



City of Kingsburg Urban Water Management Plan



January 17, 2024

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List of Acronyms

AB	Assembly Bill
AMR	automated meter reading
AWWA	American Water Works Association
CASGEM	California Statewide Groundwater Elevation Monitoring
CEQA	California Environmental Quality Act
CID	Consolidated Irrigation District
CMIP5	Coupled Model Intercomparison Project Phase 5
CPUC	California Public Utilities Commission
CVP	Central Valley Project
CWC	California Water Code
DOF	Department of Finance
DWR	Department of Water Resources
eARDWP	Electronic Annual Reports to the Drinking Water Program
ETo	Evapotranspiration
GCMs	Global Circulation Models
GHGs	Greenhouse Gases
GPCD	Gallons per Capita per Day
GRC	General Rate Case
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan
KRCD	Kings River Conservation District
MCL	Maximum Contamination Level
NOAA	National Oceanic and Atmospheric Administration
PWS	Public Water System
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SKF	Selma-Kingsburg-Fowler District
SWRBC	State Water Resources Control Board
TCP	Trichloropropane
UWMP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan

Chapter 1: Introduction and Lay Description

The City of Kingsburg has prepared the following Urban Water Management Plan (UWMP) in accordance with the 2020 California UWMP Guidebook and the Water Conservation Bill of 2009 SB X7-7. The following chapter discusses the importance and uses of this UWMP, the relationship of this plan to the California Water Code (CWC), the relationship of this plan to other local and regional planning efforts, and how this plan is organized.

This chapter contains the following sections:

- 1.1 Background and Purpose
- 1.2 Urban Water Management Planning and the California Water Code
- 1.3 Relation to Other Planning Efforts
- 1.4 Plan Organization
- 1.5 Lay Description – Fundamental Determination of the UWMP

1.1 Background and Purpose

The City of Kingsburg is a community with a population of 12,380 located in the San Joaquin Valley in Central California. The City is in southern Fresno County, near the Fresno County line, just north of the Kings River. The City's water system is supplied by several groundwater wells located within the City limits and uses a grid water main system to deliver to its customers. This UWMP will be a foundational document for the City, addressing historical and projected water demands, water supplies, supply reliability, the water shortage contingency plan, and water conservation programs.

The City had previously prepared a plan in conformance with the 2015 guidelines. The plan was completed and submitted in 2017. This document will be an updated and an expanded version of that plan, and will reference information identified in the previous plan that remains relevant. This UWMP will be a stand-alone document and will not require reviewers to reference information in the previous plan.

1.2 Urban Water Management Planning and the California Water Code

The UWMP Act requires water agencies to develop UWMPs every five years and file this plan with the Department of Water Resources (DWR), the California State Library, and the city or county to which the supplier provides water. All urban water suppliers are required to prepare an UWMP if they supply water to more than 3,000 customers or more than 3,000 acre-feet annually. The UWMPs provide a framework for long term water planning and inform the public of a supplier's plans for long-term resource preparation that ensures adequate water supplies for existing and future demands. This part of the CWC requires urban water suppliers to report, describe, and evaluate:

- Water deliveries and uses;
- Water supply sources;
- Efficient water uses;
- Demand management measures; and
- Water shortage contingency planning

The UWMP Act contains several additional requirements that the UWMP must satisfy. A copy of the UWMP Checklist is located in Appendix A.

1.3 Relation to Other Planning Efforts

This UWMP was prepared specifically for the City of Kingsburg. Urban suppliers provide information on water management specific to their service areas. However, water management does not happen in isolation; there are other planning processes that integrate with the UWMP to accomplish urban planning. Some of these plans include city and county General Plans, Water Master Plans, Recycled Water Master Plans, integrated resource plans, Integrated Regional Water Management Plans, Groundwater Management Plans, and others.

This plan is informed by and helps to inform these other planning efforts. In particular, this plan utilizes information contained in both the City's and Fresno County's General Plans, and local and regional water resource plans to the extent data from these plans is applicable and available.

1.4 Plan Organization

The 2020 UWMP Guidebook has been updated from the 2015 version to reflect new legislation and some of the recommended organization has been modified from previous guidebooks.

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

In addition to the above chapters, and in accordance with CWC §10644(a)(2), this UWMP includes the standardized forms, tables, and displays developed by DWR for the reporting of water use and supply information required by the UWMP Act. It also includes other tables, figures and maps customized specifically for City of Kingsburg data to supplement the standardized information.

1.5 Plan Organization

10630.5 Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

Water System Description

The Public Water System is a retail water supplier managed and operated by the City. The primary source of supply for the Public Water System is groundwater from City owned wells. The drilling of private wells within City Limits is prohibited by City Ordinance. However, there are a small number of households within the City limits that lie outside the water service area and are currently served by existing private wells.

In 2020, the City's Public Water System service area consisted of 4,406 municipal connections and it supplied a volume of 996 million gallons (MG) of water to its service area. Actual 2020 water usage of 220 gallons per capita per day (gpcd) within the Public Water System service area complied with its confirmed 2020 water use target of 259 gpcd as required by SB X7-7.

Water Use Projections

The City has adopted a General Plan and Zoning Ordinances which include land use goals, policies, and implementation measures for development. Proposed land uses within the City's Public Water Service Area per the General Plan are similar to current land uses within the City. The City is largely open land and farmland making up nearly half of the total land use. Single family homes make up about one third of the total land use, with the remainder of land being divided between commercial, industrial, and multi-family homes. Population growth is anticipated to be about 1.85 percent annually based on historic growth rates.

Water demands are anticipated to increase in proportion to population growth. Water demands in the Public Water System service area are projected to total approximately 1,705 MG annually in 2040. The City is in the process of performing studies to update its General Plan to accommodate anticipated residential, commercial, and industrial growth to the west and southwest of the current urban area. The water demand of these additional areas is anticipated to be met by constructing additional public water supply wells.

Water Supplies and Reliability

The City is a member of the South Kings Groundwater Sustainability Agency (SKGSA) which was formed in compliance with the Sustainable Groundwater Management Act to cooperatively manage local groundwater in a sustainable manner. The SKGSA adopted its Final GSP in December 2019. The SKGSA GSP was submitted to DWR in coordination with 7 other GSPs that together cover the Kings Subbasin. The SKGSA GSP identifies management actions and proposes projects to maintain the groundwater resource in a sustainable condition under future climate change conditions for the next 50 years.

The SKGSA GSP identifies sustainable management criteria for water levels. Maintaining water levels above the Minimum Threshold levels identified in the SKGSA GSP is anticipated to allow the City's wells to meet the demands of the Public Water System while minimizing undesirable results such as chronic groundwater level declines and degraded water quality. The most recent SKGSA GSP Annual Report indicates that groundwater levels at Representative Monitoring Sites near the City are above their designated Minimum Thresholds and on track to meet the forecast groundwater level projections and Interim Milestones established for these wells. Groundwater recharge is proposed to be implemented near the City's well field to help maintain groundwater levels. With implementation of the actions in the SKGSA GSP, the City's groundwater supplies are anticipated to be sufficient to meet its demands for the next 50 years.

The Public Water System has sufficient redundancy to allow for wells and other facilities to be taken offline as needed for maintenance or repairs. Wellhead groundwater treatment facilities have been installed where necessary in order to continue providing water supplies that meet current potable water standards. As population and water demands increase with the Public Water System service area, the City will construct the new wells required to meet the increased demands.

Water Shortage Contingency Planning

The City's Water Shortage Contingency Plan (WSCP) is embodied in City Ordinance 723 and provides measures, referred to as stages, to be implemented in the event of water shortages. The WSCP outlines a program for responding to water supply limitations.

The City's existing water shortage contingency plan uses Stages as opposed to the six standard water shortage levels. The City has developed and included a cross-reference relating its existing categories to the six standard water shortage levels. A water shortage condition is defined as when available water supplies are insufficient to meet the normally expected customer demands. Water shortage conditions may be a result of population growth, climate change, drought, catastrophic events, or other water shortage emergencies declared by either the City, State or Federal government.

In accordance with Water Code requirements, there are six standard water shortage levels and response actions defined in the City's WSCP that increase restrictions on water use in response to increasing levels of water shortage conditions ranging from 10 percent to greater than 50 percent.

The City's WSCP is a stand-alone document. The response actions and other considerations in the City's WSCP will be reviewed on a periodic basis to determine the effectiveness of the implementation of the various measures to achieve the desired water demand reductions. Proposed revisions to the WSCP will be submitted to the City Council for adoption.

Demand Management Measures

The City has implemented demand management measures (DMMs) to achieve its water conservation targets. While the Public Water System has achieved its water use reduction targets, it will continue with the implementation of its existing DMMs and look for ways to improve water quality.

Chapter 2: Plan Preparation

This chapter discusses the type of UWMP the City of Kingsburg is preparing and includes information that will apply throughout the plan. Coordination and outreach during the development of the plan is also discussed.

This chapter includes the following sections:

- 2.1 Basis for Preparing a Plan
- 2.2 Regional Planning and Reporting
- 2.3 Individual or Regional Planning and Compliance
- 2.4 Fiscal or Calendar Year and Units of Measure
- 2.5 Coordination and Outreach

2.1 Basis for Preparing a Plan

In accordance with CWC §10617, the City of Kingsburg is an urban water supplier, providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. Based on this classification, the City is obligated to update and submit its 2020 UWMP to DWR.

The City of Kingsburg operates the Public Water System (PWS) listed in Table 2-1. Public Water Systems are the systems that provide drinking water for human consumption and these systems are regulated by the State Water Resources Control Board (Board), Division of Drinking Water. The Board requires that water agencies report water usage and other information via the electronic Annual Reports to the Drinking Water Program (eARDWP). The information provided in this UWMP is consistent with the data reported in the eARDWP. PWS data reported to the Board is used by the state to determine whether or not a retail supplier has reached the threshold (3,000 or more connections or 3,000 acre-feet of water supplied) for submitting a UWMP.

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020
1010019	Kingsburg, City of	4046	996
TOTAL		4046	996

2.2 Individual or Regional Planning and Compliance

Regional planning can deliver mutually beneficial solutions to all agencies involved by reducing costs for the individual agency, assessing water resources at the appropriate geographic scale, and allowing for solutions that cross jurisdictional boundaries.

Some of the other possible benefits, depending on the level of regional cooperation, can include:

- More reliable water supplies;
- Increased regional self-reliance;
- Improved water quality;
- Better flood management;
- Increased economic stability
- Restored and enhanced ecosystems; and
- Reduced conflict over water resources

In support of regional UWMPs and regional water conservation targets, the UWMP portion of the CWC provides mechanisms for participating in area-wide, regional, watershed, or basin-wide urban water management planning.

2.3 Individual or Regional Planning and Compliance

CWC §10620 (d)(1) allows urban water suppliers to prepare either an individual or a regional UWMP. The City of Kingsburg has elected to prepare an individual UWMP. This UWMP will report solely on the City’s service area, while addressing all of the requirements of the CWC, and notifying and coordinating with appropriate regional agencies and constituents, such as the County of Fresno, Kings River Conservation District, and Consolidated Irrigation District.

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

2.4 Fiscal or Calendar Year and Units of Measure

This UWMP has been prepared using calendar year data and flow measured in million gallons. It includes complete 2020 flow data. This information is summarized in Table 2-3.

Table 2-3: Agency Identification	
Type of Agency	
<input type="checkbox"/>	Agency is a wholesaler
<input checked="" type="checkbox"/>	Agency is a retailer
Fiscal or Calendar Year	
<input checked="" type="checkbox"/>	UWMP Tables Are in Calendar Years
<input type="checkbox"/>	UWMP Tables Are in Fiscal Years
Units of Measure Used in UWMP	
Unit	MG

2.5 Coordination and Outreach

Water suppliers must coordinate the preparation of their UWMP with other appropriate agencies in the area, to the extent practicable. In order to verify that agencies have fulfilled the above CWC provisions, agencies are to include a description of their outreach and coordination activities to other agencies and the community, as described in CWC 10620(d)(2) and CWC 10642. This section identifies the agencies and organizations the City of Kingsburg attempted to coordinate with during preparation of this UWMP.

2.5.1 Wholesale and Retail Coordination

Retail agencies that receive a 20220 from one or more wholesalers are required to provide their wholesaler(s) with the retail agency’s projected water demand from that source, in five-year increments for 20 years, or as far as data is available. The City of Kingsburg does not take any of its water supply from a wholesale water supplier.

Table 2-4: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name
The City of Kingsburg does not receive water from wholesale suppliers

2.5.2 Coordination with Other Agencies and the Community

The City of Kingsburg coordinated with three agencies during preparation of this UWMP. The County of Fresno, Kings River Conservation District, and Consolidated Irrigation District were provided appropriate 60 day and 14 day notices for the public hearing it held on January 19, 2024 to present the draft of the UWMP, address questions, and receive comments. Drafts of this UWMP were included in the 14 day notice correspondence.

Chapter 3: System Description

This chapter provides a description of Kingsburg District's water system and the service area, including climate, population, and demographics, to help in understanding various elements of water supply and demand.

This chapter includes the following sections:

- 3.1 Service Area General Description
- 3.2 Service Area Map(s)
- 3.3 Service Area Climate
- 3.4 Service Area Population and Demographics
- 3.5 Land Uses Within Service Area

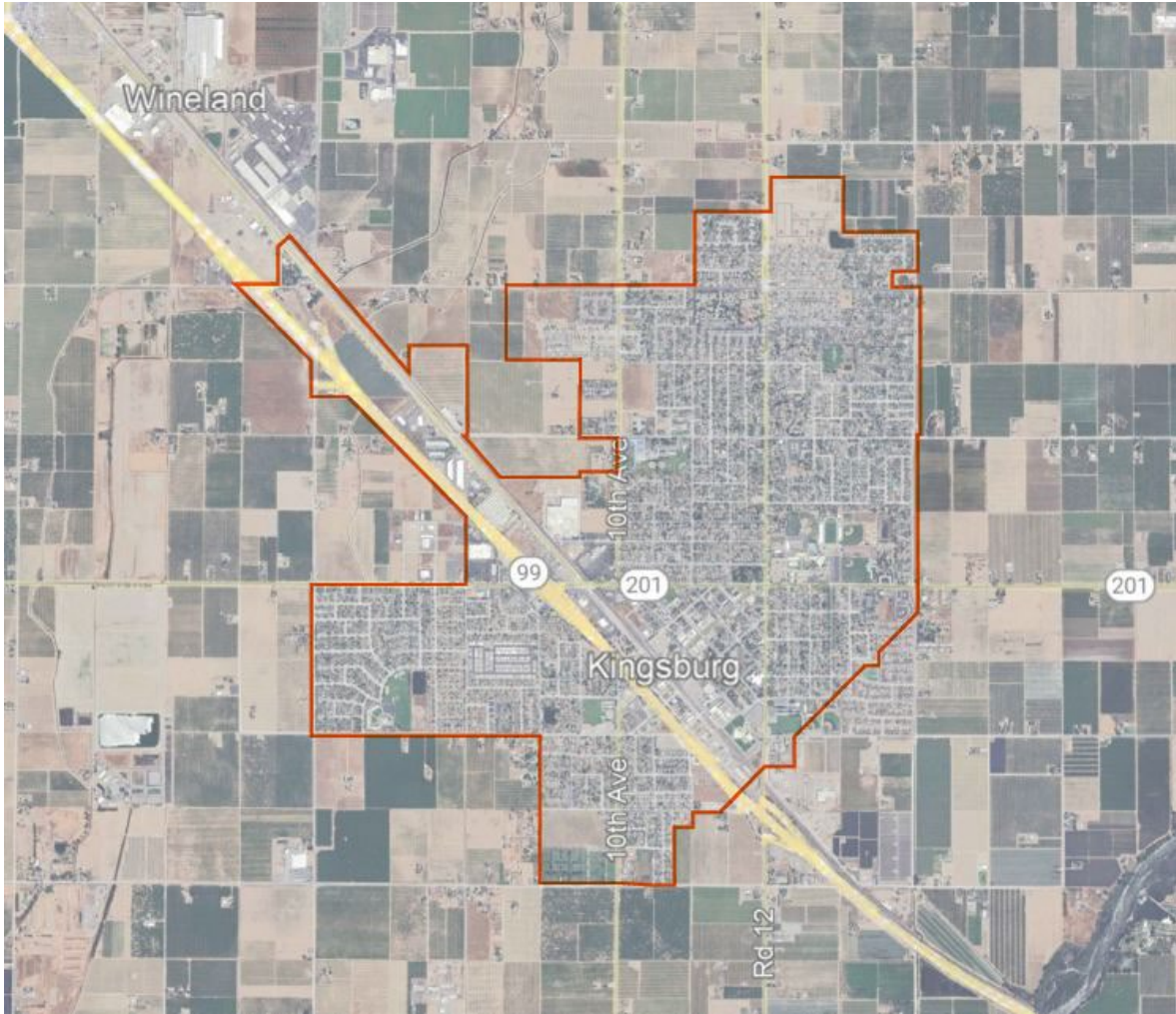
3.1 Service Area General Description

The City of Kingsburg is located in southern Fresno County, in the Tulare Lake hydrologic region as part of the Kings River Basin. The City is approximately 30 miles southeast of the City of Fresno and 80 miles north of the City of Bakersfield. State Route 99 and State Route 201 are located within the City limits. The Southern Pacific Railroad provides rail service to the region, running parallel with State Route 99 in a northwesterly-southeasterly direction. Figure 3-1 shows a general location map of the City.

The service area is approximately 280 feet above sea level. The Kings River runs approximately 1 mile south of the City. Pine Flat Reservoir is located on the Kings River approximately 35 miles upstream of the City. The reservoir is operated by the U.S. Army Corps of Engineers and provides both flood control and water supply storage.

The City of Kingsburg was incorporated in 1908 and has historically pumped groundwater to supply customers. Over the past 5 years, the City has delivered an average of 996 million gallons of water per year to 4,046 connections.

Figure 3-1: Location Map



3.2 Service Area Map

Figure 3-2 shows the City's service area boundaries.

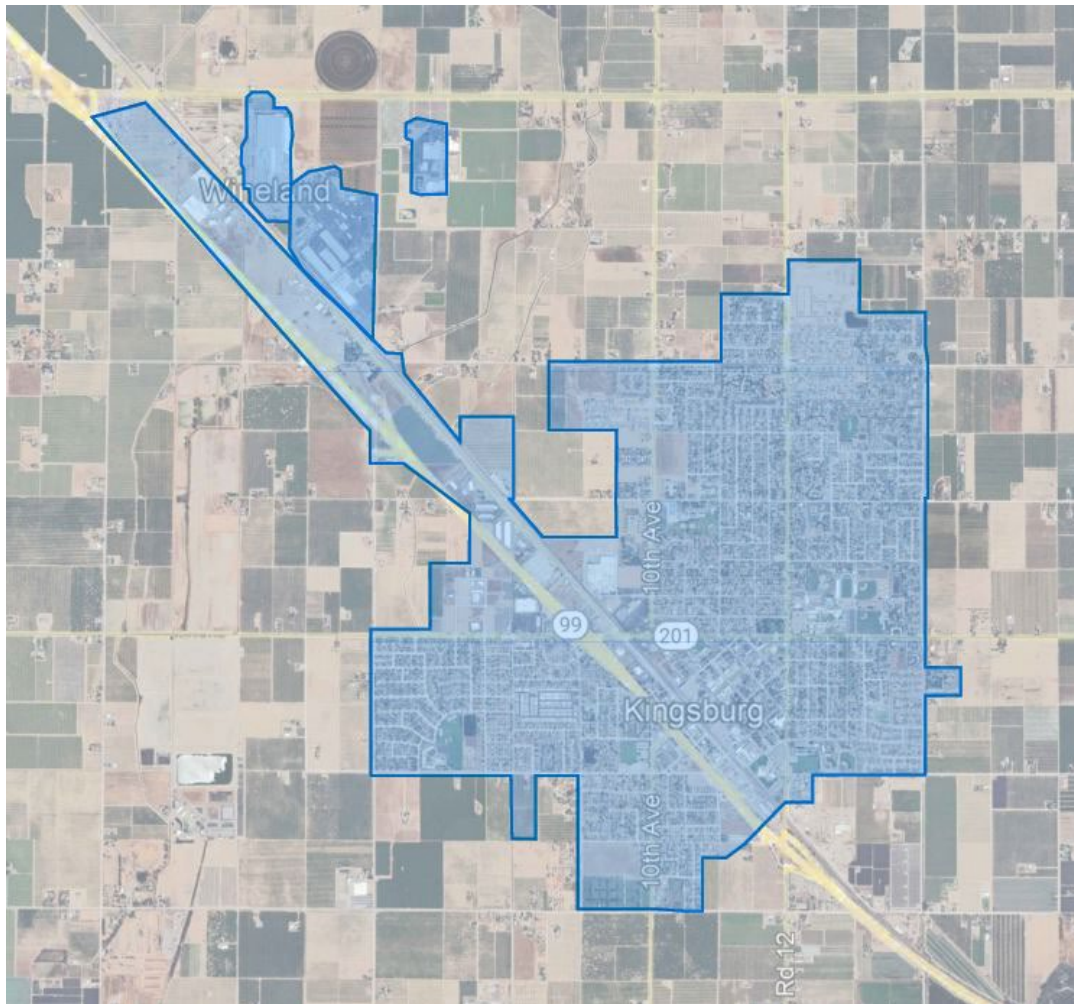
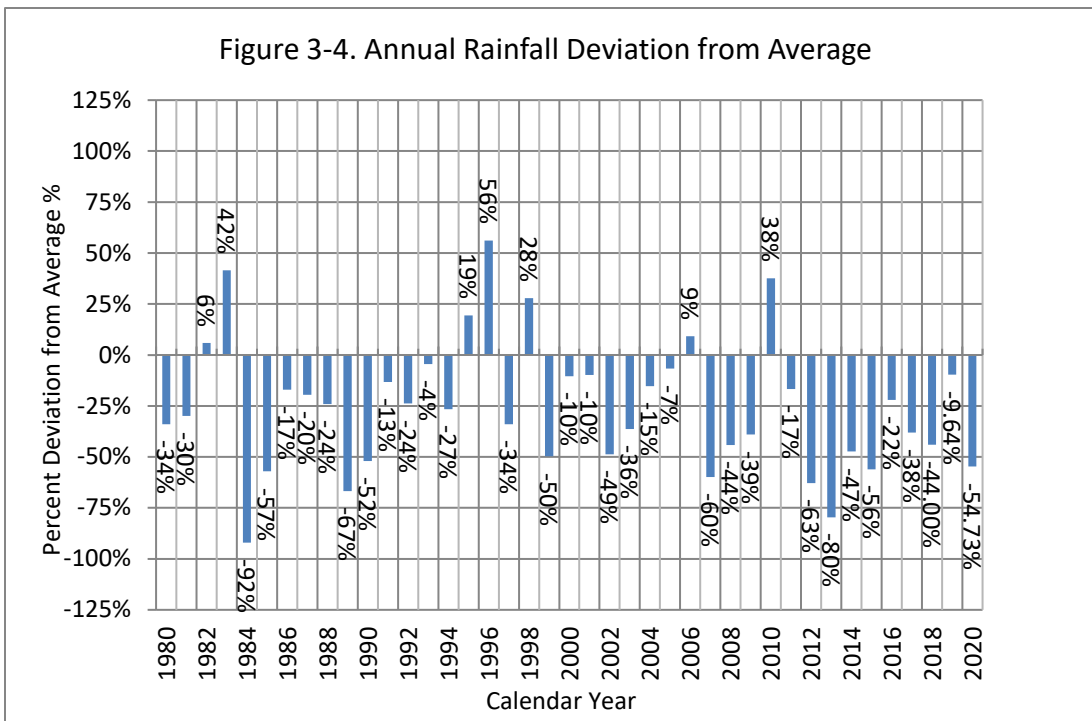
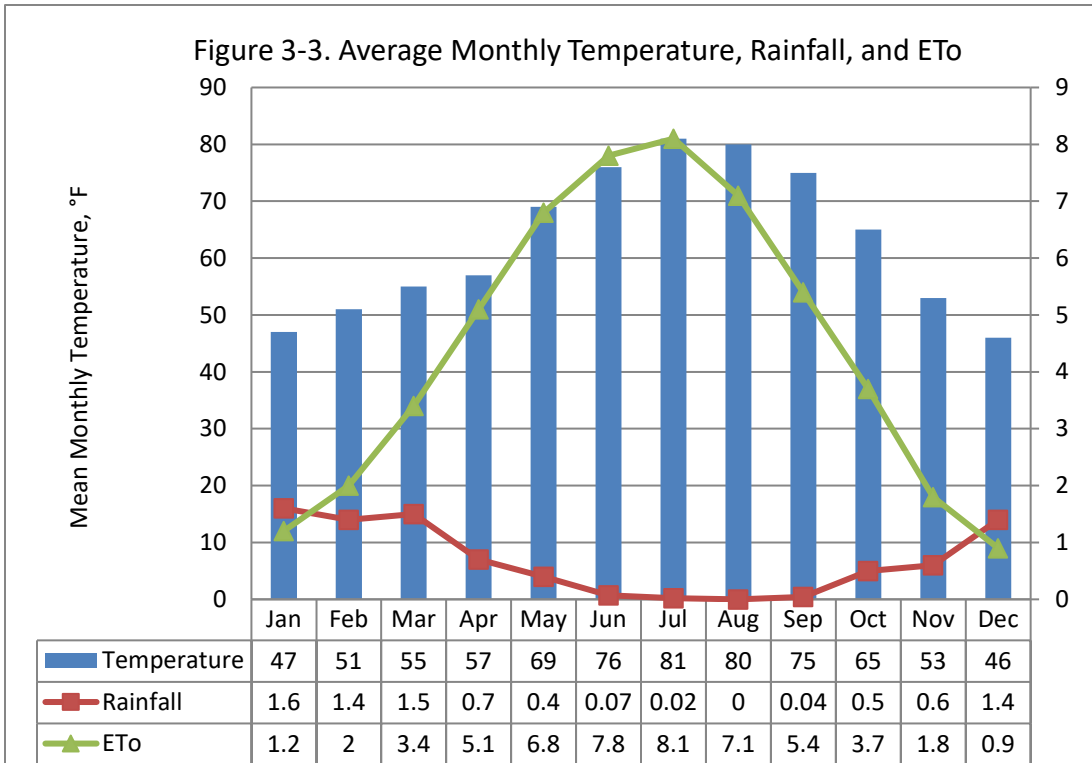


Figure 3-2: Service Area Boundary

3.3 Service Area Climate

The climate for the City of Kingsburg is moderate with hot, dry summers and mild winters. Precipitation for the region is mostly in late autumn, winter, and early spring. Figure 3-3 identifies the monthly averages for rainfall, reference evapotranspiration (ET_o), and air temperatures. Rainfall and temperature data are obtained from NOAA.

On average, the City receives approximately 8.2 inches of rainfall, annually. ET_o averages 4.4 inches, annually. Annual rainfall is 20 percent of ET_o, on average. This indicates that the City is located in a water-deficient environment. The desert landscape with poorly developed soils and scrubby vegetation are evidenced of this low amount of naturally available water. Nearly all irrigation requirements are met with City water sources due to the lack of rainfall in the region. Annual rainfall in the City of Kingsburg is highly variable, as shown in Figure 3-4, and has been below average in eight of the last ten years.



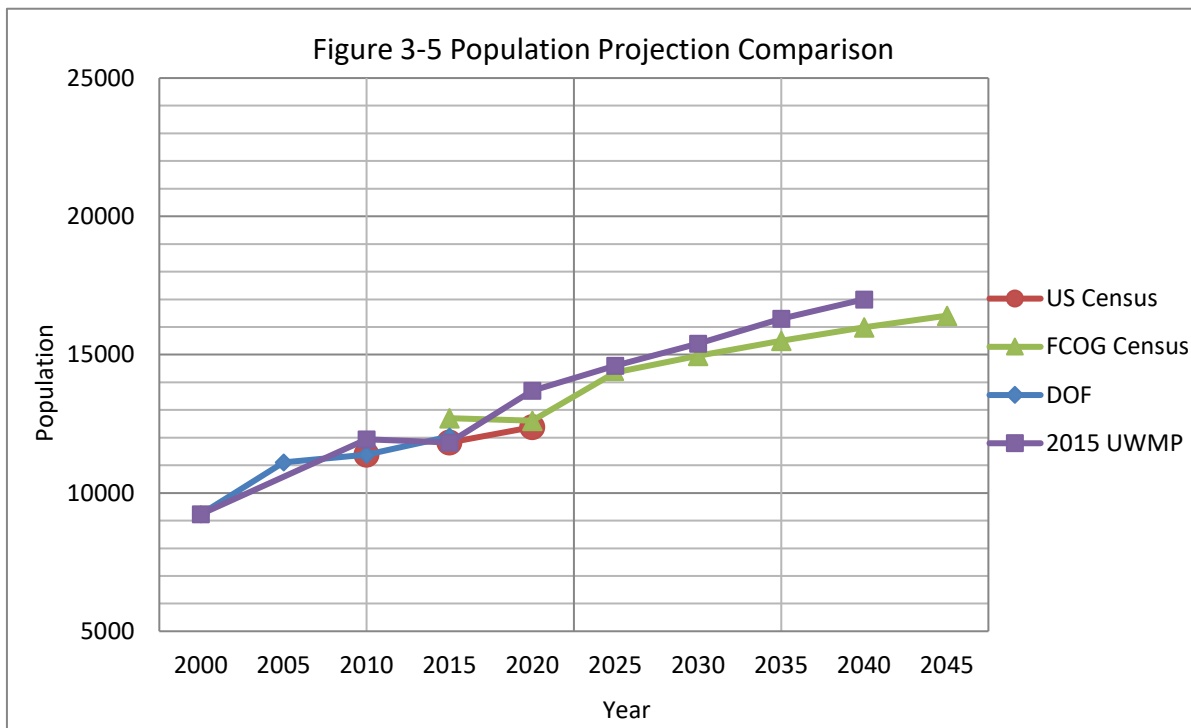
3.4 Service Area Population and Demographics

The City of Kingsburg’s current and projected population estimates are shown in Table 3-1, which encompasses the entire area served by the water distribution system. Both the current and historic population estimate (2020) were provided by the Department of Finance (DOF) with the exception of the year 2010, which uses population data gathered from the 2010 census. This population data was projected to 2045. Based on this data, from 2000 to 2020, the average annual population increase was 1.9%. However, projections from the City’s General Plan use a 3% population increase. The actual growth rate was well below the General Plan. For the 2020 UWMP, the City will rely on the calculated growth rate from US Census. This growth rate is identified in Table 3-1.

Based on the vicinity to both Fresno and Visalia, the City of Kingsburg is ideal as a commuting professional community. Although the City is surrounded by agriculture, its residents are not necessarily seasonal. Sun-Maid Raisins is located on the north side of town and uses their own water supply for use in processing the raisins. Kingsburg has historically had a low growth rate, as shown above, and has a lower-than-average density than Fresno or Visalia.

Table 3-1: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045(opt)
	12,380	13,600	14,950	16,420	18,040	19,020

NOTES: Per Fresno COG Census



3.5 Land Uses Within Service Area

10631(a) The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities...

Land use is governed by the City for areas within its service area. The City has adopted a General Plan and Zoning Ordinances which include land use goals, policies, and implementation measures for development. Proposed land uses within the City's Public Water Service Area per the General Plan are similar to current land uses within the City. Nearly half of the land within the current City limits is undeveloped or in agricultural use. The majority of the developed lands consist of single-family homes, with the remainder of land uses divided between commercial, industrial, and multi-family homes. Since development is proposed to continue with similar land use types as in the past, the use of population projections from Section 3.03 is determined to be appropriate to estimate future water demands for water management planning purposes.

Chapter 4: System Water Use

This chapter provides a description and quantifies the Kingsburg District’s current water use and the projected uses through the year 2045. For purposes of the UWMP, the terms “water use” and “water demand” are used interchangeably.

This chapter is divided into the following subsections:

- 4.1 Recycled vs Potable and Raw Water Demand
- 4.2 Water Uses by Sector
- 4.3 Distribution System Water Losses
- 4.4 Estimating Future Water Savings
- 4.5 Water Use for Lower Income Households
- 4.6 Climate Change

4.1 Recycled versus Potable and Raw Water Demand

The City of Kingsburg’s UWMP maintains a clear distinction between recycled, potable, and raw water uses and supplies. Recycled water is addressed comprehensively in Chapter 6, but a summary of demand of recycled water by the City is included in Table 4-3. This chapter specifically addresses the City’s potable and raw water demand, both historically and in the future.

4.2 Water Uses by Sector

Law

10631. (d) (1) *For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:*
- (A) *Single-family residential.*
 - (B) *Multifamily.*
 - (C) *Commercial.*
 - (D) *Industrial.*
 - (E) *Institutional and governmental.*
 - (F) *Landscape*
 - (G) *Sales to other agencies.*
 - (H) *Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.*
 - (I) *Agricultural...*
 - (J) *Distribution system water loss*
- (2) *The water use projections shall be in the same five-year increments described in subdivision (a).*

4.2.1 Historical Potable and Raw Water Use

The City currently provides domestic water to residential, commercial, and institutional customers within the City limits. At the time of preparation of the 2020 UWMP, the City had recorded metered water deliveries to 3,713 residential users, 271 commercial and 2 institutional and government accounts. The City's gross water use is listed in Table 4-1.

Use Type	2020 Actual		
	Additional Description	Level of Treatment When Delivered	Volume
Single Family	Includes all residential users	Drinking Water	851
Commercial		Drinking Water	95
Institutional/Governmental		Drinking Water	30
Losses		Drinking Water	20
TOTAL			996

NOTES: The City does not serve any industrial users. Those who do have industrial processes are using private well water for supply.

4.2.2 Projected Potable and Raw Water Use

Table 4-2 summarized the potable water demand projection through the year 2045. The City's 2020 urban water use target of 259 gallons per capita per day (gpcd) was applied to the use breakdown identified in Table 4-1 and the projected population identified in Figure 3-5 to calculate the projected potable water demand through the UWMP planning horizon.

Use Type	Additional Description	Projected Water Use				
		2025	2030	2035	2040	2045-opt
Single Family	Includes all residential users	1,100	1,193	1,297	1,415	1,544
Commercial		120	135	150	165	180
Institutional/Governmental		39	50	65	80	100
Losses		27	35	40	45	50
TOTAL		1,286	1,413	1,552	1,705	1,874

4.2.3 Total Water Demand Including Recycled Water

Total water demands are shown in Table 4-3. Since the City does not use recycled water, the Potable and Raw Water demand is the same as the Total Water Demand.

Table 4-3: Total Water Demands						
	2020	2025	2030	2035	2040	2045
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	996	1,286	1,413	1,552	1,705	1,874
Recycled Water Demand* <i>From Table 6-4</i>	0	0	0	0	0	0
TOTAL WATER DEMAND	996	1,286	1,413	1,552	1,705	1,874

4.3 Distribution System Water Loss

Law

10631(d)(3) (A) *The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.*

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

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

As a requirement of this UWMP, the City of Kingsburg must calculate distribution system water losses for the most recent 12-month period, using the American Water Works Association (AWWA) Method and software. The most recent period for the City would be January 1 to December 31, 2016 and is shown in Table 4-4. The volume of water loss includes both apparent losses and real losses. Apparent losses include unauthorized consumption, metering errors, and data errors. These losses represent unauthorized or unrecorded water delivered to customers. Real losses represent a physical loss to the system, including system discharges, spills, and leaks.

Table 4-4 Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date	Volume of Water Loss (a)
01/2016	*
01/2017	87.056
01/2018	75.557
01/2019	72.027
01/2020	112.568

4.4 Estimating Future Water Savings

Law

10631 (e)(4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

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

The projection of future water use in Table 4-2 incorporates expected water saving from plumbing codes, appliance standards for residential and commercial toilets, urinals, clothes washers, dishwashers, and showerheads. These savings are commonly referred to as passive water savings to differentiate them from water savings resulting from water supplier conservation programs, which are termed active water savings. Active water savings resulting from the City’s implementation of demand management measures are discussed in Chapter 9 of this plan.

Confirmation that the water use projections contained in this plan do not incorporate projected future water savings from plumbing codes and appliance standards is provided in Table 4-5.

Table 4-5: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections?	No
Are Lower Income Residential Demands Included In Projections?	Yes

4.5 Water Use for Lower Income Households

Law

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

California Health and Safety Code 50079.5

(a) "Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families as established and amended from time to time pursuant to Section 8 of the United States Housing Act of 1937. The limits shall be published by the department in the California Code of Regulations as soon as possible after adoption by the Secretary of Housing and Urban Development. In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

California Senate Bill No. 1087 (SB 1087) requires local governments to provide a copy of their adopted housing element to water and sewer providers, as well as requiring them to include capacity for these units within the service area. According to the U.S. Census Bureau's 2020 American Community Survey, 17.9 percent of households within the service area are considered low income. As indicated by Table 4-5, the low income water demands are included in the total water demand projection.

4.6 Climate Change

Climate Change impacts on water demands were considered as a part of the South Kings Groundwater Sustainability Agency Groundwater Sustainability Plan (SKGSA) based on DWR climate change factors and guidance. Future Water Demand Assumptions for the City of Kingsburg in the SKGSA GSP assumed an increase from 4,230 AF/year in 2016/2017 to 6,300 AF/Year in 2040. Excerpts from the SKGSA GSP regarding projected water budgets and climate change considerations are provided as Appendix D.

The City's projected per capita water usage of 259 gallons per day (gpd) is expected to adequately address climate change impacts to urban water demands during the period covered by this UWMP. Discussion of the potential climate change impacts to water supplies is included in Section 6.10.

10630 It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

Chapter 5: Baselines, Targets and 2020 Compliance

This section addresses the City Public Water System's compliance with 2020 per capita water use targets established in accordance with SB X7-7. Baselines and targets were adopted as a part of the 2010 UWMP and updated in the 2015 UWMP utilizing Target Method 3 for the Tulare Lake Hydrologic Region. The SB X7-7 Compliance form for the Public Water System is included in Appendix E. The SB X7-7 Verification tables from the 2015 UWMP are also included in Appendix E for reference.

5.1 Service Area population

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

The 2020 population estimate for the Public Water System Service Area of 12,613 in Table 3-1 Retail was taken from DOF Table 2: E-5 City/County Population and Housing Estimates for January 1, 2020.

5.2 Gross Water use

The 2020 gross water use for the Public Water System is 996 Million Gallons as shown in Table 4-1 Retail.

10608.24 (h) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

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

5.3 2020 Target

The baseline and target information for the City's Public Water System is summarized in table 5-1.

Submittal Table 5-1 Baselines and Targets Summary From SB X7-7 Verification Form <i>Retail Supplier</i>				
Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	2001	2010	324	259
5 Year	2006	2010	327	
*All Values are in Gallons per Capita per Day (GPCD)				
NOTES: This form was completed for the 2015 UWMP				

5.4 2020 Compliance Daily per Capita Water use

Law

10608.12 (f) Compliance daily per capita water use” means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

10608.24 (b)) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

Submittal Table 5-2: 2020 Compliance From SB X7-7 2020 Compliance Form <i>Retail Supplier or Regional Alliance Only</i>				
2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* (Adjusted if applicable)		
216	0	259	259	Y
*All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)				
NOTES:				

Chapter 6: System Supplies

In this Chapter, the City of Kingsburg will identify the current and projected water sources available for the water system.

This chapter includes the following sections:

- 6.1 Purchased Water
- 6.2 Ground Water
- 6.3 Surface Water
- 6.4 Stormwater
- 6.5 Wastewater and Recycled Water
- 6.6 Desalinated Water Opportunities
- 6.7 Exchanges or Transfers
- 6.8 Future Water Projects
- 6.9 Summary of Existing and Planned Sources of Water
- 6.10 Special Conditions – Climate Change Impacts, Regulatory Conditions
- 6.11 Energy Use

6.1 Purchased Water

The City of Kingsburg uses local groundwater as the sole source of water supply and does not currently purchase or import water from any other water suppliers or entities.

6.2 Groundwater

The City of Kingsburg is located in the Tulare Lake Hydrologic Region, Kings Basin sub-basin of the state of California. As stated earlier, the sole water supply for the customers of the City is groundwater. Each hydrologic region is divided into distinct groundwater basins, which may be further divided into smaller groundwater basins. The following section summarizes the groundwater basin and sub-basin for the City.

6.2.1 Basin Description

Law

10631. (b)(4)(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.

Kingsburg's aquifer is within the Kings Basin, located in the southern part of the San Joaquin Valley groundwater basin in the Central Valley. Primary sources of surface water for the Kings Basin are the Kings River and the San Joaquin River via Friant-Kern Canal, a facility of the federal Central Valley Project. DWR has designated this basin as critically over drafted.

The City of Kingsburg is located along the eastern side of the Central Valley in a geologic setting that has favorable water supply properties. The eastern side of the

Central Valley near the Kings River is characterized by unconsolidated sand, gravel and cobbles with minor lenses of fine sand, silt and clay. These materials have a large surface infiltration rate and they are able to transmit water very readily.

Groundwater in the Kingsburg area generally flows in a southwesterly direction away from the foothills. The rate and direction of flow is influenced locally by pumping from Fresno and other nearby municipalities, by seepage into or out of the Kings River, and by local variation in aquifer properties.

6.2.2 Groundwater Management

Law

10631(b)(4)(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

The City of Kingsburg relies 100% on local groundwater for its water supply. The Kings Basin is not adjudicated, therefore there are no limitations placed on groundwater pumping volumes. The City is monitoring groundwater levels and water quality of the groundwater supply. This information is available to the water service area, local and state agencies.

The City is surrounded by Consolidated Irrigation District (CID). CID supplies surface water to agricultural areas in its 145,000 acre service area. This area runs from east of Sanger to west of Highway 99 and from north of Fowler to the Kings River, south of Kingsburg. CID currently operates several recharge basins, and has the ability to send water to at least two storm drain basins in the City. CID also owns and operates approximately 200 miles of unlined canals that, when flowing, provide recharge to the Kings Basin. CID owns and operates three canals in, or near, Kingsburg. The Cole Slough Canal is located on the east side of the City, while the Ward Drainage Canal and the Kingsburg Branch run on the north and west side.

In 2010, the City of Kingsburg entered into a Cooperative Agreement with Consolidated Irrigation District (CID) to, among other things, mitigate possible negative environmental impacts on groundwater resources. The agreement provides for the payment of contributions by the City into a fund that would then be used for the purposes of administering, construction and maintaining groundwater recharge projects. The cooperative agreement provides for diversion of excess flood waters (historically available four out of ten years) into recharge facilities constructed through the agreement. Water rates were increased to provide for the additional funding for

groundwater recharge projects. In 2014, the first project through this program was constructed to interconnect the Cole Slough canal to an existing nearby storm water/recharge basin.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) was signed into law on September 16, 2014, and was amended in the later part of 2015 to provide clarity to the original law and guidance on groundwater adjudications. This new legislation defines sustainable groundwater management as the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results. These undesirable results include lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, degraded water quality, unreasonable land subsidence, and surface water depletions. Groundwater Sustainability Agencies (GSA's) would be formed to oversee and enforce sustainable groundwater management.

In May 2017, the City of Kingsburg became part of the South Kings Groundwater Sustainability Agency Joint Powers Authority partnering with the nearby cities of Fowler, Parlier, and Sanger as well as the Del Rey Community Services District. This group formed a GSA and submitted the required documentation to Department of Water Resources in order to register as the exclusive GSA for the territory bounded by the four city limits and as the area covered by the Del Rey CSD. The filing deadline for new GSA has now passed and the South Kings GSA became the exclusive GSA for its area on September 4, 2017.

Non-Sustainable Groundwater Management Act

Since its inception in 2017, the South Kings GSA (SKGSA) has prepared the required Groundwater Sustainability Plan, which was adopted in December 2019, is currently constructing two monitoring wells (one in Parlier and one in Fowler) and continues to work diligently with CID to receive yearly water allocations. Kingsburg currently has three basin construction projects planned - at Madsen Avenue, Athwal Park, and Historical Park. SKGSA has an annual budget of \$5.8mil (for FY23-24). Each of the 5 member agencies contributes a percentage based off the previous year's pumping volume. The City of Kingsburg's contribution was \$702,314 in 2023.

6.2.3 Overdraft Conditions

Law

10631(b)(4)(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

The groundwater levels in the Kings Basin, and specifically in the City of Kingsburg, have seen large decreases. A combination of drought, development, and inconsistent use of surface water due to availability has put a strain on groundwater availability. Since 2000, the City’s static elevations have fallen significantly. Managing the quantity of water stored in the groundwater aquifers in the region will help perpetuate the availability of this resource. However, increasing demands will result in greater reliance on groundwater resources.

The Department of Water Resources, in Bulletin 118-80, declared the Kings Basin to be critically over drafted.

In the near term, the groundwater basin appears to be adequate to meet current demands; however, in the long term, the groundwater basin yield will further decline making it more difficult to meet increased future demand without offsetting actions. To date, declining water levels have had only a minor effect on well yields and production costs in Kingsburg, but further declines in groundwater basin storage and levels are expected and these may negatively affect well yields and pumping costs. The City is working to develop and construct groundwater recharge projects through an agreement with CID and through SGMA compliance efforts in order to mitigate the groundwater overdraft. Similar efforts are also being undertaken by other GSAs within the Kings Basin.

6.2.4 Historical Pumping

Law

10631(b)(4)(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonable available, including, but not limited to, historic use records.

There are currently 7 active water wells located throughout the City. The volume of groundwater pumped since 2016 is shown in Table 6-1. Although the depth to water levels has been increasing, the City’s groundwater continues to provide a reliable source of water.

Table 6-1: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Kings Sub Basin	901	854	924	780	996
TOTAL		901	854	924	780	996

6.3 Surface Water

At the time of preparation of the 2020 UWMP, the City of Kingsburg does not use surface water as part of its water supply.

6.4 Stormwater

The City of Kingsburg currently maintains a network of stormwater detention basins and associated conveyance systems that provide groundwater recharge. A significant amount of stormwater drainage is captured and flows to the City's basins. There are a few small locations where existing City storm drainage enters canals or other drainage facilities.

6.5 Wastewater and Recycled Water

The City of Kingsburg currently, has no wastewater recycled for direct reuse. However, indirect recycling occurs through the recharge of groundwater from sewer flows sent to the Selma-Kingsburg-Fowler Sewer District, located just west of the City. The potential amount of recycled water that can be produced is proportional to the amount of wastewater that is generated by the City.

6.5.1 Recycled Water Coordination

Law

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

The Selma-Kingsburg-Fowler County Sanitation District is responsible for wastewater collection and treatment within the City of Kingsburg's service area.

6.5.2 Wastewater Collection, Treatment, Disposal

Law

10633 (a) (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal
(b) (Describe) the quantity of treated wastewater that meets recycled water standards, is being discharge, and is otherwise available for use in a recycled water project.

The Selma-Kingsburg-Fowler County Sanitation District (SKF) operates and maintains the sewer system consisting of gravity sewers and pumping stations. The residential, commercial, and industrial wastewater is all conveyed to the SKF Wastewater Treatment and Disposal Facilities. Based on the Wastewater Treatment Plant Facilities Plan10, there appears to be a no plans for SKF to change the current method of effluent disposal and indirect reuse.

Table 6-2 estimates the volume of wastewater collected from District customers in 2020, as provide by SKF, based on flow metering estimates.

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
<input type="checkbox"/>	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system <i>(optional)</i>					
	Percentage of 2020 service area population covered by wastewater collection system <i>(optional)</i>					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i>
Selma-Kingsburg-Fowler County Sanitation District	Estimated	747	SKF County Sanitation District	SKF Wastewater Treatment and Disposal Facilities	No	
Total Wastewater Collected from Service Area in 2020:		0				
* <i>Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>						
NOTES:						

6.5.3 Recycled Water System

Law

10633 (c) (Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

There may be opportunities in the future to partner with SKF as it considers adding conveyance facilities of recycled water to their wastewater plant, located approximately 2 miles west of Kingsburg. However, there is no current use of recycled water from SKF to the City, and it is doubtful that the City will be acquiring recycled water customers from SKF in the near future.

6.5.4 Recycled Water Beneficial Use

Law

10633 (d) (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

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

Currently, no wastewater is recycled for direct reuse from the domestic or industrial wastewater streams in the City. Indirect recycling occurs through the recharge of groundwater from sewer flows sent to the Selma-Kingsburg-Fowler Sewer District, located just west of the City..

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area										
<input type="checkbox"/> Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.										
Name of Supplier Producing (Treating) the Recycled Water:										
Name of Supplier Operating the Recycled Water Distribution System:										
Supplemental Water Added in 2020 (volume) <i>Include units</i>										
Source of 2020 Supplemental Water										
Beneficial Use Type <i>Insert additional rows if needed.</i>	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity) <i>Include volume units¹</i>	General Description of 2020 Uses	Level of Treatment <i>Drop down list</i>	2020 ¹	2025 ¹	2030 ¹	2035 ¹	2040 ¹	2045 ¹ (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)										
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)										
Total:					0	0	0	0	0	0
2020 Internal Reuse										

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

NOTES:

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	2015 Projection for 2020 ¹	2020 Actual Use ¹
<i>Insert additional rows as needed.</i>		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	0	0
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTE:		

6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Law

10633 (f) *(Describe) The actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.*

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

There are no plans for a recycled water project in the City at this time. Any future project would need to be coordinated with SKF. Due to the lack of existing infrastructure and the cost to install such infrastructure in the future, it is unlikely that a recycled water project would be economically feasible.

Table 6-6: Methods to Expand Future Recycled Water Use			
<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
35	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
Total			0

6.6 Desalinated Water Opportunities

Law

10631 (g) *Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply*

There are no opportunities for the development of desalinated water in Kingsburg, which is located in the eastern Central Valley at a great distance from any potential source of saline water.

6.7 Exchanges or Transfers

Law

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

Permanent transfers from local farmers are not possible within CID due to issues with water rights. At this time, the City is not pursuing water exchanges or transfers with other entities. The City does have an agreement with CID for groundwater recharge, which may be an opportunity in the future for possible exchanges or transfers

6.8 Future Water Projects

Law

10631 (f) ...The urban water supplier shall include a detailed description of expected future water projects and programs...that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal, single-dry, water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

As identified earlier in the water supply strategy, groundwater is the only source over the planned horizon of this UWMP. The City will construct additional wells and distribution facilities to meet the anticipated increases in future demand as needed. Additional groundwater recharge facilities should be added to offset this demand. The soil characteristics in the City have historically been very receptive to recharge.

Table 6-7 identifies new water well projects in the development area of the North Kingsburg Specific Plan Area. The well sites will be identified as projects are developed, based on proposed land use and existing flows. Currently, there are three tentative subdivision maps in various stages of processing for development within the area.

Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
Name of Future Projects or Programs	Joint Project with other agencies?		Description	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Agency
Water Well	No		Water Well in NKSP	Unknown	All Year Types	200
Water Well	No		Water Well in NKSP	Unknown	All Year Types	200
Water Well	No		Water Well in NKSP	Unknown	All Year Types	200
NOTES: NKSP is North Kingsburg Specific Plan						

6.9 Summary of Existing and Planned Sources of Water

Law

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

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

Table 6-8 shows the actual volumes of groundwater production for calendar year 2020. Table 6-9 shows the projected supply volumes through 2045.

As discussed above, for purposes of this UWMP, it is assumed that potential future surface supplies will be used for basin recharge and that therefore groundwater will continue to be the sole supply source and will be sufficient to serve all demand through 2045. Therefore, the groundwater supply amounts shown in Table 6-9 equal the projected demand in each year.

Table 6-8: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
		Actual Volume	Water Quality	Total Right or Safe Yield
Groundwater		996	Drinking Water	
Total		996		0

Submittal Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
		2025		2030		2035		2040		2045 (opt)	
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Groundwater (not desalinated)		1,286		1,413		1,552		1,705		1,874	
Total		1,286	0	1,413	0	1,552	0	1,705	0	1,874	0
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>											
NOTES											

6.10 Special Conditions

6.10.01 Climate Change Effects, Regulatory Conditions, and project Development

As noted in Section 4.04, climate change impacts were considered as a part of the SKGSA GSP. DWR climate change guidance referenced in the SKGSA GSP indicates that a change in timing of Kings River flows is anticipated, with more flows in the winter and early spring and less in the summer. However, the total Kings River flow volume is not expected to change significantly. Similarly, climate change impacts to water demands are not anticipated to be significant. Chapter 3.3.10 Projected Water Budget from the SKGSA GSP is included as Appendix D. Conclusions from the climate change discussion in the SKGSA GSP are summarized as follows:

- Projected climate change impacts to total annual Kings River flow volumes are negligible.
- The change in timing of flows would require significant changes in water management.
- Appropriate projects and management actions will be developed and implemented as a part of the GSP to maintain sustainable groundwater supplies for KREGSA.

Discussions regarding regulatory conditions and project development are included in previous sections of the Plan.

6.11 Energy Use

10631.2 (a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

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

The estimated energy used to extract, divert, convey, treat, and distribute water for the City's Public Water System was determined from the energy utility invoices received during 2020 for its various water system facilities. Energy is used primarily for groundwater wells and booster pumps.

The Public Water System's estimated energy intensity for 2020 is calculated based on the Total. The estimated energy use of 1,457,726 kilowatt-hours (kWh) for 2020 includes -367,723 kWh that reflects power generated at Well 20 that was sold back to the grid where utility metering reflects negative energy usage. The volume of water entering the process is the total domestic water use of 1,553 MG from Table 4-1 Retail.

Chapter 7: Water Supply Reliability and Drought Risk Assessment

This chapter addresses the reliability of the City of Kingsburg’s water supplies. Assessment of water supply reliability is dependent on several factors, such as the number of water sources, regulatory and legal constraints, hydrological and environmental conditions, and expected growth, among others. Based on available historical information and projections of future water uses, regulatory and legal constraints, and hydrological and environmental conditions, the City has made its best determination of the future reliability of water supplies.

This chapter contains the following sections:

- 7.1 Constraints on Water Sources
- 7.2 Reliability by Type of Year
- 7.3 Regional Supply Reliability
- 7.4 Drought Risk Assessment

7.1 Constraints on Water Sources

Law

10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

10631 (b)(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of

As identified earlier in the UWMP, the City’s only current and planned source of water supply is groundwater. As such, the City is fully dependent on well pumping for its supply. Possible regulatory restrictions could include restricted pumping. Currently, the Kings Basin is not adjudicated, so there are no restrictions. If the Kings Basin is unable to comply with the requirements of SGMA, that could change.

Groundwater pumping generally presents few environmental issues. New well sites are generally located in developments that are currently within City limits, or will be annexed. These well sites would be subject to the California Environmental Quality Act (CEQA), and are planned to be in compliance with all local zoning and development standards and requirements.

The City's seven active wells are closely monitored by City Water Department staff, and are in compliance with current State regulations, with the exception of the newly adopted MCL for 1,2,3-TCP. The depths of the wells generally average 700 feet, with a solid casing above 350'. This allows the wells to deliver water from a deeper area of the aquifer than the shallower wells used by rural residential and agricultural users. The City provides annual Consumer Confidence Reports, which identify what items are detected in the supply. The CCR compares the tested water supply to the Primary and Secondary Standards for Water Quality. The tested water sample is compared against the established Maximum Contamination Level (MCL) for each substance and recorded in this document for viewing by the public within the service area. In 2020, the City did have a violation for coliform bacteria. This violation was just above the MCL during one month of the year and was immediately corrected through chlorination of the system. The 2020 CCR can be found as Appendix J.

The City is actively monitoring 1,2,3-Trichloropropane (TCP) concentrations in its wells. At this time, three City wells are impacted with concentrations close to or above the newly established MCL for TCP, and a fourth well has detected lower concentrations. The City has completed a treatment feasibility study and is in the initial phases of implementing the recommendations in that study for mitigating the TCP contamination.

7.2 Reliability by Type of Year

Law

10631 (b)(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change

This section identifies the types of years considered when evaluating water supply reliability. They are described as follows:

- **Average Water Year:** The average water year is a year that represents the mean runoff levels from precipitation, as well as the same general pattern of runoff. The supply quantities would be similar to historical average supplies.
- **Single Dry Year:** The single dry year is defined as the individual year with the lowest usable water supply. This condition can be derived as the year with the lowest annual supply.
- **Five Consecutive Year Drought**

The designations of Base Years for drought planning are shown in Table 7-1. These years were chosen based on review of information provided by the NOAA weather information center in Hanford, CA.

Table 7-1: Basis of Water Year Data			
Year Type	Base Year	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2006		100%
Single-Dry Year	2013		100%
Consecutive Dry Years 1st Year	2012		100%
Consecutive Dry Years 2nd Year	2013		100%
Consecutive Dry Years 3rd Year	2014		100%
Consecutive Dry Years 4th Year	2015		100%
Consecutive Dry Years 5th Year	2016		100%

NOTES: Available volume is equal to the volume pumped during base year identified

Table 7-2 identifies the projected normal year supply and demand. The supply totals are shown in Table 6-9, while the demand totals are shown in Table 4-3.

Table 7-2: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045
Supply totals	1,286	1,413	1,552	1,705	1,874
Demand totals	1,286	1,413	1,552	1,705	1,874
Difference	0	0	0	0	0

Table 7-3 identifies the projected single dry year supply and demand.

Table 7-3: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045
Supply totals	1,286	1,413	1,552	1,705	1,874
Demand totals	1,286	1,413	1,552	1,705	1,874
Difference	0	0	0	0	0

Table 7-4 identifies the projected multiple dry years supply and demand.

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	1,286	1,413	1,552	1,705	1,874
	Demand totals	1,286	1,413	1,552	1,705	1,874
	Difference	0	0	0	0	0
Second year	Supply totals	1,157	1,272	1,397	1,535	1,687
	Demand totals	1,157	1,272	1,397	1,535	1,687
	Difference	0	0	0	0	0
Third year	Supply totals	1,093	1,201	1,319	1,449	1,593
	Demand totals	1,093	1,201	1,319	1,449	1,593
	Difference	0	0	0	0	0
Fourth year	Supply totals	1,093	1,201	1,319	1,449	1,593
	Demand totals	1,093	1,201	1,319	1,449	1,593
	Difference	0	0	0	0	0
Fifth year	Supply totals	1,093	1,201	1,319	1,449	1,593
	Demand totals	1,093	1,201	1,319	1,449	1,593
	Difference	0	0	0	0	0
Sixth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

7.3 Regional Supply Reliability

Law

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

The City of Kingsburg is aware of the decline in regional groundwater supply, and is working in conjunction with other communities serviced by the Kings Basin to implement

measures to manage water consumption. The City has adopted water conservation ordinances and demand management measures that have been implemented to assist the community in conserving water and help prevent wasting of this precious resource, as well as beginning to develop and construct groundwater recharge projects through an agreement with CID and through SGMA compliance efforts

7.4 Drought Risk Assessment

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

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

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

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

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

The water supplies for the Public Water System are projected to be adequate to meet demands during the years of the Drought Risk Assessment. The Five-Year Drought Risk Assessment for the Public Water System is presented in Table 7-5.

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

2021	Total
Total Water Use	1,193
Total Supplies	1,193
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	1,215
Total Supplies	1,094
Surplus/Shortfall w/o WSCP Action	(122)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	122
Revised Surplus/(shortfall)	1
Resulting % Use Reduction from WSCP action	10%
2023	Total
Total Water Use	1,238
Total Supplies	1,052
Surplus/Shortfall w/o WSCP Action	(186)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	186
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	15%
2024	Total
Total Water Use	1,262
Total Supplies	1,073
Surplus/Shortfall w/o WSCP Action	(189)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	189
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	15%
2025	Total
Total Water Use	1,286
Total Supplies	1,093
Surplus/Shortfall w/o WSCP Action	(193)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	193
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	15%

Chapter 8: Water Shortage Contingency Planning

Water shortage contingency planning is a strategic planning process to prepare for and respond to water shortages. Good planning and preparation can help agencies maintain reliable supplies and reduce the impacts of supply interruptions.

This chapter contains the following sections:

- 8.1 Water Supply Reliability Analysis
- 8.2 Annual Water Supply and Demand Assessment Procedures
- 8.3 Six Standard Water Shortage Stages
- 8.4 Shortage Response Action
- 8.5 Communication Protocols
- 8.6 Compliance and Enforcements
- 8.7 Legal Authorities
- 8.8 Financial Consequences of WSCP Activation
- 8.9 Monitoring and Reporting
- 8.10 WSCP Refinements Procedures
- 8.11 Special Weather Feature Distinction
- 8.12 Plan Adoption, Submittal, and Availability

8.1 Water Supply Reliability Analysis

Law

10632 (a)(1) The analysis of water supply reliability conducted pursuant to Section 10635.

The water supply reliability analysis and drought risk assessment from Section 7 are summarized in the C it's WSCP provided in Appendix F.

8.2 Annual Water Supply and Demand Assessment Procedures

10632 (a)(2) *The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:*

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

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

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

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

(iii) Existing infrastructure capabilities and plausible constraints.

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

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

8.3 Six Standard Water Shortage Stages

The six standard water shortage levels as defined in the City's WSCP are summarized in Table 8-1,

10632 (a)(3) (A) *Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption*

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

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative description)
1	Up to 10%	Variations in precipitation and mild droughts that may only last a year or two.
2	Up to 20%	Prolonged water shortages of moderate severity such as those caused by a multi-year drought
3	Up to 30%	Mos severe multi-year droughts, major failures in water production and distribution facilities
4	Up to 40%	An exceptional crisis that could be caused only by the most severe multi-year drought, natural disaster, or catastrophic failure of major water supply infrastructure. Impacts to public health and safety would be significant.
5	Up to 50%	
6	>50%	
NOTES:		

8.4 Shortage Response Actions

10632 (a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

- (A) Locally appropriate supply augmentation actions.
- (B) Locally appropriate demand reduction actions to adequately respond to shortages
- (C) Locally appropriate operational changes.
- (D) Additional, mandatory prohibitions against specific water use practices that are in addition to state mandated prohibitions and appropriate to the local conditions. (E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

The demand reduction actions for the Public Water System service area for each Shortage Level from the City’s WSCP are summarized in Table 8-2. The Shortage Level in Table 8-2 indicates the shortage level at which the demand reduction actions take effect. For each subsequent stage, all demand reduction actions from the previous Shortage Level remain in effect. In Shortage Level 1, the demand reduction actions are voluntary. Starting with Shortage Level 2, the demand reduction actions become mandatory.

Table 8-2: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
1	Landscape - Limit landscape irrigation to specific times	No watering between 6am - 6pm	Yes
1	Landscape - Limit landscape irrigation to specific days	Even Number Addresses: Wednesday, Friday, Sunday / Odd Number Addresses: Tuesday, Thursday, Saturday	Yes
1	Landscape - Restrict or prohibit runoff from landscape irrigation		Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
1	Other - Prohibit use of potable water for washing hard surfaces		Yes
1	Water Features - Restrict water use for decorative water features, such as fountains		Yes
1	Other	Wash only full loads of laundry	No
1	Other	Fix all known leaks inside household	No
1	Other	Shorten Showers / Turn off water while brushing teeth & shaving	No
2	Landscape - Limit landscape irrigation to specific times	No watering between 6am - 6pm	Yes
2	Landscape - Limit landscape irrigation to specific days	Even Number Addresses: Wednesday, Friday, Sunday / Odd Number Addresses: Tuesday, Thursday, Saturday	Yes
2	Landscape - Restrict or prohibit runoff from landscape irrigation		Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes

Table 8-2: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement?
2	Other - Prohibit use of potable water for washing hard surfaces		Yes
2	Water Features - Restrict water use for decorative water features, such as fountains		Yes
2	Other	Self adjusting "smart" irrigation controller recommended	Yes
2	Other	Average usage limit may be enforced by City	Yes
2	Other	Wash only full loads of laundry	No
2	Other	Fix all known leaks inside household	No
2	Other	Shorten Showers / Turn off water while brushing teeth & shaving	No
3	Landscape - Limit landscape irrigation to specific times	No watering between 6am - 6pm	Yes
3	Landscape - Limit landscape irrigation to specific days	Even Number Addresses: Wednesday, Friday, Sunday / Odd Number Addresses: Tuesday, Thursday, Saturday	Yes
3	Landscape - Restrict or prohibit runoff from landscape irrigation		Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
3	Other - Prohibit use of potable water for washing hard surfaces		Yes
3	Water Features - Restrict water use for decorative water features, such as fountains		Yes
3	Other	Self adjusting "smart" irrigation controller recommended	Yes
3	Other	Average usage limit may be enforced by City	Yes

Table 8-2: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement?
3	Other	City inspector to patrol and enforce water usage regulations	Yes
3	Other	All residents in City limits required to have water meter monitored by City	Yes
3	Other	Structured water meter payment system	Yes
3	Other	Wash only full loads of laundry	No
3	Other	Fix all known leaks inside household	No
3	Other	Shorten Showers / Turn off water while brushing teeth & shaving	No
4	Landscape - Limit landscape irrigation to specific times	No watering between 6am - 6pm	Yes
4	Landscape - Limit landscape irrigation to specific days	Even Number Addresses: Wednesday, Friday, Sunday / Odd Number Addresses: Tuesday, Thursday, Saturday	Yes
4	Landscape - Restrict or prohibit runoff from landscape irrigation		Yes
4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
4	Other - Prohibit use of potable water for washing hard surfaces		Yes
4	Water Features - Restrict water use for decorative water features, such as fountains		Yes
4	Other	Self adjusting "smart" irrigation controller recommended	Yes
4	Other	Average usage limit may be enforced by City	Yes

Table 8-2: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement?
4	Other	City inspector to patrol and enforce water usage regulations	Yes
4	Other	All residents in City limits required to have water meter monitored by City	Yes
4	Other	Structured water meter payment system	Yes
4	Other	Wash only full loads of laundry	No
4	Other	Fix all known leaks inside household	No
4	Other	Shorten Showers / Turn off water while brushing teeth & shaving	No

8.4.1 Seismic Risk Assessment and Mitigation Plan

Law

10632.5 (a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

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

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

A seismic risk analysis and mitigation plan was completed as a part of the Fresno County Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP). A copy of the City of Kingsburg Annex to the Fresno County MJLHMP is provided in Appendix K. In the event of an earthquake or other catastrophic event, the City will implement its Water System Emergency Response Plan. The City-wide response plan protocol is described in the City of Kingsburg Emergency Operations Center Activation Manual.

8.5 Communication Protocols

Law

10632 (a)(5) *Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following: (A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1. (B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1. (C) Any other relevant communications*

8.6 Compliance and Enforcements

10632 (a)(6) For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

Upon such time that conditions warrant; the City Manager will make recommendations to the City Council and will take into consideration and act upon if deemed necessary the following actions for the City of Kingsburg water uses:

8.6.1 General

- Identify those entities with high-volume water usage and develop plans to minimize their impact on the water system and water shortage impacts on their establishments.
- Develop procedures for emergency facilities installation and construction.
- Develop procedures for dissemination of information in regards to the stages of the contingency plans and for public notification.
- Develop a water system master list that will identify each system component and designate those components as critical or noncritical, and their level of importance.

8.6.2 Improvement Modifications

- Adopt water conserving modified improvement standards.
- Limit the amount of landscaping for commercial developments.
- Regulate the type of vegetation that can be used for aesthetic landscaping (ex. Plants that can withstand long seasons of drought).
- Decrease landscaping in areas such as median island or frontages areas along commercial properties, and increase practice of zeroscape.
- Promote the use of recycled water devices for commercial and industrial developments.

8.6.3 Supply Management

- Engage in leak detection efforts when water loss exceeds 10 percent.

- Install pressure regulation/flow control devices in high-pressure/high-flow areas.
- Develop and maintain recordkeeping system to monitor production and distribution functions and deviations.
- Develop a structured meter or water consumption billing system
- Initiate mandated installation of water-saving devices and appliances.
- Develop and implement public education programs to emphasize the importance of water and the various methods and benefits of water conservation.

The City's consumption reduction methods are summarized in Table 8-3.

8.7 Legal Authorities

Law

10632 (a)(7) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

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

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

Water Code Section Division 1, Section 350

Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

During a water supply shortage, the City has at least two methods to monitor the success of reduction efforts. Since groundwater is the sole source of supply for the City, each groundwater well includes a flow-monitoring device that tracks water production. In addition, almost 95% of the customers have water meters. Readings from both of these devices are used to measure and monitor City-wide water conservation efforts.

8.8 Financial Consequences of WSCP

Law

10632 (a)(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

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

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

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1. [retail urban suppliers only]

The City of Kingsburg's tiered water rate system provides revenues for purposes of operation and maintenance of the water system. The tiered system was put into action after installation of water meters at over 95% of the service area customers. The City realizes that water revenues will decrease as use decreases. Currently, the City has a considerable reserve available should revenues dip during a water shortage. The City identified this as a priority and has budgeted accordingly over the last several fiscal years to build up this reserve for protection against revenue decreases during dry years. The City also has annual audits that assist with cost analysis and determine if rate increases may be necessary.

8.9 Monitoring and Reporting

Law

10632 (a)(9) For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements

The UWMPA requires that water suppliers include an urban water shortage contingency analysis that includes the water shortage contingency resolution or ordinance. The water supply shortage contingency plan and regulations for the City were prepared in March 2012 and are included as Appendix F.

8.10 WSCP Refinement Procedures

Law

10632 (a)(10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

During an imminent catastrophic shortage, the City Manager will activate a water shortage response team. This team will include: public works, water, fire, and police departments, planning, emergency services, and the Mayor's office. Other actions and procedures that are to follow a catastrophic event will be developed by this team.

8.11 Special Water Feature Distinction

Law

10632 (b) For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

8.12 Plan Adoption, Submittal and Availability

10632 (c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

Chapter 9: Demand Management Measures

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

In 2014, this section of the CWC was significantly modified to reflect updated demand management measures, technologies, and approaches to water use efficiency. The retail agency requirements were reduced from 14 specific measures to six more general requirements plus an “other” category. For wholesalers, the requirements changed to three specific measures, an “other” category, as well as a requirement for a narrative description of asset management and wholesale supplier assistance programs.

This chapter contains the following sections:

- 9.1 Demand Management Measures for Retail Agencies
- 9.2 Planned Implementation to Achieve Water Use Targets
- 9.3 Members of the California Urban Water Conservation Council

9.1 Demand Management Measures (DMM) for Retail Agencies

Law

For purposes of this section, the City of Kingsburg’s DMMs have been grouped in accordance with the DMM categories in the guidelines as follows:

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

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

- (ii) Metering.*
- (iv) Public education and outreach.*
- (vi) Water conservation program coordination and staffing support.*
- (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*

(2) For an urban wholesale water supplier, as defined in Section 10608.12, (provide) a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

- Water waste prevention ordinances
- Metering
- Conservation pricing
- Public education and outreach
- Distribution system water loss management

- Water conservation program coordination and staffing support, and
- Other demand management measures

9.1.1 Water Waste Prevention Ordinances

Section 13.040-70 of the City of Kingsburg’s Municipal Code identifies the guidelines for wasting of water. These guidelines include prevention of overwatering of landscape, restricted outdoor watering times, swimming pool fills and re-fills, and car washing. The City has implemented a WSCP and its rules and regulations. The City is currently operating under normal conditions.

9.1.2 Metering

Law

526

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

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

527

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

(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2020.

This DMM requires that water meters be installed for all new connections to allow billing by volume of use. This program also applies to retrofitting any existing unmetered connections. From 2012 to 2015, the City implemented the use of water meters and required the use of meters on all new developments. Currently, over 95% of the City’s almost 3,600 service connections are metered, with the remaining 5% being metered within the next two years. These water meters are read monthly and readings are collected by City staff. The City bills for water using conservation pricing and a tiered volumetric rate structure.

9.1.3 Conservation Pricing

As described above, the City of Kingsburg meters all services and charges for use based on the quantity of water used. The tiered rate structure includes a monthly fixed service charge based on the size of the customer’s meter in addition to a commodity charge based on the total volume water consumed by a customer during the billing period. For example, a single family dwelling currently pays a fixed rate of \$30.35 for up to 22,000 gallons per month and a commodity charge of \$0.80/1,000 gallons. However, if a customer uses over 22,001 during a billing period the commodity charge increases to \$0.95/1,000 gallons. Water usage above 34,000 gallons is billed at a rate of \$1.14/1,000 gallons. The excess consumption amount is added to the monthly bill. The current water rate schedule is included as Appendix I.

9.1.4 Public Education and Outreach

The City distributes public information regarding water issues in mass mailings to all water service customers through the City's Internet website, directly to walk-in customer at City Hall, and at the Public Works Department. Also, when warranted, time-critical public information is dispersed through the local print media, radio station announcements and public events.

Water use regulations and the annual Drinking Water Consumer Confidence Report (water quality report) are mailed each year to all customers. The City takes advantage of these mailings when necessary to provide its customers additional information on water conservation and other demand management measures.

Display cases and bulletin boards at City facilities augment the mailings by providing a permanent posting of the most current City mailings. The City monthly water bill distributed to all water service customers is another vehicle used by the City for public education purposes. The bill mailing also contains public service announcements that are used to remind citizens of conservation and demand management measures.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

As stated above, the City of Kingsburg has installed meters on 95% of the connections within the last 5 years. Switching from unmetered, flat rate water usage to metered, tiered rate water usage has allowed City water department staff to identify which properties are higher rate users. Additionally, it has allowed for review of connections that have relatively constant rates throughout both the day and the night, indicating a potential leak. As a means to better account for water use in the system, a water supplier may use a water audit. Unaccounted for water is the difference between the water supplied to the system and the cumulative total of metered water use.

For this UWMP, the City conducted a water audit using AWWA software provided for preparation of this report. City Staff will use the findings of that audit to investigate potential sources for losses.

Currently the City does not meter sewer and hydrant flushing, as well as street sweeping. However City staff is attempting to be more diligent in metering these flows and recording them for annual review. Additionally, unaccounted for water can be an indicator of leaks, meter errors, water system repair or maintenance, or illegal connections.

The City's annual capital improvement budget currently allocates funds for system repairs, including transmission and distribution mains, as well as pump stations and storage tanks. Leaks within the system are immediately fixed upon detection. The City keeps a record of all repaired leaks in the Public Works Department.

9.1.6 Water Conservation Program Coordination and Staffing Support

The City of Kingsburg's water department is responsible for coordinating and expanding the City's water conservation program as well as providing useful water conservation information to residents through the various public outreach programs. City water department enforces water use prohibitions and write violations.

9.1.7 Other Demand Management Measures

Although the City does not possess funds to offer rebates and incentives for water conservation implementation, they direct customers to State funded rebate programs. The City uses social media, flyers, mailers, and other public outreach measures to promote low flow toilet and turf replacement for customers.

9.2 Planned Implementation to Achieve Water Use Targets

Law

CWC 10631

- (e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
- (1)(A) ... The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

As stated above, the City of Kingsburg's water use in 2020 is already below the 2015 target. The City plans to maintain tiered water usage rates for customers within the service area and require meters for all new customers. Additionally, the City will attempt to install meters on existing City maintained buildings and landscape areas.

9.3 Members of the California Urban Water Conservation Council

Law

CWC 10631

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

The City of Kingsburg is not a member of the California Urban Water Conservation Council.

Chapter 10: Plan Adoption, Submittal, and Implementation

This Chapter provides information on a public hearing, the adoption process for the UWMP, the adopted UWMP submittal process, plan implementation, and the process for amending the adopted UWMP.

This chapter includes the following sections:

- 10.1 Inclusion of All 2020 Data
- 10.2 Notice of Public Hearing
- 10.3 Public Hearing and Adoption
- 10.4 Plan Submittal
- 10.5 Public Availability
- 10.6 Amending an Adopted UWMP

10.1 Inclusion of All 2020 Data

The City is preparing the 2020 UWMP on the basis of a calendar year and preparation of the plan was completed using data up to, and including, 2020. Relevant data has been updated through December of 2020.

10.2 Notice of Public Hearing

This section documents the public notification process and when notice was given.

10.2.1 Notice to Cities and Counties

Law

10621 (b) Every urban water supplier required to prepare a plan shall...at least 60 days prior to the public hearing on the plan...notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

10642 ...The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area...

The City provided notice to relevant stakeholders, summarized in Table 10-1, on February 8, 2017; this notification date was more than the required 60 days prior to the public hearing on the 2020 UWMP.

Table 10-1: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
County Name	60 Day Notice	Notice of Public Hearing
Fresno County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

10.2.2 Notice to Public

Law

10642 ...Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code...

Government Code 6066
Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

A notice of the public hearing was published in the local newspaper in a manner pursuant to the stated Government Code 6066. Documentation of the notice provided to the public is included in Appendix H and the draft 2020 UWMP was available for review at various City facilities and on the City’s web page.

10.3 Public Hearing and Adoption

Following the notification of relevant stakeholders the City held a City Council meeting on January 17, 2024, to address and review comments received from both stakeholders and members of the community. No comments were received by stakeholders or members of the community.

10.4 Plan Submittal

The UWMPA requires water agencies to submit a copy of the adopted 2020 UWMP to the DWR within 30 days of adoption and before July 1, 2016. Additionally, water agencies are required to submit a copy of the adopted 2020 UWMP to all relevant stakeholders within 30 days of adoption. The adopted 2020 UWMP was submitted to the DWR on January 19, 2024. The adopted 2020 UWMP was submitted to relevant stakeholders and the California State Library within 30 days of adoption.

10.5 Public Availability

Consistent with the UWMPA requirements, a copy of the 2020 UWMP was made available to the public in the office of the City Clerk at City Hall, located at 1400 Draper Street, within 30 days of adoption.

10.6 Amending an Adopted UWMP

Any amendments to the adopted 2020 UWMP will be adopted and filed in a manner consistent with the UWMPA requirements. Additionally, all adopted amendments will be submitted to DWR and any relevant stakeholders within 30 days of adoption.

Appendix A: UWMP Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	N/A
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Section 1.4
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	N/A
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	N/A
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Section 10.2.1
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	N/A
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	N/A
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Section 3.5
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.5
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.5
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Section 3.5
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.5
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.3
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	N/A
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	N/A
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.3
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 7.4
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	N/A
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	N/A
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	N/A

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	N/A
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	N/A
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	N/A
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Section 7.1
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, <i>including changes in supply due to climate change.</i>	System Supplies	Section 7.1 & 7.2
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	N/A
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	N/A
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 6.9
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.9
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.1 & 6.2.3
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.1 & 6.2.3
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Section 6.2.1 & 6.2.3
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years.	System Supplies	Section 6.2.4
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	N/A
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.4
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Section 6.5.2
x	x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Section 6.8
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 6.11
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability.	Water Supply Reliability Assessment	N/A
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.3
x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.1
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 7.4
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Section 7.4
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 7.4

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.4
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 7.4
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	N/A
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP.	Water Shortage Contingency Planning	Section 8.1
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Section 8.10
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision- making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Section 8.2
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Section 8.2
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Section 8.3
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Section 8.3
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Section 8.4

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Section 8.4
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 8.4
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Section 8.4
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	N/A
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Section 8.4.1
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Section 8.5
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	N/A
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Section 8.6
x	x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 8.7
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Section 8.7
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Section 8.7
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.8
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.8

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought.	Water Shortage Contingency Planning	Section 8.8
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Section 8.9
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Section 8.11
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	N/A
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	N/A
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	N/A
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	N/A
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 10.2.1

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Chapter 10.2.1
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Section 10.2.1 & 10.2.2
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.2.1 & 10.2.2
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	N/A

Appendix B: Resolution Adopting 2020 UWMP and WCSP

Appendix C: Public Water System Statistics

Kingsburg Water Production Totals Reported in Million Gallons												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
January	35.6	42.4	55.9	49.9	62.6	45.3	28.922	36.109	36.995	33.66	48.62	
February	39.4	41.7	53.9	50	49.2	39.9	34.085	31.845	46.68	31.512	49.45	
March	61.9	61.3	71.1	87.2	69.2	67.1	41.322	50.05	49.47	30.561	60.76	
April	73.3	97	84.8	117.1	88.3	78.789	63.905	66.634	71.79	33.807	56.7	
May	76.3	115.3	136.4	143.6	119.6	86.8	89.692	89.635	84.48	63.131	91.25	
June	150	149.6	159.9	161.8	136.3	101.9	111.13	102.14	104.47	74.974	111.67	
July	157.4	178.1	168.5	170.1	141.6	104.39	129	103.97	152.36	90.761	119.9	
August	165.9	166.6	167.4	162.4	131.4	95.86	122	109.44	98.53	102.446	125.94	
September	135.9	152	145.8	140.9	118.2	78.172	89.9	79.158	83.07	105.976	105.624	
October	102.9	115	121.6	119.6	107	78.6	89.7	82.669	85.39	80.158	95.48	
November	67	69.2	69.6	79.2	61.1	42.554	58.274	58.901	61.77	75.347	72.48	
December	49.9	57.8	46.4	62.6	45	36.6	42.885	43.537	48.79	57.513	57.35	
Year Total	1115.50	1246.00	1281.30	1344.40	1129.50	855.97	900.82	854.09	923.795	779.846	995.224	

Appendix D: SKGSA GSP Excerpts

- Water Budgets
- Climate Change Considerations

3.3.10 Projected Water Budget

Regulation Requirements:

<p>§354.18</p> <p>c)Each Plan shall quantify the current, historical, and projected water budget for the basin as follows:</p> <p>3)Projected water budgets shall be used to estimate future baseline conditions of supply, demand, and aquifer response to Plan implementation, and to identify the uncertainties of these projected water budget components. The projected water budget shall utilize the following methodologies and assumptions to estimate future baseline conditions concerning hydrology, water demand and surface water supply availability or reliability over the planning and implementation horizon:</p> <p>(A) Projected hydrology shall utilize 50 years of historical precipitation, evapotranspiration, and streamflow information as the baseline condition for estimating future hydrology. The projected hydrology information shall also be applied as the baseline condition used to evaluate future scenarios of hydrologic uncertainty associated with projections of climate change and sea level rise.</p> <p>(B) Projected water demand shall utilize the most recent land use, evapotranspiration, and crop coefficient information as the baseline condition for estimating future water demand. The projected water demand information shall also be applied as the baseline condition used to evaluate future scenarios of water demand uncertainty associated with projected changes in local land use planning, population growth, and climate.</p> <p>(C) Projected surface water supply shall utilize the most recent water supply information as the baseline condition for estimating future surface water supply. The projected surface water supply shall also be applied as the baseline condition used to evaluate future scenarios of surface water supply availability and reliability as a function of the historical surface water supply identified in Section 354.18(c)(2)(A), and the projected changes in local land use planning, population growth, and climate.</p> <p>c)The Agency shall utilize the following information provided, as available, by the Department pursuant to Section 353.2, or other data of comparable quality, to develop the water budget:</p> <p>3) Projected water budget information for population, population growth, climate change, and sea level rise.</p>

Projected water budgets (future water budgets) have been developed for 2040 and 2070. The 2040 water budget is the focus of this analysis as it represents near term periods and requires less speculative estimates of projected future climate change impacts, population growth and land use change.

Projected water budgets are based initially on the Current water budget, with changes made to various variables, as shown in **Figure 3-45** below.

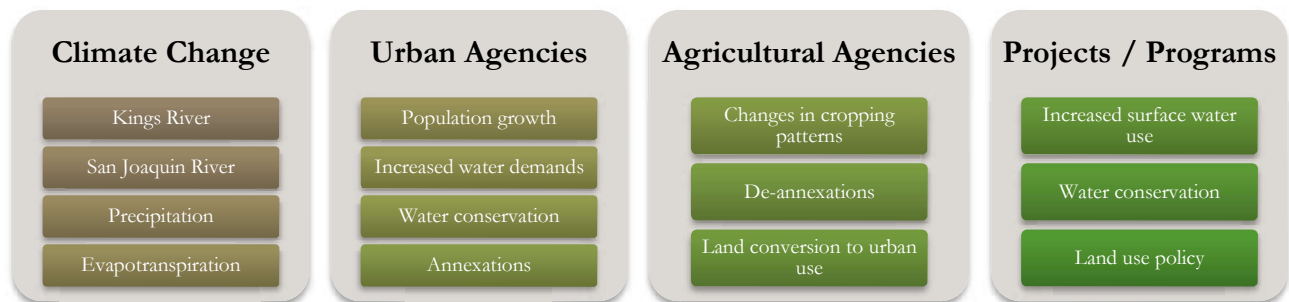


Figure 3-45: Variables Impacting Projected Water Budget

Climate Change

Climate change impacts were based on *Guidance for Climate Change Data Use during Groundwater Sustainability Plan Development* and the related SGMA climate change website (DWR, 2018c). This document provided estimates for 2030 and 2070. Since 2040 is the deadline for sustainability, and therefore the focus of the water budgets, impacts from 2040 were interpolated between the 2030 and 2070 results.

The DWR climate change datasets were developed for the California Water Commission’s Water Storage Investment Program (WSIP). As described by DWR, the WSIP dataset is consistent with other DWR programs, is based on best available science, builds on previous efforts, incorporates the latest advances in projections, and follows Climate Change Technical Advisory Group guidance. The available datasets include central tendency projections of ensembles of general circulation models for 2030 and 2070 levels. The datasets also include climatic bookends for 2070 conditions, with a drier, extreme warming scenario and a wetter, moderate

warming scenario being provided. Only the central tendency simulations were used for preparing water budgets for the Kings Subbasin.

For the Kings Subbasin, three DWR datasets were used – projected Kings River inflows to Pine Flat Dam, projected precipitation in the Kings Subbasin and projected evapotranspiration. Kings River inflows for early future and late future conditions were analyzed based on the WSIP water supply projections. As shown in **Figure 3-46**, the central tendency projections for both 2030 and 2070 show a slight increase in projected Kings River inflows; however, there was a major shift in the timing of runoff. The simple interpretation of this shift is that predicted warmer temperatures in the future will result in more precipitation in the Sierra Nevadas occurring as rainfall and less as snowfall. Additionally, warmer temperatures mean that snowfall will tend to melt earlier that it would have melted historically.

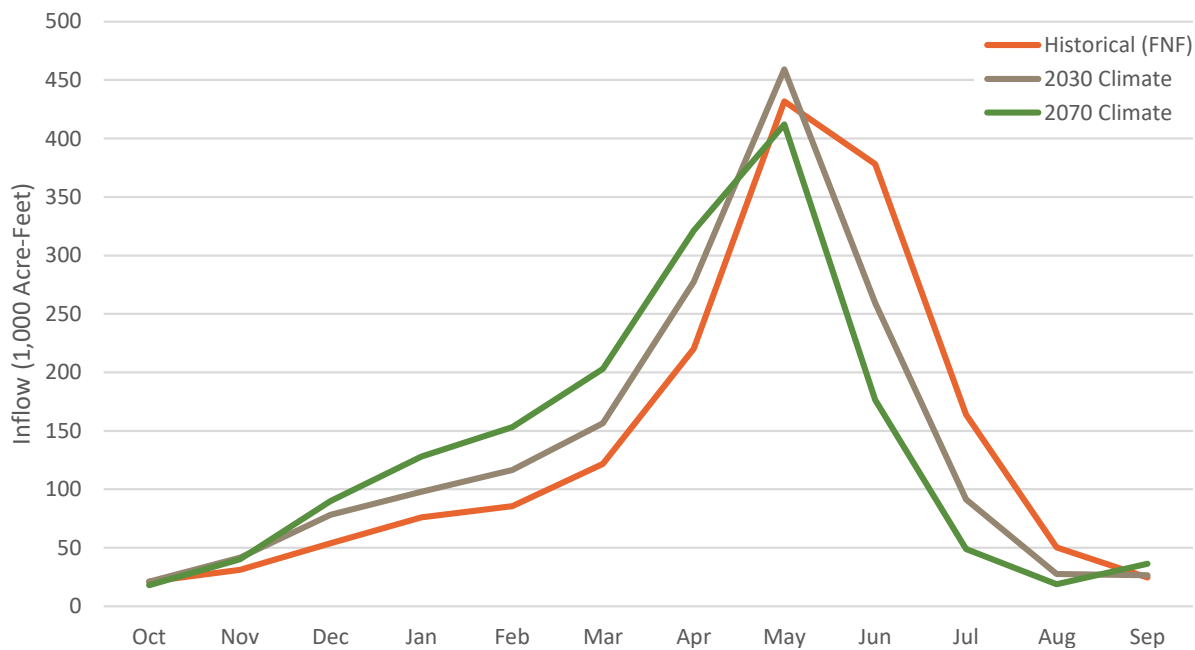


Figure 3-46: Projected Kings River Inflow by Month

As noted earlier, the overall change in predicted Kings River inflows is a very slight increase. Inflows increased about 0.7% between historical and early future (2030) conditions and increased 0.3% between historical and late future (2070) conditions. However, there were some major shifts in timing of runoff, with large drops in runoff occurring in the late spring/early summer months of June, July and August. Runoff during winter months tended to increase significantly for winter and early spring months. While the overall change in runoff is essentially negligible, there would be significant changes in water management based on the change in runoff patterns. Historically, significant amounts of Kings River runoff occurred during the irrigation season when inflows could be directly used for water deliveries without needing storage. In the future more of this runoff will now occur during non-irrigation or low-irrigation months. Maintaining the same level of water supply from the Kings River in the future will require modifications in water management practices including increased use of surface water storage, increased recharge during the non-irrigation and low-irrigation periods, and expansion of diversion facilities to accommodate higher peak flows in non-irrigation and low-irrigation periods. In addition to management changes by local water agencies, maintaining historical surface water supplies will also be affected by water rights allocations, which assign available water to local water agencies on defined schedules that vary by period.

Quantification of the impacts of predicted Kings River inflows on surface water supplies would require a sophisticated, theoretical operations model that considers inflow availability, water rights and management practices by local water agencies. No such operations model is available and development of such a model was not feasible during preparation of the current GSPs. Additionally, water management on the Kings River is based on numerous factors in addition to those that could be incorporated into a monthly operations model such as operational availability of facilities, cropping patterns, daily water supply allocations, availability of recharge facilities, management practices and other factors. It is expected that future SGMA analyses will continue to consider the potential quantification of future water supply, however there is no certainty that such an analysis will be pursued or would improve predictive capability even if it was available.

Based on the uncertainty described above, the assumption was made that Kings River water supplies available to the Kings Subbasin water supplies will be managed in the future to maintain historical levels of water supplies. This assumption is based on the slight overall increase in runoff, flexibility of existing water management to absorb changed timing of inflows and projected changes in the timing of irrigation demands corresponding to warming. For the Central Kings GSA, the historical values described earlier will be used for both the early future and late future conditions.

The WSIP climate change datasets provided by DWR were also reviewed for precipitation and evapotranspiration conditions. For precipitation, the datasets generally showed minimal overall changes (Figure 3-47).

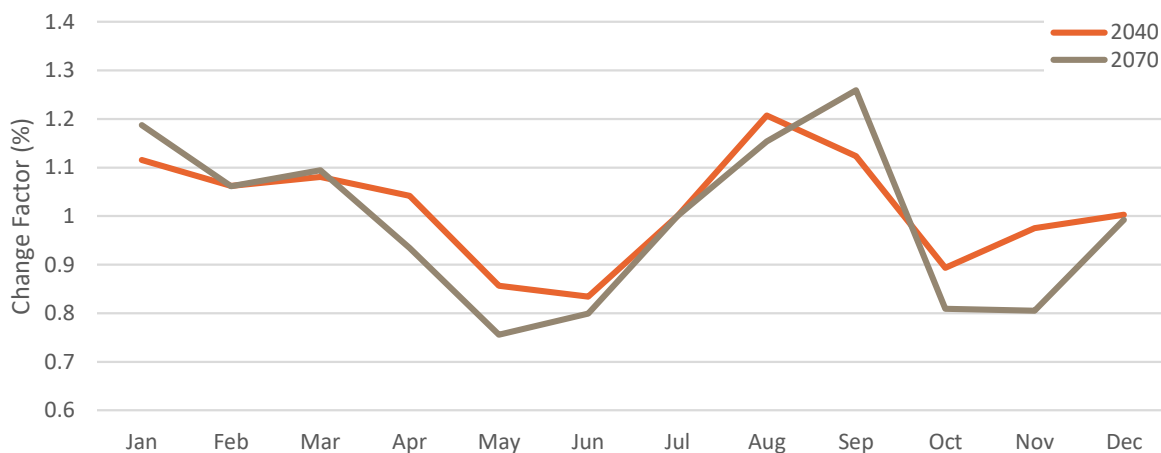


Figure 3-47: Central and South Kings GSA Precipitation Climate Change Adjustment Factors

Overall, the precipitation change factors were projected to increase by 1.6% for early future (2040) conditions and to decrease by 1.2% for late future (2070) conditions. Moreover, the average monthly adjustment factors understate the effect on precipitation, as many of the months with projected decreases in precipitation (e.g., May, June and October) are low precipitation months while months indicated increased precipitation tend to be wetter (e.g., January and February). Adjusting for monthly average precipitation, the total volume of precipitation for CKGSA and SKGSA is estimated to increase by 4% for early future and 2% for late future conditions. Given the generally low amount of precipitation in the Kings Subbasin and the slight increased projected with climate change, a conservative assumption has been made that projected rainfall, and amounts available for water supply such as effective precipitation and recharge from precipitation, will remain the same for early future and late future projection as estimated for the historical period.

Shown in Figure 3-48, the WSIP climate change projections provided by DWR project consistently higher evapotranspiration rates for early future and late future conditions. For early future (2040) conditions, the projected adjustments indicate an average increase of 4.4%, with very little variation by month on average. For late future (2070) conditions, the projected adjustments indicate an average increase of 8.2%. Although the late

future projections show more variation by month, the outlier (higher) rates are in relatively low evapotranspiration months (e.g., November, December and January) and relatively consistent during the irrigation season (April through September).

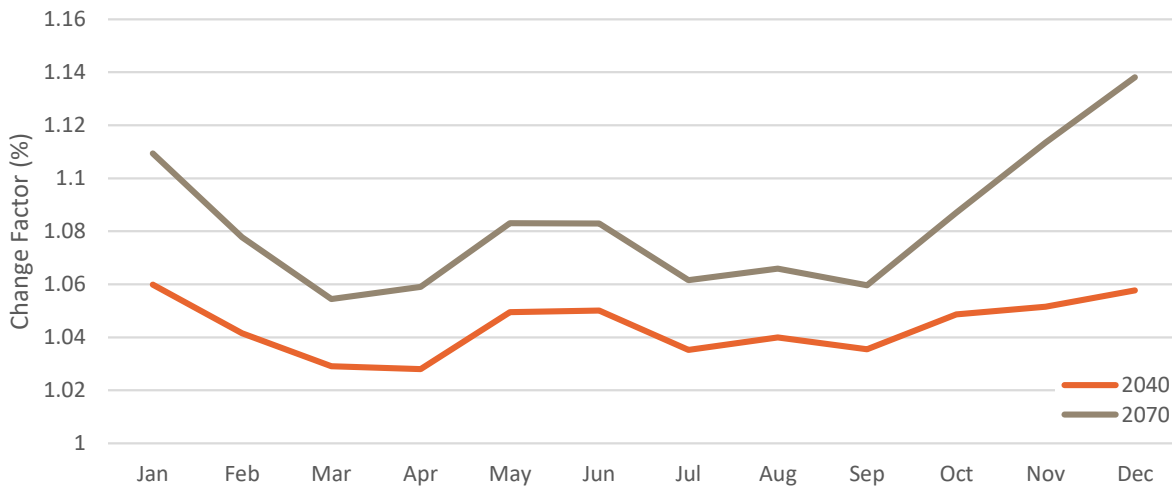


Figure 3-48: Central and South Kings GSA ET Climate Change Adjustment Factors

The effect of projected increased evapotranspiration rates on irrigated water use were reviewed, with reference to the U.S Bureau of Reclamation report on effects of climate change as follows:

“Annual crop ET is projected to increase for perennial crops, with smaller increases, and sometimes slight decreases, for annual crops. Perennial crop ET increases are due to longer growing seasons and increases in ET_o. While annual crops also experience increased ET rates, earlier potential planting dates and reduced growing season due to increased temperatures and crop development sometimes result in decreased annual crop ET.” (USBR, 2018)

For the Kings subbasin, evapotranspiration adjustment factors were applied based on the documentation in the USBR report. For annual crops, unit water use was left at rates identified in the historical period. For perennial crops, unit water use was increased corresponding to the increasing projected for the early future and late future WSIP projections.

Future water use for municipal areas has been updated based on projected population rates and updated per capita water use. Where available, Urban Water Management Plans have been used as the source of population projections and per capita water use rates. Projected municipal populations for smaller urban areas are taken from available State of California projections for counties. The ratios of indoor use, outdoor use and resulting recharge were left as developed for the historical period.

Kings Basin Projected Water Budget (2040)

Table 3-8 shows the projected water budget for the entire Kings Subbasin, alongside individual water budgets for the GSAs within the subbasin. The projected water budget includes reduction of groundwater outflows by the McMullin GSA, anticipated yield from potential projects, and demand changes provided by water agencies. These factors result in a net groundwater storage change of zero by 2040 for the Kings Subbasin.

Table 3-8: Kings Basin Projected Water Budget (2040)

Description	Total	McMullin GSA	NFKings GSA	North Kings GSA	Central/South GSA	Kings River East GSA	James ID GSA
Total Supply	3,686,945	404,800	628,800	1,238,356	627,000	687,000	100,989
Consumptive Subtotal	2,139,841	297,500	409,000	547,000	365,200	435,000	67,641
GW Recharge Subtotal	1,434,453	245,100	205,000	518,400	219,500	213,100	33,353
Nonrecoverable Subtotal	645,541	50,400	65,500	336,100	113,500	76,400	22,141
Method 1							
Estimated Annual Change in GW Storage	0	0	0	0	0	0	0
GW Recharge	1,434,453	245,100	205,000	518,400	219,500	213,100	33,353
GW Pumping	(1,467,406)	(308,200)	(290,200)	(412,200)	(199,200)	(239,700)	(17,906)
GW Outflow	(200,441)	0	(16,200)	(122,000)	(35,400)	(4,700)	(22,141)
Other Change in GW Storage	14,000	(18,500)	32,500	0	0	0	0
Projects for Water Supply Augmentation	168,494	40,600	62,800	15,800	15,100	27,500	6,694
Demand Reduction from Project Development	7,500	800	2,900	0	0	3,800	0
Management Actions for Demand Reduction	43,400	40,200	3,200	0	0	0	0

South Kings GSA Projected 2040 Water Budget

The projected water budget for 2040 is shown in **Table 3-9**. The 2040 water budget includes the aforementioned impacts from climate change (crop evapotranspiration and San Joaquin River supplies), and estimated demand changes provided by the water agencies.

Note, the estimate in annual groundwater storage change accounts for projects (as further discussed in **Section 6**) and demand reduction by management actions. As projects or other management actions are implemented, the projected water budget may warrant modification. **Section 4** explains the Sustainable Management Criteria and sets interim goals to keep track of progress. A phased mitigation approach to achieving sustainability is proposed for the Kings Subbasin, including the following:

- 10% of the overdraft addressed during the first 5-year period, then
- 20% during the next five-year period for a total 30% of the overdraft addressed during the first 10 years, then
- 30% during the next five-year period for a total 60% of the overdraft addressed within the first 15 years, then the remaining 40% during the last five-year period to achieve 100% of the overdraft addressed during the 20-year implementation period.

Note that these are minimum goals and progress may be faster than described. Projects and Management Actions are being developed to achieve sustainability within the SKGSA as explained in **Section 6**. The initial focus will be on project development, with management actions implemented as needed to meet the identified interim milestones.

Table 3-9: Future Conditions Water Budget for Central and South Kings GSAs (2040)

Description		Volume (AF)		
		Average Year	Wet Year	Dry Year
Supply				
1)	Surface Water for Irrigation and Recharge	281,900	469,851	89,104
2)	Surface Water for M&I	0	0	0
3)	Groundwater Pumping for Irrigation (Private Wells, calculated/estimated)	0	0	0
4)	Groundwater Pumping for Irrigation (Private Wells, unknown)	159,300	11,500	303,000
5)	Groundwater for M&I (South Kings GSA)	18,700	18,700	18,700
6)	Groundwater for M&I (Central Kings GSA)	21,200	21,200	21,200
7)	Precipitation	145,900	208,400	109,100
8)	Spill Inflows	0	0	0
9)	Other Supply:	0	0	0
Total Supply		627,000	729,651	541,104
Demand				
Consumptive Use				
10)	Evapotranspiration met by Applied Water	289,100	254,500	310,800
11)	Evapotranspiration met by Effective Precipitation	54,500	95,100	38,800
12)	Evapotranspiration of M&I	19,400	19,400	19,400
13)	Other Consumptive Use:	0	0	0
Consumptive Subtotal		363,000	369,000	369,000
Groundwater Recharge				
14)	Groundwater Inflow	400	400	400
15)	Deep Percolation of Irrigation Water	56,000	48,300	58,900
16)	Deep Percolation of Precipitation	16,000	45,900	1,300
17)	Deep Percolation of M&I Water	12,000	12,000	12,000
18)	Seepage of Channels & Pipelines	72,700	114,200	21,700
19)	Seepage – Reservoirs	0	0	0
20)	Urban Stormwater – Recharge	2,100	3,100	1,700
21)	Local Streams/Rivers – Recharge	31,200	53,800	29,400
22)	Groundwater – Intentional Recharge	20,700	59,500	0
23)	Other Recharge	8,400	8,400	8,400
GW Recharge Subtotal		219,500	345,600	133,800
Nonrecoverable Losses				
24)	Groundwater – Outflow	35,400	35,400	35,400
25)	Evaporation – Channels	1,400	2,300	400
26)	Evaporation – Reservoirs & Recharge Basins	1,300	2,600	300
27)	Precipitation – Evaporation and Runoff	75,400	67,400	69,000
28)	Operational Spills	0	0	0
29)	Groundwater Export	0	0	0
30)	Other Losses:	0	0	0
Nonrecoverable Subtotal		113,500	107,700	105,100
Method 1				
Estimated Annual Change in Groundwater Storage		0	273,900	(229,400)
Groundwater Recharge - #14 thru #23		219,500	345,600	133,800
Groundwater Pumping - #3 thru #6		(199,200)	(51,400)	(342,900)
Groundwater Outflow - #24 thru #29		(35,400)	(35,400)	(35,400)
Projects for Water Supply Augmentation		15,100	15,100	15,100
Demand Reduction from Project Development		0	0	0
Management Actions for Demand Reduction		0	0	0

Appendix E: SB X-7 Compliance and Verification Forms

SB X7-7 Table 0: Units of Measure Used in UWMP*

(select one from the drop down list)

Million Gallons

**The unit of measure must be consistent with Table 2-3*

NOTES:

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine 2020 Population



1. Department of Finance (DOF)
DOF Table E-8 (1990 - 2000) and (2000-2010) and
DOF Table E-5 (2011 - 2020) when available



2. Persons-per-Connection Method



3. DWR Population Tool



4. Other
DWR recommends pre-review

NOTES:

SB X7-7 Table 3: Service Area Population

Year	Population	
10 to 15 Year Baseline Population		
Year 1	2001	9,689
Year 2	2002	10,052
Year 3	2003	10,519
Year 4	2004	11,108
Year 5	2005	11,105
Year 6	2006	11,097
Year 7	2007	11,041
Year 8	2008	11,109
Year 9	2009	11,293
Year 10	2010	11,383
5 Year Baseline Population		
Year 1	2003	10,519
Year 2	2004	11,108
Year 3	2005	11,105
Year 4	2006	11,097
Year 5	2007	11,041
2020 Compliance Year Population		
2020		12,380
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use

Baseline Year	Volume Into Distribution System	Deductions					Annual Gross Water Use
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water	Water Delivered for Agricultural Use	Process Water	
10 to 15 Year Baseline - Gross Water Use							
Year 1	2001	1,100	-	-	-	-	1,100
Year 2	2002	1,175	-	-	-	-	1,175
Year 3	2003	1,217	-	-	-	-	1,217
Year 4	2004	1,276	-	-	-	-	1,276
Year 5	2005	1,237	-	-	-	-	1,237
Year 6	2006	1,346	-	-	-	-	1,346
Year 7	2007	1,483	-	-	-	-	1,483
Year 8	2008	1,414	-	-	-	-	1,414
Year 9	2009	1,448	-	-	-	-	1,448
Year 10	2010	1,126	-	-	-	-	1,126
10 - 15 year baseline average gross water use							1,282
5 Year Baseline - Gross Water Use							
Year 1	2003	1,217	-	-	-	-	1,217
Year 2	2004	1,276	-	-	-	-	1,276
Year 3	2005	1,237	-	-	-	-	1,237
Year 4	2006	1,346	-	-	-	-	1,346
Year 5	2007	1,483	-	-	-	-	1,483
5 year baseline average gross water use							1,312
2020 Compliance Year - Gross Water Use							
	2020	996	-	-	-	-	996
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3							
NOTES:							

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

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year		Service Area Population	Annual Gross Water Use	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2001	9,689	1,100	311
Year 2	2002	10,052	1,175	320
Year 3	2003	10,519	1,217	317
Year 4	2004	11,108	1,276	315
Year 5	2005	11,105	1,237	305
Year 6	2006	11,097	1,346	332
Year 7	2007	11,041	1,483	368
Year 8	2008	11,109	1,414	349
Year 9	2009	11,293	1,448	351
Year 10	2010	11,383	1,126	271
10-15 Year Average Baseline GPCD				324
5 Year Baseline GPCD				
Baseline Year		Service Area Population	Gross Water Use	Daily Per Capita Water Use
Year 1	2003	10,519	1,217	317
Year 2	2004	11,108	1,276	315
Year 3	2005	11,105	1,237	305
Year 4	2006	11,097	1,346	332
Year 5	2007	11,041	1,483	368
5 Year Average Baseline GPCD				327
2020 Compliance Year GPCD				
2020		12,380	996	220
NOTES:				

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD	2020 Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2020 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2020?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2020 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
220	259	-	-	-	-	220	220	YES
NOTES:								

SB X7-7 Verification and Compliance Tables from 2015 UWMP

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	1,346	Million Gallons
	2008 total volume of delivered recycled water	-	Million Gallons
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period	10	Years
	Year beginning baseline period range	2001	
	Year ending baseline period range	2010	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range	2007	
<p>¹ If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.</p> <p>² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.</p>			
<p>³ The ending year must be between December 31, 2004 and December 31, 2010.</p>			
<p>⁴ The ending year must be between December 31, 2007 and December 31, 2010.</p>			
NOTES:			

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population	
<input checked="" type="checkbox"/>	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
<input type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population

Year	Population	
10 to 15 Year Baseline Population		
Year 1	2001	9,689
Year 2	2002	10,052
Year 3	2003	10,519
Year 4	2004	11,108
Year 5	2005	11,105
Year 6	2006	11,097
Year 7	2007	11,041
Year 8	2008	11,109
Year 9	2009	11,293
Year 10	2010	11,383
5 Year Baseline Population		
Year 1	2003	10,519
Year 2	2004	11,108
Year 3	2005	11,105
Year 4	2006	11,097
Year 5	2007	11,041
2015 Compliance Year Population		
2015		11,824
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use

Baseline Year	Volume Into Distribution System	Deductions					Annual Gross Water Use
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water	Water Delivered for Agricultural Use	Process Water	
10 to 15 Year Baseline - Gross Water Use							
Year 1	2001	1,100	-	-	-	-	1,100
Year 2	2002	1,175	-	-	-	-	1,175
Year 3	2003	1,217	-	-	-	-	1,217
Year 4	2004	1,276	-	-	-	-	1,276
Year 5	2005	1,237	-	-	-	-	1,237
Year 6	2006	1,346	-	-	-	-	1,346
Year 7	2007	1,483	-	-	-	-	1,483
Year 8	2008	1,414	-	-	-	-	1,414
Year 9	2009	1,448			-	-	1,448
Year 10	2010	1,126			-	-	1,126
10 - 15 year baseline average gross water use							1,282
5 Year Baseline - Gross Water Use							
Year 1	2003	1,217	-	-	-	-	1,217
Year 2	2004	1,276	-	-	-	-	1,276
Year 3	2005	1,237	-	-	-	-	1,237
Year 4	2006	1,346	-	-	-	-	1,346
Year 5	2007	1,483	-	-	-	-	1,483
5 year baseline average gross water use							1,312
2015 Compliance Year - Gross Water Use							
2015	838	-	-	-	-	-	838
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3							
NOTES:							

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

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year		Service Area Population	Annual Gross Water Use	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2001	9,689	1,100	311
Year 2	2002	10,052	1,175	320
Year 3	2003	10,519	1,217	317
Year 4	2004	11,108	1,276	315
Year 5	2005	11,105	1,237	305
Year 6	2006	11,097	1,346	332
Year 7	2007	11,041	1,483	368
Year 8	2008	11,109	1,414	349
Year 9	2009	11,293	1,448	351
Year 10	2010	11,383	1,126	271
10-15 Year Average Baseline GPCD				324
5 Year Baseline GPCD				
Baseline Year		Service Area Population	Gross Water Use	Daily Per Capita Water Use
Year 1	2003	10,519	1,217	317
Year 2	2004	11,108	1,276	315
Year 3	2005	11,105	1,237	305
Year 4	2006	11,097	1,346	332
Year 5	2007	11,041	1,483	368
5 Year Average Baseline GPCD				327
2015 Compliance Year GPCD				
2015		11,824	838	194
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution

Name of Source		Kings Sub Basin		
This water source is:				
<input checked="" type="checkbox"/>	The supplier's own water source			
<input type="checkbox"/>	A purchased or imported source			
Baseline Year	Volume Entering Distribution System	Meter Error Adjustment	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2001	1,100	-	1,100
Year 2	2002	1,175	-	1,175
Year 3	2003	1,217	-	1,217
Year 4	2004	1,276	-	1,276
Year 5	2005	1,237	-	1,237
Year 6	2006	1,346	-	1,346
Year 7	2007	1,483	-	1,483
Year 8	2008	1,414	-	1,414
Year 9	2009	1,448		1,448
Year 10	2010	1,126		1,126
5 Year Baseline - Water into Distribution System				
Year 1	2003	1,217	-	1,217
Year 2	2004	1,276	-	1,276
Year 3	2005	1,237	-	1,237
Year 4	2006	1,346	-	1,346
Year 5	2007	1,483	-	1,483
2015 Compliance Year - Water into Distribution System				
2015		838	-	838
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day
Summary From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	324
5 Year Baseline GPCD	327
2015 Compliance Year GPCD	194
NOTES:	

SB X7-7 Table 7: 2020 Target Method

Select Only One

Target Method		Supporting Documentation
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator

NOTES:

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

20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
324	259

NOTES:

SB X7-7 Table 7-E: Target Method 3

Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
<input type="checkbox"/>		North Coast	137	130
<input type="checkbox"/>		North Lahontan	173	164
<input type="checkbox"/>		Sacramento River	176	167
<input type="checkbox"/>		San Francisco Bay	131	124
<input type="checkbox"/>		San Joaquin River	174	165
<input type="checkbox"/>		Central Coast	123	117
<input checked="" type="checkbox"/>	100%	Tulare Lake	188	179
<input type="checkbox"/>		South Lahontan	170	162
<input type="checkbox"/>		South Coast	149	142
<input type="checkbox"/>		Colorado River	211	200
<p align="center">Target <i>(If more than one region is selected, this value is calculated.)</i></p>				<p align="center">179</p>
<p>NOTES:</p>				

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

5 Year Baseline GPCD From SB X7-7 Table 5	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
327	311	259	259

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

² 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

NOTES:

SB X7-7 Table 8: 2015 Interim Target GPCD

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
259	324	291

NOTES:

Appendix F: 2020 Water Shortage Contingency Plan

City of Kingsburg

Water Shortage Contingency Plan

Draft – December 2023

Introduction

This Water Shortage Contingency Plan (WSCP) for the City of Kingsburg (City) has been prepared in accordance with current Water Code requirements and outlines a program for responding to water supply limitations. The intent of the water conservation measures and progressive restrictions on water use identified in this WSCP is to provide guidance to the City in managing and mitigating anticipated water supply shortages. The structured steps are designed to allow the City to assess its available water supplies and implement appropriate measures in response to actual conditions so that water shortages can be managed efficiently, predictably, and with accountability.

This WSCP includes the following elements as required by the Water Code:

1. Water Supply Reliability Analysis
2. Annual Water Supply and Demand Assessment Procedures
3. Six Standard Water Shortage Levels
4. Shortage Response Actions
5. Communication Protocols
6. Compliance and Enforcement
7. Legal Authorities
8. Financial Consequences of WSCP
9. Monitoring and Reporting
10. WSCP Refinement Procedures
11. Special Water Feature Distinction
12. Plan Adoption, Submittal and Availability

A water shortage condition is defined as when available water supplies are insufficient to meet the normally expected customer demands. Water shortage conditions may be a result of population growth, climate change, drought, catastrophic events, or other water shortage emergencies declared by either the City, State or Federal government.

The six standard water shortage levels and response actions defined in this WSCP increase restrictions on water use in response to the increasing levels of water shortage conditions. Each of the required elements is addressed in the following sections.

1. Water Supply Reliability Analysis

The City's 2020 Urban Water Management Plan (2020 UWMP) update includes a water supply reliability analysis and drought risk assessment which are summarized herein.

The City's Public Water System relies on groundwater pumping to meet its demands. The City is a participant in the South Kings Groundwater Sustainability Agency (SKGSA), which has prepared a Groundwater Sustainability Plan (GSP). The GSP was adopted on July 15, 2022 and will govern sustainable groundwater management within the Kings Subbasin of the San Joaquin Valley Groundwater Basin in coordination with the six other GSAs within the Subbasin.

With implementation of the projects and management actions identified in the SKGSA GSP, the City's groundwater supplies are anticipated to be sustainable and available to meet the projected demands of its Public Water System service area. The SKGSA GSP identifies sustainable management criteria for water levels. Maintaining water levels above the Minimum Threshold levels identified in the SKGSA GSP is anticipated to allow the City's wells to meet the demands of the Public Water System while minimizing undesirable results related to chronic groundwater level declines such as declining pump capacity, well inefficiency, water levels falling below pump intakes and pump screens, and degraded water quality. The most recent SKGSA GSP Annual Report indicates that groundwater levels Representative Monitoring Sites near the City are above their designated Minimum Thresholds and on track to meet the forecast groundwater level projections and Interim Milestones established for these wells. Groundwater recharge is proposed to be implemented near the City's well field to help maintain groundwater levels.

As population and water demands increase with the Public Water System service area, the City will construct new wells required to meet the increased demands. Groundwater wells will be equipped with wellhead treatment if needed to remove contaminants that exceed water quality standards.

The Drought Risk Assessment in the 2020 UWMP update evaluates the reliability of the City's groundwater supplies to meet drought conditions for 2021 and a subsequent five period. The Drought Risk Assessment indicates that although the Public Water System's groundwater supplies are anticipated to be adequate to meet drought conditions during this period, it is assumed that water supplies and water demands are reduced by 10 percent in the second dry year and by 15 percent in the third through fifth dry years as a result of water conservation measures expected to be implemented during an extended drought period. The reduction in demands will be accomplished by implementation of the appropriate Shortage Level and associated response actions in this WSCP.

A catastrophic event may result in a significant loss of City water supplies for a temporary period lasting from a day to a week or more. Examples of catastrophic events include earthquake, widespread power outage or other disaster. The WSCP shortage levels and response actions are intended to be implemented as appropriate to any future water shortage condition.

2. Annual Water Supply and Demand Assessment Procedures

The City Manager and the Public Works Director will conduct an annual assessment of the City's water supplies and demands and prepare an Annual Water Shortage Assessment Report (Annual Assessment Report) for the Public Water System considering the following:

- Current year unconstrained demand (considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable),
- Current year available supply (considering hydrological and regulatory conditions in the current year and one dry year),
- Existing infrastructure capabilities and plausible constraints,
- A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment, and
- A description and quantification of each source of water supply.

The Annual Assessment Reports will be completed and submitted to DWR prior to July 1 of each year (beginning in 2022) per Water Code requirements.

If water shortage conditions requiring declaration of a Water Shortage Level 2 or higher are anticipated, the Annual Assessment Reports shall be submitted to the City Council for approval. The Annual

Assessment Report for Water Shortage Level 2 or higher water shortage conditions will set for the criteria for determining when the particular Water Shortage Level is to be implemented and terminated as well as the appropriate shortage response actions, compliance and enforcement actions, and communications protocols consistent with the WSCP.

3. Six Standard Water Shortage Levels

As the water purveyor, the City must provide the minimum health and safety water needs of the Domestic Water System service area at all times. Implementation of this WSCP prioritizes water use as follows:

1. Health and safety – interior residential water use and fire suppression.
2. Commercial, Industrial, and Governmental – jobs and economic base.
3. Landscaping – residential, business/commercial, parks.
4. New Demand – all projects.

The six standard water shortage levels are defined by the State to allow for increasing levels of water conservation measures in response increasing severity of water shortage.

The applicable water shortage Level and response actions will depend on the causes, severity, and anticipated duration of the water supply shortage. The Six Standard Water Shortage Levels for the City’s Public Water System are summarized in **Table 1**.

Table 1: Water Shortage Contingency Plan Levels		
Shortage Level	Percentage Shortage Range	Narrative Description
1	Up to 10%	Variations in precipitation and mild droughts that may only last a year or two.
2	Up to 20%	Prolonged water shortages of moderate severity such as those caused by a multi-year drought.
3	Up to 30%	Most severe multi-year droughts, major failures in water production and distribution facilities.
4	Up to 40%	An exceptional crisis that could be caused only by the most severe multi-year drought, natural disaster, or catastrophic failure of major water supply infrastructure. Impacts to public health and safety would be significant.
5	Up to 50%	
6	>50%	

4. Shortage Response Actions

The City has established the following shortage response actions within the Domestic Water System service area for the six standard water shortage levels defined above. The City will expand its public information campaign to encourage water conservation to achieve the appropriate decrease in demand for each shortage level. Water meter data will be monitored to determine the effectiveness of the shortage response actions in achieving the desired water demand reduction.

The Demand Reduction Actions to be implemented at each Shortage Level and the associated reduction in the shortage gap anticipated to be achieved due to implementation are summarized in **Table 2**.

Table 2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	Reduction in Shortage Gap	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
All Shortage Levels	Expand Public Information Campaign	Depends on Shortage Level. See Notes.	Implemented at all shortage levels as appropriate to meet demand reduction targets	No
All Shortage Levels	Provide Rebates on Plumbing Fixtures and Devices	Depends on Shortage Level. See Notes.	Implemented at all shortage levels as appropriate to meet demand reduction targets	No
All Shortage Levels	Provide Rebates for Turf Replacement	Depends on Shortage Level. See Notes.	Implemented at all shortage levels as appropriate to meet demand reduction targets	No
All Shortage Levels	Landscape - Restrict or prohibit runoff from landscape irrigation	Depends on Shortage Level. See Notes.		No for Level 1, Yes for Levels 2 and Higher
All Shortage Levels	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Depends on Shortage Level. See Notes.		No for Level 1, Yes for Levels 2 and Higher
All Shortage Levels	Other - Require automatic shut of hoses	Depends on Shortage Level. See Notes.		No for Level 1, Yes for Levels 2 and Higher
All Shortage Levels	Landscape - Limit landscape irrigation to specific times	Depends on Shortage Level. See Notes.		No for Level 1, Yes for Levels 2 and Higher
2 and 3	Improve Customer Billing	Up to 30% (See Notes 2 and 3)	Implemented in shortage levels 2 and higher as appropriate to meet demand reduction targets	No
2 and 3	Landscape - Limit landscape irrigation to specific times	Up to 30% (See Notes 2 and 3)		Yes
2 and 3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Up to 30% (See Notes 2 and 3)		Yes

Shortage Level	Demand Reduction Actions	Reduction in Shortage Gap	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
2 and 3	Other water feature or swimming pool restriction	Up to 30% (See Notes 2 and 3)		Yes
2 and 3	Other water feature or swimming pool restriction	Up to 30% (See Notes 2 and 3)		Yes
2 and 3	Other - Prohibit use of potable water for washing hard surfaces	Up to 30% (See Notes 2 and 3)		Yes
2 and 3	CII - Restaurants may only serve water upon request	Up to 30% (See Notes 2 and 3)		Yes
4-6	Decrease Line Flushing	Greater than 30% up to shortage gap (See Notes 4-6)	Implemented in shortage levels 4 and higher as appropriate to meet demand reduction targets	No
4-6	Offer Water Use Surveys	Greater than 30% up to shortage gap (See Notes 4-6)	Implemented in shortage levels 4 and higher as appropriate to meet demand reduction targets	No
4-6	Increase Water Waste Patrols	Greater than 30% up to shortage gap (See Notes 4-6)	Implemented in shortage levels 4 and higher as appropriate to meet demand reduction targets	No
4-6	Landscape - Limit landscape irrigation to specific days	Greater than 30% up to shortage gap (See Notes 4-6)		Yes
4-6	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Greater than 30% up to shortage gap (See Notes 4-6)		Yes
4-6	Decrease Line Flushing	Greater than 30% up to shortage gap (See Notes 4-6)		Yes
4-6	Landscape - Prohibit certain types of landscape irrigation	Greater than 30% up to shortage gap (See Notes 4-6)		Yes
4-6	Other water feature or swimming pool restriction	Greater than 30% up to shortage gap (See Notes 4-6)		Yes

Shortage Level	Demand Reduction Actions	Reduction in Shortage Gap	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
4-6	Other water feature or swimming pool restriction	Greater than 30% up to shortage gap (See Notes 4-6)		Yes

NOTES:

1. Target demand reduction for all measures in effect at Shortage Level 1 is up to 10%.
2. Target demand reduction for all measures in effect for Shortage Level 2 is up to 20%.
3. Target demand reduction for all measures in effect for Shortage 3 is up to 30%.
4. Target demand reduction for all measures in effect for Shortage Level 4 is up to 40%.
5. Target demand reduction for all measures in effect for Shortage Level 5 is up to 50%.
6. Target demand reduction for all measures in effect for Shortage Level 6 is greater than 50% up to the anticipated shortage gap.

The City Council shall have the authority to take any other action available to further reduce demands within the Public Water System service area to meet available supplies.

Catastrophic Events:

Catastrophic events shall be evaluated as to their impact on the respective City Public Water System’s ability to deliver water supplies so that the appropriate water shortage level can be identified. The City Manager or the Public Works Director may immediately implement the appropriate shortage response actions due to a catastrophic event.

A seismic risk analysis was completed as a part of the Fresno County Multi-Jurisdiction Local Hazard Mitigation Plan (MJLHMP). Earthquake hazard was determined to be a low significance hazard for the City. An earthquake can impact water delivery systems through damage to canal systems, water mains, and other water system facilities.

In the event of an earthquake or other catastrophic event, the City will implement its Emergency Operations Plan and Water System Emergency Response Plan.

5. Communication Protocols

Table 3 provides the anticipated communication protocols for the various water shortage levels. The degree of communication increases with the water shortage level.

Table 3: Communication Protocol by Shortage Level	
Shortage Level	Description
1	<ul style="list-style-type: none"> - Public information campaign to encourage water conservation due to water shortage level.
2 and above	<ul style="list-style-type: none"> - Continue Public Information Campaign as appropriate for the declared water shortage levels conditions. - Newsletter, bill insert, or Press Release to notify customers of declared water shortage level and implementation of mandatory water use restrictions and enforcement actions.
Emergency Conditions	<ul style="list-style-type: none"> - Coordination with Fresno County Emergency Operations Center - Notifications per the City's Emergency Operations Plan - Public information campaign to notify customers and public of declared water shortage emergency and implementation of mandatory water use restriction and enforcement actions.

6. Communication Protocols

As required by Water Code Section 366, excessive water use by metered single-family residential customers and customers in multiunit housing complexes in which each unit is individually metered or sub metered is prohibited during water shortage conditions of Level 3 or higher. Customers with excessive water use will be identified through meter data in comparison to the declared water shortage condition and reasonable water use based on factors such as the full-time occupancy of the household, amount of landscaped area, seasonal weather conditions, and the rate of evapotranspiration. The City will establish procedures to monitor compliance with the water use restrictions defined in this WSCP.

7. Legal Authorities

The City has the legal authority to declare water shortages through adoption of resolutions or ordinances. The City shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1 general provision regarding water shortage emergencies in the California Water Code. The City shall coordinate with Fresno County for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

Per Municipal Code Section 13.05.080, failure to comply with water use regulations may be punishable as an infraction or misdemeanor pursuant to Municipal Code Section 1.16.010.

8. Financial Consequences of WSCP

The City reviews and revises its water rates for its Public Water System on a periodic basis. The projected costs of compliance with declared shortage levels will be considered as contingencies within future rate studies so that adequate reserves will be available to cover the additional expenses and shortfalls in revenue caused by periodic water shortages. The City may also defer planned maintenance or capital improvements until revenues recover. If expenses are found to exceed revenues, the City may implement other measures such as drought rate surcharges or increases in water rates to its customers.

9. Monitoring and Reporting (Domestic Water System Service Area)

Under normal circumstances, water production is monitored daily. Total water production is incorporated into a monthly water supply report.

During a Level 1 through Level 2 water shortage, monthly production figures will be compared to the target monthly production to verify if the water use reduction goal is being met. If reduction goals are not being met, the City Manager will be notified so that corrective action can be taken.

During a Level 3 through Level 6 water shortage, the procedure listed above will be followed, with the addition of a weekly production report to the City Manager. During emergency shortages, production figures will be reported to the City Manager daily.

10. WSCP Refinement Procedures (Domestic Water System Service Area)

The response actions and other considerations in this WSCP shall be reviewed on a periodic basis to determine the effectiveness of the implementation of the various measures to achieve the desired water demand reductions. Proposed revisions to the WSCP will be submitted to the City Council for adoption.

11. Special Water Feature Distinction (Domestic Water System Service Area)

Special water features are defined as ponds, lakes, waterfall, fountains, or other water features that may be able to use recycled water or other non-potable supplies. The City may adopt measures that are specific to special water features that do not rely on potable water as a source of supply.

12. Plan Adoption, Submittal, and Availability

This WSCP was adopted by the City as a part of the adoption process for the 2020 UWMP at the **Regular Meeting of the City Council on January XX, 2024. A public hearing was held on January XX, 2024.** The intent of the Public Hearing was to gather input from the public that is served by the City's Public Water System as well as other interested entities. Written and verbal comments received during the public hearing process have been addressed as appropriate in the final WSCP document. A copy of the resolution adopting the WSCP is attached as **Exhibit A**.

The 2020 UWMP update and WSCP will be submitted to the California Department of Water Resources, the California State Library, and Fresno County within 30 days of adoption by the City.

Commencing no later than 30 days after adoption, the City will have a copy of the 2020 UWMP update and WSCP available for public review at City Hall and posted on the City's website.

For updates to the WSCP outside of the UWMP update cycle, the City shall make the revised WSCP available as follows:

- To its customers and Fresno County no later than 30 days after adoption,
- To California Department of Water Resources in accordance with protocols for submission and using electronic reporting tools no later than 30 days after adoption,
- For public review during normal business not later than 30 days after filing a copy of the WSCP with the Department of Water Resources.

Appendix G: AWWA Water Audit Reporting Worksheets



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
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? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Kingsburg (1010019)
Reporting Year: 2017 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

----- Enter grading in column 'E' and 'J' ----->

WATER SUPPLIED

Volume from own sources:	+ ?	3	847.537	MG/Yr
Water imported:	+ ?			MG/Yr
Water exported:	+ ?			MG/Yr

Master Meter and Supply Error Adjustments

Pcnt:	Value:	MG/Yr
+ ?	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	
+ ?	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	
+ ?	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 847.537 MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	+ ?	5	725.153	MG/Yr
Billed unmetered:	+ ?	7	23.837	MG/Yr
Unbilled metered:	+ ?	1	7.392	MG/Yr
Unbilled unmetered:	+ ?	5	4.099	MG/Yr

Click here: ?
for help using option buttons below

Pcnt: Value: 4.099 MG/Yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 760.481 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

87.056 MG/Yr

Apparent Losses

Unauthorized consumption: + ? 2.119 MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	3	14.950	MG/Yr
Systematic data handling errors:	+ ?	5	1.813	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 18.882 MG/Yr

Pcnt: 0.25% Value: MG/Yr

2.00% MG/Yr
0.25% MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 68.175 MG/Yr

WATER LOSSES: 87.056 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 98.547 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	5	61.00	miles
Number of active AND inactive service connections:	+ ?	9	3,666	
Service connection density:	?		60	conn./mile main

Are customer meters typically located at the curbside or property line? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line: + ? 0 (Average length of customer service line has been set to zero and a data grading score of 10 has been applied)

Average operating pressure: + ? 3 50.0 psi

COST DATA

Total annual cost of operating water system:	+ ?	10	\$2,084,256	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	\$0.47	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	+ ?	5	\$314.13	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 47 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Unbilled metered
- 3: Customer metering inaccuracies



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
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Click to access definition
 Click to add a comment

Water Audit Report for: **City of Kingsburg (1010019)**
Reporting Year: **2018** 1/2018 - 12/2018

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

----- Enter grading in column 'E' and 'J' ----->

WATER SUPPLIED

Volume from own sources: 885.181 MG/Yr
Water imported: MG/Yr
Water exported: MG/Yr

Master Meter and Supply Error Adjustments

Pcnt: Value: MG/Yr
 Value: MG/Yr
 Value: MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: **885.181** MG/Yr

AUTHORIZED CONSUMPTION

Billed metered: 776.336 MG/Yr
Billed unmetered: 23.683 MG/Yr
Unbilled metered: 7.392 MG/Yr
Unbilled unmetered: **2.213** MG/Yr

AUTHORIZED CONSUMPTION: **809.624** MG/Yr

Click here: for help using option buttons below

Pcnt: Value: MG/Yr

Use buttons to select percentage of water supplied OR value

Pcnt: Value: MG/Yr

MG/Yr
 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

75.557 MG/Yr

Apparent Losses

Unauthorized consumption: **2.213** MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: **15.994** MG/Yr
Systematic data handling errors: **1.941** MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **20.148** MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **55.409** MG/Yr

WATER LOSSES: **75.557** MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: **85.162** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: 63.0 miles
Number of active AND inactive service connections: 3,701
Service connection density: 59 conn./mile main

Are customer meters typically located at the curbstop or property line?

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 50.0 psi

COST DATA

Total annual cost of operating water system: \$2,129,280 \$/Year
Customer retail unit cost (applied to Apparent Losses): \$0.49 \$/1000 gallons (US)
Variable production cost (applied to Real Losses): \$300.40 \$/Million gallons Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 47 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Unbilled metered

3: Customer metering inaccuracies



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
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Click to access definition
 Click to add a comment

Water Audit Report for: **City of Kingsburg (1010019)**
Reporting Year: **2019** 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

----- Enter grading in column 'E' and 'J' ----->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

Volume from own sources: 873.904 MG/Yr
Water imported: MG/Yr
Water exported: MG/Yr

Pcnt: MG/Yr
 MG/Yr
 MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: MG/Yr

AUTHORIZED CONSUMPTION

Billed metered: 770.300 MG/Yr
Billed unmetered: 21.791 MG/Yr
Unbilled metered: 7.392 MG/Yr
Unbilled unmetered: 2.394 MG/Yr

Click here: for help using option buttons below
Pcnt: Value: MG/Yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

MG/Yr

Apparent Losses

Unauthorized consumption: 2.185 MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 15.871 MG/Yr
Systematic data handling errors: 1.926 MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: MG/Yr

Pcnt: Value: MG/Yr

MG/Yr
 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: MG/Yr

WATER LOSSES: MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: 68.0 miles
Number of active AND inactive service connections: 3,732
Service connection density: conn./mile main

Are customer meters typically located at the curbside or property line?

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 50.0 psi

COST DATA

Total annual cost of operating water system: \$2,129,280 \$/Year
Customer retail unit cost (applied to Apparent Losses): \$0.49 \$/1000 gallons (US)
Variable production cost (applied to Real Losses): \$303.91 \$/Million gallons Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 47 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Unbilled metered
- 3: Customer metering inaccuracies



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
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? Click to access definition
+ Click to add a comment

Water Audit Report for: **City of Kingsburg (CA1010019)**
Reporting Year: **2020** 1/2020 - 12/2020

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

----- Enter grading in column 'E' and 'J' ----->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

Volume from own sources:	+ ?	3	995.224	MG/Yr
Water imported:	+ ?		0.000	MG/Yr
Water exported:	+ ?		0.000	MG/Yr

Pcnt:	Value:	MG/Yr
+ ?	<input type="radio"/>	<input type="radio"/>
+ ?	<input type="radio"/>	<input type="radio"/>
+ ?	<input type="radio"/>	<input type="radio"/>

WATER SUPPLIED: **995.224** MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Billed metered:	+ ?	5	852.000	MG/Yr
Billed unmetered:	+ ?	7	18.216	MG/Yr
Unbilled metered:	+ ?	1	0.000	MG/Yr
Unbilled unmetered:	+ ?	5	12.440	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: **882.656** MG/Yr

Click here: ?
for help using option buttons below

Pcnt:	Value:	MG/Yr
1.25%	<input type="radio"/>	<input type="radio"/>

Use buttons to select percentage of water supplied
OR
value

WATER LOSSES (Water Supplied - Authorized Consumption)

112.568 MG/Yr

Apparent Losses

Unauthorized consumption:	+ ?		2.488	MG/Yr
---------------------------	-----	--	-------	-------

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	3	17.388	MG/Yr
Systematic data handling errors:	+ ?	5	2.130	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **22.006** MG/Yr

Pcnt:	Value:	MG/Yr
0.25%	<input type="radio"/>	<input type="radio"/>

2.00%	<input type="radio"/>	<input type="radio"/>
0.25%	<input type="radio"/>	<input type="radio"/>

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **90.562** MG/Yr

WATER LOSSES: **112.568** MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: **125.008** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	5	68.0	miles
Number of <u>active AND inactive</u> service connections:	+ ?	9	3,953	
Service connection density:	?		58	conn./mile main

Are customer meters typically located at the curbstop or property line?

Average length of customer service line: + ?

(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 3 50.0 psi

COST DATA

Total annual cost of operating water system:	+ ?	10	\$4,569,067	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	\$0.49	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	+ ?	5	\$303.91	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 51 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Customer metering inaccuracies
- 3: Billed metered

Appendix H: 2020 UWMP Notice & Resolution



City of Kingsburg

1401 Draper Street, Kingsburg, California (559) 897-5821 Fax (559) 897-5568

November 6, 2023

Phil Desatoff, Manager
Consolidated Irrigation District
2255 Chandler Street
Selma, CA 93662

RE: City of Kingsburg 2020 Urban Water Management Plan, 60 Day Notice

Dear Mr. Desatoff,

On behalf of the City of Kingsburg, we wish to inform you that we are currently working to prepare the City of Kingsburg 2020 Urban Water Management Plan (UWMP). You are receiving this letter because the City of Kingsburg lies adjacent to the borders of the Consolidated Irrigation District jurisdiction.

The 2020 UWMP Public Hearing and City Council adoption meeting is planned for January of 2024 in the City Council Chambers with exact times and dates to follow. After the adoption of the UWMP by the City Council, the Plan will be submitted to the California Department of Water Resources on or before March 1, 2024.

The City of Kingsburg welcomes your input and participation in regard to the preparation of 2020 UWMP. We anticipate sending out the Draft UWMP via electronic file later this month. Please feel free to contact Peters Engineering Group with any questions. Additionally, please contact Peters Engineering Group if there is another individual within your Agency that you would prefer to serve as our main point of contact during this process.

Respectfully,

A handwritten signature in blue ink that reads 'David Peters'.

David Peters, PE
City Engineer, City of Kingsburg

Peters Engineering Group

UWMP Contact: Will Washburn, PE
wwashburn@peters-engineering.com
(559) 299-1544 ext. 114



City of Kingsburg

1401 Draper Street, Kingsburg, California (559) 897-5821 Fax (559) 897-5568

November 6, 2023

Bernard Jiminez, Assistant Public Works Director
Count of Fresno
2220 Tulare Ave, 6th Floor
Fresno, CA 93721

RE: City of Kingsburg 2020 Urban Water Management Plan, 60 Day Notice

Dear Mr. Jiminez,

On behalf of the City of Kingsburg, we wish to inform you that we are currently working to prepare the City of Kingsburg 2020 Urban Water Management Plan (UWMP). You are receiving this letter because the City of Kingsburg lies within the borders of the Kings River Conservation District jurisdiction.

The 2020 UWMP Public Hearing and City Council adoption meeting is planned for January of 2024 in the City Council Chambers with exact times and dates to follow. After the adoption of the UWMP by the City Council, the Plan will be submitted to the California Department of Water Resources on or before March 1, 2024.

The City of Kingsburg welcomes your input and participation in regards to the preparation of 2020 UWMP. We anticipate sending out the Draft UWMP via electronic file later this month. Please feel free to contact Peters Engineering Group with any questions. Additionally, please contact Peters Engineering Group if there is another individual within your Agency that you would prefer to serve as our main point of contact during this process.

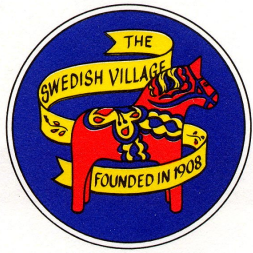
Respectfully,

A handwritten signature in blue ink that reads "David Peters".

David Peters, PE
City Engineer, City of Kingsburg

Peters Engineering Group

UWMP Contact: Will Washburn, PE
wwashburn@peters-engineering.com
(559) 299-1544 ext. 114



City of Kingsburg

1401 Draper Street, Kingsburg, California (559) 897-5821 Fax (559) 897-5568

November 6, 2023

Steven White, Public Works Director
County of Fresno
2220 Tulare Ave, 6th Floor
Fresno, CA 93721

RE: City of Kingsburg 2020 Urban Water Management Plan, 60 Day Notice

Dear Mr. White,

On behalf of the City of Kingsburg, we wish to inform you that we are currently working to prepare the City of Kingsburg 2020 Urban Water Management Plan (UWMP). You are receiving this letter because the City of Kingsburg lies within the borders of the Kings River Conservation District jurisdiction.

The 2020 UWMP Public Hearing and City Council adoption meeting is planned for January of 2024 in the City Council Chambers with exact times and dates to follow. After the adoption of the UWMP by the City Council, the Plan will be submitted to the California Department of Water Resources on or before March 1, 2024.

The City of Kingsburg welcomes your input and participation in regards to the preparation of 2020 UWMP. We anticipate sending out the Draft UWMP via electronic file later this month. Please feel free to contact Peters Engineering Group with any questions. Additionally, please contact Peters Engineering Group if there is another individual within your Agency that you would prefer to serve as our main point of contact during this process.

Respectfully,

A handwritten signature in blue ink that reads "David Peters".

David Peters, PE
City Engineer, City of Kingsburg

Peters Engineering Group

UWMP Contact: Will Washburn, PE
wwashburn@peters-engineering.com
(559) 299-1544 ext. 114

Appendix I: Current Water Rate Schedule

PUBLIC WORKS FEES

Alley Cost Per Linear Foot	Labor & Materials Actual Cost Plus 20%
Curb/Gutter Per Linear Foot	Labor & Materials Actual Cost Plus 20%
Fire Hydrant	Labor & Materials Actual Cost Plus 20%
New Construction Dust Control Penalty Per Lot	\$100.00 minimum \$50.00/hr
Safety Sign Repair	\$200.00
Sidewalk Construction Per Linear Foot (4' Walk)	Labor & Materials Actual Cost Plus 20%
Street Light Replacement	Labor & Materials Actual Cost Plus 20%
Street Sign Replacement	Labor & Materials Actual Cost Plus 20%
Street Costs Per Square Foot	Labor & Materials Actual Cost Plus 20%
Water Usage Violation Fee	
1 st Offense	\$25.00
2 nd Offense	\$50.00
3 rd Offense	\$100.00
4 or more Offenses	\$500.00 ea.
WATER METER DEPOSIT/FEE	
Deposit	\$2,000.00
First 11,000 Gallons	\$30.50
from 11,001 to 22,000	\$0.80 per 1,000 gallons
from 22,001 to 34,000	\$0.95 per 1,000 gallons
from 34,001 and up	\$1.14 per 1,000 gallons
Monthly meter rental fee up to 90 days	\$50.00
Monthly meter rental fee for longer than 90 days	\$100.00
After Hours Fees (for all non-emergency call outs)	\$100.00
After Hours (Emergency call outs)	\$100.00

PUBLIC WORKS FEES

	5% of the first \$50,000 of the cost of improvement. 3% of the next \$450,000 of the cost of improvement. 1-1/2% of the remaining amount of the cost of improvement.
Encroachment Permit	
(Of cost of Project Due at time of permit)	
Water Well Demolition/Abandonment Fee	\$50.00
Tampering with Water Meter	
1 ST Offence	\$50.00
2 nd Offence	\$100.00
3 or more Offences	\$150.00
Water Meter Investigation Fee	\$50.00
Water Connection Fee 1”	
New Water Service Connection (Meter and box not included)	\$1,700.00
Meter and Meter Box Installation Only	\$750.00
Water Connection Fee 1 ½”	
New Water Service Connection (Meter and box not included)	\$2,700.00
Meter and Meter Box Installation Only	\$1,200.00
Water Connection Fee 2”	
New Water Service Connection (Meter and box not included)	\$3,300.00
Meter and Meter Box Installation Only	\$1,500.00

UTILITIES

4 Yard Bin	\$157.10	2022-063
6 Yard Bin	\$180.30	2022-063
Contamination Charges		
Second Warning	\$25.00	2022-063
Third Warning	\$50.00	2022-063
Fourth and each Addl.	\$75.00	2022-063

STREET SWEEPING

COMMERCIAL & INDUSTRIAL – Per Lineal Foot of street frontage per Month	\$0.40	2022-063
RESIDENTIAL & APARTMENT – Flat Rate per month	\$4.17	2022-063

WATER RATES (For residential that do not have water meters.)

RESIDENCE – Inside City Limit up to 10,000 Sq. Ft.	\$39.00/mo
RESIDENCE – Inside City Limit 10,000 to 15,000 Sq. Ft.	\$51.30/mo
RESIDENCE – Inside City Limit Over 15,000 Sq. Ft.	\$63.55/mo
RESIDENCE – Outside City Limit Up to 10,000 Sq. Ft. Lot	\$41.60/mo
RESIDENCE – Outside City Limit 10,000 to 15,000 Sq. Ft. Lot	\$42.30/mo
RESIDENCE – Outside City Limit 15,000 Sq. Ft.	\$67.10/mo

POOL REFILL PERMIT (without meter) – first 11,000 Gallons	\$32.25
11,001 to 22,000 per 1,000 Gallons	\$0.80
22,001 to 34,000 per 1,000 Gallons	\$0.95
34,001 and up	\$1.14

MULTI-UNIT APARTMENTS – Flat Rate (Per Unit) \$34.30

SERVICE REACTIVATION FOR NON PAYMENT \$25.00

WATER RATES (For Residential, Multi-family, Outside the City Limits and Commercial with water meters.) 2019-037

Effective June 1, 2019

Gallons	Measured in Units (1 unit = 748 Gallons)	Measured in T-gallons (T-Gallons = 1,000)
0 – 11,000	\$32.25 base charge	\$32.25 base charge
11,001 – 22,000	\$0.80 per unit	\$0.80 per 1,000 gallons
22,001 – 34,000	\$0.95 per unit	\$0.95 per 1,000 gallons
Above 34,001	\$1.14 per unit	\$1.14 per 1,000 gallons

WATER CONSERVATION PENALTY FEE (Approved 11-18-2015)	
Current fee	\$45.00
Fee Range	\$45.00-\$150.00

(To increase the fee from \$45.00 it will need to be approved by City Council)
 Penalty to be charged to the top 5% percent of over users.

Range of residents to be charged the penalty is 5% - 10%
 (To increase the range from 5% to 10% it will need to be approved by City Council)

Appendix J: 2020 Consumer Confident Report

2020 Consumer Confidence Report

Water System Information

Water System Name: City of Kingsburg

Report Date: April 1, 2021

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 to December 31, 2020, and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse City of Kingsburg a 1401 Draper Street, Kingsburg, CA 93631 (559)897-5821 para asistirlo en español.

这份报告含有关于您的饮用水的重要讯息。请用以下地址和电话联系 City of Kingsburg 以获得中文的帮助: 1401 Draper Street Kingsburg, CA 93631 (559)897-5821

Ang pag-uulat na ito ay naglalaman ng mahalagang impormasyon tungkol sa inyong inuming tubig. Mangyaring makipag-ugnayan sa City of Kingsburg o tumawag sa (559) 897-5821 para matulungan sa wikang Tagalog.

Báo cáo này chứa thông tin quan trọng về nước uống của bạn. Xin vui lòng liên hệ City of Kingsburg tại (559) 897-5821 để được hỗ trợ giúp bằng tiếng Việt.

Tsab ntawv no muaj cov ntsiab lus tseem ceeb txog koj cov dej haus. Thov hu rau City of Kingsburg ntawm 1401 Draper Street, Kingsburg CA 93631 (559) 897-5821 rau kev pab hauv lus Askiv.

Type of Water Source in Use: Your water came from the 7 active wells the City of Kingsburg has in service for 2020: Wells 09, 10, 12, 13, 14, 15 & 16. The source of drinking is provided from ground water and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material. In addition, water traveling over the ground can pick up substances resulting from the presence of animals or from human activity.

Drinking Water Source Assessment Information: An assessment of the drinking water is done weekly.

City Council meetings are held on the first and third Wednesday of each month at 6:00PM in the City Council Chambers.

For More Information, Contact: City of Kingsburg

Phone: 559-897-5328

TERMS USED IN THIS REPORT

Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.	Maximum Residual Disinfectant Level (MRDL)	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an <i>E. coli</i> MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.	Maximum Residual Disinfectant Level Goal (MRDLG)	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.	Public Health Goal (PHG)	The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.
Primary Drinking Water Standards (PDWS)	MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.	Maximum Contaminant Level Goal (MCLG)	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (U.S. EPA).
Maximum Residual Disinfectant Level (MRDL)	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.	Regulatory Action Level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Maximum Residual Disinfectant Level Goal (MRDLG)	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.	Secondary Drinking Water Standards (SDWS)	MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.
Primary Drinking Water Standards (PDWS)	MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.	Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.
Public Health Goal (PHG)	The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.	Variations and Exemptions	Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.
Secondary Drinking Water Standards (SDWS)	MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.	ppm	parts per million or milligrams per liter (mg/L)
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.	ppb	parts per million or milligrams per liter (mg/L)
Variations and Exemptions	Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.	ppt	parts per trillion or nanograms per liter (ng/L)

ND	Not detectable at testing limit.	ppq	parts per quadrillion or picogram per liter (pg/L)
ppm	parts per million or milligrams per liter (mg/L)	pCi/L	picocuries per liter (a measure of radiation)
ppb	parts per million or milligrams per liter (mg/L)	ppq	parts per quadrillion or picogram per liter (pg/L)
ppt	parts per trillion or nanograms per liter (ng/L)	pCi/L	picocuries per liter (a measure of radiation)

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. EPA and the State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, 5 and 6 list all the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria	Health effects language
Total Coliform Bacteria (State Total Coliform Rule)	1	1	1 positive monthly sample ^(a)	<1	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacterial may be present
Fecal Coliform or <i>E. coli</i> (State Total Coliform Rule)	1	1	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or <i>E. coli</i> positive	None	Human and animal fecal waste	
<i>E. coli</i> (Federal Revised Total Coliform Rule)	1	1	(b)	0	Human and animal fecal waste	

(a) Two or more positive monthly samples is a violation of the MCL

(b) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

Table 2. Sampling Results Showing the Detection of Lead and Copper

Lead and Copper	Sample Date	No. of Samples Collected	90 th Percentile Level Detected	No. Sites Exceeding AL	AL	PHG	No. of Schools Requesting Lead Sampling	Typical Source of Contaminant
Lead (ppb)	02/27/2019	10	ND	0	15	0.2	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	02/27/2019 08/20/2019	10 30	ND 5	0 5	1.3	0.3	Not applicable	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Table 3. Sampling Results for Sodium and Hardness

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	07-17-2019	17.14	10-24	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	07-17-2019	117.6	66-180	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

Table 4. Detection of Contaminants with a Primary Drinking Water Standard

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Arsenic (As) Ppb	2018	.0024	.002-.004	0.010	0	Water becomes contaminated by rocks that release arsenic	Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problem and may have an increased risk of getting cancer.
Barium	2018	ND		1	1	Occurs naturally in some limestones, sandstones	Some people who drink water containing barium in excess of the MCL over many years may experience an increase in blood pressure.
Gross Alpha Particle Activity	2015	8.217	<0.00-1.354	15	None	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Chromium (Total Cr) Ppb	2018	ND		.10	.10	Chromium can be released into the environment from the burning of natural gas, oil, or coal. Chromium does not usually remain in the atmosphere but is deposited into the soil and water	Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis.
Nitrate (NO3) Ppm	2020	3.11	ND-4.9	45	10	Runoff and leaching from fertilizer use: leaching from septic tanks and sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women.
Dibromochloropropane (DBCP) ppt	2020	0.0134	0.013-0.056	0.02	1.7	Banned nematocide that may still be present in soils due to runoff or leaching from former use on soybeans, cotton, vineyards, tomatoes and tree fruit	Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
123 TCP	2020	14ppt	14 to 23ppt	5ppt	0.7ppt	The source of TCP is past use of soil fumigants that contained 1,2,3-TCP as an impurity.	Some people who use water containing 1,2,3-trichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

Table 5. Detection of Contaminants with a Secondary Drinking Water Standard

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	SMCL	PHG (MCLG)	Typical Source of Contaminant
Chloride ppm	2019	15.3	14-35	500	N/A	Runoff/leaching from natural deposits; sea-water influence
Specific Conductance umhos/cm	2018	308.6	185-449	1600	N/A	
Sulfate (SO4)ppm	2019	9.03	3.6-23	500	N/A	
TDS ppm	2019	204	150-280	1000	N/A	

Table 6. Detection of Unregulated Contaminants

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects Language
Vanadium	[Enter Date]	[Enter No.]	[Enter Range]	[Enter No.]	[Enter Language]

Additional General Information on Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (1-800-426-4791). Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Lead-Specific Language: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Kingsburg is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap

for 30 seconds to 2 minutes before using water for drinking or cooking. If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/lead>.

Violation	Explanation	Duration	Actions taken to correct violation	Health Effects Language
Total Coliform maximum contaminant level violation	The City of Kingsburg has positive coliform results that exceeded the MCL		System is being chlorinated permanently	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.
1,2,3-TCP Maximum Contaminant Level Violation	The City of Kingsburg had results that exceeded the MCL for 1,2,3-TCP	Ongoing	System is being chlorinated permanently, and a granulated active carbon water filtration system is currently in place	Some people who use water containing 1,2,3-trichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

Level 1 or Level 2 Assessment Requirement not Due to an *E. coli* MCL Violation

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments. During the past year we were required to conduct one Level 1 Assessments. One Level 1 assessment was completed. In addition, we were required to take one corrective action and we completed all of the required actions.



Watering Regulations –
SPRING/SUMMER
 Outdoor irrigation will be allowed three (3) days per week during the months of April-October.
 Even-Number Addresses:
 Wednesday, Friday and Sunday
 Odd-Number Addresses:
 Tuesday, Thursday and Sunday

FALL/WINTER
 Outdoor irrigation will be allowed two (2) days per week during the months of November-March.
 Even-Number Addresses:
 Wednesday and Sunday only
 Odd-Number Addresses:
 Tuesday and Saturday only
 No Watering on Monday
 No watering between 6:00am & 6:00pm any day.
 Do not allow water to flow beyond your property line.
 An automatic shutoff nozzle is required for washing vehicles.
 Meters **MUST** be accessible at all times. Please keep area around meter clear of debris.



Appendix K: Fresno County Growth Projection

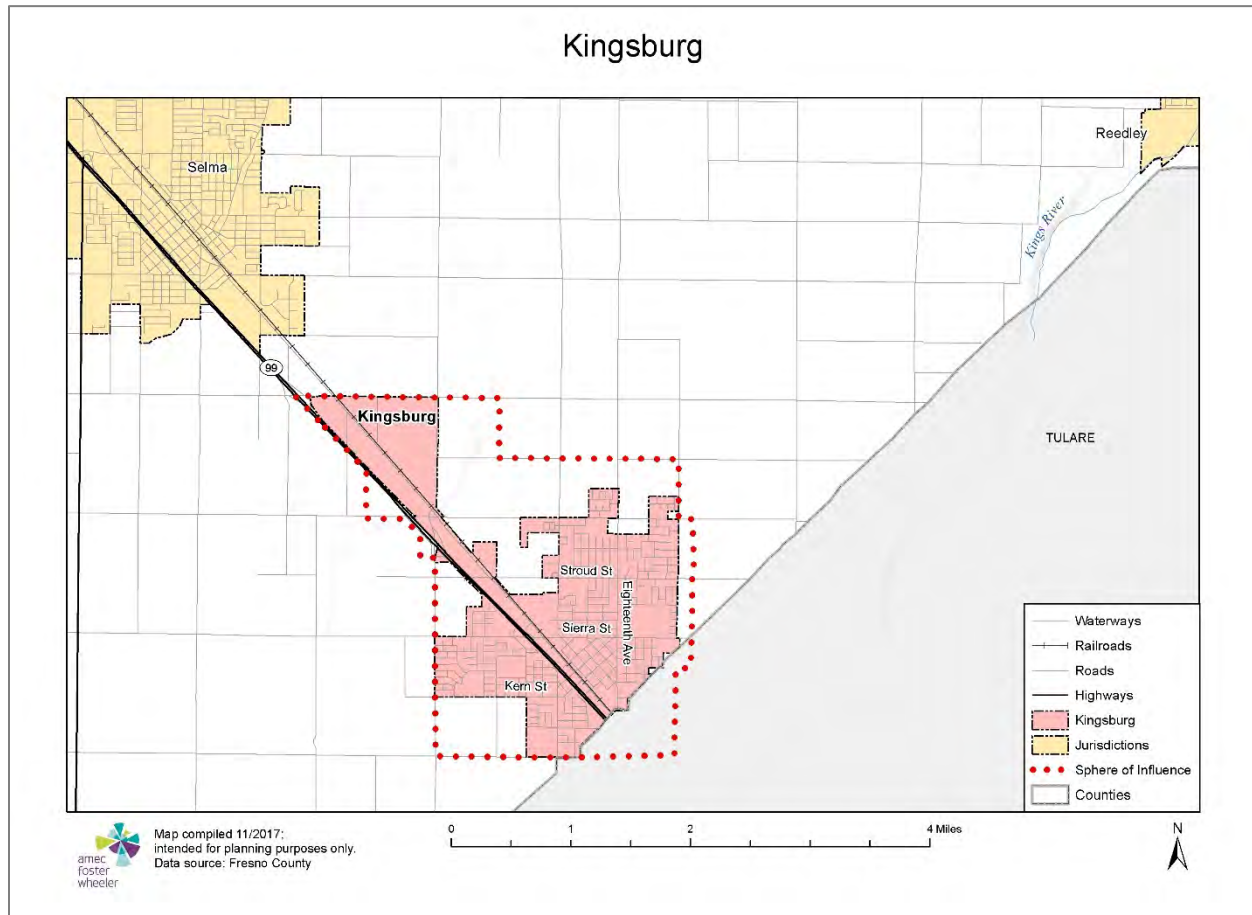


ANNEX G: CITY OF KINGSBURG

G.1 Community Profile

Figure G.1 displays a map and the location within Fresno County of the City of Kingsburg and its Sphere of Influence.

Figure G.1: The City of Kingsburg



G.1.1 Geography and Climate

The City of Kingsburg is a corporate city in Fresno County in the San Joaquin Valley of California. It covers a 4,025-acre area, of which 2,245 acres are within the City limits and the rest comprises the City's Sphere of Influence. Over the past decade, the City has annexed a significant amount of land in the northwestern reaches of its Sphere of Influence toward the City of Selma, along California State Highway 99 and the Union Pacific Railroad.

Kingsburg is directly southeast of the City of Selma and approximately 20 miles south of the County seat, the City Kingsburg. Kingsburg sits directly adjacent to Tulare County on its eastern

and southern boundaries, and Kings County is one mile to the south. The Union Pacific Railroad and California State Highway 99 both run through the middle of the City. The Kings River, a major waterway that starts in the Sierra Nevada Mountains and runs through the lower part of the San Joaquin Valley, is close to the City’s southern and eastern boundaries.

Kingsburg’s climate can be described as Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Kingsburg are typical of that of the rest of Fresno County.

G.1.2 History

Kingsburg was established in the 1870s, when the now Union Pacific Railroad was laid through the heart of the San Joaquin Valley, and when cattle raising, and wheat production were the principal economic activities. The City was originally established in 1873 as a railroad stop called “Kings River Switch” and was settled primarily by Swedish immigrants. This culture persisted, earning the community the nickname “Little Sweden.” The City was later incorporated in 1908. The first highway was built around 1912 and connected Kingsburg to Sanger to the north. By 1925, raisin production and packing had become the City’s main industries. To this day, agriculture remains the integral to Kingsburg’s economy and Swedish influence can still be seen in the City’s architecture.

G.1.3 Economy

Kingsburg is primarily a bedroom community. Development in the City is 72 percent residential, 20 percent commercial, and 8 percent industrial, which limits the sales and property tax base. Kingsburg has diversified its economy over the past decade, though agriculture remains the primary industry around the City, and supports economic development within the City. The largest employers in Kingsburg include Sun-Maid Raisins (700 employees), Guardian Glass (297 employees), Kingsburg Elementary School District (268 employees) and Sacramento Container Company (121 employees).

The City has developed an industrial park on Golden State Boulevard and Stroud Avenue at Highway 99 and a 45-acre commercial park west of Highway 99 and north of Sierra Street. The City’s downtown area, known as the “Swedish Village,” has specialty shops, restaurants, and businesses.

Select estimates of economic characteristics for the City of Kingsburg are shown in Table G.1.

Table G.1: City of Kingsburg’s Economic Characteristics, 2016

Characteristic	City of Kingsburg
Families below Poverty Level	13.5%
All People below Poverty Level	17.8%
Median Family Income	\$77,938

Characteristic	City of Kingsburg
Median Household Income	\$61,925
Per Capita Income	\$24,603
Population in Labor Force	5,448
Population Employed*	4,891
Unemployment	10.1%

Source: U.S. Census Bureau American Community Survey 2012-2016 5-Year Estimates, www.census.gov/

*Excludes armed forces

Tables G.2 and G.3 show how the City of Kingsburg's labor force breaks down by occupation and industry based on estimates from the 2016 American Community Survey.

Table G.2: City of Kingsburg's Employment by Occupation, 2016

Occupation	# Employed	% Employed
Management, Business, Science, and Arts Occupations	1,854	37.9
Sales and Office Occupations	1,101	22.5
Service Occupations	780	15.9
Production, Transportation, and Material Moving Occupations	660	13.5
Natural Resources, Construction, and Maintenance Occupations	496	10.1
Total	4,891	100.0

Source: U.S. Census Bureau American Community Survey 2012-2016 5-Year Estimates, www.census.gov/

Table G.3: City of Kingsburg's Employment by Industry, 2016

Industry	# Employed	% Employed
Educational Services, and Health Care and Social Assistance	1,292	26.4
Retail Trade	520	10.6
Arts, Entertainment, and Recreation, and Accommodation, and Food Services	375	7.7
Agriculture, Forestry, Fishing and Hunting, and Mining	352	7.2
Public Administration	346	7.1
Wholesale Trade	341	7.0
Other Services, Except Public Administration	340	7.0
Professional, Scientific, and Mgmt., and Administrative and Waste Mgmt. Services	336	6.9
Finance and Insurance, and Real Estate and Rental and Leasing	256	5.2
Transportation and Warehousing, and Utilities	250	5.1
Construction	241	4.9
Manufacturing	225	4.6
Information	17	0.3
Total	4,891	100.0

Source: U.S. Census Bureau American Community Survey 2012-2016 5-Year Estimates, www.census.gov/

G.1.4 Population

In 2016, according to the U.S. Census Bureau's American Community Survey 5-Year Estimates, the total population for the City of Kingsburg was estimated at 11,716. Select demographic and social characteristics for the City of Kingsburg from the 2016 American Community Survey are shown in Table G.4.

Table G.4: City of Kingsburg’s Demographic and Social Characteristics, 2016

Characteristic	City of Kingsburg
Gender/Age	
Male	47.8%
Female	52.2%
Median age	34.2
Under 5 years	6.1%
Under 18 years	28.4%
65 years and over	12.4%
Race/Ethnicity*	
White	83.0%
Asian	2.3%
Black or African American	0.1%
American Indian/Alaska Native	0.8%
Hispanic or Latino (of any race)	39.5%
Education	
High school graduate or higher	89.3%
Disability Status	
Population 5 years and over with a disability	12.2%

Source: U.S. Census Bureau American Community Survey 2012-2016 5-Year Estimates, www.census.gov/

*Of the 95.3% reporting one race

G.2 Hazard Identification and Summary

Kingsburg’s planning team identified hazards that affect the City and summarized their frequency of occurrence, spatial extent, potential magnitude, and significance specific to Kingsburg (see Table G.5). In the context of the plan’s planning area, there are no hazards unique to Kingsburg.

Table G.5: City of Kingsburg—Hazard Summaries

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Significance
Agricultural Hazards	Limited	Highly Likely	Critical	Medium
Avalanche	N/A	N/A	N/A	N/A
Dam Failure	Extensive	Occasional	Critical	Medium
Drought	Significant	Likely	Limited	High
Earthquake	Significant	Occasional	Catastrophic	Medium
Flood/Levee Failure	Extensive	Likely	Critical	Medium
Hazardous Materials Incident	Significant	Likely	Critical	High
Human Health Hazards:				
Epidemic/Pandemic	Extensive	Occasional	Catastrophic	Medium
West Nile Virus	Limited	Highly Likely	Negligible	Low
Landslide	Limited	Occasional	Limited	N/A
Severe Weather				
Extreme Cold/Freeze	Significant	Highly Likely	Negligible	Low
Extreme Heat	Extensive	Highly Likely	Limited	Medium
Fog	Extensive	Likely	Negligible	Medium
Heavy Rain/Thunderstorm/ Hail/Lightning	Extensive	Highly Likely	Limited	Low
Tornado	Extensive	Occasional	Negligible	Low
Windstorm	Extensive	Likely	Limited	Low
Winter Storm	Extensive	Highly Likely	Negligible	Low
Soil Hazards:				
Erosion	No Data	Likely	No Data	Low
Expansive Soils	No Data	Occasional	No Data	Low
Land Subsidence	Limited	Occasional	No Data	Low
Volcano	Extensive	Unlikely	Negligible	Low
Wildfire	Limited	Highly Likely	Limited	Low
Geographic Extent Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area		Magnitude/Severity Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid		
Probability of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year, or happens every year. Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.		Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact		

G.3 Vulnerability Assessment

The intent of this section is to assess Kingsburg’s vulnerability separate from that of the planning area as a whole, which has already been assessed in Section 4.3 Vulnerability Assessment in the main plan. This vulnerability assessment analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance that may vary from other parts of the planning area.

The information to support the hazard identification and risk assessment for this Annex was collected through a Data Collection Guide, which was distributed to each participating municipality or special district to complete during the original outreach process in 2009. Information collected was analyzed and summarized in order to identify and rank all the hazards that could impact anywhere within the County, and used to rank the hazards and to identify the related vulnerabilities unique to each jurisdiction. In addition, the City of Kingsburg’s HMPC team members were asked to validate the matrix that was originally scored in 2009 based on the experience and perspective of each planning team member relative to the City of Kingsburg.

Each participating jurisdiction was in support of the main hazard summary identified in the base plan (See Table 4.1). However, the hazard summary rankings for each jurisdictional annex may vary slightly due to specific hazard risk and vulnerabilities unique to that jurisdiction (See Table G.5). Identifying these differences helps the reader to differentiate the jurisdiction’s risk and vulnerabilities from that of the overall County.

Note: The hazard “Significance” reflects the overall ranking for each hazard, and is based on the City of Kingsburg’s HMPC member input from the Data Collection Guide and the risk assessment developed during the planning process (see Chapter 4 of the base plan), which included a more detailed qualitative analysis with best available data.

The hazard summaries in Table G.5 reflect the hazards that could potentially affect the City. Those of Medium or High significance for the City of Kingsburg are identified below. The discussion of vulnerability related information for each of the following hazards is located in Section G.3.2 Estimating Potential Losses. Based on this analysis the priority hazards (High Significance) for mitigation are drought and hazardous materials incidents.

- agricultural hazards
- dam failure
- drought
- earthquake
- epidemic/pandemic
- extreme heat
- fog
- hazardous materials incidents
- flood/levee failure

Other Hazards

Hazards assigned a Significance rating of Low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further in this plan, and are not assessed individually for specific vulnerabilities in this section. In the City of Kingsburg, those hazards ranked Low are as follows:

- human health hazards: West Nile Virus
- severe weather: extreme cold; heavy rain/thunderstorm/hail/lightning; tornado windstorm; winter storm
- soil hazards
- volcano
- wildfire*

***Note:** Although wildfire is ranked High in the County, Kingsburg ranks wildfire as Low due to a lack of exposure to wildfire risk within the city boundaries. However, some at-risk properties are located within the City's Sphere of Influence (See section G.3.2, Figure G.7).

Additionally, the City's Committee members decided to rate several hazards as Not Applicable (N/A) to the planning area due to a lack of exposure, vulnerability, and no probability of occurrence. Avalanche and landslide are considered Not Applicable (N/A) to the City of Kingsburg.

G.3.1 Assets at Risk

This section considers Kingsburg's assets at risk, including values at risk, critical facilities and infrastructure, and growth and development trends.

Values at Risk

The following data on property exposure is derived from the Fresno County 2017 Parcel and Assessor data. This data should only be used as a guideline to overall values in the City as the information has some limitations. The most significant limitation is created by Proposition 13. Instead of adjusting property values annually, the values are not adjusted or assessed at fair market value until a property transfer occurs. As a result, overall value information is likely low and does not reflect current market value of properties. It is also important to note that in the event of a disaster, it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss. Table G.6 shows the exposure of properties (e.g., the values at risk) broken down by property type for the City of Kingsburg.

Table G.6: 2017 Property Exposure for the City of Kingsburg by Property Type

Property Type	Parcel Count	Building Count	Improved Value	Content Value	Total Value
Commercial	174	244	\$68,841,479	\$68,841,479	\$137,682,958
Exempt	17	22	\$0	\$0	\$0
Industrial	43	61	\$72,864,393	\$109,296,590	\$182,160,983
Multi-Residential	189	307	\$38,481,741	\$19,240,871	\$57,722,612
Residential	3,202	3,365	\$456,188,691	\$228,094,346	\$684,283,037
Unknown	1	4	\$3,795	\$3,795	\$7,590
Total	3,626	4,003	\$636,380,099	\$425,477,080	\$1,061,857,179

Source: Fresno County 2017 Parcel and Assessor data

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. An inventory of critical facilities in the City of Kingsburg from Fresno County GIS is provided in Table G.7 and mapped in Figure G.2.

Table G.7: City of Kingsburg's Critical Facilities

Critical Facilities Type	Number
CalARP	5
Fire Station	1
Police	1
School	11
Total	18

Source: Fresno County, HIFLD 2017

Figure G.2: City of Kingsburg's Critical Facilities

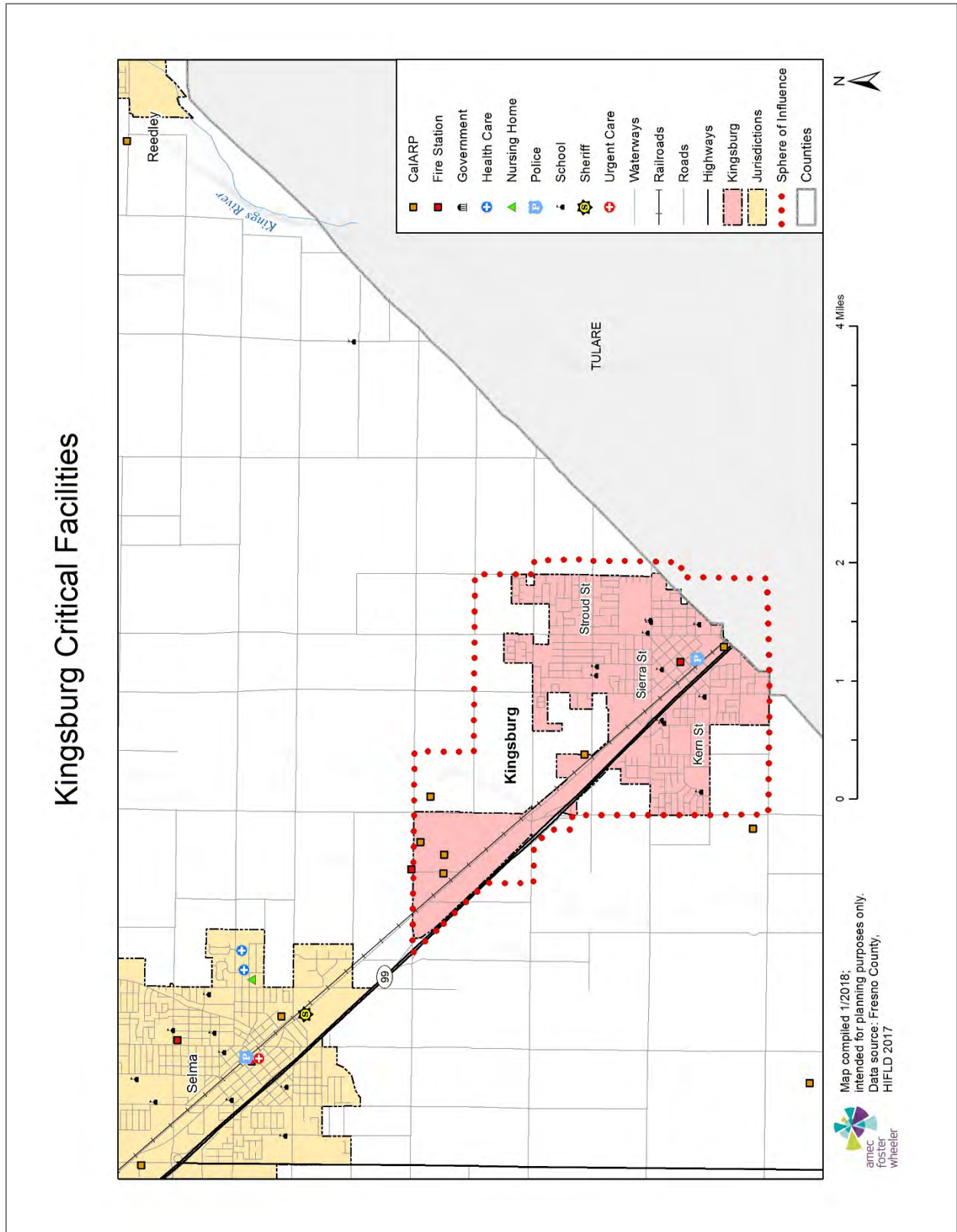


Table G.8 lists particular critical facilities and other community assets identified by Kingsburg’s planning team as important to protect in the event of a disaster.

Table G.8: Specific Critical Facilities and Other Community Assets Identified by the City of Kingsburg’s Planning Team

Name of Asset	Replacement Value (\$)	Occupancy/ Capacity #	Hazard Specific Info.
City Hall	376,531	28	Unreinforced masonry
Fire Department—Downtown Station	2,224,747	n/a	Unsecured perimeter
Fire Department—Bethel Avenue Station	1,923,264	n/a	Unsecured perimeter
Police Department	2,285,821	n/a	Close proximity to railroad system
Kingsburg Elementary School District (five schools)	n/a	2,445	Some campuses do not have secured facilities
Kingsburg High School District (one main campus, one alternative education center)	n/a	1,279	Open campus

Growth and Development Trends

Table G.9 illustrates how the City has grown in terms of population and number of housing units between 2010 and 2016.

Table G.9: City of Kingsburg’s Change in Population and Housing Units, 2010-2016

2010 Population	2016 Population Estimate	Estimated Percent Change 2010-2016	2010 # of Housing Units	2016 Estimated # of Housing Units	Estimated Percent Change 2010-2016
11,382	11,716	+2.93	3,817	3,938	+1.03

Source: U.S. Census Bureau American Community Survey 2012-2016 5-Year Estimates; 2006-2010 5-Year Estimates

Due to County boundaries on the east and south, all growth potential is in the west and north areas of the City. The City has developed a commercial/business park on the north side of Sierra Street in the northwest area of town. Also, there are two new industrial parks on the north area of town on the west side of Simpson Street (Golden State Boulevard).

More general information on growth and development in Fresno County as a whole can be found in “Growth and Development Trends” in Section 4.3.1 Fresno County Vulnerability and Assets at Risk of the main plan.

G.3.2 Estimating Potential Losses

Table G.6 above shows Kingsburg’s exposure to hazards in terms of number and value of structures. Fresno County’s assessor’s data was used to calculate the improved value of parcels. The most vulnerable structures are those in the floodplain (especially those that have been flooded in the past), unreinforced masonry buildings, and buildings built prior to the introduction of modern day building codes.

Impacts of past events and vulnerability to specific hazards are further discussed below in accordance with the criteria identified under section G.3 Vulnerability Assessment and Table G.5 Hazard Summaries above. (See Section 4.1 Hazard Identification for more detailed information about these hazards and their impacts on Fresno County).

Agricultural Hazards

The lands surrounding Kingsburg (in Kingsburg, Kings, and Tulare counties) are all in agricultural production (dairy, citrus, grapes/raisins, and nuts). Crop losses in the surrounding area due to hazards have economic impacts in Kingsburg. Some of the primary businesses in Kingsburg are agricultural, including Del Monte and Sun Maid Raisin. Kingsburg's agriculturally based economy is vulnerable to freezes, heat waves, flooding, and insect infestations. A freeze in the winter of 2006 affected the citrus industry and the heat wave in the summer of 2006 affected the dairy and poultry industries.

Any time a hazard-related event results in reduced crop or product production, Kingsburg is negatively impacted by loss of revenue to major businesses. The associated unemployment affects the crime rate, housing market, local businesses, and the City's sales tax revenues.

Dam Failure

Kingsburg is in the mapped inundation area of Pine Flat Dam. Pine Flat Reservoir is located in the foothills of the Sierra Nevada Mountains, approximately 30 miles northeast of Kingsburg. The construction of the 429-foot Pine Flat Dam on the Kings River was completed in 1954. The project's primary purposes are flood control, irrigation, water conservation, and recreation. When completely full, Pine Flat Reservoir is 20 miles long, holds 1 million acre-feet of water, and covers 5,790 acres with 67 miles of shoreline. The upper Kings River is the main tributary that fills the reservoir. According to the Kings River Conservation District, "in the event of a major release from Pine Flat Dam, downstream flooding could occur over agricultural lands near the riverbanks and possibly within the Cities of Reedley and Kingsburg." The Kings River is located approximately one mile, at its closest, from Kingsburg's eastern, southeastern, and southern boundaries.

Drought

Groundwater is the source of domestic water supply for Kingsburg. The groundwater basin is recharged primarily by rainfall and infiltration, stormwater runoff, infiltration from irrigated ditch flows and seepage in the Kings River bottom, and water conservation recharge to natural sloughs in the nearby agricultural area. In October 2007, the City's water utility was operating at maximum peak performance due to drought conditions. Drought may also lead to agricultural losses in the surrounding area, which may impact the City economically.

Earthquake

Kingsburg is located in Seismic Hazard Zone 3. The nearest active earthquake faults are located more than 55 miles to the east in the Sierra Nevada range. Kingsburg has experienced several noticeable ground movement incidents, such as from the 1983 Coalinga earthquake and the 1989 Watsonville earthquake, but no local damage was sustained. The existence and extent of soil liquefaction hazards in the area of Kingsburg are unknown.

The planning team has identified approximately 36 unreinforced masonry buildings in the City. The majority of the unreinforced masonry buildings are downtown, which is very much a community asset. The downtown area, with its Swedish theme, is the community's major attraction. It is referred to as Historic Swedish Village. City Hall is the only critical facility that is an unreinforced masonry building.

Epidemic/Pandemic

The risk and vulnerabilities in the City do not differ from the County at large for this hazard. Please consult the main HIRA in Section 4 in the main plan for more details.

Flood

Heavy rain can lead to problems with storm drainage and create localized flood problems. According to the City of Kingsburg Storm Drain Master Plan, there are several flooding problem areas in the City. These areas are primarily a result of undersized pipes where runoff exceeds pipe capacity even for minor storms, damaged curb and gutters where the flow lines have been disrupted due to raised gutters and other obstructions, or damaged drain pipes. Figure G.3 shows the existing storm drain system deficiencies, Figure G.4 depicts potential stormwater flooding from a 100-year storm, and Figure G.5 depicts potential flooding from a 10-year storm.

Most damaged lines are downtown, where the storm drain pipes are some of the oldest in the system. The undersized lines are located along Kern Street near Roosevelt Elementary School and along Mariposa Street near Lincoln Elementary School.

Areas with curb and gutter flow line damage are generally in the older residential areas, including the areas south and west of Kingsburg High School. The downtown areas along Washington, Lincoln, and Lewis streets also have damaged curbs and gutters.

Prior to the construction of the Pine Flat Dam in the 1920s, flooding occurred in the Kings River area. However, today there is no flood hazard area mapped by FEMA within the City of Kingsburg. The City does participate in the National Flood Insurance Program (NFIP). The City joined the program on November 30, 1983. NFIP insurance data indicates that as of June 6, 2017, there were 10 flood insurance policies in force in the City with \$3,220,000 in coverage. All 10 policies are residential preferred risk policies for properties in a B, C, or X zone. There have been no historical claims for flood losses and according to the FEMA Community Information System accessed

9/17/2018 there are no Repetitive Loss or Severe Repetitive Loss properties located in the jurisdiction.

Figure G.6 shows the FEMA mapped 100- and 500-year floodplain around the City of Kingsburg.

Figure G.3: Existing Storm Drain System Deficiencies: City of Kingsburg

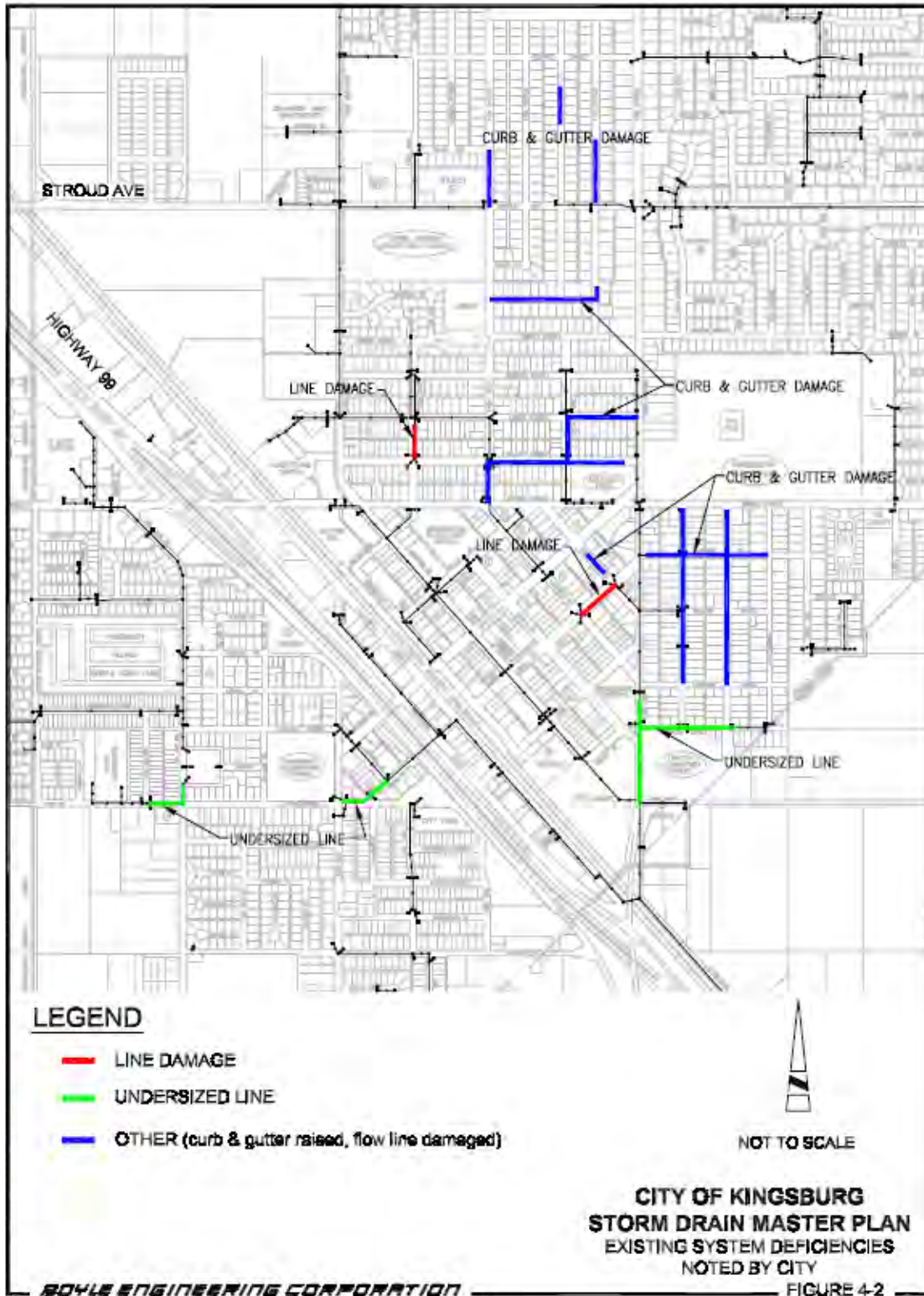
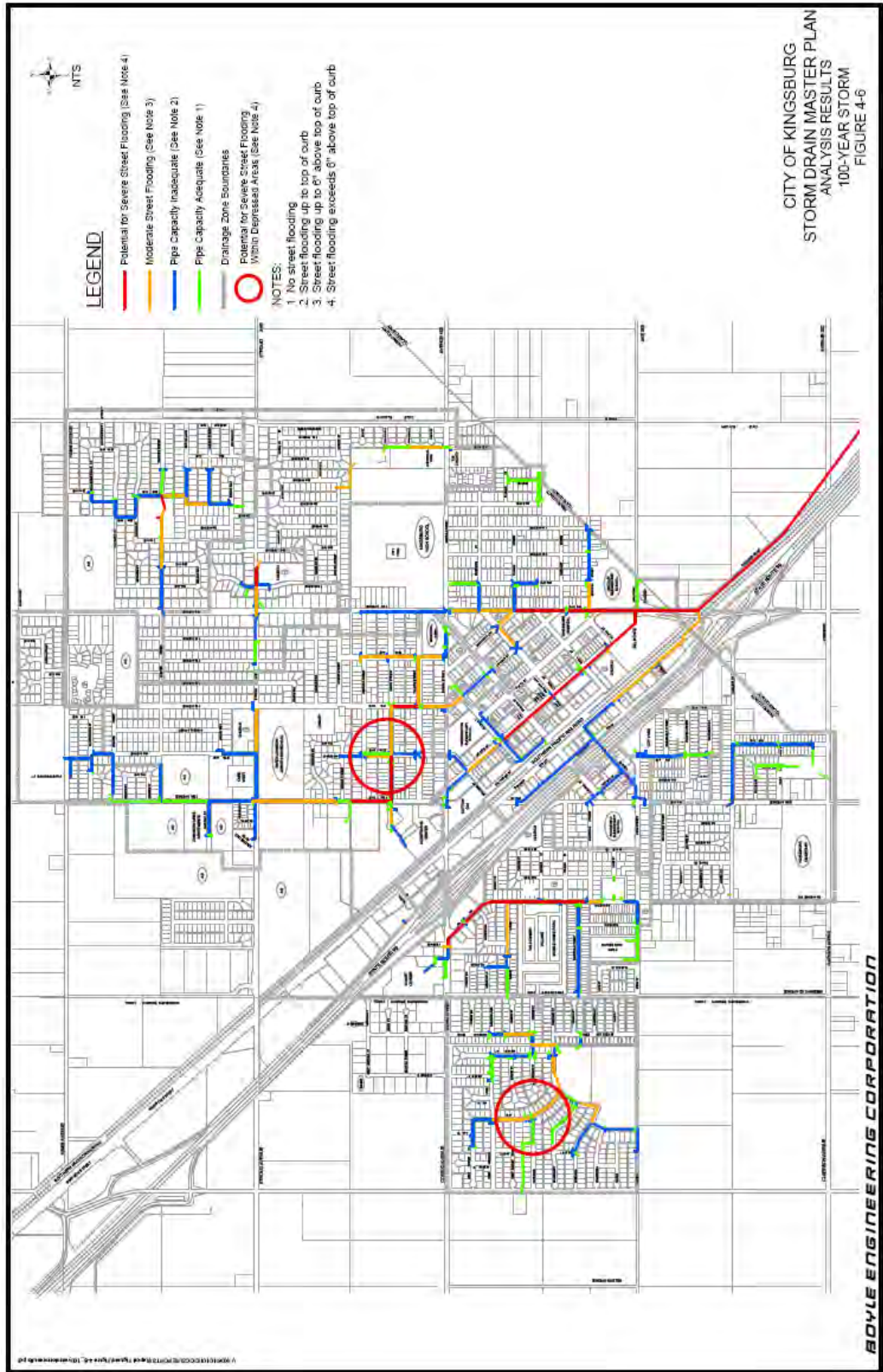


Figure G.4: Flooding in Kingsburg from a 100-Year Storm: City of Kingsburg



4-15

Figure G.5: Flooding in Kingsburg from a 10-Year Storm: City of Kingsburg

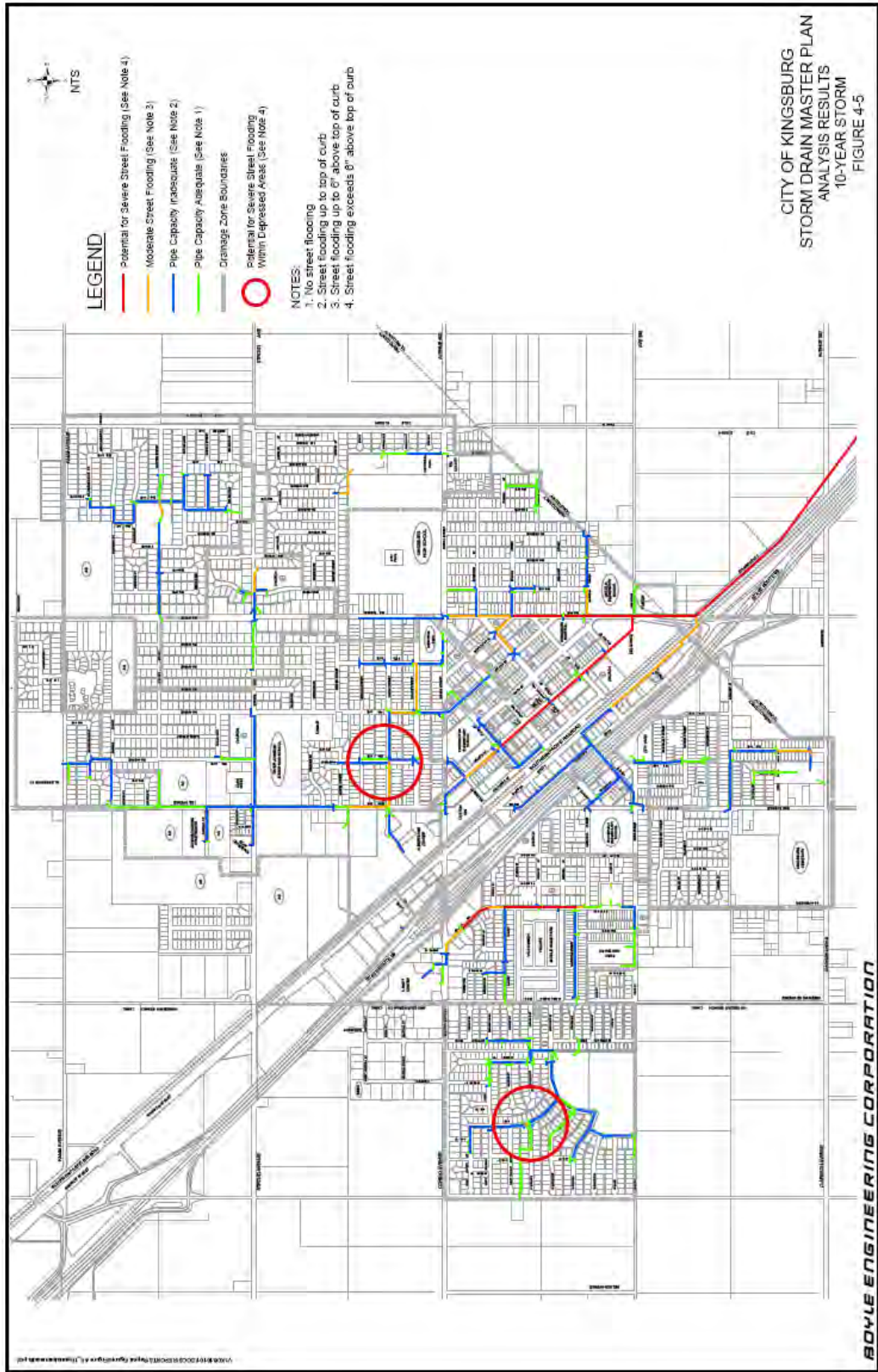
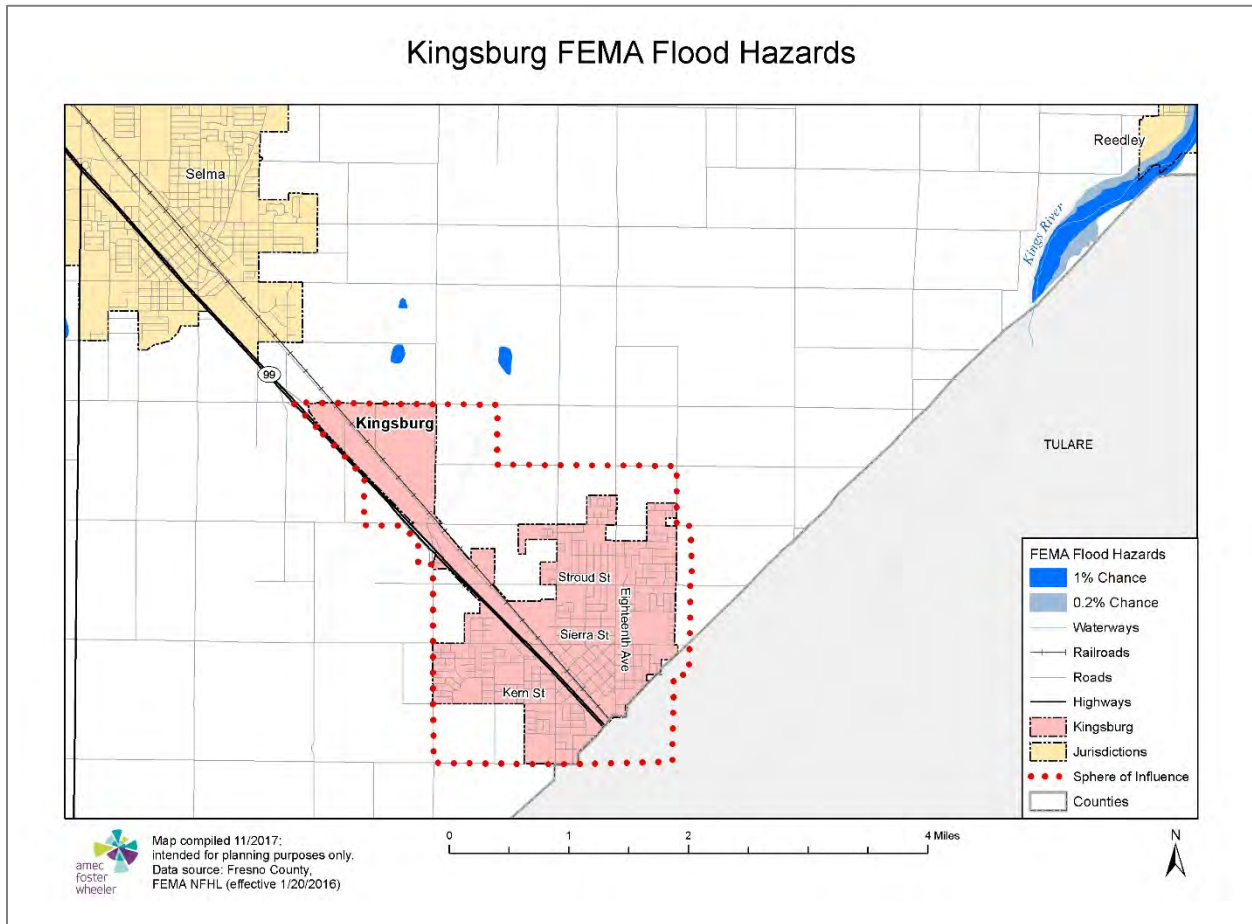


Figure G.6: City of Kingsburg's 100- and 500-Year Floodplains



Hazardous Materials Incident

California State Highway 99 and the Union Pacific Railroad both run through the heart of Kingsburg. With these two main transportation corridors comes the potential and history of major incidents involving loss of life and property.

Incidents such as those mentioned in the fog section above not only affect Highway 99, but also affect local streets and traffic due to detours through the City. Along with the potential for death and injuries from large-scale motor vehicle accidents, there is the potential for hazardous material spills or fires as numerous commercial transportation vehicles travel Highway 99 with various types and quantities of hazardous materials.

The Union Pacific Railroad is a strictly commercial freight transportation system. Large quantities and numerous types of hazardous materials are transported through Kingsburg by rail on a daily basis. In 1947, a collision occurred between a passenger train and a semi-truck hauling gasoline at the Union Pacific railroad crossing and Sierra Street in Kingsburg, killing four people and injuring 129. The rail line was closed for several days, but the specific closures and damage are no longer

known. Warning devices have since been approved. However, due to the increased rail and vehicle traffic in the City, this type of accident may occur again in the future.

Of particular concern is the large number of liquefied petroleum gas vessels that are transported on the system. A derailment and fire, with large exploding liquefied petroleum gas vessels, could cause widespread damage to the City, as has happened in other communities across the country.

Large quantities of hazardous materials are used by the agricultural industry and thus travel through Kingsburg and are stored and used in the surrounding areas. Also, there is the potential for hazardous materials releases from large industrial plants in Kingsburg, such as Guardian Glass and Del Monte.

There are five CalARP hazardous materials facilities located in the City of Kingsburg. As detailed in Table G.10, there are four critical facilities located within a half mile of a CalARP facility.

Table G.10: Critical Facilities within ½ mile of CalARP Facility: City of Kingsburg

Critical Facility Type	Count
Fire Station	1
Police	1
School	2
Total	4

Source: Fresno County, HIFLD 2017

Severe Weather: Extreme Heat

The City does have a cooling station plan administered by the Community Services Department. The fire and police stations, city hall, and the senior center serve as cooling centers. Kingsburg has a high population of elderly residents that are vulnerable during extreme heat events.

Severe Weather: Fog

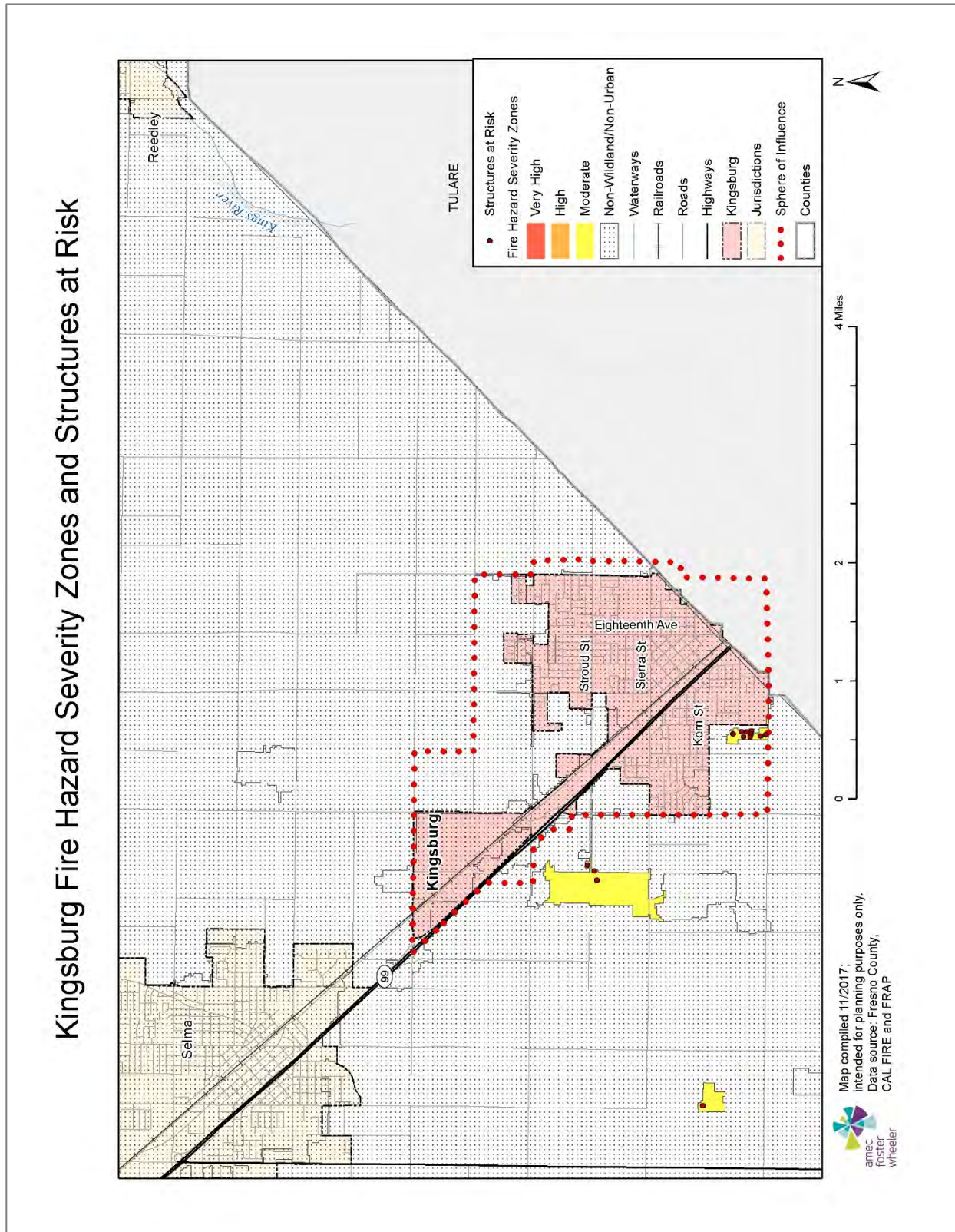
Severe fog events have contributed to multi-vehicle traffic accidents with multiple casualties along Highway 99 in Kingsburg. The most recent large events occurred in 1998 along Highway 99 and Avenue 384 (dense fog caused a chain-reaction accident involving 74 vehicles, killing two and injuring 51) and in 2000 along Highway 99, a major traffic artery in California, between Bethel and Mountain View avenues. The planning team reported that fatal accidents related to severe fog events occur in the area every year. About every five years, there is a major incident involving several vehicles. A similar event is highly likely to occur again in the future, especially with the expansion of Highway 99 from four to six lanes and the increase in highway usage.

These incidents require assistance from the City’s emergency responders and also cause traffic to be diverted through the town, increasing the number of accidents there. Kingsburg does have a fog plan that involves constant replacement of signage and street striping to maintain visibility. The school districts implement a foggy day schedule when needed.

Wildfire

Similar to many areas of the County, Kingsburg has high temperatures in the summer with low rainfall creating fire hazard conditions. Following the methodology described in Section 4.3.2 Vulnerability of Fresno County to Specific Hazards, a wildfire map for the City of Kingsburg was created (see Figure G.7). An analysis was performed using GIS software to determine where populations, values at risk, and critical facilities are located within wildfire threat zones. According to this assessment, there are no values at risk to wildfire within the city. However, there is some property at risk within the city's Sphere of Influence. (See Figure G.7 below). There are not any critical facilities in wildfire threat zones in the City of Kingsburg.

Figure G.7: City of Kingsburg's Wildfire Risk



G.4 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation outreach and partnerships, and other mitigation efforts.

To develop this capability assessment, the jurisdictional planning representatives used a matrix of common mitigation activities to inventory which of these policies or programs were in place. The team then supplemented this inventory by reviewing additional existing policies, regulations, plans, and programs to determine if they contributed to reducing hazard-related losses.

During the plan update process, this inventory was reviewed by the jurisdictional planning representatives and Amec Foster Wheeler consultant team staff to update information where applicable and note ways in which these capabilities have improved or expanded. Additionally, in summarizing current capabilities and identifying gaps, the jurisdictional planning representatives also considered their ability to expand or improve upon existing policies and programs as potential new mitigation strategies. The City of Kingsburg’s updated capabilities are summarized below.

G.4.1 Regulatory Mitigation Capabilities

Table G.11 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in Kingsburg.

Table G.11: City of Kingsburg’s Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General plan	Yes	Comprehensive General Plan for the Swedish Village of Kingsburg, 1992
Zoning ordinance	Yes	
Subdivision ordinance	Yes	
Site plan review requirements	Yes	
Growth management ordinance	Yes	
Floodplain ordinance	Yes	
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	Water Conservation Ordinance, 2003; Kingsburg Municipal Code 13.04.070
Building code	Yes	Version: 2001. Adopt 2007 California Code in January 2008
Fire department ISO rating	Yes	Rating: 5
Erosion or sediment control program	No	
Stormwater management program	Yes	City of Kingsburg Storm Drain Master Plan, 2005
Capital improvements plan	Yes	Five-year plan; updated annually
Economic development plan	Yes	
Local emergency operations plan	Yes	Emergency Operations Plan, May 1992
Other special plans	Yes	Water Master Plan, 2007

Regulatory Tool	Yes/No	Comments
		Urban Water Management Plan (possible adoption summer 2008) North Kingsburg Specific Plan, 2005 (addendum to general plan)
Flood Insurance Study or other engineering study for streams	Yes	FEMA Flood Insurance Study, 2005

Comprehensive General Plan for the Swedish Village of Kingsburg, 1992

The Kingsburg General Plan reflects the City’s long-range aspirations (15-20 years) of physical form and amenity and provides guidance for developmental regulations, such as zoning and subdivision ordinances. Two of the plans goals, in particular, support hazard mitigation. These goals and their policies are included below.

Goal 8: Seismic Hazards

Goals for achieving and maintaining safety from seismic events, include preventing serious injury, loss of life, serious damage to critical facilities involving large assemblies of people, and loss of continuity in providing services.

- The City will inventory all buildings which are unsound under conditions of “moderate” seismic activity; buildings having questionable structural resistance should be considered for either rehabilitation or demolition. Structures determined by the City’s building official to be structurally unsound are to be reported to the owner and recorded with the County recorder to insure that future owners are made aware of hazardous conditions and risks.
- All new building construction shall conform to the latest seismic requirements of the Uniform Building Code as a minimum standard.
- The present building height limit of 50 feet shall be maintained, with a maximum of four stories. This policy should stay in force until such time that high rise construction is desired and capability for evacuation and fire fighting in upper stories is possible through the availability of appropriate equipment.
- Facilities necessary for emergency service should be capable of withstanding a maximum credible earthquake and remain operational to provide emergency response.
- Soil compaction tests, and geotechnical analysis of soil conditions and behavior under seismic conditions shall be required of all subdivisions and of all commercial, industrial and institutional structures over 6,000 square feet in area (or in the case of institutional structures, those which hold 100 or more people).
- The City should adopt an Earthquake Disaster Plan in coordination with Fresno County and local special districts. The plan should identify hazards that may occur as the result of an earthquake of major magnitude. The plan should be sufficiently broad in scope to include the designation of evacuation routes and means to coordinate all local government agencies in assisting local residents in the event of a major earthquake, large-scale fire or explosion, or hazardous chemical spill or release of hazardous airborne gas.

- All lines which are part of the domestic water distribution system should be looped to assure adequate pressure in the event of major fire, earthquake, or explosion. Adequate emergency standby power generation capability should be available at water wells to assure water availability in the event of a major power failure.

Goal 9: Public Safety Hazards

Goals for public safety seek to reduce loss of life or property due to crime, fire, earthquake, or other disasters or hazards, provide adequate medical and emergency services to reduce the effects of natural or manmade disasters, promote citizen awareness and preparedness for emergency/disaster situations or potential for the incidence of crime, and implement adequate interagency disaster planning.

- The City will continue to maintain and update emergency service plans, including plans for managing emergency operations, the handling of hazardous materials, and the rapid cleanup of hazardous materials spills.
- The City will continue to cooperate with the County of Fresno and other agencies in pre-disaster planning activities, such as evacuation required in the event of a serious spill of hazardous chemicals.
- The City will seek to reduce the risks and potential for hazards to the public through planning and zoning practices and regulations which avoid hazardous land use relationships and by the continued and timely adoption of new-edition building and fire codes.

The general plan's Hazard Management Element incorporates the Safety Element of the Fresno County General Plan by reference "to the extent that these original elements apply to the Kingsburg Planning area."

City of Kingsburg Storm Drain Master Plan, 2005

The primary purposes of the City of Kingsburg's Storm Drain Master Plan were to assess the existing storm drain system, determine system deficiencies, recommend cost-effective improvements to correct identified deficiencies, and identify facilities and costs for planned orderly expansion of the system to provide for planned future growth within the planning area (for purposes of flood control and groundwater recharge). The 2005 plan is an update to the 1982 plan. It considers drainage system improvements and development that has occurred since the previous plan and incorporates the latest growth plans envisioned by the City.

The current drainage system collects surface runoff in pipelines that drain to a series of retention basins located through the City. The plan includes recommendations for additional retention basins or improvements to provide the required capacity.

North Kingsburg Specific Plan, 2005

The North Kingsburg Specific Plan serves as the primary instrument of the City of Kingsburg for carrying out urban development proposals of the Comprehensive General Plan for the Swedish Village of Kingsburg as they apply in North Kingsburg, where future development in the City is focused. The plan addresses stormwater drainage as an issue associated with proposed growth and states that all surface water drainage facilities will be designed in conformance with the City of Kingsburg Storm Drain Master Plan.

Water Conservation Ordinance

City of Kingsburg Municipal Code 13.04.070 addresses water conservation (water waste). It specifies when watering is allowed for irrigating lawns, shrubs and trees (i.e., days and times or restrictions).

G.4.2 Administrative/Technical Mitigation Capabilities

Table G.12 identifies the personnel responsible for activities related to mitigation and loss prevention in Kingsburg.

Table G.12: City of Kingsburg’s Administrative and Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	Yes	Planning and Development Director
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	City Engineer and Building Official
Planner/engineer/scientist with an understanding of natural hazards	No	
Personnel skilled in GIS	Yes	Planning Department
Full time building official	Yes	Building Official
Floodplain manager	Yes	
Emergency manager	Yes	Police Chief or Fire Chief
Grant writer	Yes	Contract with outside consultant
Other personnel	No	
GIS Data—Land use		
GIS Data—Links to Assessor’s data		
Warning systems/services (Reverse 9-11, outdoor warning signals)	No	
Other		

G.4.3 Fiscal Mitigation Capabilities

Table G.13 identifies financial tools or resources that the City could potentially use to help fund mitigation activities.

Table G.13: City of Kingsburg’s Fiscal Mitigation Capabilities

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Community Development Block Grants	Yes	
Capital improvements project funding	Yes	
Authority to levy taxes for specific purposes	Yes	With voter approval
Fees for water, sewer, gas, or electric services	Yes	Water
Impact fees for new development	Yes	
Incur debt through general obligation bonds	Yes	With voter approval
Incur debt through special tax bonds	Yes	With voter approval
Incur debt through private activities	No	
Withhold spending in hazard prone areas	n/a	
Other	n/a	

G.4.4 Mitigation Outreach and Partnerships

The City of Kingsburg has an existing water responsible program and annual fire safety programs in schools and throughout the year at special community events.

The City of Kingsburg Fire Department recently agreed to an automatic aid agreement for fire and emergency medical services with the Fresno County Fire Protection District. They also have mutual aid agreements with Kings and Tulare county fire departments.

G.4.5 Other Mitigation Efforts

The City has implemented mitigation efforts in the past. Examples that were not covered elsewhere in this section include the following:

- The City has installed auxiliary power sources on three municipal water wells.
- The City’s Building Department has standards on building elevations in reference to curbs and gutters based on past practice.
- The City has designated cooling centers and secondary sites if needed during a heat emergency. City Recreation Department staff would assist in staffing these sites, and the City would provide for water and other basic needs.
- The Kingsburg Police Department and the California Department of Transportation have a plan to divert traffic from Highway 99 in the event of fog-related traffic accidents.
- Kingsburg has a fog plan that involves constant replacement of signage and street striping to maintain visibility. The school districts implement a foggy day schedule when needed.
- The City requires, on average, pad elevation of 1 ½ feet above flow line of gutter in residential development, which prevents most flood damage.

G.4.6 Opportunities for Improvement Enhancement

Based on the capabilities assessment, the City of Kingsburg has existing mechanisms in place that will help to mitigate hazards. In addition to these existing capabilities, there are also opportunities to expand or improve on these policies and programs to further protect the community. The opportunities for enhancement of the City's existing mitigation program are listed below.

- Develop a Drought Contingency Plan that will create a framework for drought response and mitigation.
- Update the 2005 City of Kingsburg Storm Drain Master Plan

G.5 Mitigation Strategy

The City of Kingsburg modified the goals and objectives developed by the Fresno County Hazard Mitigation Planning Committee to better fit the City's needs. The City of Kingsburg's mitigation goals and objectives are the following:

G.5.1 Mitigation Goals and Objectives

Goal 1: Provide Protection for People's Lives from All Hazards

Objective 1.1: Provide timely notification and direction to the public of imminent and potential hazards.

Objective 1.2: Protect public health and safety by preparing for, responding to, and recovering from the effects of natural or technological disasters.

Objective 1.3: Improve community transportation corridors to allow for better evacuation routes for public and better access for emergency responders.

1.3.1: Minimize issues associated with California State Highway 99 and the Union Pacific Railroad.

Goal 2: Improve Community and Agency Awareness about Hazards and Associated Vulnerabilities That Threaten Our Communities

Objective: 2.1: Increase public awareness about the nature and extent of hazards they are exposed to, where they occur, what is vulnerable, and recommended responses to identified hazards (i.e. both preparedness and response).

2.1.1: Create/continue an outreach program, provide educational resources, and develop and provide training.

Goal 3: Improve the Community’s Capability to Mitigate Hazards and Reduce Exposure to Hazard Related Losses

Objective 3.1: Reduce damage to property from an earthquake event.

3.1.1: Adopt/maintain building codes to meet required earthquake standards.

Objective 3.2: Reduce flood and storm related losses.

3.2.1: Provide for better collection of data related to severe weather events.

3.2.2: Reduce localized flooding within the City’s storm drain systems.

3.2.2.1: Implement better drainage to accommodate heavy rains that cause flooding.

Objective 3.3: Reduce hazards that adversely impact the agricultural industry.

3.3.1: Promote and protect the viability of agriculture and further the County’s economic development goals.

3.3.1.1: Control invasive species.

3.3.1.2: Identify and lessen freeze impacts.

Objective 3.4: Minimize the impact to the City due to reoccurring drought conditions that impact both ground water supply and agricultural industry.

3.4.1: Develop an integrated City water management plan and groundwater management plan for the City of Kingsburg.

Objective 3.5: Minimize the impact to vulnerable populations within the community that may be affected by severe weather-related events, such as long duration heat waves and hard freezes.

3.5.1: Develop community response plans, such as cooling centers, during heat waves.

3.5.2: Develop community response plans during hard freezes that damage plumbing and cause flooding.

Goal 4: Provide Protection for Critical Facilities, Utilities, and Services from Hazard Impacts

Goal 5: Maintain Coordination of Disaster Planning

Objective 5.1: Coordinate with changing DHS/FEMA needs.

5.1.1: National Incident Management System (NIMS)

5.1.2: Disaster Mitigation Act (DMA) planning

5.1.3: Emergency Operations plans

Objective 5.2: Coordinate with community plans.

5.2.1: General plans

5.2.2: Drought plans

5.2.3: Drainage plans

5.2.4: Intergovernmental agency disaster planning.

Objective 5.3: Maximize the use of shared resources between jurisdictions and special districts for mitigation/communication.

5.3.1: Develop Mutual/Automatic Aid agreements with adjacent jurisdictions and agencies.

Objective 5.4: Standardize systems among agencies to provide for better interoperability.

5.4.1: Standardize communication technology and language.

Goal 6: Maintain/Provide for FEMA Eligibility and Work to Position City Departments and Community Partners for Grant Funding

Objective 6.1: Provide City departments and other agencies with information regarding mitigation opportunities.

Objective 6.2: As part of plan implementation, review projects in this plan on an annual basis to be considered for annual FEMA PDM-C grant allocations or after a presidential disaster declaration in California for HMGP funding as well as for other local, state, and federal funding opportunities.

Incorporation into Existing Planning Mechanisms

The information contained within this plan, including results from the Vulnerability Assessment, and the Mitigation Strategy will be used by the City to help inform updates and the development of local plans, programs and policies. The Economic Development Coordinator may utilize the hazard information when developing business incentives and the Public Works Department may utilize the information when implementing new infrastructure projects. The City will also incorporate this LHMP into the Safety Element of their General Plan, as recommended by Assembly Bill (AB) 2140.

As noted in Chapter 7 Plan Implementation, the HMPC representatives from Kingsburg will report on efforts to integrate the hazard mitigation plan into local plans, programs and policies and will report on these efforts at the annual HMPC plan review meeting.

Continued Compliance with the National Flood Insurance Program

The City has been an NFIP participating community since 1983. In addition to the mitigation actions identified herein the City will continue to comply with the NFIP. This includes ongoing activities such as enforcing local floodplain development regulations, including issuing permits for appropriate development in Special Flood Hazard Areas and ensuring that this development mitigated in accordance with the regulations. This will also include periodic reviews of the floodplain ordinance to ensure that it is clear and up to date and reflects new or revised flood hazard mapping.

G.5.2 Completed 2009 Mitigation Actions

The City of Kingsburg completed two mitigations actions identified in the 2009 plan. These completed actions are as follows:

- Conduct Disaster Response Training
- Replace Storm Drains on Lewis and Washington Streets

These completed actions have reduced vulnerability to hazards and increased local capability through improved hazard event preparation.

G.5.3 Mitigation Actions

The planning team for the City of Kingsburg identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and schedule are included.

In addition to implementing the mitigation actions below the City of Kingsburg will be participating in the county-wide, multi-jurisdictional action of developing and conducting a multi-hazard seasonal public awareness program, with an emphasis on drought. The county-wide project will be led by the County in partnership with all municipalities and special districts. The City agrees to help disseminate the information on hazards provided by the County. More information on the action can be found in the base plan Chapter 5 Mitigation Strategy (see Section 5.3.3 Multi-Jurisdictional Mitigation Actions, Action #1. Develop and Conduct a Multi-Hazard Seasonal Public Awareness Program).

1. Enhance Traffic Diversion System

Install permanent illuminating message and directional signs, improve street stripping, and possibly widen the detour route, Simpson Street through the City of Kingsburg.

Hazard(s) Addressed: Multi-Hazard: severe weather

Issue/Background: California State Highway 99 runs through the center of Kingsburg. Historically, when major issues (i.e., major motor vehicle accidents) shut the highway down, traffic is detoured through the City of Kingsburg. The street that traffic is normally diverted onto is Simpson Street (Golden State Boulevard) from Mendocino Avenue at the south to either Bethel or Mt. View avenues on the north. Simpson Street is one of two main north/south arteries that run through Kingsburg.

Several times a year, a significant event occurs on Highway 99, and traffic is diverted onto Simpson Street, especially during the fog season. This diversion typically causes problems for the normal City traffic flow as well as the diverted traffic off of the highway. The City has taken measures to minimize the impact on local traffic by placing traffic signal lights at the two main east/west street arteries, Sierra and Draper streets. Assistance is needed to ensure the diverted traffic has a clear and adequate detour through the City with minimal impact on the community and its public safety entities. With the current road conditions and signage on Simpson Street, detoured traffic often gets off course and confused. There are then thousands of Highway 99 vehicles driving around the City, which causes problems for both the routine traffic patterns and

public safety. Local police must then deal with trying to keep diverted traffic on course and the problems associated with an influx of heavy traffic onto side streets that are not designed for the increased traffic load (i.e., additional motor vehicle accidents). Fire and ambulance services are also affected by slower responses due to the influx of traffic.

Other Alternatives: The City could divert highway traffic through County side streets to minimize the impact on the heavier population of Kingsburg. There are no County streets that are clearly marked or as easily accessible as Simpson Street.

Responsible Office: City of Kingsburg Public Works

Priority (High, Medium, Low): High

Cost Estimate: \$154,780 (stripping cost: \$40,000; four new electronic LED outdoor message signs: \$114,780)

Potential Funding: California Office of Traffic Safety grants; other available grants

Benefits (Avoided Losses): This would greatly reduce the impact to major state corridor Highway 99, motor vehicle accidents, injuries, City of Kingsburg public safety, and traffic flows.

Schedule: Fall 2018

Status: 2009 project, implementation not yet started

2. Create Emergency Evacuation Plan for Large Scale Incident

Hazard(s) Addressed: Multi-Hazard: dam failure, flood, earthquake

Issue/Background: Summer 2017 there was significant flooding around the Kings River area East of Kingsburg. Tulare County and Kingsburg City could have been better prepared to handle the evacuation. Kingsburg would benefit from a plan to evacuate during large scale incidents. Evacuation planning should include the evacuation of the City of Kingsburg as well as receiving evacuees into the City.

Other Alternatives: No action

Responsible Office: Kingsburg Fire Department

Priority (High, Medium, Low): High

Cost Estimate: \$10,000

Potential funding: FEMA Grant

Benefits (Avoided Losses): Having a plan in place will reduce the potential loss of life and property.

Schedule: Plan in place by 2020

Status: New project

3. Identify High Risk and High Value Target Areas*

Hazard(s) Addressed: Multi-Hazard: Human-caused

Issue/Background: Due to the rise in mass shooting incidents, and ongoing terror threats both foreign and domestic, preplanning would be helpful in identifying target areas. Once identified, steps can be taken to minimize losses.

Other Alternatives: No action

Responsible Office: Kingsburg Fire Department

Priority (High, Medium, Low): High

Cost Estimate: \$15,000

Potential funding: Homeland Security Grant

Benefits (Avoided Losses): Once target areas are identified, threat assessments can be done for each site. Preplans can then be updated to reduce loss of life and property. Updates can be added to the city's Emergency Operation Plan.

Schedule: Plan updated by 2020

Status: New project

4. Sustainable Groundwater Management Act Compliance including Groundwater Sustainability Planning and Implementation

Hazard(s) Addressed: Drought

Issue/Background: The Kings subbasin underlays the City of Kingsburg and like many groundwater basins throughout the State, this subbasin is in overdraft condition with underground aquifers adversely impacted by overuse. Such impacts include significant decline in water storage and water levels, degradation of water quality, and land subsidence resulting in the permanent loss of storage capacity. The Sustainable Groundwater Management Act (SGMA) provides for the establishment of local Groundwater Sustainability Agencies (GSAs) to manage groundwater sustainability within groundwater subbasins defined by the California Department of Water Resources (DWR). The City of Kingsburg has become a joint power authority of the South Kings

Groundwater Sustainability Agency, other members of the Agency include the City of Fowler, City of Parlier and City of Sanger. As a member of the South Kings GSA, the City of Kingsburg is required to participate in the development and implementation, no later than January 31, 2020, of a Groundwater Sustainability Plan (GSP) to ensure a sustainable yield of groundwater, without causing undesirable results. Failure to comply with that requirement could result in the State asserting its power to manage local groundwater resources. Participation in the South Kings GSA and the implementation of a GSP will allow the City to maintain sustainable groundwater supplies while providing insurance against periods of long-term drought, a high significance hazard for the City of Kingsburg.

Other Alternatives: None, compliance required by law, failure to meet requirements will result in State intervention and oversight.

Responsible Office: Public Works and South Kings GSA

Priority (High, Medium, Low): High

Cost Estimate: Varies by GSA for preparation of the required GSP. Further expenses are anticipated to be accrued for the planning and construction of groundwater recharge projects.

Potential Funding: Property owner assessments along with grant funding opportunities from the State.

Benefits (Avoided Losses): Preparation and implementation of the GSP by the respective GSAs will result in the management of groundwater in a manner that is sustainable and avoids undesirable results as defined by the California State Department of Water Resources.

Schedule: GSAs must complete and submit the required GSP to DWR by January 31, 2020, which is to be fully implemented and result in sustainability of the groundwater basin, with no undesirable effects, by the year 2040.

Status: New project in 2018