is provided in **Appendix L**.



#### 10.4 Plan Submittal

#### Legal Requirements:

#### CWC Section 10621:

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

#### CWC Section 10644:

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

#### CWC Section 10635:

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

## 10.4.1 Submitting a UWMP and Water Shortage Contingency Plan to DWR

A copy of this 2020 UWMP will be submitted electronically to DWR within 30 days of adoption.

#### 10.4.2 Electronic Data Submittal

#### Legal Requirements:

#### CWC Section 10644 (a)(2):

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

This 2020 UWMP, including the WSCP, and associated data will be submitted electronically to DWR using the Water Use Efficiency Data (WUEdata) submittal tool.

#### 10.4.3 Submitting a UWMP, including WSCP, to the California State Library

The 2020 UWMP, including the WSCP, will be submitted on CD or hardcopy format to the California State Library within 30 days of adoption.

#### 10.4.4 Submitting a UWMP to Cities and Counties

The 2020 UWMP will be submitted in electronic format to Fresno County within 30 days of adoption.



## 10.5 Public Availability

#### Legal Requirements:

#### CWC Section 10645:

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

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

Within 30 days of submitting the UWMP to DWR, the adopted UWMP will be available for public review during normal business hours at the City of Coalinga Public Works Department. The City will also post a copy of the adopted UWMP on its website (<a href="www.coalinga.com">www.coalinga.com</a>).

#### 10.6 Notification to Public Utilities Commission

#### Legal Requirements:

#### CWC Section 10621 (c):

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

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

# 10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

#### Legal Requirements:

#### CWC Section 10621:

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

#### CWC Section 10644:

(a)(1) 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.

#### 10.7.1 Amending a UWMP

The plan may be updated at any time when the urban water supplier believes significant changes have occurred in population, land use, and/or water sources that may affect the contents of the plan. If major changes are made to this 2020 UWMP, the City will hold an additional public hearing and City Council will re-adopt the plan. Copies of amendments or changes to the plan shall be submitted to DWR, the California State Library, and Fresno County within 30 days of adoption.



## 10.7.2 Amending a Water Shortage Contingency Plan

## Legal Requirements:

# CWC Section 10644 (b):

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

If the City revises the WSCP after DWR has approved the 2020 UWMP, copies of amendments or changes to the plans will be submitted electronically to DWR through the WUEdata Portal within 30 days of its adoption.

Copies of the amended WSCP will also be sent to the California State Library and Fresno County within 30 days of adoption.





# **11 References**

- [1] City of Coalinga General Plan 2005-2025, June 2009.
- [2] Fresno County Multi-Jurisdictional 2015-2023 Housing Element, adopted April 2016.





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# Appendix A

# **DWR UWMP Tables**





# Appendix B

# **DWR UWMP Checklist**





Appendix C

Notice of Preparation and Outreach Documents





# Appendix D

# **Water Loss Audits**





# Appendix E

# SB X7-7 2015 Verification Form and 2020 Compliance Form





Appendix F





Appendix G

Consumer Confidence Reports





Appendix H
Water Shortage Contingency Plan





Appendix I
Water Conservation Ordinance





# Appendix J

# Water Rate Schedule





Appendix K
Water Shortage Regulations





Appendix L

UWMP Adoption Resolution

