2020 Urban Water Management Plan

Draft

JUNE 2021

CITY OF LOMPOC

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2020 Urban Water Management Plan

PUBLIC REVIEW DRAFT

JUNE 8, 2021

Prepared by Water Systems Consulting, Inc.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

ACRONYMS & ABBREVIATIONS

°F	Degrees Fahrenheit
AF	Acre Foot
AFY	Acre Feet per Year
AHHG	Area of Historic High Groundwater
AMR	Automatic Meter Reader
APA	Administrative Procedures Act
AWWA	American Water Works Association
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Irrigation System
City	City of Lompoc
CUEA	California Utilities Emergency Association
CWC	California Water Code
DDW	State Water Resources Control Board Division of Drinking Water
DMM	Demand Management Measure
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
EPA	United States Environmental Protection Agency
ERP	The City's Water Division's Disaster/Emergency Response Plan
ETo	Reference Evapotranspiration
FY	Fiscal Year
GIS	Geographic Information System
GPCD	Gallons per Capita per Day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWMP	Groundwater Management Plan
HCF	Hundred Cubic Feet
HCI	Hydrologic Consultants, Inc.
ITP	Independent Technical Panel
kWh	Kilowatt-hours
Legislature	State of California Legislature
LRWRP	Lompoc Regional Wastewater Reclamation Plant

LWTP	Lompoc Water Treatment Plant
MFR	Multi-Family Residential
MG	Million Gallons
MGD	Million Gallons per Day
MT	Minimum Threshold
MHCSD	Mission Hills Community Services District
MHI	Median Household Income
NPDES	National Pollutant Discharge Elimination System
RGF	Regional Growth Forecast
RHNA	Regional Housing Needs Assessment
RMP	Representative Monitoring Point
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SBCAG	Santa Barbara County Association of Governments'
SBX7-7	Water Conservation Act of 2009 also known as Senate Bill 7 of Special Extended Session 7
SFR	Single Family Residential
State Water Board	State Water Resources Control Board
SYRVGB	Santa Ynez River Valley Groundwater Basin
System	Potable Water System
TAZ	Traffic Analysis Zone
TDS	Total Dissolved Solids
USP	United States Federal Penitentiary
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
VAFB	Vandenberg Air Force Base
VVCSD	Vandenberg Village Community Services District
WSCP	Water Shortage Contingency Plan
WMA	West Management Area
WSS	Water Sense Specification
WWTP	Wastewater Treatment Plant

2020 URBAN WATER MANAGEMENT PLAN

1 Introduction and Lay Description

This chapter provides a brief overview of the City of Lompoc (City) and the purpose of this 2020 Urban Water Management Plan (UWMP). It also describes how the UWMP is organized and its relation to other local and regional planning efforts that the City is involved in.

IN THIS SECTION

- California Water Code
- UWMP Organization

Originally founded in 1874, the City of Lompoc (City) was incorporated in 1888. The City is located along California's central coast near the mouth of the Santa Ynez River, approximately 130 miles northwest of Los Angeles in Santa Barbara County. The City provides potable water service to an area approximately 4,690 acres or 7.3 square miles.

The City's potable water system (system) is supplied by groundwater, pumped through 10 wells in the Lompoc Plain portion of the Santa Ynez River Valley Groundwater Basin, which is the sole source of water supply for the City. The City's water system is operated by the Water Division of the Utilities Department and is composed of a well field, water treatment plant, storage reservoirs, a pump station, and distribution lines.

1.1 The California Water Code

In 1983, the State of California Legislature (Legislature) enacted the Urban Water Management Planning Act (UWMP Act). The law required an urban water supplier providing water for municipal purposes to more than 3,000 customers or serving more than 3,000 acre-feet per year (AFY) to adopt an UWMP every five years, demonstrating water supply reliability under normal as well as drought conditions. The UWMP Act applies to wholesale and retail suppliers.

Since the original UWMP Act was passed, it has undergone significant expansion, particularly since the City's previous UWMP was prepared in 2015. Prolonged droughts, groundwater overdraft, regulatory revisions, and changing climatic conditions affect the reliability of each water supplier as well as the statewide water reliability overseen by California Department of Water Resources (DWR), the State Water Resources Control Board (State Water Board), and the Legislature. Accordingly, the UWMP Act has grown to address changing conditions, and the current requirements are found in Sections 10610-10656 and 10608 of the California Water Code (CWC).

DWR provides guidance for urban water suppliers by preparing the Urban Water Management Plan Guidebook 2020 (Guidebook) (State of California Department of Water Resources, March 2021), conducting workshops, developing tools, and providing program staff to help water suppliers prepare comprehensive and useful water management plans, implement water conservation programs, and understand the requirements in the CWC. Suppliers prepare their own UWMPs in accordance with the requirements and submit them to DWR. DWR then reviews the plans to make sure they have addressed the requirements identified in the CWC and submits a report to the Legislature summarizing the status of the plans for each five-year cycle. The Guidebook, finalized in March 2021, was used to complete this 2020 UWMP.

The purpose of this UWMP is for the City to evaluate long-term resource planning and establish management measures to ensure adequate water supplies are available to meet existing and future demands. The UWMP provides a framework to help water suppliers maintain efficient use of urban water supplies, promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a response mechanism during drought conditions or other water supply shortages.

The UWMP is a valuable planning tool used for multiple purposes including:

- Provides a standardized methodology for water utilities to assess their water resource needs and availability.
- Serves as a resource to the community and other interested parties regarding water supply and demand, conservation, and other water-related information.
- Provides a key source of information for cities and counties when considering approval of proposed new developments and preparing regional long-range planning documents such as city and county General Plans.
- Informs other regional and Statewide water planning efforts, such as Integrated Regional Water Management Plans and the California Water Plan.

CWC 10632 also includes updated requirements for suppliers to prepare a Water Shortage Contingency Plan (WSCP). The WSCP documents a supplier's plans to manage and mitigate an actual water shortage, should one occur because of drought or other impacts on water supplies. In the 2015 UWMP cycle, the WSCP was part of the UWMP. For the 2020 update, the WSCP is required to be a standalone document so that it can be updated independently of the UWMP but must be referenced in and attached to the 2020 UWMP. The WSCP is provided in **Chapter 8** of this UWMP.

1.2 UWMP Organization and Lay Description

The City generally followed DWR's recommended organizational outline in the preparation of its 2020 UWMP.

Below is a summary of the information included in the various chapters of the City's 2020 UWMP:

Chapter 1 – Introduction and Overview. This chapter provides background information on the UWMP process, new regulatory requirements, and an overview of the information covered throughout the remaining chapters. Water suppliers that serve more than 3,000 customers or 3,000 AFY are required to prepare an UWMP. The UWMP is an important tool that details the City's system and service area, estimates supply and demand over a twenty-year period, and analyzes reliability in drought and other shortages.

Chapter 2 – Plan Preparation. This chapter provides information on the steps taken to prepare the City's 2020 UWMP, including efforts in coordination and outreach for holding a public hearing, adopting, submitting, and implementing the adopted UWMP.

Chapter 3 – System Description. This chapter describes City's water system, service area, population demographics, local climate, and land uses.

Chapter 4 – System Water Use. This chapter describes and quantifies the current and projected water uses through 2045 within the water service area. The City provides potable water to all its customers, which are comprised of about 91% residential accounts. On average, water uses are about 64% residential, 13% commercial/institutional, 2% industrial, 6% landscape irrigation, 6% other uses, and 8% losses.

Chapter 5 – Baselines and Targets. This chapter describes compliance with the Water Conservation Act of 2009, also known as Senate Bill 7 of Special Extended Session 7 (SBX7-7). SBX7-7 was passed in 2009 and requires all water suppliers to increase water use efficiency and decrease per-capita water consumption by 20 percent (%) by the year 2020. To meet this requirement, the City established a water use baseline and efficiency targets in its 2015 UWMP. This chapter discusses compliance and confirms that the City met their 2020 water use target of 117 gallons per capita per day (GPCD). The actual 2020 GPCD for the City was 86 GPCD.

Chapter 6 – System Supplies. This chapter describes and quantifies the current and projected potable and non-potable water supplies. The City's sole source of existing and planned potable water supply for the planning horizon (2020-2045) is groundwater from the Lompoc Plain groundwater basin. The City also treats wastewater to recycled water standards and uses it for beneficial uses. Supplies are sufficient to meet demands through 2045.

Chapter 7 – Water Supply Reliability. Future demand and supply were analyzed to evaluate supply reliability over the planning horizon (2020-2045). The UWMP analyzed conditions for normal or average, single-dry, and five-year consecutive dry periods. In all scenarios, the City expects to meet customer demands with available supply. In addition, a Drought Risk Assessment (DRA) was performed to analyze anticipated supply and demand for the next five years (2021-2025), should a drought occur. The DRA determines that the City's supplies are able to reliably meet customer demands.

Chapter 8 – Water Shortage Contingency Plan (WSCP). The WSCP provides guidance on declaring a water shortage stage and how to mitigate water shortages. The WSCP defines stages of water shortage and outlines the actions that will be required of customers during each stage.

Chapter 9 – Demand Management Measures. This chapter describes the City's efforts to promote conservation and reduce water demand, including discussions of specific demand management measures. Water waste prohibitions and conservation programs are discussed in this chapter. To participate in any of the rebate programs, interested customers should contact the City directly.

1.3 UWMPs in Relation to Other Efforts

This UWMP characterizes water use, estimates future demands and supply sources, and evaluates supply reliability for average, single-dry, and five-year consecutive dry periods. The UWMP also requires a standalone WSCP, which is provided in **Chapter 8**.

In addition to the 2020 UWMP, the City is involved in several other internal and external planning efforts and collaborates with a variety of stakeholders to achieve coordination and consistency between various planning documents locally and regionally.

Documents that were leveraged in preparation of this UWMP are:

- Various documents from the Santa Ynez River Valley Groundwater Basin Western Management Area (WMA) Groundwater Sustainability Agency (GSA)
- Regional Housing Needs Allocation (RHNA) Plan 2014-2022. Santa Barbara County Association of Governments, July 2013
- Regional Growth Forecast 2050 Santa Barbara County, Santa Barbara County Association of Governments, October 2018
- 2030 General Plan. City of Lompoc, Phase 2, September 2014
- Housing Element Update, City of Lompoc, September 2014
- Recycled Water Feasibility Study, City of Lompoc, November 2010
- Groundwater Management Plan, City of Lompoc, November 2013
- City of Lompoc Water Resources Study 2008, Gus Yates, Consulting Hydrologist, October 2008

1.4 UWMPs and Grant or Loan Eligibility

In order for a water supplier to be eligible for a grant or loan administered by DWR, and potentially other agencies, the supplier must have a current UWMP on file that meets the requirements set forth by the CWC. A current UWMP must also be maintained by the supplier throughout the term of any grants or loans received. The City has prepared the 2020 UWMP under guidance from the Guidebook.

1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

The City does not receive imported water from the Delta. Therefore, this section is not applicable.

2020 URBAN WATER MANAGEMENT PLAN

2 Plan Preparation

This chapter of the UWMP provides information on the processes used for developing the UWMP, including efforts in coordination and outreach.

IN THIS SECTION

- Plan Preparation
- Coordination and Outreach

This UWMP was prepared following guidance from the Guidebook (State of California Department of Water Resources, March 2021), DWR UWMP Public Workshops and Webinars, Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (SBX7-7 Guidebook) (State of California Department of Water Resources, February 2016), and the 2020 DWR Review Sheet Checklist (**Appendix A**).

The 2020 UWMP was prepared in a transparent manner and the City actively engaged stakeholders, the Santa Barbara County Water Agency, water agencies, and the public to both seek and distribute water use, supply, and reliability information to strengthen the regions' ability to assess and plan for the region's water future. Details regarding the City's UWMP preparation and the coordination and outreach efforts conducted are provided in this chapter.

2.1 Basis for Preparing a Plan

As mentioned in **Chapter 1**, the CWC requires suppliers with 3,000 or more service connections, or those supplying 3,000 AFY or more, to prepare an UWMP. Suppliers are required to update UWMPs at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update. The City's 2020 UWMP must be submitted to DWR by July 1, 2021.

The City is preparing an individual UWMP and is not a member of a Regional UWMP or Regional Alliance. In 2020, the City served approximately 42,425 people in its service area, through approximately 9,800 potable metered connections, and supplied approximately 4,103 AFY of potable water to customers.

Throughout this UWMP, water volume is represented in units of AFY, unless otherwise noted, and data is presented on a calendar year basis. Required DWR tables presenting this information are provided in **Table 2-1**, **Table 2-2**, and **Table 2-3**.

Table 2-1. Public Water Systems (Required DWR Table 2-1R)

PUBLIC WATER SYSTEM NUMBER	PUBLIC WATER SYSTEM NAME	NUMBER OF MUNICIPAL CONNECTIONS 2020	VOLUME OF WATER SUPPLIED 2020
CA4210006	City of Lompoc	9,798	4,103

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

TYPE OF PLAN	MEMBER OF RUWMP	MEMBER OF REGIONAL ALLIANCE	NAME OF RUWMP OR REGIONAL ALLIANCE
Individual UWMP	No	No	Not Applicable

Table 2-3. Agency Identification (Required DWR Table 2-3)

TYPE OF SUPPLIER	YEAR TYPE	FIRST DAY OF YEAR		UNIT TYPE
		DD	MM	
Retailer	Calendar Years	01	01	Acre Feet (AF)

2.2 Coordination and Outreach

The City coordinated with multiple neighboring and stakeholder agencies to prepare the 2020 UWMP. The coordinated efforts were conducted to 1) inform these agencies of the City's efforts and activities; 2) gather high quality data for use in developing this UWMP; and 3) coordinate planning activities with other related regional plans and initiatives.

CWC Section 10621 requires that suppliers notify cities and counties to which they serve water that the UWMP and WSCP are being updated and reviewed. The CWC specifies that this must be done at least 60 days prior to the public hearing. To fulfill this requirement, on March 8, 2021 and May 28, 2021 the City sent notification letters to the Santa Barbara County Water Agency informing them of the preparation of the 2020 UWMP, which includes the 2020 WSCP, and the public hearing notice. The City also notified other public entities as indicated in **Table 2-4** and attached as **Appendix B**.

Table 2-4. Agency Coordination. Table to be Updated Upon UWMP Completion.

AGENCY/ORGANIZATION	PARTICIPATED IN PLAN DEVELOPMENT	COMMENTED ON DRAFT	ATTENDED PUBLIC MEETINGS	WAS CONTACTED FOR ASSISTANCE	WAS NOTIFIED OF PLAN AVAILABILITY[1]	WAS SENT A NOTICE OF INTENTION TO ADOPT 60 DAYS PRIOR TO PUBLIC HEARING
WATER SUPPLIERS						
Mission Hills Community Service District					x	x
Santa Ynez River Water Conservation District					x	x
Vandenberg Village Community Service District					x	x
PUBLIC AGENCIES						
City of Lompoc Utility Commission						
Santa Barbara County Water Agency					x	x
California Department of Water Resources (DWR)						
Vandenberg Air Force Base					x	x

Notes:

[1]Was notified of availability of Draft UWMP and directed to an electronic copy of the draft plan on the City website (https://www.cityoflompoc.com/government/departments/utilities/water).

Per Government Code 6066, the City provided notice of the 2020 UWMP and 2020 WSCP public hearings at least two weeks in advance in a local newspaper, with at least five days between publications. Notice of the public hearing was first noticed in the local paper on May 29, 2021, and again on June 2, 2021. The hearing notices are attached as **Appendix B**.

A public hearing was held on June 15, 2021 at the City Council meeting prior to the UWMP adoption. In addition, the City maintained a copy of the 2020 UWMP and 2020 WSCP in its office and at https://www.cityoflompoc.com/government/ departments/utilities/water prior to the public hearing.

The Final 2020 UWMP and WSCP were formally adopted by the City Council on June 15, 2021. A copy of the adoption resolution is included in **Appendix C**. A hard copy of the City's Final 2020 UWMP and WSCP were sent to the California State Library, DWR (electronically using the WUEdata reporting tool), and the Santa Barbara County Water Agency within 30 days of adoption. To fulfill the requirements of Water Code Section 10642 of the UWMP Act, the City made the Final 2020 UWMP and WSCP available online (https://www.cityoflompoc.com/government/departments/utilities/water) and at the City's public office, during regular business hours, for public review within 30 days of adoption.

The implementation of this UWMP shall be carried out as described unless significant changes occur between the adoption of this UWMP and the 2025 UWMP. If such significant changes do occur, the City will amend and readopt the UWMP as required by the CWC.

2020 URBAN WATER MANAGEMENT PLAN

3 System Description

This chapter describes the City's water system, service area, population, demographics, local climate, and land uses.

IN THIS SECTION

- Service Area
- Current and Projected Population
- Demographics
- Land Uses

The City is located along California's central coast near the mouth of the Santa Ynez River, approximately 130 miles northwest of Los Angeles in Santa Barbara County. The City manages and maintains the water, wastewater, stormwater, and solid waste for all residents and businesses within the City.

As shown in **Figure 3-1**, the water service area does not cover the entire City limits. The City does not serve the United States Federal Penitentiary (USP) complex, which is located within the City; they are relatively self-sufficient because they do not rely on the City for municipal services, such as water, wastewater, and electric. However, the USP does haul refuse (excluding food waste and recyclables) to the City's landfill.

The City provides potable water service to an area of approximately 4,690 acres or 7.3 square miles. The water service area includes portions of the City, a small portion of the Lompoc Cemetery District located at the southeastern edge of the service area, and the City's River Park. The River Park includes 45 developed acres adjacent to the Santa Ynez River on the east edge of the water service area. The City water service area extends to the north of the Santa Ynez River to include the La Purisima Highlands neighborhood, Allen Hancock College, and Ken Adams Park. In 2020, the City served approximately 9,800 domestic water service connections.

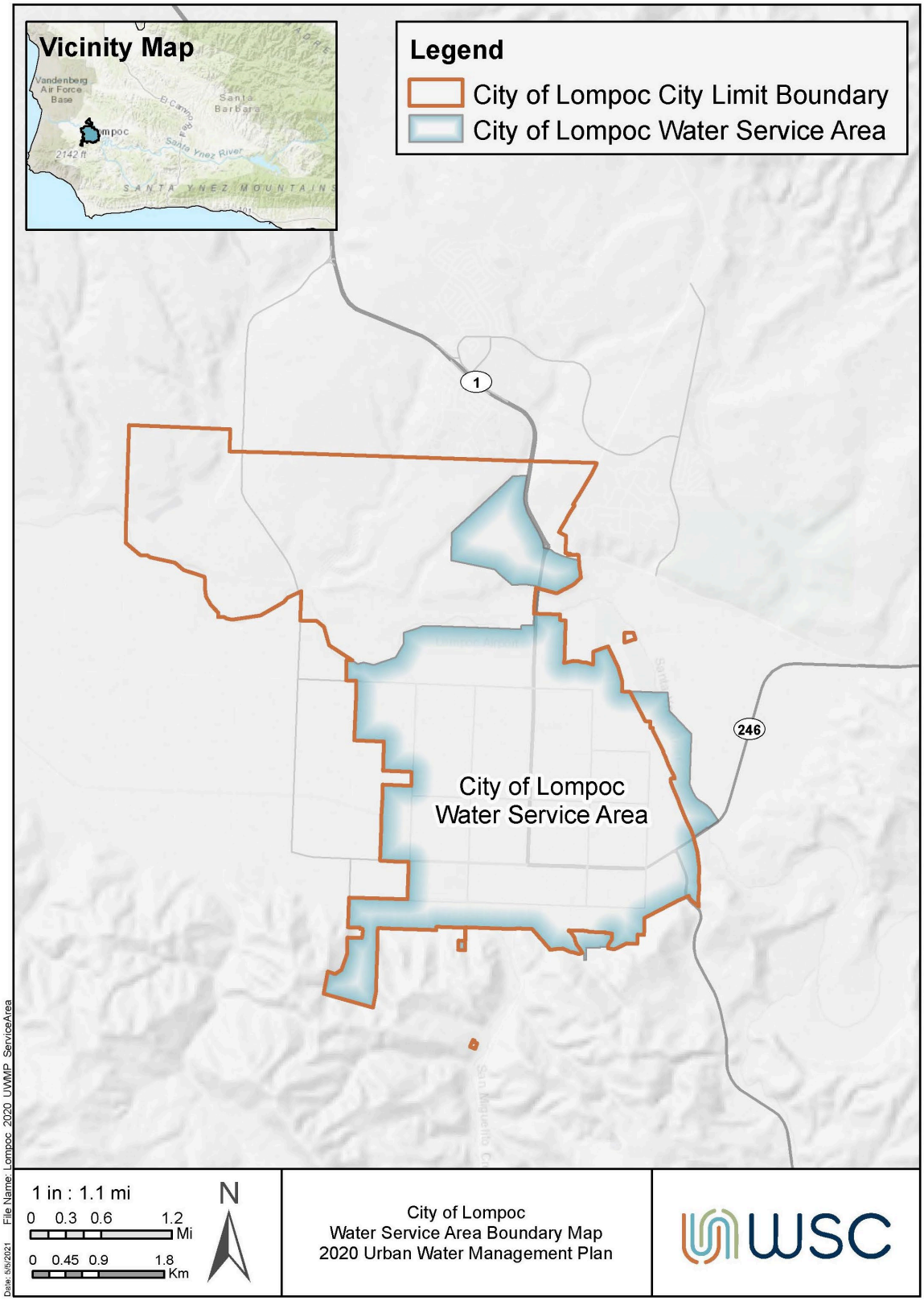

Figure 3-1. City of Lompoc Water Service Area

3.1 General Description

Water from the Lompoc Plain Basin is pumped from 10 wells located throughout the City. This basin is fed by Santa Ynez River water, irrigation return flow, and deep percolation of rainfall. The water then receives conventional treatment that includes disinfection, coagulation, flocculation, sedimentation, and filtration.

In addition, the City owns and operates the Lompoc Regional Wastewater Reclamation Plant (LRWRP) that produces tertiary recycled water for landscape irrigation and construction. The remainder of the effluent from the LRWRP is released into the San Miguelito Creek.

3.2 Service Area Climate

The climate in the City can be classified as coastal with average rainfall rates of about 15 inches per year. Climate data from the Santa Barbara County Flood Control District collected from Lompoc City Hall from 1955 to 2020 was evaluated (Santa Barbara County - Flood Countrol District, 2021). **Figure 3-2** shows the annual precipitation from 1955 through 2020 and illustrates which years fall above or below the annual average precipitation for this period. Most of the annual precipitation occurs during the period from November through April. Records show that the monthly average precipitation ranges from 0.01 inches to 8.8 inches. As shown by **Figure 3-2**, the area can experience multiple consecutive years of below average precipitation, making water management more critical to ensure the City is prepared for the next drought. Temperatures range from 20 Fahrenheit (°F) to 110 °F, with an average temperature of 58 °F. The City has mild weather year-round, with typically warm daytime temperatures and cool nighttime temperatures. The City does not have extreme seasonal variations, though the area is subject to normal weather fluctuations often influenced by the nearby Pacific Ocean.

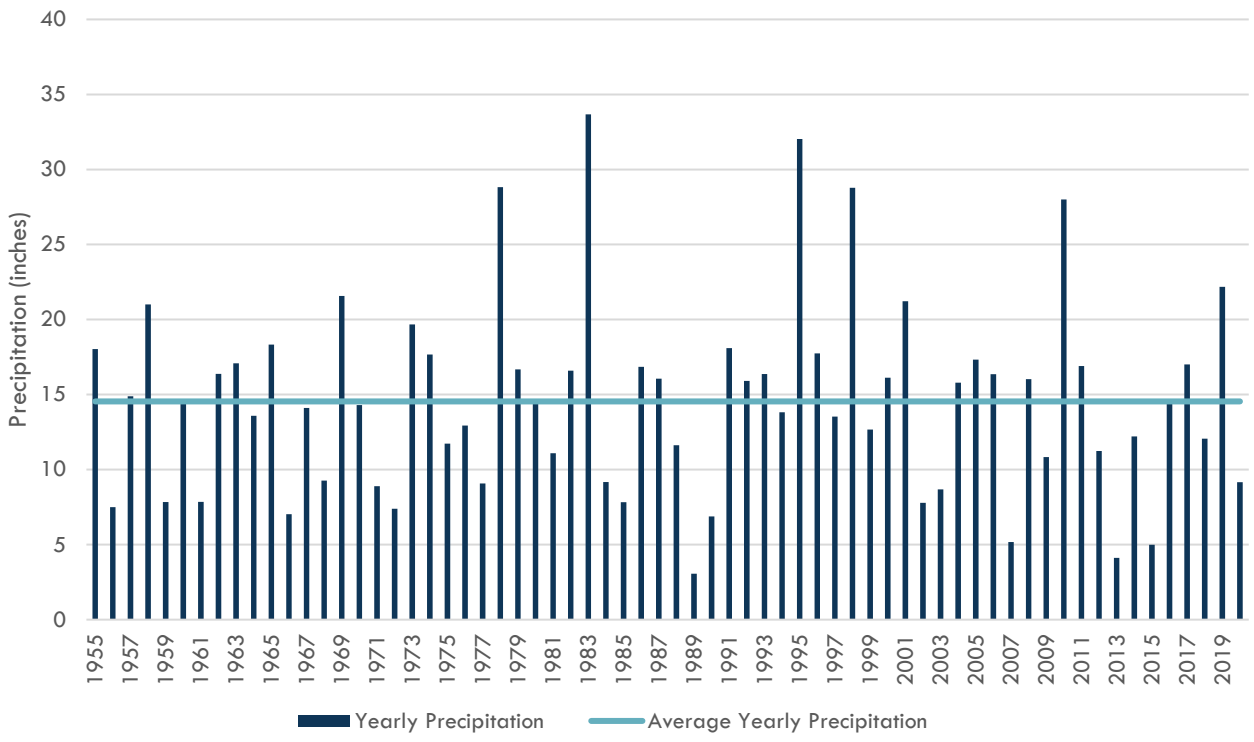

Figure 3-2. Lompoc City Hall Precipitation from 1955 to 2020

The total evapotranspiration (ETo) was analyzed using data from the California Irrigation Management Information System (CIMIS) station #231, Lompoc. However, ETo data was only available from 2011-2015. The months with the highest ETo are May through August, which may correlate to higher irrigation demand.

Table 3-1. CIMIS Station #231 Monthly ETo Data from 2011-2015

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL AVG. ETO
ETo Avg	2.09	2.47	3.59	4.66	5.44	4.99	4.98	4.66	3.87	3.35	2.15	1.74	**43.99**

3.3 Service Area Population and Demographics

Historically, the population of Lompoc has experienced periods of rapid growth. From the late 1950s through the mid-1980s, the growth was primarily generated by employment at Vandenberg Air Force Base (VAFB). The most recent episode of rapid population growth for Lompoc in relation to VAFB occurred from 1978 to the mid-1980s when plans were underway for Space Shuttle launches. However, after the Space Shuttle Challenger Disaster in 1986, plans for shuttle launches from VAFB were discontinued. Consequently, employment at VAFB was no longer as dominant a factor in the City's growth rate as it had been prior to 1986. Beginning in the late 1980s employment growth in the Santa Barbara-Goleta area, combined with lower housing costs in Lompoc, triggered an accelerated population growth.

The USP population is a significant subset of the City's total population. It comprises the largest group quarters population in the City and one of the largest in Santa Barbara County. Although the prison facilities are located within the City, they are relatively self-sufficient because they do not rely on the City for municipal services, such as water, wastewater, and electric. The USP does, however, haul refuse (excluding food waste and recyclables) to the City's landfill.

The most notable rapid population growth took place between 1960 and 1965 when the City grew approximately 10.83% annually. By the end of the 1960s, the City had dropped an annual growth rate of 5.78% for the decade. In the 1970s, the annual growth rate was approximately 0.40%. The City's population again increased rapidly during the 1980s, with an annual growth rate of 3.67%. From 1990 to 2000, the City had slowed to an annual growth rate of 0.90%. Between 2000 and 2010, the City's population remained virtually unchanged, growing at an annual rate of less than 0.32%.

3.3.1 Service Area Population

As described previously and shown in **Figure 3-1**, the water service area and City limit boundaries are different. Therefore, the City's 2020 water service area population was estimated using DWR's Population Tool and projected populations through 2045 were based on growth rates developed from the Santa Barbara County Association of Governments' (SBCAG) Regional Growth Forecast 2050 (RGF 2050) (Santa Barbara County Association of Governments, 2019). The RGF 2050 was developed with input from the City's Community Development Department and is consistent with the City's General Plan and anticipated land use development. The City's water service area population for 2020 is 42,425.

Population projections through 2045 were calculated for the City's water service area using SBCAG RGF 2050 population estimates for Traffic Analysis Zones (TAZ). The RGF 2050 estimates include population, households, and employment in each TAZ in the water service area. Geographic Information System (GIS) software was used to intersect the TAZ data with the City's water service

area boundary and estimate the population, households, and employment. The GIS analysis of RGF 2050 TAZ data yielded population estimates with an annual growth rate of 0.18% for the City's water service area through 2045. **Table 3-2** shows the current and projected populations for the City's water service area. Between 2020 and 2045, the City's water service area is expected to grow by about 2,000 people.

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

POPULATION SERVED	2020	2025	2030	2035	2040	2045
Water Service Area	42,425	42,806	43,189	43,576	43,968	44,363

Notes:

The 2020 population was estimated using the DWR Population Tool. Population was projected from 2020 with a 0.18% annual growth rate derived from analysis of the SBCAG RGF 2050 TAZ data using GIS for the water service area.

3.3.2 Other Social, Economic, and Demographic Factors

According to the United States Census Bureau, the City has a median household income (MHI) of $54,855 and has a poverty rate of 17.3% (U.S. Census Bureau, Accessed April 30, 2021). The population is composed of about 65.9% white, 4.6% Black or African American, and the remaining 29.5% are other ethnicities. The median age is 32.7 years, which is younger than the federal median age of 38.1 years. The City has a youthful population and an increasingly racially diverse population whose economic well-being is largely influenced by the presence of large government institutions, most notably, VAFB.

Per the SBCAG RGF 2050 analysis, the City is expected to add about 1,402 new households and 9,860 jobs by 2050, as shown in **Table 3-3**. The SBCAG RGF 2050 estimates that farm jobs will remain steady long-term (Santa Barbara County Association of Governments, 2019). The cannabis industry is anticipated to be a source of continuing employment and construction jobs are projected to increase as housing starts to recover and long-term infrastructure spending surges (Santa Barbara County Association of Governments, 2019). The significant employment projection will likely impact water demands significantly, as discussed in **Chapter 4**.

Table 3-3. SBCAG RGF 2050 Household and Employment Growth Forecast

	2020	2035	2050
Household	13,943	14,616	15,344
Employment	12,548	21,030	22,405

3.4 Land Uses within Service Area

The City of Lompoc is a predominately residential community contained within 11.7 square miles, which is different from the 7.3 square mile water service area, and is surrounded by equestrian ranches, farms, vineyards and rolling hills. Residential land uses comprise 46% of the City's total area, excluding public rights-of-way and federal property.

As discussed above, the SBCAG RGF 2050 was used to estimate population growth. SBCAG prepares growth forecasts based on land use data developed through an extensive process that emphasizes input from local planners in coordination with local or regional land use authorities, incorporating essential information to reflect anticipated future populations and land uses. SBCAG's projections undergo extensive local review, incorporate land use and zoning information from city and county general plans, and are supported by Environmental Impact Reports. Therefore, the City's land use development and General Plan are incorporated into SBCAG RGF 2050 estimates.

2020 URBAN WATER MANAGEMENT PLAN

4 Water Use Characterization

This chapter describes and quantifies City's past, current, and projected water uses through 2045. The City provides potable water to all its customers, which are comprised of about 91% residential accounts. On average, water uses are about 64% residential, 13% commercial/institutional, 2% industrial, 6% landscape irrigation, 6% other uses, and 8% losses.

Accurately tracking and reporting current water demands allows the City to properly analyze the use of their resources in order to conduct good resource planning. Estimating future demand as accurately as possible allows the City to manage its water supply and appropriately plan for infrastructure investments. Projected demands are expected to range from approximately 5,600 AFY in 2025 to 5,800 AFY in 2045.

IN THIS SECTION

- Non-Potable vs. Potable Water Use
- Past and Current Use
- Projected Water Demand
- Projected Water Demand for Lower Income Households
- Climate Change Impacts

4.1 Past, Current, and Projected Water Use by Sector

4.1.1 Water Use Sectors Listed in Water Code

Water suppliers are required to identify water uses, to the extent that records are available, for at least each of the 10 water use sectors identified in CWC Section 10631(d) to assist in the water demand projections. The City primarily serves potable water to customers and a small amount of recycled water. Recycled water uses are described in **Chapter 6**.

The City serves the following water uses:

Single-Family Residential (SFR)

SFR customers are typically on a lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling.

Multi-Family Residential (MFR)

MFR customers are typically multiple dwelling units within one building or several buildings within one complex.

Commercial/Institutional

The City tracks commercial and institutional customer water uses as one. Commercial customers typically provide or distribute a product or service and institutional water customers are typically public services, such as higher-education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

Industrial

Industrial customers typically manufacture or process materials.

Landscape Irrigation

The City tracks the water use for landscape irrigation.

Other

The City has 58 accounts for other uses, which generally consist of SFR customers, but they are categorized as “Other” due to a legacy billing system categorization.

Losses

Distribution system water losses are the water losses from the point of water entry to the distribution system to the delivery point to the customer’s system. Water losses are discussed in **Section 0.**

4.1.2 Past and Current Water Use

Past water uses inform an understanding of water use trends which are crucial for developing water use projections. **Figure 4-1** shows the 2016 through 2020 water uses and **Table 4-1** shows the 2020 actual demand by water use.

On average, SFR demand accounts for 41% of total uses; MFR accounts for 23% of total uses; Commercial/Institutional accounts for 14% of total uses; Industrial accounts for 2% of total uses; Landscape Irrigation accounts for 6% of total uses; Other uses account for 6% of total uses; and Losses account for 8% of total uses. In 2020, SFR use increased by almost 3% from the previous years, and Commercial/Institutional, Landscape Irrigation, and Other uses decreased by 1 or 2%. This increase in residential use and decrease in non-residential use may be attributed to more people working from home and businesses being closed during the COVID-19 pandemic.

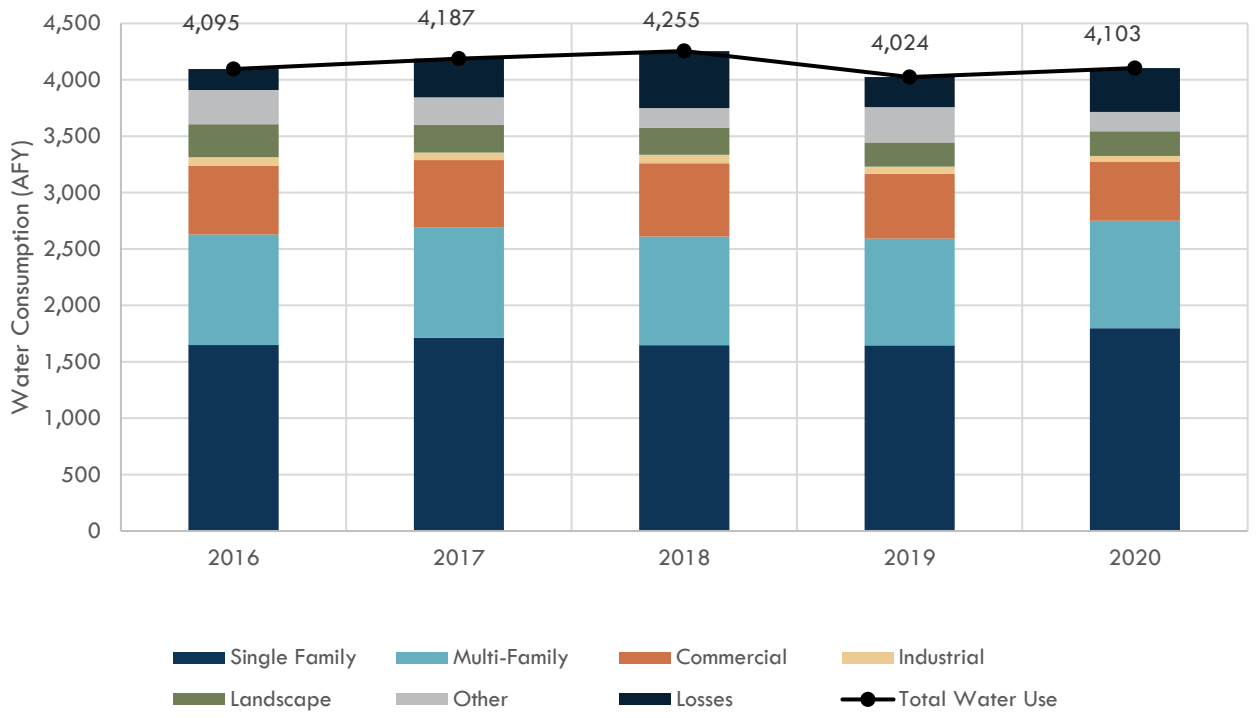

Figure 4-1. Lompoc's 2016-2020 Water Uses (AFY)

Table 4-1. Actual Demands for Water (AFY) (Required DWR Table 4-1R)

USE TYPE	ADDITIONAL DESCRIPTION	LEVEL OF TREATMENT WHEN DELIVERED	2020 VOLUME
Single Family		Drinking Water	1,797
Multi-Family		Drinking Water	954
Commercial	Includes Institutional Use	Drinking Water	525
Industrial		Drinking Water	50
Landscape		Drinking Water	219
Other		Drinking Water	170
Losses		Drinking Water	389
		TOTAL:	**4,103**

4.1.3 Distribution System Water Losses

Distribution system water losses are the water losses from the point of water entry to the distribution system to the point of delivery to the customer's system. Water loss can result from aging infrastructure, leaks, seepage, theft, metering inaccuracies, data handling errors, and other causes. Addressing water losses can increase water supplies and recover revenue. **Section 9.1.5** discusses the City's programs to assess and manage real distribution system losses.

Over the past five years, the City water losses have ranged from 5% to 12%. CWC Section 10631 (d)(3)(C) requires water suppliers to provide data to determine if the supplier will meet its State Water Board water loss performance standard. Although the standard has not yet been implemented, the data needs to be included the 2020 UWMP. Compliance with the future water loss performance standards will be completed in the next UWMP cycle. Detailed assessments of water loss were completed since 2015 using American Water Works Association (AWWA) Water Audit Software and are provided in **Appendix D** and summarized in **Table 4-2.**

Table 4-2. 12 Month Water Loss Audit Reporting (Required DWR Table 4-4R)

REPORT PERIOD START DATE		
MM	YYYY	VOLUME OF WATER LOSS (AFY)[1]
1	2016	184
1	2017	107
1	2018	362
1	2019	214
1	2020	Not Yet completed

Notes:

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

4.1.4 Projected Water Use

Demands were estimated using a GPCD method. The total demand was estimated by multiplying the GPCD by the projected populations for 2025, 2030, 2035, 2040, and 2045. Projected populations are described in **Chapter 3**. **Table 4-3** and **Table 4-4** present projected demands through 2045.

Demand projections are based on the assumption that the current GPCD will rebound to the selected SBX7-7 target of 117 GPCD and stay constant thereafter. **Chapter 5** describes the methodology used to develop the SBX7-7 baseline and target in detail. Since 1995, per capita water usage varied from a high of 141 GPCD in 1997 to a low of 85 GPCD in 2019. Overall, per capita consumption has decreased, which is most likely due to the recent drought, state mandated water use reduction targets, more efficient appliances and plumbing, and conservation efforts made by the City and its customers.

While the 2020 GPCD was below the SBX7-7 target, future demand could increase due to a variety of factors. As described in **Chapter 3**, employment is projected to increase significantly through 2045. The cannabis industry is anticipated to be a source of continuing employment, and construction jobs are projected to increase as housing starts to recover and long-term infrastructure spending surges (Santa Barbara County Association of Governments, 2019). Therefore, this UWMP conservatively projects a rebound in demands to 117 GPCD to proactively inform water resources management planning strategies for these potential demands. However, the City is aware that future water use standards are under development by DWR, which will supersede SBX7-7 standards, and will likely require demands to be lower than the SBX7-7 target. Therefore, the City plans to continue encouraging efficient water use and implementing water use efficiency measures to support meeting future water use standards and to enhance resiliency for drought and other water shortage conditions as described in **Chapter 7**, **Chapter 8**, and **Chapter 9**.

Table 4-3. Projected Demands for Water (Required DWR Table 4-2R)

USE TYPE	ADDITIONAL DESCRIPTION	PROJECTED WATER USE, AFY				
		2025	2030	2035	2040	2045
Single Family		2,286	2,307	2,328	2,348	2,370
Multi-Family		1,305	1,316	1,328	1,340	1,352
Commercial		800	807	815	822	829
Industrial		89	90	91	91	92
Landscape		328	331	334	337	340
Other		326	329	332	335	338
Losses		454	458	462	467	471
	TOTAL:	**5,589**	**5,639**	**5,689**	**5,740**	**5,792**

Table 4-4. Total Gross Water Use (Required DWR Table 4-3R)

	2020	2025	2030	2035	2040	2045
Potable Water, AFY	4,103	5,589	5,639	5,689	5,740	5,792

Table 4-5 satisfies the requirement to include anticipated water conservation savings when developing future demand projections. Conservation savings were considered and included in developing demand estimates for the next 20 years by using the selected SBX7-7 target of 117 GPCD, which is assumed to include conservation savings.

Table 4-5. Inclusion in Water Use Projections (Required DWR Table 4-5R)

Are Future Water Savings Included in Projections? Refer to Appendix K of UWMP Guidebook.	Yes
Section or page number where the citations utilized in the demand projects can it be found:	4.1.4
Are Lower Income Residential Demands Included in Projections?	Yes

4.1.5 Characteristic Five-Year Water Use

In addition to past and projected uses, the UWMP more closely analyzes anticipated conditions for the next five years (2021 – 2025). In the next five years, the City anticipates that demands may increase by approximately 1,500 AFY from current conditions. This increase is based on normal year conditions representing a "rebound" from current 2020 use and an increase in population and employment. The 2020 use is likely lower than typical unconstrained demand as many of the City's residents continue to conserve water after the most recent drought and economic recession. Details on an analysis for the next five years are discussed in **Chapter 7**.

4.3 Water Use for Lower Income Households

CWC Section 10631.1 requires demand projections to include projected water use for single-family and multi-family residential housing needed for lower income households. Low-income households are defined as households that make less than 80% of the median income for the area. The Regional Housing Needs Assessment (RHNA) determines the housing needs in each jurisdiction over the planning period. SBCAG is in the process of developing the 6th cycle RHNA allocation plan which will cover the planning period June 30, 2022 through February 15, 2031 (Santa Barbara County Association of Governments, 2021). For this planning period, 428 very low- and low-income households are forecasted for the City based on the draft allocations, which are pending adoption. It is unknown when these units will be built.

For the purpose of this analysis, it is assumed that 50% of the new low-income homes are SFR and 50% are MFR. The average water usage factor per connection for 2020 of SFR is 0.22 AFY per connection and MFR is 1.27 AFY per connection. The projected demand for these 428 low-income residential units is 320 AFY. In general, between 2020 and 2030 demands are projected to increase by 1,535 AFY, so the low-income demand is expected to be about 21% of the demand increases. The low-income deliveries projections are included in the City's total projected water deliveries shown in **Table 4-3** and are detailed in **Table 4-6**.

Table 4-6. Projected Lompoc Low-Income Water Deliveries, AFY

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
SFR	47	47	47	47	47	47	47	47	47	47
MFR	272	272	272	272	272	272	272	272	272	272
TOTAL	**320**	**320**	**320**	**320**	**320**	**320**	**320**	**320**	**320**	**320**

4.4 Climate Change Considerations

Consistent future use of groundwater sources may be affected by climate change.

"Projections of climate change in California indicate a further intensification of wet and dry extremes and shifting temperatures that can…affect both water use and supplies. Extreme and higher temperatures can lead to increases in water use…Projections of more frequent, severe, and prolonged droughts could lead to not only less surface water available, but also exacerbating ongoing stressors in groundwater basins across the state" (State of California Department of Water Resources, March 2021).

Higher temperatures decrease the amount of precipitation available for groundwater recharge and from surface water sources while increasing water use, especially for outdoor use. Reductions in future groundwater supply due to impacts associated with climate change were considered as part of the projected groundwater supply discussed in **Chapter 6** and **Chapter 7**. Increases in future water use patterns due to climate change factors were considered as part of the conservative demand projection provided in **Chapter 4**.

5 SBX7-7 Baseline, Targets and 2020 Compliance

This chapter describes the Water Conservation Act of 2009, also known as SBX7-7, Baseline, Targets, and 2020 Compliance. The City met the 2020 targeted water-use reduction of 20%.

Senate Bill 7 of Special Extended Session 7 (SBX7- 7) was incorporated into the UWMP Act in 2009 and requires that all water suppliers increase water use efficiency with the overall goal to decrease per-capita water consumption within the state by 20% by the year 2020. SBX7-7 required DWR to develop certain criteria, methods, and standard reporting forms through a public process that water suppliers could use to establish their baseline water use and determine their water conservation targets.

IN THIS SECTION

- Targets and Baseline Method Summary
- Updated Calculations
- Baselines & Targets
- SBX7-7 Forms and Tables
- 2020 Compliance

SBX7-7 and DWR's Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (State of California Department of Water Resources, February 2016) specify methodologies for determining the baseline water demand, 2015 interim urban water use target, and the 2020 urban water use target for the City as described in the following sections. The SBX7-7 Verification Forms, which are required to be submitted to DWR to demonstrate compliance with the SBX7-7 requirements, are presented in **Appendix E**. This section also demonstrates that the City achieved its 2020 water use target.

5.1 SBX7-7 Forms and Tables

The SBX7-7 Verification Form was submitted as part of the City's 2015 UWMP to establish the baseline and 2020 water use target, which remains valid because there are no changes to the service area. A summary of the SBX7-7 Verification Form is presented in **Table 5-1**. The City selected SBX7-7 Method 3, which uses 95% of the Central Coast Hydrologic Region baseline, or 117 GPCD, for the selected target.

As part of the 2020 UWMP, the City must demonstrate compliance with its 2020 water use target by completing SBX7-7 2020 Compliance Form. This form is an abbreviated version of the SBX7-7 Verification Form used solely for 2020 compliance calculations. A summary of the SBX7-7 2020 Compliance Form is shown in **Table 5-2.** A copy of the completed SBX7-7 Forms is included in **Appendix F**.

Table 5-1. Baselines and Targets Summary (Required DWR Table 5-1R)

BASELINE PERIOD	START YEAR	END YEAR	AVERAGE BASELINE GPCD[1]	CONFIRMED 2020 TARGET[1]
10-15 Year	1996	2005	128	117
5 Year	2003	2007	123	

Notes:

[1]All values are in Gallons per Capita per Day (GPCD).

Table 5-2. 2020 Compliance (Required DWR Table 5-2R)

ACTUAL 2020	OPTIONAL ADJUSTMENTS TO 2020 GPCD[1]						
GPCD[1]	EXTRAORDINARY EVENTS	ECONOMIC ADJUSTMENT	WEATHER NORMALIZATION	TOTAL ADJUSTMENTS	ADJUSTED 2020 GPCD	2020 GPCD[1] (ADJUSTED IF APPLICABLE)	SUPPLIER ACHIEVED TARGETED REDUCTION IN 2020
86.3	0	0	0	0	0	117	Yes

Notes:

[1]All values are in Gallons per Capita per Day (GPCD).

2020 URBAN WATER MANAGEMENT PLAN

6 Water Supply Characterization

This chapter describes and quantifies current and projected water supplies. Each water source is characterized with information needed to manage water resources, assess supply reliability, perform the Drought Risk Assessment, and prepare and implement the WSCP.

The City's sole source of existing and planned water supply for the planning horizon (2025–2045) is groundwater. Groundwater is currently delivered to City customers through approximately 9,800 service connections. The City's water system, which is operated by the Water Division of the Utilities Department, is composed of a well field, water treatment plant, storage reservoirs, a pump station, and distribution lines.

IN THIS SECTION

- Water Supply Analysis
- Water Supply Sources
- Drought Risk Assessment
- Future Water Projects
- Energy Intensity

6.1 Water Supply Analysis Overview

The City relies on groundwater to meet current and future water demands under normal, single-dry, and multiple dry years. The City pumps water from the Lompoc Plain using 10 wells located in the east-northeast part of the City. The first six of the wells were drilled in the 1960s; a seventh was drilled in 1988, an eighth in 1992, a ninth well in 2001, and, finally, the tenth well was drilled in 2011. The combined capacity of the 10 wells is 7,360 gallons per minute, or 10.6 million gallons per day (MGD), if operated simultaneously (based on the capacity from 2021). Water from the wells is conveyed to the Lompoc Water Treatment Plant (LWTP). The LWTP was constructed in 1963 and employs a lime-caustic soda softening process to treat the water for hardness and to reduce total dissolved solids (TDS). Waste sludge from the softening process, along with waste filter wash water, is discharged and dried in on-site sludge lagoons or dried in centrifuges. The dried sludge is utilized as an alternate daily cover material at the City's landfill.

The peak treatment capacity of the LWTP is 10.0 MGD. From the LWTP, water is piped to the distribution system and to four distribution reservoirs. The four reservoirs have a total usable storage capacity of 10 to 11 million gallons. The reservoirs are located at an elevation of 320 feet above sea level. These reservoirs are connected to a gravity delivery grid, which has a single pressure zone for its service area. As of 2020, the distribution system involves approximately 135 miles of distribution lines ranging between two and 16 inches in diameter size. The lines are located in a looping pattern, thereby, maintaining pressure for fire flow requirements. Sufficient capacity and pressure are available in these distribution lines to serve existing and anticipated future development within the existing service area.

6.2 UWMP Water Supply Characterization

6.2.1 Purchased or Imported Water

The City system does not use purchased or imported water. This section is not applicable.

6.2.2 Groundwater

The City's sole source of existing and planned water supply for the planning horizon (2020–2045) is groundwater. The City produces its groundwater from the Lompoc Plain portion of the Santa Ynez River Valley Groundwater Basin (SYRVGB), DWR Groundwater Basin Designation 3-15, which is not adjudicated.

In 2014, the Sustainable Groundwater Management Act (SGMA) was signed into law, which requires high and medium priority groundwater basins to form Groundwater Sustainable Agencies (GSAs) to develop a Groundwater Sustainability Plan (GSP) that details how sustainable groundwater management will be achieved within 20 years of implementing the GSP. The SYRVGB is a medium-priority basin. To comply with SGMA, the SYRVGB is divided into the western, central, and eastern management areas and three separate GSAs were formed. The three GSAs are in an Intra-Basin Administrative Agreement and will enter into formal SGMA compliant coordination agreements before submitting their final GSPs to DWR. **Figure 6-1** shows the SYRVGB management areas.

The Lompoc Plain, Lompoc Terrace and Lompoc Upland, and Santa Rita Valley are in the Western Management Area (WMA). The WMA GSA was formed in 2017 through a Memorandum of Agreement among the City, Santa Ynez River Water Conservation District (SYRWCD), Vandenberg Village Community Services District (VVCSD), Mission Hills Community Services District (MHCSD), and the Santa Barbara County Water Agency. **Figure 6-2** shows the WMA general area. The WMA GSP is

under development is anticipated to be completed by July 1, 2022. Updates on the WMA GSP are available at https://www.santaynezwater.org/western-gsa.

The eastern portion of the Lompoc Plain covers the City, and groundwater in this area is primarily used to meet municipal and industrial demands for water with some limited agricultural use (Stetson Engineers, Inc., February 2021). Municipal wells pump water in the WMA from the Lompoc Plain Upper Aquifer and the Lompoc Upland Lower Aquifer. The Upper Aquifer consists primarily of older and younger alluvial deposits and river gravels of the Santa Ynez River, and the Lower Aquifer consists of Careaga Sandstone and the Paso Robles Formation in a broad syncline structure (Stetson Engineers, Inc., February 2021). While MHCSD and VVCSD pump from the lower aquifer, the City pumps from the main zone of the upper aquifer. The agricultural producers pump mostly from the upper aquifer.

The Lompoc Plain stays in equilibrium because during certain periods of time, water is released from Lake Cachuma to recharge groundwater levels in the eastern portion of the Lompoc Plain (Dudek, 2019).

Water quality in the Lompoc Plain varies significantly both geographically and throughout the upper and lower aquifer zones. Generally, groundwater quality degrades from east to west as WMA nears the coastline of the Pacific Ocean. As part of the development of the GSP, a draft WMA Groundwater Conditions Technical Memorandum was completed in February 2021, which observed that the average TDS, sulfate, and nitrate concentrations in the Lompoc Plain are 1,600 mg/L, 518 mg/L, and 9.9 mg/L, respectively (Stetson Engineers, Inc., February 2021). The highest for these constituents were in Santa Ynez River Alluvium and the Lompoc Plain. In addition, water quality in the shallow zone of the Lompoc Plain tends to be poorest near the coast and in some heavily irrigated areas of the sub-basin (Dudek, 2019).

In 2013, the City prepared a Groundwater Management Plan (GWMP) pursuant to CWC Section 10750 et. seq. for the portions of its water service area overlying the Lompoc Groundwater Basin. The City recognized the importance of maintaining a sustainable, reliable, high-quality groundwater supply for the long-term benefit of its citizens. Adoption and implementation of this GWMP supported this goal and continues to help the City meet requirements in the CWC. The City adopted Resolution No. 5751(11) to prepare the GWMP after convening a public hearing on December 6, 2011, pursuant to Sections 10750 et. seq. of the CWC. The City adopted Resolution No. 5874 (13) to adopt this GWMP on October 1, 2013. A copy of the GWMP can be found online at http://www.cityoflompoc.com/utilities/water/ and in **Appendix G**.

As part of the study, a previously developed groundwater model was used to assess the response of the Lompoc Groundwater Basin to projected pumping by the City, MHCSD, and VVCSD. The model was developed for the City in 1994 and updated for the City in 1997 (Hydrologic Consultants, Inc., 1997, HCI) and again most recently by Timothy Durbin in 2015. The model represents the Lompoc Groundwater Basin, including the Lompoc Plain, Upland, and Terrace. The HCI regional model was used to simulate groundwater conditions for a 35-year future period. Groundwater sustainability is influenced by downstream releases from the Cachuma Project, which is subject to terms of the State Board Order 89-18 and the Settlement Agreement. The simulated groundwater levels show that an equilibrium will be achieved for the projected City, MHCSD, VVCSD, and agricultural pumping under the continued operation of the Cachuma Project, consistent with State Board Order 89-18 and the Settlement Agreement. While groundwater levels display seasonal and yearly fluctuations, they do not have a long-term downward trend. The seasonal fluctuations correspond to the counter seasonality of pumping and recharge from the Santa Ynez River. The yearly fluctuations correspond to yearly variations in the Santa Ynez River stream flows at the Narrows. Based on the results of the groundwater study and the development of the Lompoc Groundwater Management Plan, the groundwater basin is not considered to be in overdraft.

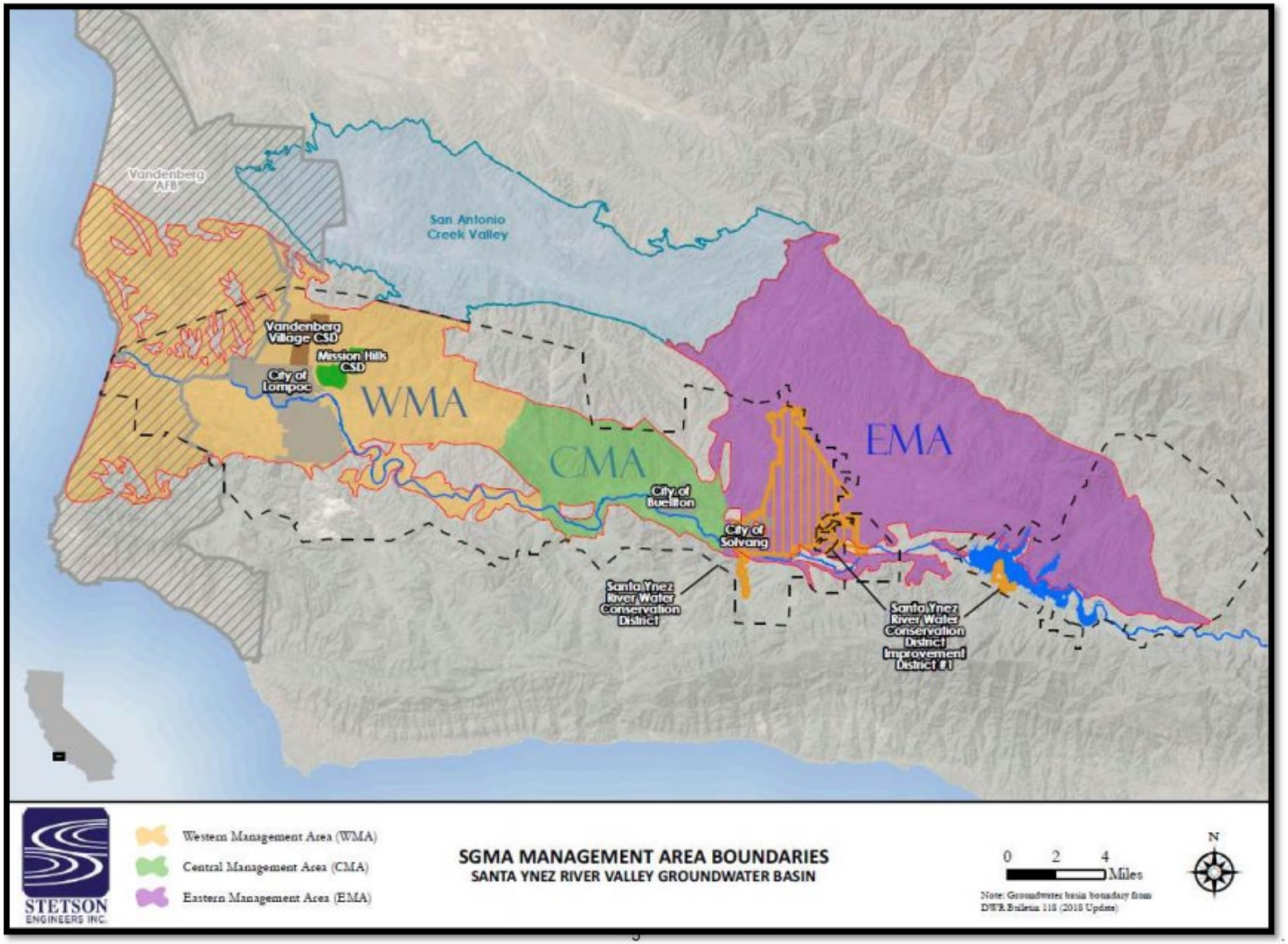

Figure 6-1. Santa Ynez River Valley Groundwater Basin Management Areas (Stetson Engineers, Inc., February 2021)

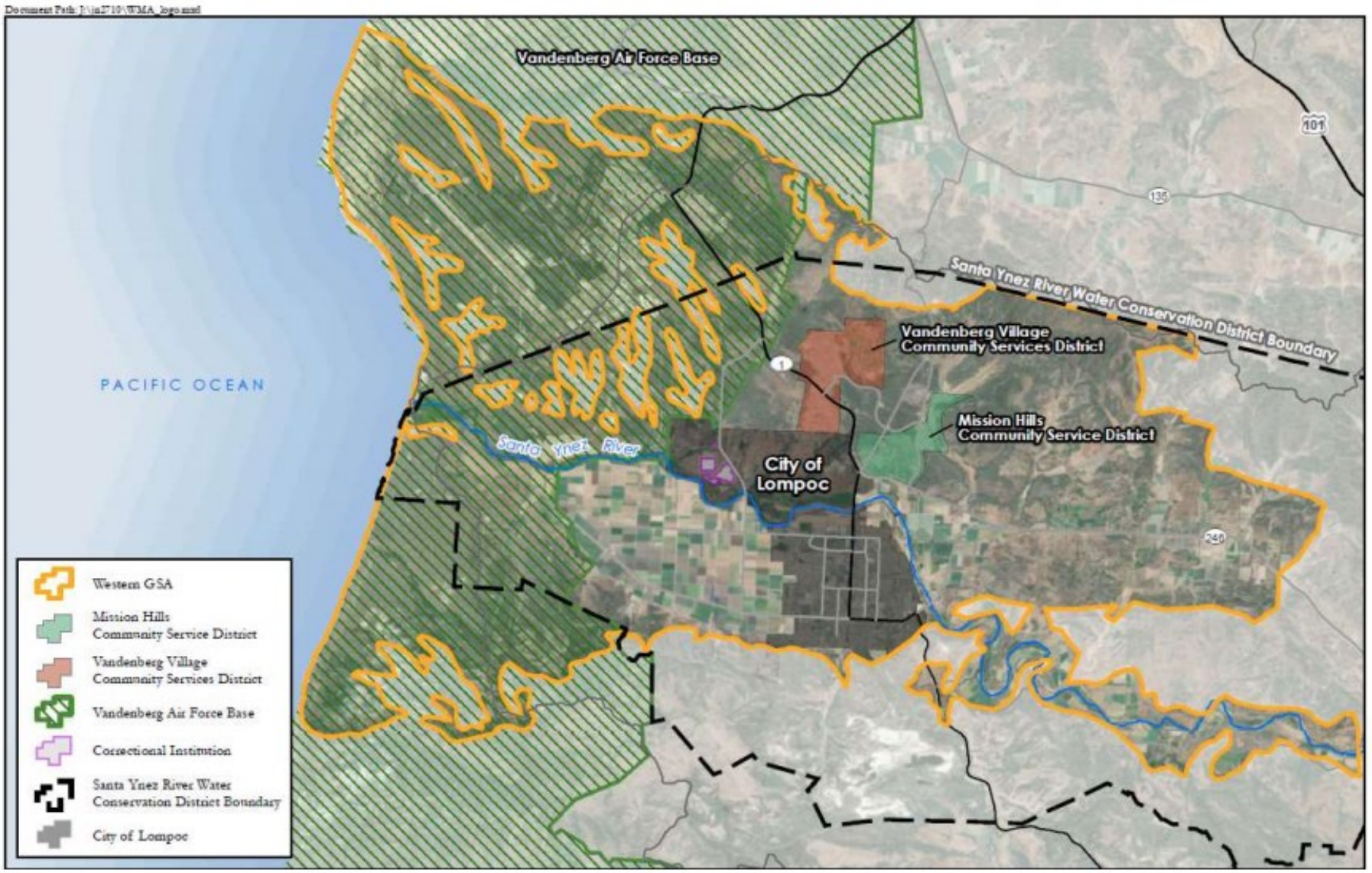

Figure 6-2 Western Management Area Boundary (Stetson Engineers, Inc., February 2021)

Table 6-1 shows how much groundwater the City has pumped annually from the Lompoc Plain to serve its customers since 2016. **Table 6-2** shows the projected groundwater pumping through to 2045. The City anticipates being able to supply 100% of projected demands.

Table 6-1. Groundwater Volume Pumped (Required DWR Table 6-1R)

GROUNDWATER TYPE	LOCATION OR BASIN NAME	2016	2017	2018	2019	2020
Alluvial Basin, AFY	SYRVGB - WMA Lompoc Plain	4,095	4,187	4,255	4,024	4,103

6.2.3 Surface Water

The City system does not use surface water. This section is not applicable.

6.2.4 Stormwater

The City system does not use stormwater as a supply. This section is not applicable.

6.2.5 Wastewater and Recycled Water

The City owns and operates the LRWRP located at the northwest corner of the City of Lompoc adjacent to San Miguelito Creek. The LRWRP treats wastewater from the City, VVCSD, and VAFB. The LRWRP provides sewerage service to approximately 53,494 municipal and industrial users. The wastewater generated from the service area is approximately 90% domestic and 10% from a mixture of commercial, light industrial, and military sources. The plant discharges tertiary recycled water to San Miguelito Creek.

The LRWRP was upgraded in 2009 and has an average dry-weather flow design capacity of 5.5 MGD, with a peak dry-weather flow of 9.5 MGD. The peak wet-weather capacity is 15 MGD. The upgraded LRWRP achieves biological nutrient (nitrogen) removal by using oxidation ditches with denitrification and nitrification treatment. The flow enters secondary clarifiers before being transferred to flow equalization basins. Equalized flow is pumped through cloth media filters to prepare it for disinfection by ultraviolet radiation. The facility has used ultraviolet disinfection since November 2009. Maximum flow through the disinfection units is 5.5 MGD.

The City currently operates and retains responsibility for the wastewater collection system within the City of Lompoc, which includes two lift stations. VAFB and VVCSD retain ownership and direct responsibility for wastewater collection and transport up to the point of discharge to the LRWRP.

A portion of the final effluent is used for plant processes, including landscape irrigation for areas inside the facility. This occurs before the remainder of the plant flow is distributed for construction uses or discharged to the Santa Ynez River, via San Miguelito Creek. Additionally, biosolids from the LRWRP are thickened in two dissolved air floatation thickeners before being fed to aerobic digesters. The digested material is transferred to a facultative lagoon before being dried in sludge drying beds. The dried sludge is then shipped offsite for composting.

6.2.5.1 Recycled Water Coordination

In 2017, LRWRP enrolled in State Water Board General Order WQ 2016-0068-DDW to administer recycled water for local construction uses. In 2019, the Division of Drinking Water (DDW) approved a Site Use Report submitted by LRWRP requesting irrigation as an additional use of recycled water.

The City's recycled water program for dust control and compaction allows for the sale of a maximum of 62,000 gallons of recycled water per day (69 AFY). The recycled water for this purpose is trucked and

can only be used within 30 miles of the LRWRP. **Figure 6-3** shows the general area for the construction uses. Users of recycled water are trained and must abide by the recycled water requirements, such as having a Recycled Water Site Supervisor. The City currently has one active recycled water user, which used approximately 20,000 gallons, or 0.06 AFY, of recycled water in 2020.

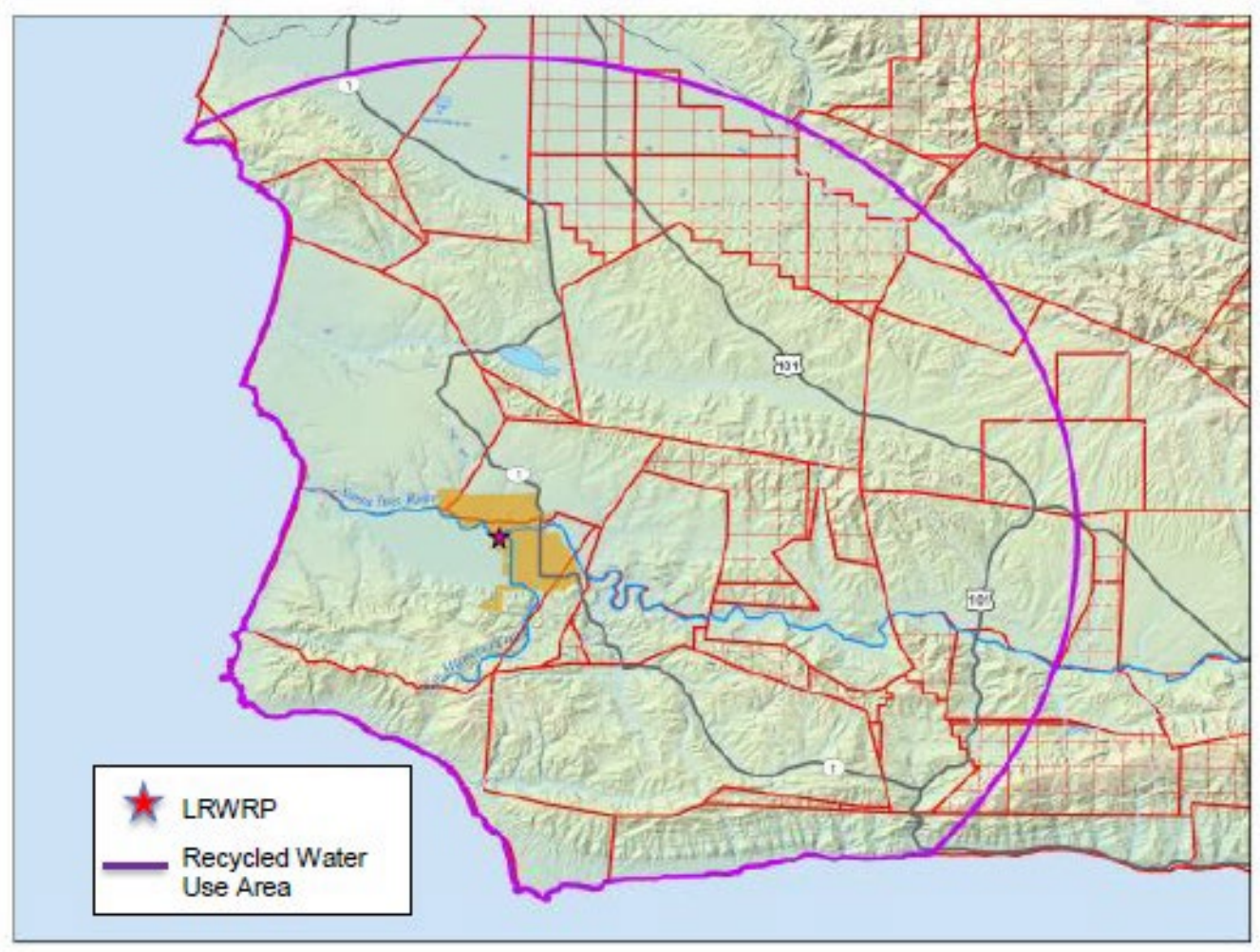

Figure 6-3. General Area for Permitted Construction Recycled Water Use (Source: RWQCB)

6.2.5.2 Wastewater Collection, Treatment, and Disposal

The LRWRP is discussed above. In 2020, the City discharged approximately 3,133 AFY of treated wastewater to the Santa Ynez River, through San Miguelito Creek. Historical wastewater volumes collected from the City's service area are shown in **Table 6-2**.

Table 6-2. 2016-2020 LRWRP Wastewater Influent

TYPE OF WASTEWATER	2016	2017	2018	2019	2020
Wastewater collected & treated from service area, AFY	2,671	2,823	2,818	2,841	2,351
Wastewater treated from outside of service area, AFY	840	949	901	1,004	782
TOTAL	**3,511**	**3,773**	**3,719**	**3,845**	**3,133**

Table 6-3. Wastewater Collected within Service Area in 2020 (Required DWR Table 6-2R)

WASTEWATER COLLECTION			RECIPIENT OF COLLECTED WASTEWATER			
NAME OF WASTEWATER COLLECTION AGENCY	WASTEWATER VOLUME METERED OR ESTIMATED	WASTEWATER VOLUME COLLECTED FROM UWMP SERVICE AREA IN 2020[1], AFY	NAME OF WASTEWATER AGENCY RECEIVING COLLECTED WASTEWATER	WASTEWATER TREATMENT PLANT NAME	WASTEWATER TREATMENT PLANT LOCATED WITHIN UWMP AREA	WWTP OPERATION CONTRACTED TO A THIRD PARTY
City of Lompoc	Metered	2,351	City of Lompoc	Regional Wastewater Reclamation Plant	Yes	No
	TOTAL:	**2,351**				

Notes:

[1]. On average the LRWRP collects about 75% of the wastewater from the City.

Table 6-4. Wastewater Treatment and Discharge within Service Area in 2020 (Required DWR Table 6-3R)

							2020 VOLUMES, AFY				
WASTEWATER TREATMENT PLANT NAME	DISCHARGE LOCATION NAME OR IDENTIFIER	DISCHARGE LOCATION DESCRIPTION	WASTEWATER DISCHARGE ID NUMBER	METHOD OF DISPOSAL	PLANT TREATS WASTEWATER GENERATED OUTSIDE THE SERVICE AREA	TREATMENT LEVEL	WASTEWATER TREATED	DISCHARGED TREATED WASTEWATER	RECYCLED WITHIN SERVICE AREA	RECYCLED OUTSIDE OF SERVICE AREA	INSTREAM FLOW PERMIT REQUIREMENT
City of Lompoc Regional Wastewater Reclamation Plant	San Miguelito Creek		NPDES NO. CA0048127	River or creek outfall	Yes	Tertiary	3,133	3,133	0.06	-	
						TOTAL:	**3,133**	**3,133**	**0.06**	**-**	**-**

6.2.5.3 Recycled Water System Description

The LRWRP is described above. The uses of recycled water are regulated under the recycled water general permit. All projected recycled effluent quantities are expected to meet State of California Title 22 Standards. **Table 6-5** and **Table 6-6** show the existing and projected recycled water demands.

6.2.5.4 Potential, Current, and Projected Recycled Water Uses

The City of Lompoc's "Recycled Water Feasibility Study," conducted in November 2010, identified a total potential recycled water demand of approximately 1,900 AFY from users including schools, parks, and homeowner's associations. However, the feasibility study indicated that building the infrastructure to deliver the water was cost prohibitive when compared to the water supply benefit. Based on these results, the City currently does not have plans for facilitating the installation of dual distribution systems to deliver recycled water.

6.2.5.4.1 Incidental Recharge to the Santa Ynez River

In 2020, the LRWRP discharged approximately 3,133 AFY to the Santa Ynez River via San Miguelito Creek. This provides a valuable source of incidental recharge for the Lompoc Plain and for users downstream of the City, including agricultural interest, domestic uses and the environment. Additionally, the return flows to the river provide added protection to abate the potential for seawater intrusion in the lower reaches of the Santa Ynez River and the groundwater basin.

Further study will be needed to determine if indirect potable reuse of the recycled water to augment the City water supply is feasible.

Table 6-5. Recycled Water within Service Area in 2020 (Required DWR Table 6-4R)

Name of Supplier Producing (Treating) the Recycled Water: City of Lompoc										
Name of Supplier Operating the Recycled Water Distribution System: City of Lompoc										
Supplemental Volume of Water Added in 2020: 0 AFY										
Source of 2020 Supplemental Water: 0 AFY										
BENEFICIAL USE TYPE	**POTENTIAL BENEFICIAL USES OF RECYCLED WATER**	**AMOUNT OF POTENTIAL USES OF RECYCLED WATER**	**GENERAL DESCRIPTION OF 2020 USES**	**LEVEL OF TREATMENT**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Agricultural irrigation	Hernandez Family Farm	0-0.06 AFY		Tertiary	0.06	0	0	0	0	0
Other	Construction Uses		Dust control and compaction	Tertiary	0	0.06	0.06	0.06	0.06	0.06
				TOTAL:	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**

Table 6-6. 2015 Recycled Water Use Projection Compared to 2020 Actual (Required DWR Table 6-5R)

BENEFICIAL USE TYPE	2015 PROJECTION FOR 2020 (AFY)	2020 ACTUAL USE (AFY)
Agricultural Irrigation	0	0.06
Landscape Irrigation (excludes golf courses)	6	0
Other (Construction Uses)	0	
TOTAL:	**6**	**0.06**

6.2.5.5 Actions to Exchange and Optimize Future Recycled Water Use

As described previously, the City does not propose methods to expand permitted recycled water uses at this time.

6.2.6 Desalinated Water Opportunities

Development of desalinated water is not being considered for the current planning period, due to the availability of groundwater to meet the current and projected demand and the City's proximity (approximately 9 miles) to the ocean, which makes it cost prohibitive to consider desalination as a viable water supply alternative.

6.2.7 Water Exchanges and Transfers

The City currently has an agreement in place with MHCSD to supply emergency water to each agency in the event of a water supply emergency. In the future, the City, MHCSD, and VVCSD will be exploring the possibility of integrated facilities operations within the Lompoc groundwater basins through interconnections among each of the three water distribution systems. This would provide flexibility in delivering water among agencies during water supply interruptions and/or during other water emergency situations. As of 2020, there are no transfer or exchange agreements in place.

6.2.8 Future Water Projects

Because of the City's geographic location, there are limited options for future water supply projects. The City will be considering the following water supply projects alternatives if they are cost effective after further analysis. However, these are not considered future water supplies.

6.2.8.1 Expansion of the Groundwater Program

As explained in previously, the SYRVGB has three sub-basins, the Lompoc Plain, Lompoc Terrace, and the Lompoc Upland. Currently, the City draws water from the Lompoc Plain portion of the basin with average well depths of approximately 200 feet. Hydrologic information from a 1977 United States Geological Survey report on the basin indicates that the Lompoc Upland portion of the sub-basin extends under the Lompoc Plain sub-basin and the City service area. Further analysis of the available information is needed to determine if it is feasible to drill deeper wells to provide the City with an additional source of water.

6.2.8.2 Recycled Water Groundwater Recharge

Utilizing the recycled water generated at the City's LRWRP for groundwater recharge upstream from the City's wells could provide additional water supply in the future. Further analysis of the groundwater

basin using the City's updated groundwater model, will be needed in order to satisfy the regulatory requirements associated with the indirect potable reuse of recycled water.

6.2.8.3 Summary of Existing and Planned Sources of Water

The City is planning to use groundwater to meet current and future demands. **Table 6-7** and **Table 6-8** (shown on the next page) summarize the actual and projected water supplies.

6.3 Energy Intensity

On average, the City uses 2,633 kilowatt-hours (kWh) for every MG of water produced (or 858 kWh/AF). Energy usage includes potable deliveries. A summary of energy used to extract and divert from the City's groundwater wells and treat the City's supplies in 2019 is provided in **Table 6-9**.

Table 6-7. Actual Water Supplies (Required DWR Table 6-8R)

		2020		
WATER SUPPLY	ADDITIONAL DETAIL ON WATER SUPPLY	ACTUAL VOLUME, AFY	WATER QUALITY	TOTAL RIGHT OR SAFE YIELD
Groundwater (not desalinated)	Lompoc Valley Groundwater Basin	4,103	Drinking Water	
	TOTAL:	**4,103**		**-**

Table 6-8. Projected Water Supplies: Potable (Required DWR Table 6-9R)

		PROJECTED WATER SUPPLY, AFY									
		2025		2030		2035		2040		2045	
WATER SUPPLY	ADDITIONAL DETAIL ON WATER SUPPLY	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD	REASONABLY AVAILABLE VOLUME	TOTAL RIGHT OR SAFE YIELD[1]
Groundwater (not desalinated)	Lompoc Valley Groundwater Basin	5,589	-	5,639	-	5,689	-	5,740	-	5,792	-

Table 6-9. Recommended Energy Reporting – Water Supply Process Approach (Optional DWR Table O-1A)

Start Date for Reporting Period: 01/01/2019
End Date for Reporting Period: 12/31/2019

	URBAN WATER SUPPLIER OPERATIONAL CONTROL							
	WATER MANAGEMENT PRACTICES						NON-CONSEQUENTIAL HYDROPOWER	
	EXTRACT AND DIVERT	PLACE IN STORAGE	CONVEYANCE	TREATMENT	DISTRIBUTION	TOTAL UTILITY	HYDROPOWER	NET UTILITY
Total Volume of Water Entering Process (AF)	4,024	N/A	N/A	4,024	N/A	4,024	N/A	4,024
Energy Consumed (kWh)	675,016	N/A	N/A	2,776,744	N/A	3,451,760	N/A	3,451,760
ENERGY INTENSITY (KWH/VOL CONVERTED TO MG)	**514.8**	**N/A**	**N/A**	**2117.7**	**N/A**	**2632.5**	**N/A**	**2632.5**
ENERGY INTENSITY (KWH/AF)	**167.8**	**N/A**	**N/A**	**690**	**N/A**	**857.8**	**N/A**	**857.8**

2020 URBAN WATER MANAGEMENT PLAN

7 Water Service Reliability and Drought Risk Assessment

This chapter describes water service reliability through 2045. As required by the UWMP Act, the assessment must compare total projected water supply and demand over the next 20 years in five-year increments under normal, single-dry, and multiple dry water years. This chapter also includes the DRA, which provides a quick snapshot of the anticipated surplus or deficit if a drought were to occur over the next five years. The City's 2020 UWMP water service reliability assessment and DRA results indicate that no water shortages are anticipated within the next 25-years under normal, single-dry, or multiple dry water years.

IN THIS SECTION

- Water Service Reliability Assessment
- Drought Risk Assessment

Water service reliability is determined based on how secure the water supplies and water system infrastructure are. The supply reliability assessment discusses factors (i.e., climatic, environmental, water quality, and legal) that could potentially limit the expected quantity of water available from the City's current and projected sources of supply through 2045. Multiple drought scenarios are considered and the quantitative impacts of the aforementioned factors on water supply and demand are discussed, as well as possible methods for addressing these issues.

Evaluating the water service reliability is critical for water management as it can help identify potential problems before these happen. Water managers can then take proactive steps to mitigate shortages by encouraging water use efficiency, securing new water supplies, and/or investing in infrastructure.

7.1 Water Service Reliability Assessment

The City's 2020 UWMP water service reliability assessment compares total projected water supply and demands over the next 25 years in five-year increments under normal, single-dry, and five-year consecutive dry period. The approach for the analysis and results are discussed in this section.

7.1.1 Service Reliability - Constraints on Water Sources

As described in **Chapter 6 a**nd **Appendix G**, the City relies on groundwater to meet demands during normal, single-dry, and multiple-dry years. The Lompoc Groundwater Basin is not adjudicated and has not been identified to have overdraft conditions. The amount of groundwater that can be extracted each year over the long-term without depleting the Basin is not defined for the City but is defined for the Lompoc Plain subarea of which the City is part of. The Basin is monitored and managed by agencies comprising the WMA, which is developing the WMA GSP. The WMA GSP is under development and will define sustainable management criteria that will influence the amount of water the City can produce. Furthermore, groundwater sustainability is influenced by downstream releases from the Cachuma Project, consistent with State Board Order 89-18 and the Settlement Agreement. Groundwater availability is also influenced by the City's ability to produce groundwater under variable conditions. The City's wells are capable of producing variable amounts of water depending on groundwater levels, seasonal fluctuations, and operational limits. Therefore, supply reliability is estimated based on historic analysis of these variables, which may change in the future.

According to the analysis completed for the WMA GSP, "cumulative groundwater storage loss indicates that during dry periods the groundwater storage decreased (i.e., 2012–2018), and conversely, during wet periods the groundwater storage increased (i.e. 1993–2006) (Stetson Engineers, Inc., February 2021).

7.1.2 Service Reliability - Year Type Characterization

As described in the previous section, the recent drought from 2012-2016 and cumulative groundwater storage loss from 2012-2018, resulted in the City's most recent lowest capability to produce water, which occurred in 2017. Therefore, supply reliability conditions from 2013–2017, resulting from the 2012-2016 drought and associated 2012-2018 groundwater storage loss, are used as a basis for estimating supply reliability in five-consecutive dry years and single-dry year conditions. Considering operational limitations and groundwater conditions, the City anticipates a production capability of 9.25 MGD, or 10,369 AFY, under normal conditions in the future.

In accordance with CWC Section 10635(a), every urban water supplier must provide their expected water service reliability for a normal year, single-dry year, and five-consecutive dry years for 2025, 2030, 2035, 2040, and, optionally, 2045.

DWR defines these years as:

- **Normal Year:** This condition represents a single year or an averaged range of years that most closely represents the average water supply available. The City's average capability to produce supply from 2011-2017 is approximately the same as the City's estimate for Normal Year supply availability conditions in the future.
- **Single-Dry Year:** The single-dry year is recommended to be the year that represents the lowest water supply available. The City's most recent lowest capability to produce water in 2017 is assumed to represent Single-Dry Year availability.
- **Five-Consecutive Year Drought:** This is the driest five-year historical sequence for the supplier, which may be the lowest average water supply available for five years in a row. The City's

production capability from 2013–2017 is assumed to represent Five-Consecutive Year Drought availability.

Table 7-1 shows the basis of water years for the reliability assessment. The volumes of water represent the maximum volumes that can be produced.

Table 7-1. Basis for Water Year Data (Reliability Assessment) (Required DWR Table 7-1R)

		AVAILABLE SUPPLY IF YEAR TYPE REPEATS	
YEAR TYPE	BASE YEAR	VOLUME AVAILABLE,AFY	PERCENT OF AVERAGE SUPPLY
Average Year	2011-2017 Avg	10,369	100%
Single-Dry Year	2017	5,784	56%
Consecutive Dry Years 1st Year	2013	12,454	120%
Consecutive Dry Years 2nd Year	2014	12,230	118%
Consecutive Dry Years 3rd Year	2015	10,795	104%
Consecutive Dry Years 4th Year	2016	8,811	85%
Consecutive Dry Years 5th Year	2017	5,784	56%

7.1.3 Water Service Reliability – Supply and Demand Comparison

Results of the water supply and demand analysis for normal, single-dry, and five-year consecutive drought are shown in the following sections. The City expects to meet demands under all water year scenarios. However, the City is committed to continuing water conservation efforts to ensure reliability and resiliency in the future.

7.1.3.1 Water Service Reliability – Normal Year

Table 7-2 compares the total supply and demand for the 25-year projection under normal (average) conditions. The highest projected water demand is 5,792 AFY in 2045. System capacities can meet this projected demand.

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

	2025	2030	2035	2040	2045
Supply Totals, AFY (From DWR Table 6-9R)	10,369	10,369	10,369	10,369	10,369
Demand Totals, AFY (From DWR Table 4-3R)	5,589	5,639	5,689	5,740	5,792
DIFFERENCE:	**4,781**	**4,730**	**4,680**	**4,629**	**4,577**

7.1.3.2 Water Service Reliability – Single-Dry Year

Table 7-3 compares the total supply and demand for the 25-year projection under a single-dry year. During a single-dry year, demands are expected to decrease by 7% (93% of the normal year demand). The reductions may be attributed to conservation measures and response to shortage response actions. The highest projected water demand is 5,390 AFY in 2045. System capacities can meet this projected demand.

Table 7-3. Single Dry Year Supply and Demand Comparison (Required DWR Table 7-3R)

	2025	2030	2035	2040	2045
Supply Totals, AFY	5,784	5,784	5,784	5,784	5,784
Demand Totals, AFY	5,201	5,248	5,295	5,342	5,390
DIFFERENCE:	**583**	**537**	**490**	**442**	**394**

7.1.3.3 Water Service Reliability – Five Consecutive Dry Years

Table 7-4 compares the total supply and demand under five-consecutive years of drought for the 25-year planning horizon. Compared to normal conditions (using 2011–2017 data), demands are expected to change by 111%, 107%, 94%, 91%, and 93% in the first through fifth dry years as experienced during historical conditions from 2013-2017. The highest projected water demand is 6,442 AFY in 2045. System capacities are able to meet this demand. With continued proper groundwater management, the Basin is expected to contain an adequate supply during normal, single-dry, and five-consecutive year drought conditions.

Table 7-4. Multiple Dry Years Supply and Demand Comparison, AFY (Required DWR Table 7-4R)

		2025	2030	2035	2040	2045
First Year	Supply Totals	12,454	12,454	12,454	12,454	12,454
	Demand Totals	6,216	6,271	6,327	6,384	6,442
	DIFFERENCE:	**6,239**	**6,183**	**6,127**	**6,070**	**6,013**
Second Year	Supply Totals	12,230	12,230	12,230	12,230	N/A
	Demand Totals	5,964	6,017	6,071	6,126	N/A
	DIFFERENCE:	**6,266**	**6,213**	**6,159**	**6,104**	**N/A**
Third Year	Supply Totals	10,795	10,795	10,795	10,795	N/A
	Demand Totals	5,276	5,323	5,371	5,419	N/A
	DIFFERENCE:	**5,519**	**5,472**	**5,424**	**5,376**	**N/A**
Fourth Year	Supply Totals	8,811	8,811	8,811	8,811	N/A
	Demand Totals	5,114	5,160	5,206	5,253	N/A
	DIFFERENCE:	**3,697**	**3,651**	**3,605**	**3,558**	**N/A**
Fifth Year	Supply Totals	5,784	5,784	5,784	5,784	N/A
	Demand Totals	5,238	5,285	5,333	5,381	N/A
	DIFFERENCE:	**546**	**499**	**452**	**404**	**N/A**

7.1.4 Descriptions of Management Tools and Options

As described in **Chapter 6**, the WMA GSP is now under development and is scheduled for completion by January 31, 2022. The City will work with WMA GSA to establish and achieve Sustainable Management Criteria to maintain WMA groundwater sustainability and ensure water supply reliability.

7.2 Drought Risk Assessment (DRA)

New to the 2020 UWMP, CWC Section 10635 (b) now requires a DRA. The DRA provides a quick snapshot of the anticipated surplus or deficit if a five-consecutive year drought were to occur in the next five years. The DRA can be modified or updated outside of the UWMP five-year plan cycle, so a description of the data, methodology, and basis for shortage conditions must be included in this 2020 UWMP. The DRA evaluates each water supply's reliability and compares available water supplies and projected demands during a five-consecutive dry years scenario. This short-term analysis can help water suppliers foresee undesired risks, such as upcoming shortages, and provide time to evaluate and implement the necessary response actions needed to mitigate shortages in a less impactful manner to the community and environment.

7.2.1 Data, Methods, and Basis for Water Shortage Condition

The DRA builds on the water service reliability analysis from **Section 7.1**, which incorporated an assessment of historical consumption data by customer class, populated from billing records, and historical supply data by source from production reports. Based on this data, historical demand has never exceeded available supply. For this DRA analysis, normal year demand conditions and five-consecutive year drought supply conditions were considered for 2021–2025.

As described in **Chapter 4**, demands were estimated using a GPCD method that projected the annual demands based on the assumption that the current GPCD would rebound to 117 GPCD in 2025 and stay constant thereafter. An interpolation was completed to estimate the GPCD for 2021–2025 from the 2020 use of 86 GPCD. The total demand was estimated by multiplying the GPCD times the projected populations for these years. While the 2020 GPCD was below 117 GPCD, future demand could increase due to a variety of factors and this UWMP conservatively projects demands to proactively develop water resources planning management strategies for these potential demands. However, the City is aware that future water use standards are under development by DWR, which will supersede SBX7-7 standards, and will likely require demands to be lower than the SBX7-7 target. Therefore, the City plans to continue encouraging efficient water use and implementing water use efficiency measures to support meeting future water use standards and to enhance resiliency for drought and other water shortage conditions. As described in **Section 7.1**, the groundwater supply is reliable under normal, single-dry, and five-consecutive dry year conditions. The City may incorporate WMA GSP Sustainable Management Criteria into future updates of the DRA when they are established and implemented.

7.2.2 DRA Individual Water Source Reliability

As described previously, the City is working with the WMA GSA to make the WMA sustainable by improving basin monitoring and management, supporting supply augmentation initiatives like recycled water, and promoting continued conservation. To support the City's supply management and conservation efforts, the City will monitor precipitation, groundwater levels, well production capacity, and State standards for efficient water use. More details are provided in the WSCP in **Chapter 8** about how these factors are established, monitored, and used to make water resources management decisions. If certain criteria are met for these factors, shortage response actions from the City's WSCP may be activated.

7.2.3 Total Water Supply and Use Comparison

The City does not anticipate any supply shortages within the next five years, as shown in **Table 7-5**.

Table 7-5. Five-Year Drought Risk Assessment Tables to Address CWC Section 10635(b) (Required DWR Table 7-5R)

2021	Gross Water Use	4,398
	Total Supplies	12,454
	Surplus/Shortfall without WSCP Action	8,056
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	8,056
	Resulting Percent Use Reduction from WSCP Action	0%
2022	Gross Water Use	4,694
	Total Supplies	12,230
	Surplus/Shortfall without WSCP Action	7,536
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	7,536
	Resulting Percent Use Reduction from WSCP Action	0%
2023	Gross Water Use	4,991
	Total Supplies	10,795
	Surplus/Shortfall without WSCP Action	5,804
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	5,804
	Resulting Percent Use Reduction from WSCP Action	0%
2024	Gross Water Use	5,290
	Total Supplies	8,811
	Surplus/Shortfall without WSCP Action	3,522
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	3,522
	Resulting Percent Use Reduction from WSCP Action	0%
2025	Gross Water Use	5,589
	Total Supplies	5,784
	Surplus/Shortfall without WSCP Action	196
	PLANNED WSCP ACTIONS (USE REDUCTION AND SUPPLY AUGMENTATION)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	196
	Resulting Percent Use Reduction from WSCP Action	0%

2020 URBAN WATER MANAGEMENT PLAN

8 Water Shortage Contingency Plan

This Water Shortage Contingency Plan (WSCP) is a detailed plan for how the City of Lompoc (City) intends to predict and respond to foreseeable and unforeseeable water shortages. This chapter is written as a "standalone" report to ensure staff have the necessary information when implementing the WSCP.

This WSCP is used to provide guidance to the City, staff, and the public by identifying anticipated shortages and response actions to allow for efficient management of any water shortage with predictability and accountability. The WSCP is a detailed proposal for how the City intends to act in the case of an actual water shortage condition. This WSCP is not intended to provide absolute direction; rather it is intended to provide options to manage water shortages. Official water shortage declarations by the City may include any combination of components described in this WSCP.

A water shortage occurs when the water supply is reduced to a level that cannot support typical demand at any given time or a reduction in demand is otherwise needed. Water shortages can be triggered by a hydrologic limitation in supply (i.e., a prolonged period of below normal precipitation and runoff), limitations or failure of supply and treatment infrastructure, or a combination of conditions. Hydrologic or drought limitations tend to develop and abate more slowly, whereas infrastructure failures tend to happen quickly and relatively unpredictably.

IN THIS SECTION

Water supplies may be interrupted or reduced significantly in several ways, such as during a drought that limits supplies, an earthquake that damages water delivery or storage facilities, a regional power outage, or a toxic spill that affects water quality.

This WSCP describes the following:

Water Supply Reliability Analysis: Summarizes the City's water supply analysis and reliability and identifies the key issues that may trigger a shortage condition.

Annual Water Supply and Demand Assessment Procedures: Describes the key data inputs, evaluation criteria, and methodology for assessing the system's reliability for the coming year and the steps to formally declare any water shortage levels and response actions.

Six Standard Shortage Levels: Establishes water shortage levels to clearly identify and prepare for shortages.

Shortage Response Actions: Describes the response actions that may be implemented or considered for each level to reduce gaps between supply and demand as well as minimize social and economic impacts to the community.

Communication Protocols: Describes communication protocols under each level to ensure customers, the public, and local government agencies are informed of shortage conditions and requirements.

Compliance and Enforcement: Defines compliance and enforcement actions available to administer demand reductions.

Legal Authority: Lists the legal documents that grant the City the authority to declare a water shortage and implement and enforce response actions.

Financial Consequences of WSCP Implementation: Describes the anticipated financial impact of implementing water shortage levels and identifies mitigation strategies to offset financial burdens.

Monitoring and Reporting: Summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation. Results are used to determine if shortage response actions should be adjusted.

WSCP Refinement Procedures: Describes the factors that may trigger updates to the WSCP and outlines how to complete an update.

Special Water Features Distinctions: Defines considerations and definitions for water use for decorative features versus pools and spas.

Plan Adoption, Submittal, and Availability: Describes the WSCP adoption process, submittal, and availability after each revision.

This WSCP was prepared in conjunction with the City's 2020 Urban Water Management Plan (UWMP) (Water Systems Consulting Inc., June 2021) and is a standalone document that can be modified as needed. This document is compliant with the California Water Code (CWC) Section 10632 and incorporates guidance from the State of California Department of Water Resources (DWR) UWMP Guidebook 2020 (State of California Department of Water Resources, March 2021) and the American

Water Works Association (AWWA) Manual of Water Supply Practices (M60) Drought Preparedness and Response (American Water Works Association (AWWA), 2019).

The WSCP addresses several types of water supply shortages that could potentially impact the City and its customers:

- Long-term supply shortages due to prolonged drought, contamination, destruction of critical water supply facilities, etc.
- Short-term water supply shortages due to natural or man-made catastrophic emergencies or production capacity limitations.

8.1 Water Supply Reliability Analysis

This section is consistent with CWC Section 10632(a)(1) and describes the key findings of the water supply reliability analysis conducted pursuant to CWC Section 10635, which is presented in **Chapter 7** of the City's 2020 UWMP (Water Systems Consulting Inc., June 2021). As part of the 2020 UWMP, water suppliers must perform a long-term (2025–2045) water service reliability assessment to evaluate reliability under normal, single-dry year, and five-consecutive dry year periods and a short-term (2021–2025) Drought Risk Assessment (DRA) to evaluate reliability under a five-consecutive dry year period. Water supply reliability reflects the City's ability to meet the water needs of its customers with water supplies under varying conditions. The analysis considers plausible hydrological and regulatory variability, infrastructure capacity, climate conditions, and other factors that affect the City's water supply and demand.

The City expects to meet demands under all water year scenarios while continuing to promote conservation. The City anticipates utilizing between approximately 4,400 to 6,450 AFY from the Lompoc Groundwater Basin, depending on the year type. Supply is anticipated to be approximately 10,369 AFY in normal years and 5,784 AFY in dry years. It is anticipated that this range of supply volume will be available to meet the City's demands under foreseeable conditions.

The DRA analyzes historical data to allow the City to view patterns and more reliably determine if there could be any water shortages within a given time frame. The DRA looks at historical consumption data by customer class, populated from billing records, and historical supply data by source from production reports. Next, future demand and supply estimates for the planning period are analyzed to determine if there are any gaps between supply and demand. As mentioned above, the City does not anticipate a supply shortage.

Since the City's only current source of water is the Lompoc Groundwater Basin, the City is committed to promoting conservation and pursuing the use of recycled water to increase its supply portfolio, resiliency, and subsequent reliability as described in **Chapter 7**.

8.2 Annual Water Supply and Demand Assessment

As established by CWC Section 10632.1, the Annual Assessment is an evaluation of the short-term outlook for supplies and demands to determine whether the potential for a supply shortage exists and whether there is a need to trigger a WSCP shortage level and response actions to maintain supply reliability. Beginning by July 1, 2022 and every year after, the City must prepare their Annual Assessment and submit an Annual Water Shortage Assessment Report to DWR. The annual report should report the approved anticipated shortage level, triggered shortage response actions, compliance and enforcement actions, and communication actions that will be implemented to mitigate the shortage identified in the Annual Assessment.

8.2.1 Key Data Inputs and Evaluation Criteria

Key data inputs and their sources for the Annual Assessments are summarized in **Table 8-1** and described in detail in **Section 8.2.2**.

Evaluation criteria that can be used to determine and declare the severity of supply shortages may include any, or combinations, of the following:

- Historic rainfall – reflects changes to supply due to changes in groundwater recharge
- Water levels within the Lompoc Groundwater Basin – reflects status of groundwater conditions and influences the capacity of the City's wells to produce water
- Existing infrastructure capabilities and plausible constraints – reflects limited production and distribution capacity due to a variety of factors potentially including, but not limited to, man-made or natural catastrophic events
- Customer demands – reflects current year and one projected single-dry year conditions for comparison to available supplies
- State mandates – reflects State orders and mandatory compliance with water use efficiency standards
- Other locally applicable evaluation criteria as necessary

Supply shortages due to any combination of drought or groundwater conditions affect many users of the basin and surrounding region, not just the City's customers. A shortage emergency may be declared when it is demonstrated that conditions threaten the ability to provide water for public health, safety, and welfare of the community. Furthermore, compliance with State mandates for water use efficiency can be declared during drought or in preparation for future droughts, such as in response to the Governor's drought declarations in the 2012–2016 drought with a subsequent Executive Order B-37-16 and related legislation for Making Conservation a California Way of Life.

Short-term and long-term supply shortages may be caused by constrained production capacity or natural or man-made catastrophic emergencies and include, but are not limited to, the following events: power outages, winter storms, wildfires, earthquakes, structural failures, contamination, and bomb threats. These types of emergencies may limit the City's immediate ability to provide adequate water service to meet the requirements for human consumption, sanitation, and fire protection. Impacts of such emergencies vary in duration; thus, consumption reduction measures and prohibitions may differ for short-term and long-term shortages.

Table 8-1. Key Data Inputs for the Annual Assessment.

KEY DATA INPUT	SOURCE
Rainfall	Monthly rainfall data. Rainfall sources for the City include the Lompoc City Hall, Lompoc Flood Control, and Miguelito Debris Basin weather stations.
Releases from Cachuma Reservoir	Releases for Below Narrows storage account to recharge basin and maintain groundwater quality as per Settlement Agreement.
Groundwater conditions and Undesirable Results as defined by Minimum Threshold (MTs) exceedances at Representative Monitoring Points (RMPs) per the Santa Ynez River Groundwater Basin Western Management Area (WMA) Groundwater Sustainability Plan (GSP).	Santa Ynez River Groundwater Basin Western Management Area Sustainable Management Criteria - reflects the status of groundwater conditions (groundwater levels, water quality or contamination), production data, and input from the City's Utility Director and Department.

KEY DATA INPUT	SOURCE
Infrastructure capabilities and plausible constraints	Production capacity – influenced by a variety of potential factors including, but not limited to, basin storage conditions man-made or natural catastrophic events, and input from the City's Utility Director and Department.
Customer demands	Customer billing data, 2020 UWMP projections, and input from the City's Utility Director and Water Superintendent.
State mandates	Executive Orders from the Governor, State Water Resources Control Board orders and policies, and input from the City's Utility Director, Water Superintendent, Billing Supervisor, and Conservation Coordinator.

8.2.1.1 Production Capacity

Infrastructure capabilities and overall production will be analyzed to determine if a possible outage or deficiency may occur or continue in the coming year due to a variety of factors potentially including, but not limited to, man-made or natural catastrophic events. This may include well maintenance, rehabilitation or replacement, evaluation of wells for possible contamination, lowered basin water levels affecting well pumping rates, and others. If the City determines there are limitations to production capacity, a shortage level declaration and subsequent demand reductions may be required.

8.2.1.2 State Mandates

The City has historically been required by the State to reduce demand regardless of supply reliability at the given time. As described previously, compliance with State mandates for water use efficiency can be declared during a drought or in preparation for future droughts, such as in response to the Governor's drought declarations in the 2012–2016 drought with a subsequent Executive Order B-37-16 and related legislation for Making Conservation a California Way of Life. The City may consider State mandates and mandatory compliance with water use efficiency standards in determining water shortage levels.

8.2.2 Annual Assessment Procedures

City staff will perform the Annual Assessment between April and May or on a more frequent basis, if necessary. Steps to conduct the Annual Assessment are as follows:

1. Staff gather the key inputs, compile historical data, and analyze potential supply and demand gaps.
2. Staff and the Utilities Department provide insight on demand trends, water supply conditions, and production capacity.
3. A hydrogeologist may be consulted to provide additional groundwater condition information.
4. Findings and recommendations are presented to the Lompoc City Council.
5. Staff will determine a recommended level of conservation required at the implementation or termination of each level that will then be brought to the City Council for approval.
6. City Council will declare the level of conservation required at the implementation or termination of each level and the declaration shall remain in effect until the Council so otherwise declares.
7. The City Council's declaration shall be published at least once in a newspaper of general circulation.
8. The City will develop and/or implement appropriate communication protocols and applicable response actions.
9. The Annual Assessment starts in 2022 with the first Annual Assessment Report due to DWR by July 1, 2022.

8.3 Six Standard Water Shortage Levels

This section is consistent with CWC Section 10632(a)(2) and describes the City's water shortage levels. New to the CWC, water suppliers must now adopt six standard water shortage levels. Shortage levels indicate the gap between supply and demand compared to normal year conditions. DWR standardized six shortage levels to provide a consistent regional and statewide approach to measure water supply shortage conditions. The six shortage levels correspond to 10-, 20-, 30-, 40-, 50-percent (%), and greater than 50% shortage compared to the normal reliability conditions. However, a water supplier may use its own shortage levels if a crosswalk is included relating its existing shortage levels to the six standard levels.

The Lompoc City Council adopted a four-level water shortage contingency plan in 1992, which consisted of mandatory water waste prohibitions in all four levels. The City requested voluntary water conservation for Level 1 to achieve up to 15% reduction with mandatory reduction through block tiered pricing and the use of the City's water conservation programs and strategies to achieve up to 30% reduction for Level 2, up to 40% reduction for Level 3, and up to 50% reduction for Level 4. The City's water shortage contingency program was updated as part of the 2010 UWMP to include additional emergency equipment and procedures that City staff would utilize in an emergency. Additional reduction measures were implemented in the 2015 UWMP update to reflect the drought experiences during the preceding 5 years. In this WSCP, a fifth shortage level will be added to the City's existing four-level system in order to meet new requirements to include a greater than 50% shortage level. The water shortage levels and a summary of criteria for each are presented below in **Table 8-2**.

Table 8-2. Water Shortage Contingency Plan Levels (Required DWR Table 8-1)

SHORTAGE LEVEL	PERCENT SHORTAGE RANGE (NUMERICAL VALUE AS A PERCENT)	WATER SUPPLY CONDITION
1	0-15%	**Threatened Water Supply Condition:** GPCD greater than 117
2	15-30%	**Moderately Restricted Water Supply Conditions:** Rainfall below the mean average for 2 consecutive years and no Cachuma Reservoir release expected that year.
3	30-40%	**Severely Restricted Water Supply Conditions:** Rainfall below the mean average for 3 or more consecutive years, 15% drop in static well levels relative to previous year, and no Cachuma Reservoir Dam release expected that year.
4	40-50%	**Critical Water Supply Conditions:** Undesirable Results as defined by MT exceedances at RMPs per WMA GSP. Average pumping from Lompoc Plain subarea for the past 5 years exceeded the Sustainable Yield. 67% of the active wells have Variable Frequency Drive running restrictions, and more than 1 well is unable to pump water under normal conditions.
5	>50%	**Catastrophic Water Supply Conditions:** Loss of 1 or more wells.

8.3.1 Water Shortage Levels Crosswalk

As described previously, CWC Section 10632(a)(3)(A) includes six standard water shortage levels corresponding to progressive ranges of up to 10-, 20-, 30-, 40-, and 50-% shortages and greater than 50% shortage. If the supplier's water shortage levels do not correspond with the six standard levels, then a crosswalk between the supplier's levels and the standard levels is required for compliance.

The crosswalk between the City's five levels and the standard water shortage levels is shown in **Figure 8-1**.

CITY OF LAMPOC SHORTAGE LEVEL	PERCENT SHORTAGE RANGE	STANDARD WSCP LEVEL	PERCENT SHORTAGE LEVEL
1	0 - 15%	1	10%
2	15 - 30%	2	20%
3	30 - 40%	3	30%
4	40 - 50%	4	40%
5	>50%	5	50%
		6	>50%

Figure 8-1. Water Shortage Levels Crosswalk

8.4 Shortage Response Actions

This section is in accordance with CWC Section 10632(a)(4) and 10632.5(a) and describes the response actions that may be implemented or considered for each level with an emphasis to minimize social and economic impacts to the community. The City expects to mitigate supply shortages through a variety of response actions, including demand reduction actions, conservation, operational changes, outreach, and if necessary, mandatory prohibitions.

This WSCP identifies various actions to be considered by the City during water shortage conditions. In the event of a water shortage emergency, the City will evaluate the cause of the emergency to help inform which response actions should be implemented. Depending on the nature of the water shortage, the City can elect to implement a combination of response actions to mitigate the shortage and reduce gaps between supply and demand. It should be noted that all actions listed for Level 1 apply to Levels 2, 3, 4, and 5. Likewise, Level 2 actions apply to Levels 3, 4, and 5, Level 3 actions apply to Levels 4 and 5, and Level 4 actions apply to Level 5. If necessary, the City may adopt additional actions that are not listed here. The following section discusses the potential response actions for each of the City's five water supply shortage levels.

8.4.1 Demand Reduction

In the event of a water supply shortage, the City may implement voluntary and mandatory compliance measures to induce water conservation. The City's Municipal Code 13.04.060 includes prohibitions on various wasteful water uses during a declared water supply shortage (**Appendix H**). Additionally, the City may choose to utilize measures that are listed in **Table 8-4** at various shortage levels. During a Level 5 water supply shortage, the City Council may impose any water rationing requirement that it deems appropriate to protect public health, safety, welfare, comfort, and convenience.

Although it is difficult to estimate the volume of savings for each action, the City expects to meet required reductions through a combination of response actions in conjunction with outreach and communication efforts to the extent necessary to mitigate any impacts from a water shortage. The estimated water savings potential summarized in **Table 8-3** and **Table 8-4** represent a range from published industry references.

Estimated savings from shortage response actions are based on reductions applied to a baseline demand of 5,589 AFY, which represents the maximum demand expected in the next five years. Per DWR's recommendations for the DRA and the WSCP, the normal year demand projections in **Chapter 4** and **Chapter 7** of the City's 2020 UWMP reflect potential future demands that are not impacted by disruptive factors (e.g., groundwater emergencies, economic recessions, drought, etc.) and can be met with normal year supplies. While variable projected demands will be considered in the Annual Assessment, **Table 8-3** conservatively assesses the City's ability to approximately reduce demands from the highest projected demand in the next five years.

Table 8-3. Estimated Savings by Shortage Level

LEVEL	NORMAL SUPPLY, AF	REQUIRED SAVINGS[1], AF	ESTIMATED SAVINGS FROM QUANTIFIABLE ACTIONS[2], AF
1	5,589	838	1,062
2	5,589	1,677	1,582
3	5,589	2,236	1,971
4	5,589	2,795	2,874
5	5,589	2,850	2,874

[1] Required savings may be met through a combination of quantifiable and unquantifiable actions. The City will only implement measures to the extent necessary to mitigate a water shortage, though estimates may indicate a greater savings is obtainable. It is anticipated that required savings will be met through quantifiable shortage response actions and through other unquantifiable actions, including outreach efforts.

[2] Quantifiable savings are estimated based on various published sources and are provided as a guide. The degree of implementation of actions can vary in each stage and can result in a wide range of savings. For a list of all the City's specific shortage response actions and their maximum potential savings, refer to Table 8-4.

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Table 8-4. Demand Reduction Actions (Required DWR Table 8-3)

SHORTAGE LEVEL	POTENTIAL DEMAND REDUCTION METHODS AND OTHER ACTIONS BY WATER SUPPLIER	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP (AFY)?[1]	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT[2]
1	Provide rebates on plumbing fixtures and devices	19%	Encourage customers to take advantage of the City's free conservation and rebate programs.	No
1	Expand public information campaign		Provision of Technical Information to customers on means to promote water use efficiency including customer scorecard, residential assistance, and surveys	No
2	CII - Restaurants may only serve water upon request		Water served upon request at restaurants	Yes
2	Pools and Spas - Require covers for pools and spas	90%	Require covers for pools and spas.	Yes
2	Expand Public Information Campaign		Expand Public Information Campaign regarding water shortage such as website, e-mails, presentations, business placards, school education	No

SHORTAGE LEVEL	POTENTIAL DEMAND REDUCTION METHODS AND OTHER ACTIONS BY WATER SUPPLIER	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP (AFY)?[1]	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT[2]
2	Implement or Modify Drought Rate Structure or Surcharge		Water shortage pricing	Yes
2	Reduce System Water Loss	25%	Reduce System Water Loss	No
2	CII - Lodging establishment must offer opt out of linen service		Lodging establishment must offer opt out of linen service.	Yes
2	Other water feature or swimming pool restriction	1%	Draining of pools or refilling shall be done only for health or safety reasons.	Yes
2	Other		Reduce indoor and outdoor water use by specified percentage as determined (based on Shortage Stage). Contact the City for additional tips and techniques to reduce water use.	Yes
2	Landscape - Other Landscape Restriction or Prohibition	20%	Irrigation of parks, school ground areas, and road median landscaping will not be permitted more than twice a week and only if necessary.	Yes
2	Other - Prohibit use of potable water for construction and dust control	45%	The use of potable water for sanitation, irrigation, and construction purposes, including, but not limited to, dust control, settling of backfill, flushing of plumbing lines, and washing of equipment, buildings, and vehicles, shall be prohibited in all cases where the manager has determined that use of reclaimed, recycled, or other forms of non-potable water use is a feasible alternative.	Yes
2	Decrease line flushing	50%	Main flushing only on complaint basis.	Yes
3	CII - Commercial kitchens required to use pre-rinse spray valves	25%	Prohibit operation of non-water conservation pre-rinse nozzle in a food preparation establishment such as a restaurant or cafeteria	Yes
3	Other water feature or swimming pool restriction	1%	No filling of pools or aesthetic water features	Yes
3	Landscape - Other Landscape Restriction or Prohibition		Require large landscapes to adhere to water budgets	Yes
3	Landscape - Other Landscape Restriction or Prohibition	12%	Whether irrigated with potable or non-potable water, limit all irrigation to two days per week for no more than 10 minutes per station per day	Yes

SHORTAGE LEVEL	POTENTIAL DEMAND REDUCTION METHODS AND OTHER ACTIONS BY WATER SUPPLIER	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP (AFY)?[1]	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT[2]
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Require large users to audit premises and repair leaks.	Yes
3	Increase Water Waste Patrols		Implement Water Waste Patrols	No
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	17%	Washing of personal vehicles at home (including autos, trucks, trailers, motor homes, boats, or others) is prohibited.	Yes
4	Other		No new construction meters will be issued.	No
4	Implement or Modify drought rate structure or surcharge	16%	Water Emergency tiered pricing will be implemented pursuant to requirements of Proposition 218 in accordance with California Law.	Yes
4	Other		Modify customer indoor water use budgets. No outdoor water use budget.	Yes
4	Other		Water use for public health and safety purposes only. Customer rationing may be implemented.	Yes
4	Landscape - Other Landscape Restriction or Prohibition		All landscape and non-essential outdoor water use for all Customers in all areas of the City's water service area shall be prohibited.	Yes

Notes:

[1]Reduction in the shortage gap is estimated and can vary significantly.
[2]Refer to Section 8.6 for Penalties for Water Wastage.

8.4.2 Supply Augmentation

Given the consistent supply of groundwater through pumping, the City has no immediate plan to augment supply. During dry years, the City can extract more groundwater as needed while abiding by any safe yield restrictions on the basin. This volume of additional extracted groundwater can vary significantly depending on need.

8.4.3 Operational Changes

During shortage conditions, operations may be affected by demand reduction responses. Operational changes to address a short-term water shortage may be implemented based on the severity of the reduction goal. The City will maximize its groundwater supply by implementing operational strategies and demand reduction measures.

As part of the Annual Assessment process, the City will consider their operational procedures at the time of a shortage to identify changes that can be implemented to address water shortage on a short-term basis, including but not limited to:

- Expansion of public information campaign to educate and inform customers of the water shortage emergency and required water savings

- Decrease line flushing to only on a compliant basis
- Use water patrols and increase frequency of meter reading by recruiting staff from other departments if necessary
- Offer water use surveys
- Implementing or modifying drought rate structure or surcharge or water emergency tiered pricing, pursuant to the requirements of Proposition 218 and in accordance with California Law
- Prohibit any new permits for hydrant-construction or temporary construction meters
- Monitoring construction meters and fire hydrant meters for efficient water use in the event that a meter identified wastes water
- Moratorium on issuing any new building permit unless the: (a) Project is found by the Council to be necessary for public health and/or safety (b) Project will use recycled water for construction. (c) Project will not result in a net increase in non-recycled water use. (d) Project has adequate Conservation Offsets
- Suspending the consideration of annexation to its service area unless the annexation increases the water supply available more than the anticipated demands of the property to be annexed
- Reducing overhead in the short-term and mid-term by deferring non-critical Capital Improvement Projects and major maintenance expenditures, and in the long-term by adjusting operational and staffing levels and retail water rate structures to incorporate the reality of lower retail water sales than previously anticipated.
- Decrease in the level or, if need be, even a total interruption in the expenditures for the agency's facility replacement program. Non-critical replacement projects will have little or no impact on the agency or its customers and would only extend the master planned replacement schedule.

8.4.4 Additional Mandatory Restrictions

The City's Municipal Code 13.04.060 includes prohibition on various wasteful water uses. These mandatory prohibitions are implemented and enforced at all times.

These restrictions include:

- Prohibit the use of potable water for outdoor landscapes between the hours of 10:00 a.m. and 4:00 p.m., or in such a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures;
- Prohibit the use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground, or other hard surfaced areas by direct application; provided, that flammable or other similar dangerous substances may be washed from those areas by direct hose flushing for the benefit of public health and safety; and provided, further, that the prohibition in this subdivision shall not apply to commercial steam cleaning;
- Prohibit allowing potable water to escape from breaks within the customer's plumbing system for more than eight hours after the customer is notified or discovers the break;
- Prohibit washing a vehicle with a hose without a positive shutoff nozzle;
- Prohibit the use of potable water for dust control at construction sites when the entity performing the work has access to recycled water;
- Prohibit the use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system;
- Prohibit the use of potable water for outdoor landscapes during and within 48 hours of measurable rainfall.

8.4.5 Emergency Response Plan

Water shortage disaster response is coordinated between the City of Lompoc Fire Department and the Utilities Department. The City has mutual aid agreements with Vandenberg Air Force Base (VAFB), Santa Barbara County, and provisions for assistance from state utilities through its membership in the California Utilities Emergency Association (CUEA). The City's membership in CUEA provides a network of State of California water utilities that can aid the City of Lompoc in an emergency.

The City is also a member of the Public Works Mutual Aid Agreement, which provides for borrowing personnel and equipment from member agencies in Santa Barbara County and Southern California. The City's Water Division also has a Disaster/Emergency Response Plan (ERP). The ERP addresses the Water Division's response to extraordinary emergency situations associated with natural disasters, technological, and catastrophic events, which cause widespread damage, loss, or destruction. The ERP provides operational concepts relating to the various emergency situations, identifies components of the Emergency Management Organization, and describes the overall responsibilities of the organization for protecting life and property and assuring the overall well-being of the population. This ERP also identifies the sources of outside support that might be provided. The ERP details the Division's response, personnel, and assistance, which will be provided during a disaster and emergency.

The City provides emergency power for total treatment at the Water Treatment Plant, through a 1000kW generator. Switchgear and four 200kW portable generators are provided to operate four wells. Two wells will supply approximately 3.5 MGD during extended power shortages. Additional generators can and will be acquired, if necessary, for a prolonged crisis.

If a City emergency resulted in several fires within the City, the following could occur:

1. Alert City residents to conserve water due to the local emergency by use of local and regional media.
2. Use existing City fire trucks and, if necessary, request additional fire trucks from Santa Barbara County, VAFB, and Southern California cities. This assistance would depend on the availability of personnel and equipment in the agencies.
3. If necessary, use local tank trucks to bring water into the City through a mutual aid agreement.
4. Pump non-potable water out of the Lompoc Regional Wastewater Reclamation Treatment Plant, the Pacific Ocean, River Park Lake and the Santa Ynez River, if additional water was available and needed for firefighting.
5. Demolish the buildings if a major disaster occurred and there was insufficient water to fight fires.

If the City experienced an emergency due to an earthquake, the following would occur:

1. City staff would begin by checking the Water Treatment Plant to determine if the Plant was operational.
2. If the Water Treatment Plant was operational, City staff would next check the entire water distribution system to determine if it was operational. This would include an inspection of all of the water system components, such as water mains, water service lines, and the City's four water reservoirs. City staff would also survey the water distribution system to determine if anything needed to be repaired and prioritize these repairs. Three of the City's reservoirs (Avalon, "O" Street, and Miguelito) are equipped with seismic valves, which will secure the reservoirs in the event of a major earthquake. The Beattie Reservoir does not have seismic valves; however, the Lompoc Water Treatment Plant has an automated control valve to secure the reservoir.
3. City staff would also alert City residents to conserve water due to the earthquake. If the local and regional media were not operational, City staff would drive down the City streets and hand out flyers

and/or use a public address system in City vehicles, if available, to notify residents that they should conserve water.

4. City staff would also request assistance, if needed and available, from VAFB, Santa Barbara County, and Southern California cities.
5. If City staff found that the Water Treatment Plant was damaged or was no longer standing, then City staff would determine how much water was left in the City reservoirs. The water from the reservoirs could be distributed by gravity feeding it into the distribution system, because all of the reservoirs are located on a hill in the City. This works even if electrical power is not available.
6. If the Water Treatment Plant was operational, then the City could use the four generators at the four highest producing wells. These four wells could supply 5 MGD during extended electric power shortages. However, the City would also need a source of fuel for the generators. As City customers conserved water, the City could supply City customers' needs with a supply of 3 MGD of water.
7. If the City was no longer able to secure fuel for the generators and supply City water to the customers, then the City would need to secure tanker trucks to supply water to the City residents. The City may also need to issue boiled water alerts. Additionally, the City may have to secure bottled water and provide a distribution site for customers to secure the water.
8. City staff could also request assistance from VAFB, Santa Barbara County, and Southern California cities. This assistance would depend on the availability of personnel and equipment in the agencies.

8.4.6 Seismic Risk Assessment and Mitigation Plan

Disasters, such as earthquakes, can and will occur without notice. Refer to the City of Lompoc Local Hazard Mitigation Plan (**Appendix I**) Section 5.3 for Seismic Risk Assessment and Section 7 for Mitigation Plan procedures.

8.4.7 Shortage Response Action Effectiveness

Under normal water supply conditions, potable water production figures are recorded daily at the Water Treatment Facility. Totals are reported monthly to the Utility Director. From this information, month-to-month and year-to-year statistics can be calculated to track water use and subsequent increases or reductions in consumption levels. This data allows the City to determine the effectiveness of the implemented shortage response actions. If reduction goals are not being met, the Council can make the necessary decisions for corrective action to be taken. Since the City has daily production records available during a drought or other water emergency, more frequent reporting could be provided.

During water shortage conditions, savings are measured in comparison to what is considered to be normal year demand (i.e., current customer base with approximately average rainfall), or in reference to a specific base year as may be dictated by Statewide requirements. Estimates of the effectiveness for actions has been included in **Table 8-4**, operations changes, supply augmentation, and communication and outreach efforts.

8.5 Communication Protocols

This section is in accordance with CWC Section 10632(a)(5) and describes the communication protocols and procedures to inform customers, the public, and state and local officials of any current or predicted water shortages. When a shortage level is enacted or changed, a notice is published in the local the newspaper and the City's website updated. Based on the severity of the shortage condition, the City may also advertise on the local radio, publish especial publications, post billboards throughout the service area, hang door tags, or send mail notifications to all its customers. This WSCP includes a staged plan to outline and provide guidance for efficient communication of declaration of a shortage level, inform restrictions, and provide updates during a water shortage emergency shown in **Table 8-5.**

Table 8-5. Communication Protocol During Water Shortage Conditions

LEVEL	ACTION[1]
1	Information posted on the City's website (www.cityoflompoc.com).
1	Increased paid advertising – print, online, radio, billboards, TV, streaming, social media, etc.
1	News conference or other event to announce/explain change in WSCP level or general water conservation. tactics
1	Modify school assembly program content to include messages about need for increased voluntary conservation.
1	Information included in utility bill inserts or other mailings on a regular basis.
1	Hanging door tags with information throughout service area.
2	Targeted outreach and technical assistance to highest water users in each classification.
2	Engage Council members and provide them with resources to share with constituents.
3	Increased paid advertising – print, online, radio, TV, streaming, social media, movie theatres, buses, etc.
4	Assemble and promote the speaker's bureau for water shortage presentations for neighborhood groups, gardening clubs, Homeowners associations, churches, senior centers, neighborhood associations, business associations, community groups, property management companies, etc.
4	Increased coordination with the local landscaping industry including water shortage information in their newsletters, publications, and facilities: local wholesale and retail nurseries and irrigation supply stores.
5	Signage posted at nurseries and irrigation supply stores.
5	Outreach materials and drought notices mailed to the hospitality industry including restaurants and lodging.

Note:

1. If a water shortage progresses through multiple levels, all measures in the previous level(s) are implemented in addition to current level actions.

8.6 Compliance and Enforcement

This section is in accordance with CWC Section 10632(a)(6) and describes the compliance and enforcement provisions. All of the restrictions and prohibitions on end uses are associated with enforcement measures as outlined below. This system is based on the progressive number of violations of the user. Failure to comply with the provisions shall constitute a misdemeanor punishable under CWC Section 377. The fines for each violation are noted below in **Table 8-6**.

Table 8-6. Penalties for Water Wastage

VIOLATION[1]	PENALTY
First	Written Warning
Second	$50
Third	$100
Fourth & continuing	$250

Note:

1. Violations are counted and enforced within a one-year period

The Utility Director may shut off the water service to any property where a violation of this Section occurs, and the City's usual reconnection charge will be applied upon resumption of service.

8.7 Legal Authorities

The City has the legal authority to implement and enforce its WSCP. California Constitution Article X, Section 2 and CWC Section 100 provide that water must be put to beneficial use; waste, unreasonable use, or unreasonable method of use of water shall be prevented; and the conservation of water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and the public welfare. In addition, CWC Section 375 provides the City with the statutory authority to adopt and enforce water conservation restrictions, and CWC Sections 350 et seq. authorize the City to declare a water shortage emergency and impose water conservation measures when it is determined that the City may not be able to satisfy ordinary demands without depleting supplies to an insufficient level.

If necessary, the City will declare a water shortage emergency in accordance with CWC Chapter 3 (commencing with Section 350) of Division 1. Once having declared a water shortage, the City is provided with broad powers to implement and enforce regulations and restrictions for managing a water shortage. For example, CWC section 375(a) provides the following:

> *"Notwithstanding any other provision of the law, any public entity which supplies water at retail or wholesale for the benefit of persons within the service area or area of jurisdiction of the public entity may, by ordinance or resolution adopted by a majority of the members of the governing body after holding a public hearing upon notice and making appropriate findings of necessity for the adoption of a water conservation program, adopt and enforce a water conservation program to reduce the quantity of water used by those persons for the purpose of conserving the water supplies of the public entity."*

Water Code Section 375(a). CWC Section 375(b) grants the City with the authority to set prices to encourage water conservation.

Under California law, including CWC Chapter 3.3 and Chapter 3.5 of Division 1, Parts 2.55 and 2.6 of Division 6, Division 13, and Article X, Section 2 of the California Constitution, the City is authorized to implement the water shortage actions outlined in this WSCP. Prior to enacting a shortage level, the resolution providing the Council with authority to enact each level of the WSCP will be adopted. Resolutions to enact the WSCP can be adopted at any meeting of the City Council, which occur twice monthly. The City's existing WSCP ordinances are provided **Appendix H**.

8.8 Financial Consequences of WSCP

Per CWC Chapter 3.3 (Excessive Residential Water Use During Drought), additional costs could be incurred to monitor and enforce response actions during a shortage. The incurred cost may vary depending on the shortage stage and duration of the water shortage emergency.

The majority of operating costs for most water agencies are fixed rather than a function of the amount of water sold. As a result, when significant conservation programs are undertaken, it is frequently necessary to raise water rates because the revenue generated is based on lower total consumption while the revenue required is effectively fixed. In order to counteract the financial impact of conservation, the City may institute an increase in the rate structure so that lower projected water consumption would generate the added revenue needed by the City's Water Enterprise fund. Another option would be the use of reserves to minimize the need for additional rate increases. A full analysis of the water rates based on the financial conditions at the time water reduction would occur would be presented to the City Council for their approval.

8.9 Monitoring and Reporting

This section is in accordance with CWC Section 10632(a)(9) and describes the reporting requirements and monitoring procedures to implement the WSCP and track and evaluate the response actions effectives.

As described in **Section 8.2**, the City intends to track its supplies and project demands on an annual basis and, if supply conditions described in **Table 8-2** are projected, the City will enact their WSCP. Monitoring demands is essential to ensure the WSCP response actions are adequately meeting reductions and decreasing the supply/demand gap. This will help to analyze the effectiveness of the WSCP or identify the need to activate additional response actions.

The water savings from the implementation of the WSCP will be determined based on monthly production reports which will be compared to the supply from prior months, the same period of the prior year, and/ or the allocation. At first, the cumulative consumption for the various sectors (e.g., residential, commercial, etc.) will be evaluated for reaching the target demand reduction level. Then, if needed, individual accounts will be monitored. Weather and other possible influences may be accounted for in the evaluation.

8.10 WSCP Refinement Procedures

This section is consistent with CWC Section 10632 (a)(10). The WSCP is best prepared and implemented as an adaptive management plan. The City will use results obtained from the monitoring and reporting program to evaluate any needs for revisions. The WSCP is used to provide guidance to the Council, staff, and the public by identifying response actions to allow for efficient management of any water shortage with predictability and accountability.

To maintain a useful and efficient standard of practice in water shortage conditions, the requirements, criteria, and response actions need to be continually evaluated and improved upon to ensure that its shortage risk tolerance is adequate and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. Potential changes to the WSCP that would warrant an update include, but are not limited to, any changes to shortage level triggers, changes to the shortage level structure, and/or changes to the response actions. Any prospective changes to the WSCP would need to be presented at a public hearing, where staff would obtain any comments and adopt the updated WSCP. The steps to formally amend the WSCP are discussed in **Section 8.12**.

Potential refinements will be documented and integrated in the next WSCP update. If new response actions are identified by staff or public, these could be advertised as voluntary actions until these are formally adopted as mandatory.

8.11 Special Water Feature Distinction

The CWC Section 10623 (b) now requires that suppliers analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code. Non-pool or non-spa water features may use or be able to use recycled water, whereas pools and spas must use potable water for health and safety considerations so limitations to pools and spas may require different considerations compared to non-pool or non-spa water features.

8.12 Plan Adoption, Submittal, and Availability

This section was completed pursuant to CWC Section 10632(a)(c). Because the WSCP is a standalone document that can be updated as needed, **Table 8-7** describes the general steps to adopt and submit an updated or amended WSCP.

This 2020 WSCP was presented for adoption to the City Council at the June 15, 2021 council meeting. Notifications were sent to all necessary cities, counties, and districts 60 days prior to the June 15, 2021 public board meeting. To comply with the notice to the public, the City published notices in the local newspaper two weeks in advance with 5 days between publications. Copies of the 60-day notices and public hearing newspaper notices are provided in **Appendix B**. The WSCP was also made available in advance of the public hearing.

The WSCP was formally adopted on June 15, 2021 by the City Council through Resolution XX-XX, included in **Appendix C**. The WSCP was made available to all staff, customers, and any affected cities, counties, or other members of the public at City Hall during regular business hours and online within 30 days of the adoption date.

The WSCP was submitted to DWR via the Water Use Efficiency (WUE) Data Portal at the same time as the 2020 UWMP, but no later than July 1st, 2021. A copy of the 2020 UWMP and WSCP were submitted to the California State Library within 30 days of adoption. Electronic and/or hard copies were provided to all relevant cities and counties within or effected by the City's service area within 30 days of adoption.

Table 8-7. Processes and Steps to Adopt, Submit, and Implement the WSCP

STEP	TASK	DESCRIPTION	TIMEFRAME
1	Notice to cities and counties	Notify cities and counties within the service area that the WSCP is being updated. It is recommended that the notice includes: Time and place of public hearing. Location of the draft Plan, latest revision schedule, and contact information of the Plan preparer.	At least 60 days before public hearing. * If desired, advance notices can be issued without providing time and place of public hearing.
2	Publish Plan	Publish the draft WSCP in advance of public hearing meeting (www.cityoflompoc.com)	At least 2 weeks before public hearing.
3	Notice to the public	Publish two notifications of the public hearing in a local newspaper notice at least once a week for two consecutive weeks, with at least 5 days between publications. This notice must include: Time and place of hearing. Location of the draft WSCP.	At least 2 weeks before public hearing. * Include a copy of public notices in plan.
4	Public hearing and optional adoption	Host at least one public hearing before adopting the WSCP to: Allow for community input. Consider the economic impacts for complying with the Plan.	Public hearing date * Adoption can be combined as long as public hearing is on the agenda before adoption
5	Adoption	Before submitting the WSCP to DWR, the governing body must formally adopt it. An adoption resolution must be included, as an Appendix or as a web address indicating where the adoption resolution can be found online.	At public hearing or at a later meeting. *The WSCP can be adopted as prepared or as modified after the hearing.
6	Plan submittal	Submit the adopted or amended WSCP via the WUE Data Portal within 30 days of adoption or by July 1, if updated with the UWMP five-year cycle.	Within 30 days of adoption or by July 1st, whichever comes first.
7	Plan availability	Submit a CD or hardcopy of the adopted WSCP to the California State Library within 30 days of adoption. California State Library Government Publications Section Attention: Coordinator, Urban Water Management Plans P.O. Box 942837 Sacramento, CA 94237-0001 Provide a copy (hardcopy or electronic) of the adopted WSCP to any cities and counties within the service area. Make the WSCP available to the public by posting the Plan on website or making a hardcopy available for public review during normal business hours.	Within 30 days after adoption
8	Other - Notification to Public Utilities Commission	For water suppliers regulated by the California Public Utilities Commission submit UWMP and WSCP as part of the general rate case filing.	

2020 URBAN WATER MANAGEMENT PLAN

9 Demand Management Measures

This chapter describes the City's efforts to promote water use efficiency, reduce demand on water supply, and prepare for future requirements.

IN THIS SECTION

- Demand Management Measures
- Reporting Implementation Public Outreach

This chapter describes the water conservation programs that the City has implemented for the past five years, is currently implementing, and plans to implement to continue meeting its SBX7-7 water use target and position the City for meeting future State mandated water use efficiency standards that are currently under development by DWR. The section of the CWC addressing Demand Management Measures (DMM) was significantly modified in 2014, based on recommendations from the Independent Technical Panel (ITP) to the Legislature.

The ITP was formed by DWR to provide information and recommendations to DWR and the Legislature on new DMMs, technologies, and approaches to water use efficiency. The ITP recommended, and the legislature enacted, streamlining the requirements from the 14 specific measures reported on in the 2010 UWMP to six more general requirements plus an "other" category for measures agencies implemented in addition to the required elements. The required measures are summarized in **Table 9-1**. No changes to DMMs have been enacted since the 2015 UWMP cycle.

Table 9-1. Demand Management Measures

	MEASURE
1	Water waste prevention ordinances
2	Metering
3	Conservation pricing
4	Public education and outreach
5	Programs to assess and manage distribution system real loss
6	Water conservation program coordination and staffing
7	Other demand management measures

9.1 Existing Demand Management Measures for a Retail Supplier

Consistent with the requirements of the CWC for retail water suppliers, this section describes the required DMMs that have been implemented in the past five years and will continue to be implemented into the future.

9.1.1 Water Waste Prevention Ordinances

According to the Guidebook, a water waste ordinance explicitly states that the waste of water is to be prohibited. The ordinance may prohibit specific actions that waste water, such as excessive runoff from landscape irrigation or using a hose outdoors without a shut off nozzle.

Chapter 13.04.060 of the City's Municipal Code lists the prohibited uses of water supplied by the City and defines water waste. The prohibited uses include:

1. The application of potable water to outdoor landscapes between the hours of 10:00 a.m. and 4:00 p.m. or in such a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;
2. The use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground or other hard surfaced areas by direct application, except that flammable or other similar dangerous substances may be washed from said areas by direct hose flushing for the benefit of public health and safety, and provided further that the prohibition in this Subsection shall not apply to commercial steam cleaning;
3. Allowing potable water to escape from breaks within the customer's plumbing system for more than eight hours after the customer is notified or discovers the break;
4. Washing a vehicle with a hose without positive shutoff nozzle;
5. The use of potable water for dust control at construction sites when the entity performing the work has access to recycled water;
6. The use of potable water for outdoor landscapes during and within 48 hours of measurable rainfall.
7. Using potable water for dust control at construction sites, except as may be authorized by the Utility Director.
8. Contractors and developers shall make arrangements to use treated wastewater from the wastewater treatment plant for dust control purposes, upon such terms and conditions as

determined by the Utility Director. Recycled water is currently unavailable; however, once all permitting requirements are fulfilled to fully utilize this water, the City will implement this provision of the Municipal Code.

9.1.2 Metering

According to the Guidebook, an agency that is fully metered will state that fact in the UWMP. If an agency is not yet full metered, it will discuss its plans for becoming fully metered in accordance with CWC 527.

All water connections served by City water are currently metered.

9.1.3 Conservation Pricing

According to the Guidebook, retail water agencies need to describe the pricing structure that is used by the water agency. Conservation pricing is designed to discourage wasteful water habits and encourage conservation. The City applies a three tier rate structures to the single-family residential customer class, which accounts for 91% of the customer base. Rates based on volume of use encourage water conservation by customers. The City applies a uniform rate structure to the remaining customer classes: multi-family residential, commercial, institutional/landscape, and industrial.

Table 9-2 is the water monthly-base rate and tiered consumption rates for a standard ⅝" and ¾" single-family meter with a unit defined as 100 cubic feet (HCF) (748 gallons). **Table 9-3** shows the water rates for the other customer classes, while **Table 9-4** shows the base fees based on the size of the meter.

Table 9-2. Single Family Conservation Pricing Rate Structure

UNITS	RATE
Base Fee	⅝ - $36.06 ¾ - $47.15
0-10 HCF	$4.33
11-20 HCF	$4.63
21+ HCF	$5.53

Table 9-3. Multi-family and CII Water Rates

CUSTOMER CLASS	RATE (UNIFORM)
Multi-family	$4.33
Commercial	$4.45
Institutional/Landscape	$4.80
Industrial	$4.33

Table 9-4. Base Fees for Meter Size

METER SIZE	BASE FEE
5/8"	$36.06
¾"	$47.15
1"	$69.31
1.5"	$124.72
2"	$191.22
3"	$346.37
4"	$568.02
6"	$1,122.15
8"	$1,787.09
10"	$2,562.87

9.1.4 Public Education and Outreach

The City began the Public Information Program in 1990. The City's public information program for water conservation is targeted to all sectors of the community. The City also distributes public information through conservation messages on utility bills, brochures, advertisements, presentations to the community, and special events throughout the year. Additionally, City utility bills list current monthly usage and has an online service that provides customers with a 12-month history of water usage. The City also engaged a Conservation Representative who connects with the community daily via phone calls, social media, and the City's TV station.

The City funds a water-saving rebates program that assists residents with replacing their toilets with a low-flush toilet, their clothes washers with an energy star washer, their manual controlled irrigation systems with an automatic irrigation controller, and their grass with a drought tolerant landscape. The City also has a rebate to incentivize residents to purchase a 50+ gallon rain barrel. The Water Leak Detection and Repair Rebate was also created to help customers offset the cost of locating and repairing water leaks requiring the services of a professional. While customers have responded positively to outreach regarding assistance programs, the main issue preventing the alleviation of leaks is the customers' inability to pay the upfront cost for plumbing or leak detection services. The City has been working with the Efficiency Services Group to set-up a leak rebate assignment form procedure to alleviate upfront leak detection and repair costs in-lieu of a credit to a customer's utility account. This program will be implemented in Fiscal Year (FY) 2022.

The City is committed to promoting water conservation and education among its customers. As such, the City participates in several programs to encourage customers to use water-saving devices. An example of this type of program is the Water Conservation Kits and Challenge the City held in collaboration with the Lompoc Public Library and the Santa Barbara County Energy Watch Partnership Program in 2021. As part of this event, community members were invited on a first come, first-served basis to pick up conservation kits filled with items ranging from coloring books for young kids to low-flow showerheads and aerators for adults. Children of the community were encouraged to participate in water conservation challenges throughout the month and were entered to win a prize. The City plans to

continue promoting water conservation through the Lompoc Public Library with events like this in the future. Additionally, the City is an Environmental Protection Agency (EPA) WaterSense Partner and participates in water savings campaigns such as “Fix a leak Week,” which is celebrated every third week of March in the City.
The City also has a Water Conservation in-lieu program which gives developers the option of using water conserving fixtures in new developments or paying a Water Conservation In-Lieu Payment. The accumulated funds from the program are used to fund rebates for the water conserving fixtures and appliances offered by the City. From FY 2007-08 through the end of FY 2016-17, the City has disbursed approximately $490,000 in Program incentives. At the end of FY 2016-17, the Program had remaining restricted cash balances of approximately $946,000 available for Program administration and incentives. Additionally, in 2018, the City reduced the In-Lieu payment amount to better reflect the current water usage and expanded the program to include additional water conservation programs to meet the current needs of water customers.

The City also provides:

- Tours of the wastewater and water departments to schools and the public.
- Classroom presentations upon request.

9.1.5 Water Loss Control

The City has 135 miles of water mains in its underground water distribution system. The City's distribution maintenance program includes record keeping, valve exercise, hydrant inspection and exercise, and leak repair. To ensure water losses are kept to a minimum, the City checks for leaks in meter boxes and in the system. Leak detection companies are also contracted periodically as needed to check for system leaks. The most recent leak detection report was completed in 2019 by Utility Services Associates.

The City has a meter maintenance program to replace old meters and to identify and replace broken, stopped, and inaccurate meters. The City replaced approximately 97 percent of the mechanical water meters with automated meter reading (AMR) meters by December 31, 2015. The remaining meters, with the exception of the fire line water meters, were replaced with AMR meters in April 2016. The AMR meters have improved water accountability and revenue with their increased accuracy. The water meters are also now read with a fixed based Wi-Fi network.

The City completed a leak detection survey of its water distribution system in calendar year 2012, through a Proposition 84 leak detection grant. Additionally, The City completed the AWWA System Water Loss spreadsheet for 2015-2019 and will continue to update the spreadsheet on an annual basis. **Table 4-3** shows the annual water losses reported in these reports. AWWA water audits are included in **Appendix D**.

The existing Water Leak Detection and Repair Rebate program starts with the automatic computer-generated report of water usage every hour for 7 straight days. A collated monthly report is then analyzed by customer service and any meter with readings of excessive or unusual water use is inspected. Accounts that register 1.5x the amount of water (or electric) use in a successive billing cycle are audited and notified accordingly. Customer service forwards meters of concern to the Utility Conservation Representative, who then makes a courtesy call to the customer on record. Other notifications include mailed letters or postcards for accounts showing substantial increases in water use or consistent hourly use in single-family residences, signifying a possible leak. The customer is informed of a possible leak and of the City’s Water Leak Detection and Repair Rebate Application.

Conservation also works closely with Customer Service Technicians (Meter Readers) to best notify customers when water use signifying a possible leak is detected. Technicians will attempt to speak with residents whose meter data signifies a leak or substantial use and will also leave informational door hangers should the resident not be home. The Water Leak Postcard has been recently revised and will now be included in leak notification process and complement the door hangers. The Postcard will have Conservation's phone number and the updated website. Postcards will be mailed to the physical meter address and the mailing address. Postcards are also mailed to tenants of multi-family housing, up to quad-plex residences. This process was most recently revised and updated at the end of 2019. In 2020, the City sent letters to 1,624 customers regarding potential leaks and 514 customers regarding high water use using this system.

The City's Water and Leak Detection and Repair Rebate Program does benefit residents in single-family homes and owners of multi-family homes. It is a robust program with a generous rebate of up to $700. The purpose of this program is to ensure no water is being wasted, contribute to the City's best practices for water management, and assist residents who may be limited in their resources to fix a leak. Customers who are concerned about utility usage and would like further details regarding their usage or to learn about conservation practices are directed to Conservation from Treasury staff. The City provides tips and resources to help customers decrease their utility usage. The City will also offer a 60W to 100W ERT upgrade to access a customer's hourly water data if the information would help the customer's situation. This type of conversion is requested through the Water Treatment Plant's Meter Shop.

9.1.6 Water Conservation Program Coordination and Staffing Support

The conservation program is supported by a Utility Conservation Coordinator, which splits time between water and energy conservation programs. Additionally, the Customer Service Workers assist by identifying customers with high water meter reads, leaks, and other circumstances, which are conveyed to the Utility Conservation Coordinator for follow up.

9.1.7 Other Demand Management Measures

The City is committed to implementing cost effective programs that will increase water efficiency City-wide. Though not required, the City has implemented the following demand management measures during the past five years and will continue implementation into the future in order to increase the overall water efficiency of the City's customers. The City is aligning its water conservation efforts with the U.S. EPA's WaterSense program to simplify its outreach approach and use WaterSense resources, ensuring public outreach is a part of the Conservation Division's culture for the foreseeable future. The following is a brief description of each program.

9.1.7.1 Water Audits

The City's Utility Conservation Coordinator has been performing free indoor and outdoor audits since 1987 on residential and commercial properties, which have high water utility bills, suspect a leak on their premises, or request an audit. While most of the audits are computer and phone based, customer service and conservation staff do conduct physical audits if necessary. During an indoor audit, the Conservation Coordinator reviews water fixtures and provides information on available rebates and conservation tips when applicable. During an outdoor audit, the Conservation Coordinator reviews irrigation methods used for landscaped areas and provides information on available rebates and offers conservation tips when applicable. The Conservation Coordinator has conducted 3,839 water audits over the last five years (2016-2020).

9.1.7.2 Water Retrofit Program

The City provides a rebate of up to $100 for the purchase and installation of a WaterSense certified high-efficiency toilet (1.28 gallons per flush or less) that replaces a less-efficient toilet (one that uses more than 1.6 gallons per flush). Between 2016 and 2020, the City provided 677 rebates for qualifying toilets.

Additionally, free showerheads and aerators are available to customers wanting to retrofit older fixtures.

9.1.7.3 Landscape Rebate Program

A rebate $2/sq. ft and up to $1,000 is available to customers to replace turf with landscapes that require little water. The City provided 81 qualifying customers with landscape rebates between 2016 and 2020.

Additionally, the City offers a $100 rebate on automatic irrigation controllers for customers replacing their manually controlled irrigation systems with a WaterSense labeled automatic irrigation controller.

9.1.7.4 High Efficiency Clothes Washer Programs

A $300 rebate is available for the replacement of a working, non-Energy Star certified clothes washer with new Energy Star certified clothes washer. The old clothes washer is required to be taken out of service and recycled at the City of Lompoc Landfill. The City provided 127 customers with rebates between 2016 and 2020.

9.1.7.5 Dishwasher Rebate Program

A $50 rebate is available for the replacement of a working, pre-2010 dishwasher that is not Energy Star certified with a new Energy Star certified dishwasher. The old dishwasher is required to be taken out of service and recycled at the City of Lompoc Landfill. Between 2016 and 2020, the City offered 29 dishwasher rebates to qualifying customers.

9.1.7.6 Rain Barrel Rebate Program

A rebate of up to $50 is available for the purchase of a 50+ gallon rain barrel with limit of 4 barrels per customer. Approximately 40 rebates were granted for rain barrels from 2016 to 2020.

9.1.7.7 Leak Detection Program

As described previously, a Water Leak Detection and Repair Rebate was also created to help customers offset the cost of locating and repairing water leaks requiring the services of a professional. The maximum rebate available is $700 and is limited to being redeemed once per year per customer. The City provided 115 customers with the rebate between 2016 and 2020.

9.2 Reporting Implementation

9.2.1 Implementation Over the Past Five Years

As mentioned above, the City has an extensive rebate program for both residential and commercial customers. Participation in all the water conservation programs from 2011 through 2020 is shown in Error! Reference source not found.

Table 9-5. Participation in Water Conservation Programs

YEAR	CLOTHES WASHER REBATES	DISHWASHER REBATES	LANDSCAPE REBATE	LEAK DETECTION	RAIN BARREL REBATES	TOILETS	WATER AUDITS
2020	35	5	13	39	3	41	2,424
2019	6	2	11	30	6	454	585*
2018	24	3	25	9	2	40	559*
2017	31	4	15	18	7	18	99*
2016	31	15	17	19*	22	124	172*
2015	52	11	42	18	54	104	220
2014	71	8	3	19	20	68	200
2013	69	6	2	11	13	93	195
2012	85	6	2	21	7	78	170
2011	39	6	1	22	2	70	175
TOTAL	**443**	**66**	**131**	**187**	**136**	**1090**	**4,799**

Notes:

*These values are estimates

9.2.2 Implementation to Achieve Water Use Targets

For decades, the City has valued and promoted conservation and will continue to do so. As a result, the City water use is well below target objectives set by the State of California. Despite meeting the targets, the City will continue to implement existing conservation programs and explore additional programs to avoid substantial increases in demands.

9.3 Water Use Objectives (Future Requirements)

As mentioned in the previous section, the City's customers are efficient and have reduced their GPCD consumption to less than the State target. The City continues to promote conservation and will evaluate additional measures if and when future requirements are established.

10 References

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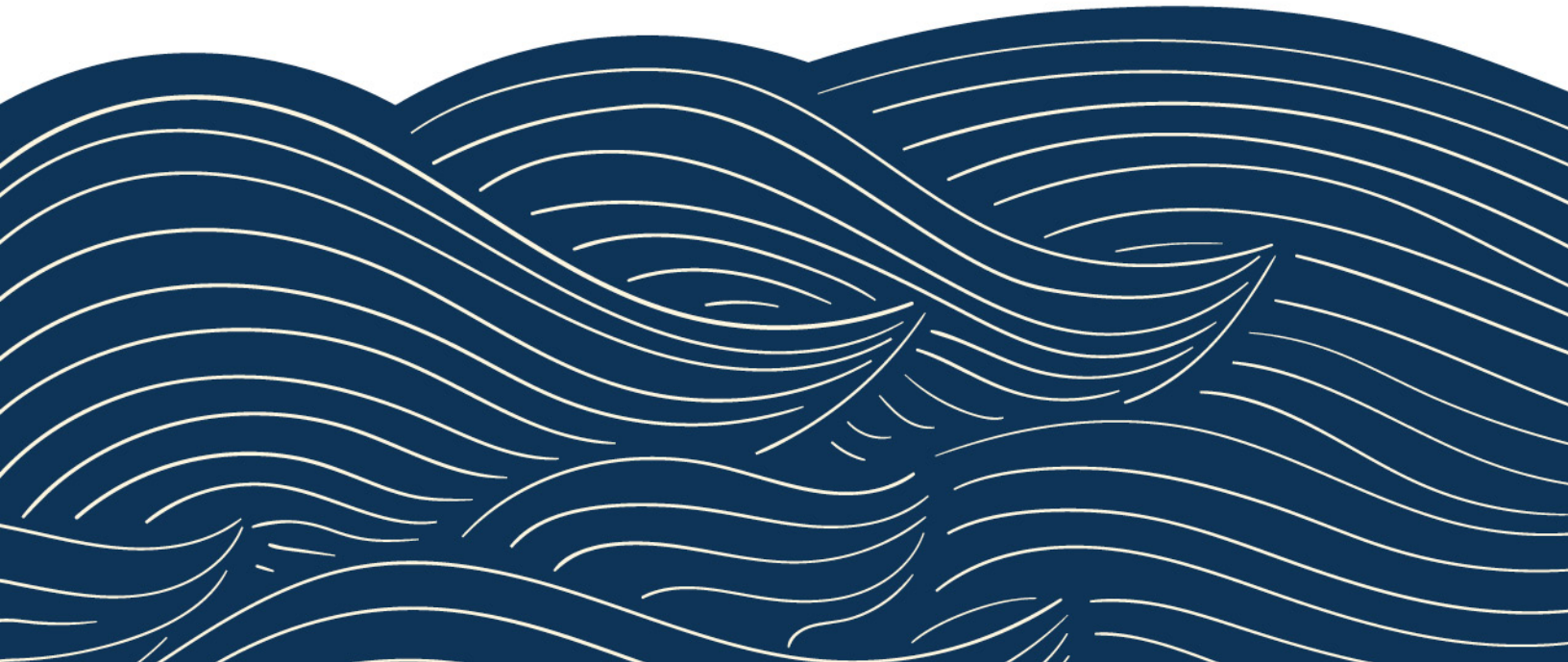
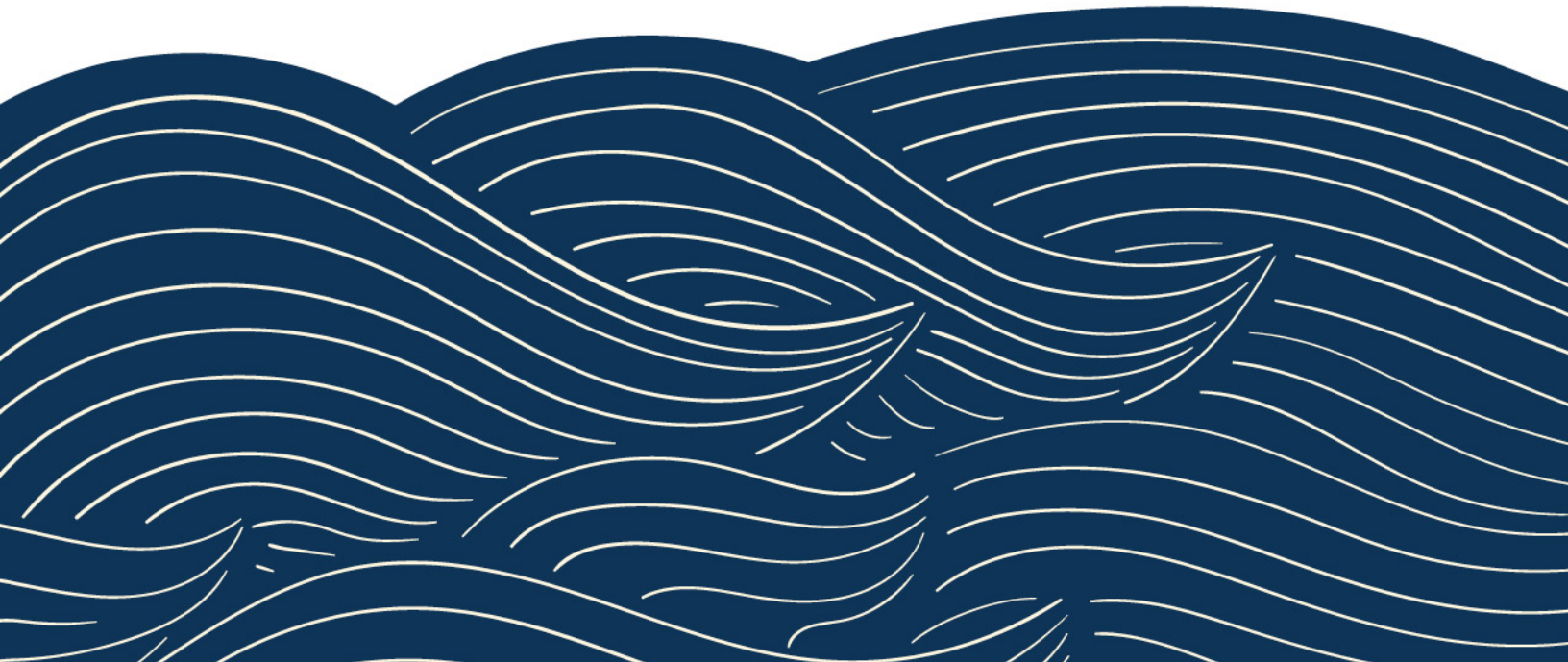
A

DWR Review Checklist



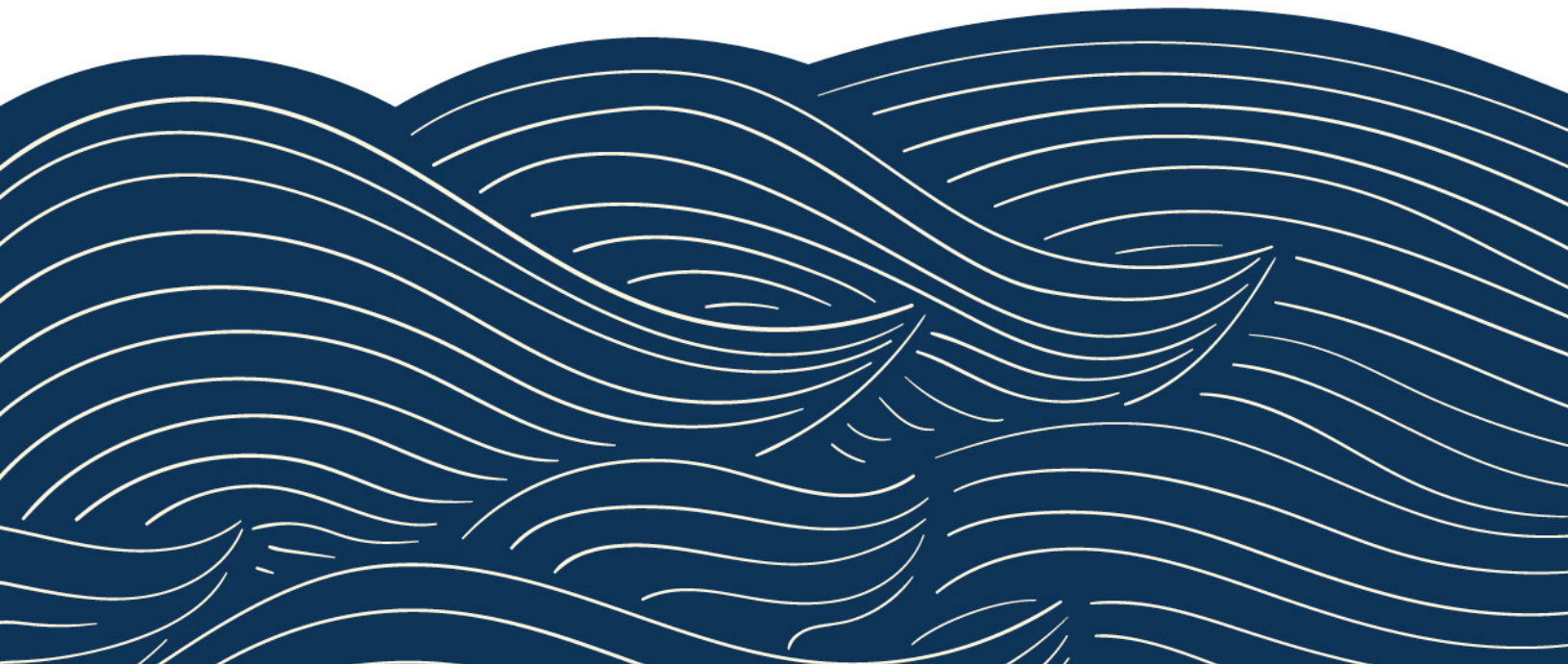
B

60-Day and Public Hearing Notices



C

Adopted Resolutions (Pending)



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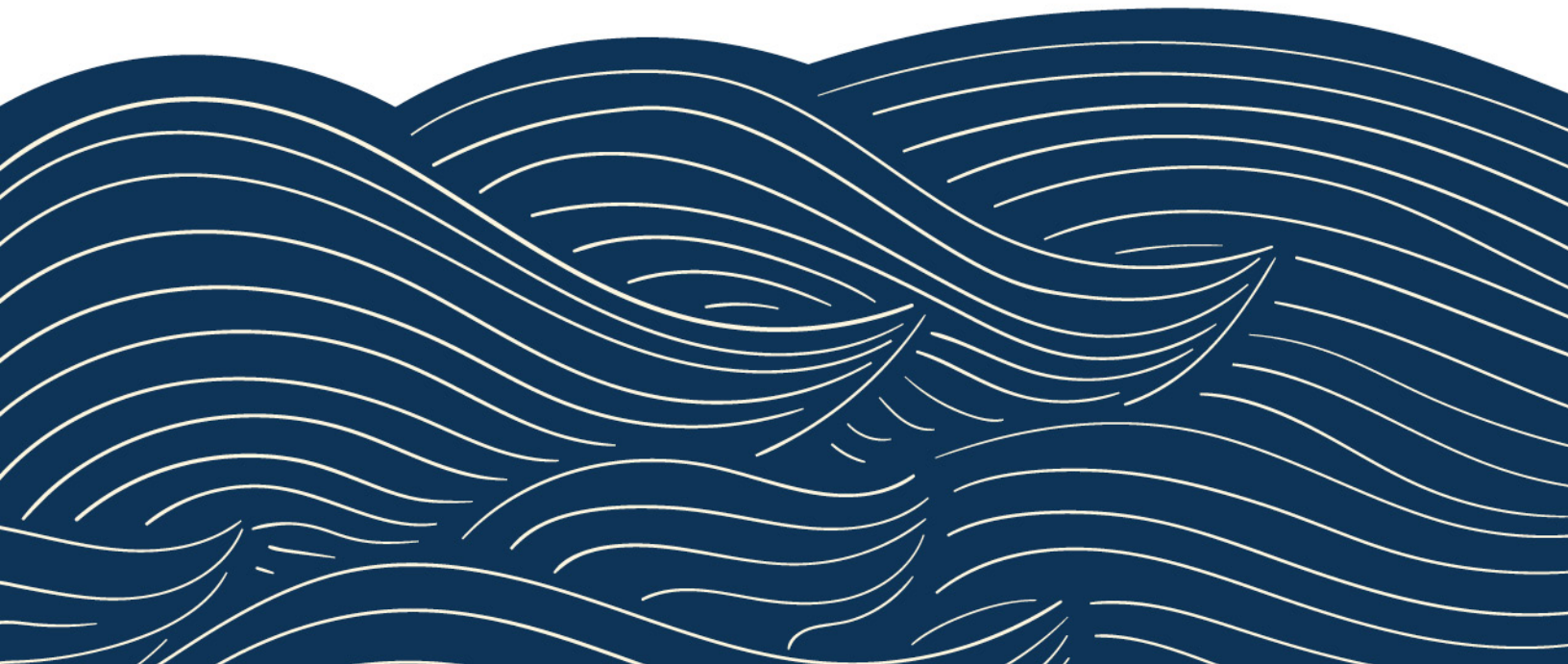
AWWA Audits



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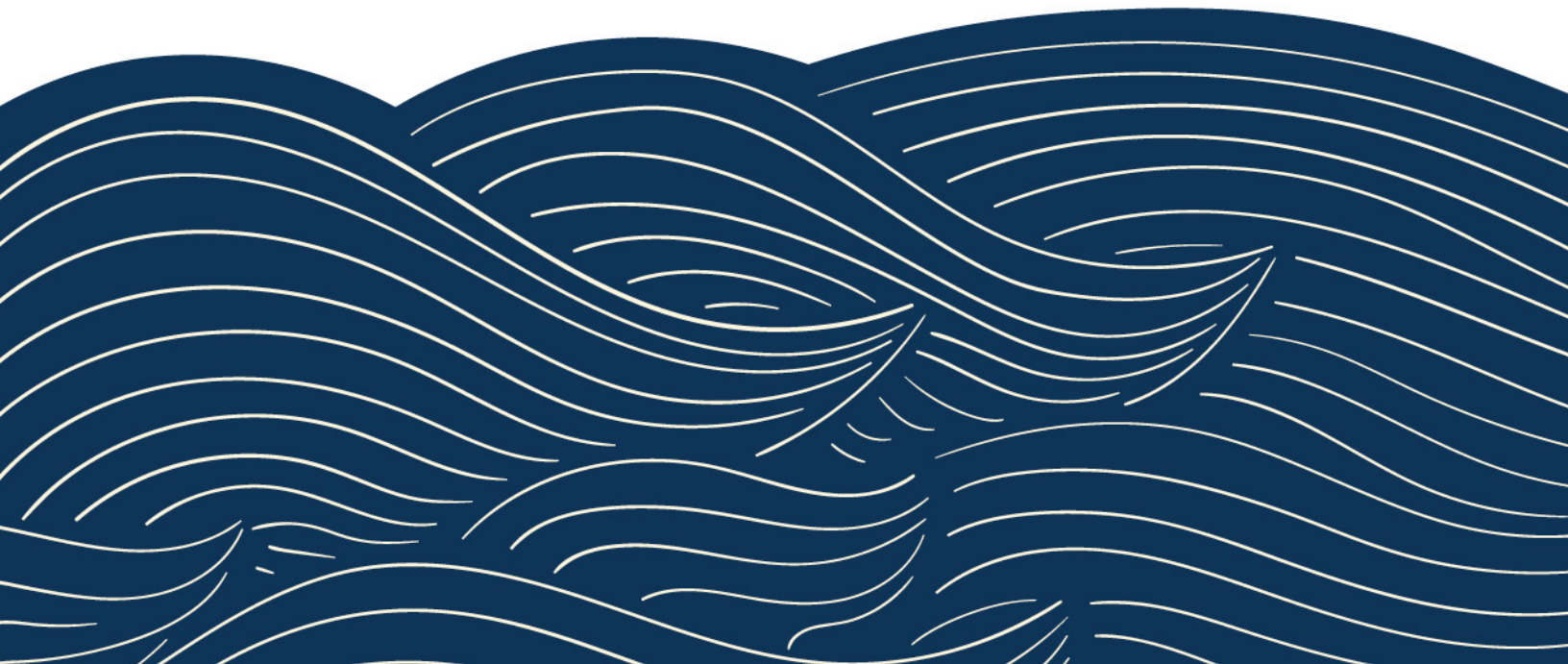
SBX7-7 Verification Form



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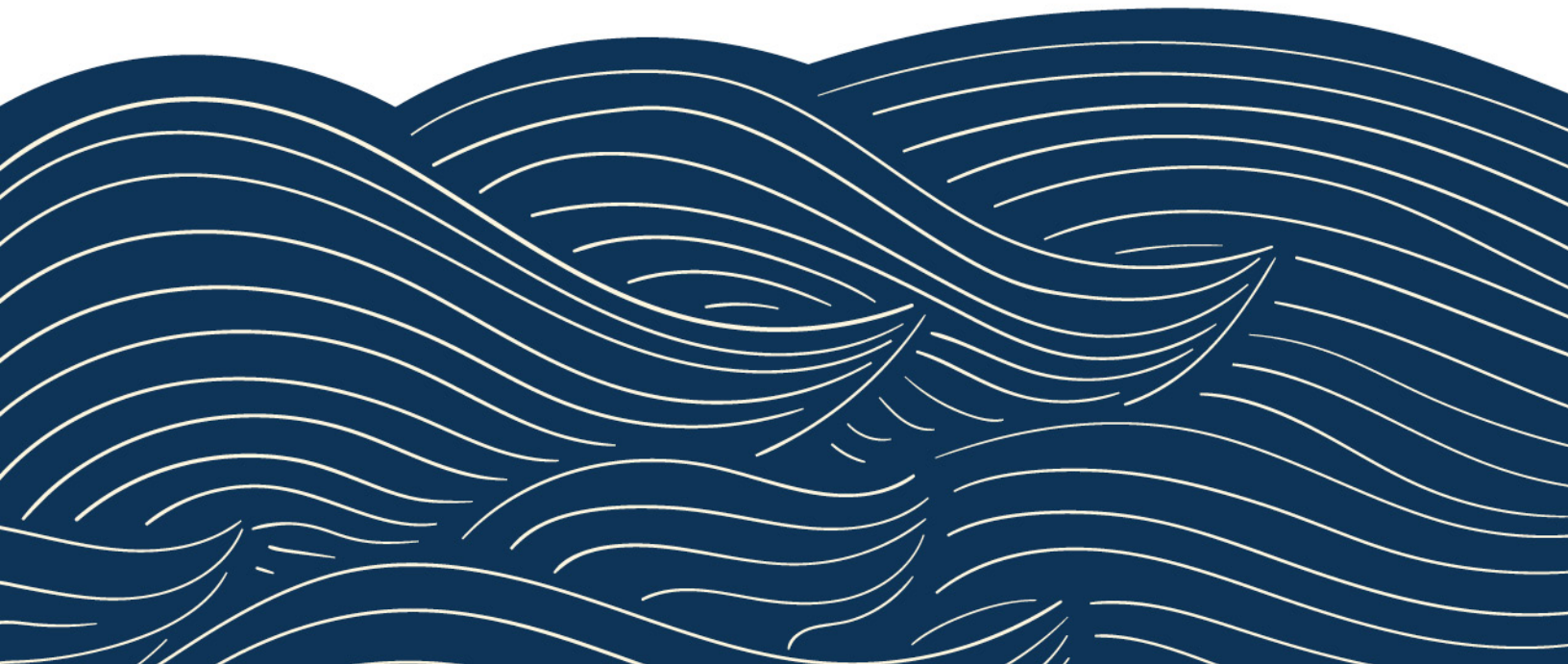
SBX7-7 Compliance Form



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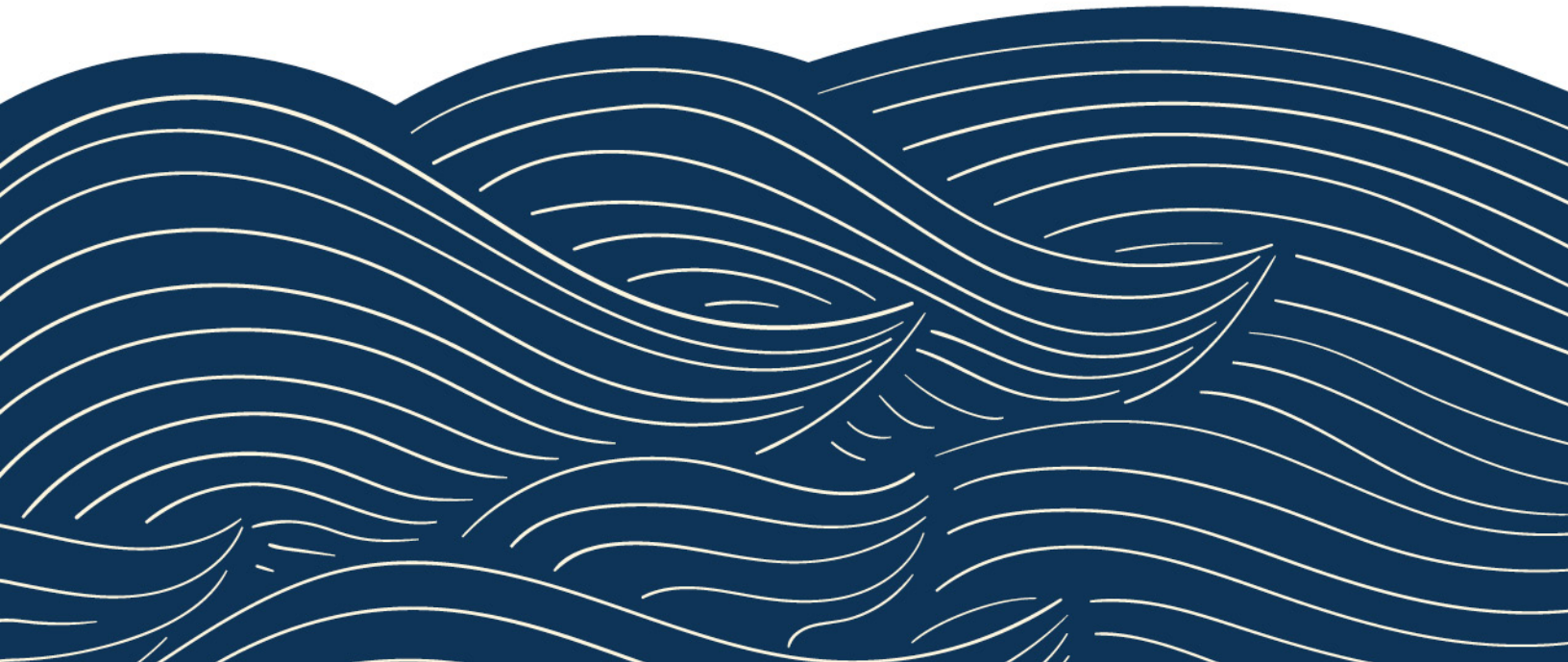
2013 Groundwater Management Plan



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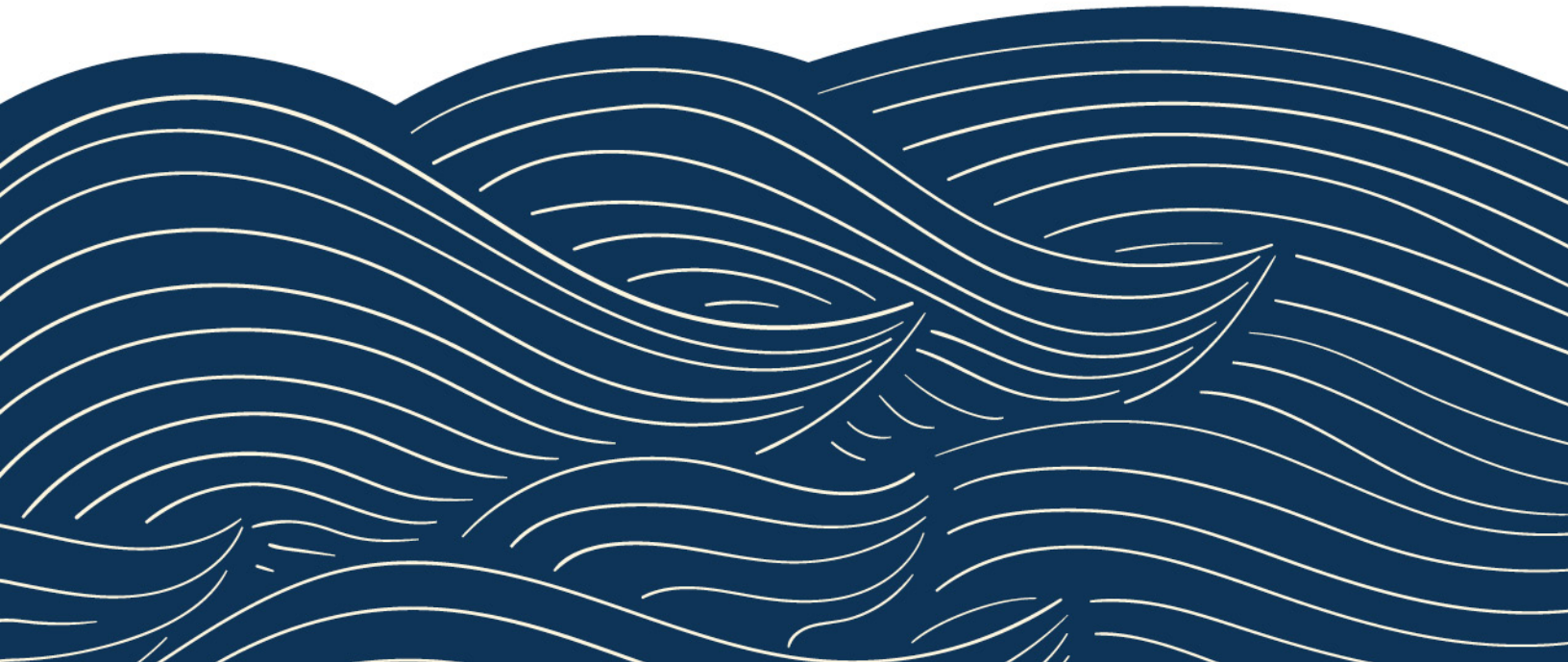
Existing WSCP Related Ordinances



City of Lompoc Hazard Mitigation Plan