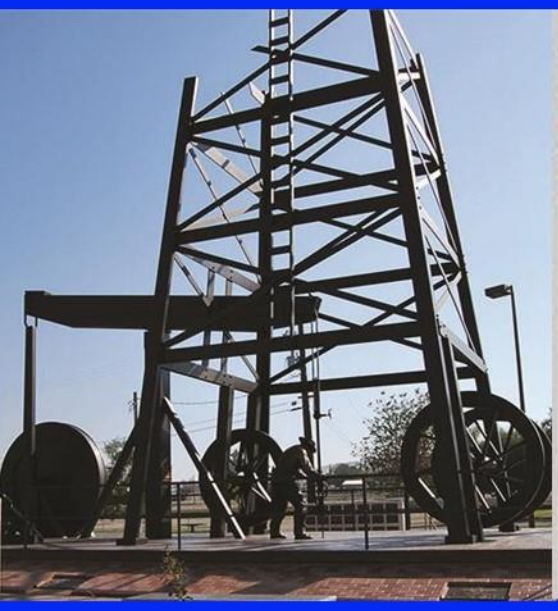
West Kern Water District
Urban Water Management Plan
2020 Update



West Kern water district

June 2021

Revised January 2023

EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP

URBAN WATER MANAGEMENT PLAN
2020 UPDATE

West Kern Water District

June 2021

Revised January 2023

Date signed: 12-16-22

Prepared by:
Provost & Pritchard Consulting Group
1800 30th St., Suite 280, Bakersfield, CA 93301

Table of Contents

List of Figures

List of Tables

APPENDICES

ABBREVIATIONS

AB	Assembly Bill
Act	California Urban Water Management Planning Act
ACWA	Association of California Water Agencies
AF	acre-feet
AFY	acre-feet per year
AWWA	American Water Works Association
BDCP	Bay Delta Conservation Plan
bgs	below ground surface
BMP	Best Management Practice
BVWSD	Buena Vista Water Storage District
CARB	California Air Resources Board
CASGEM	California Statewide Groundwater Elevation Monitoring Program
CAT	Climate Action Team
CCF	One Hundred Cubic Feet
CCR	Consumer Confidence Report
CDPH	California Department of Public Health
CEE	Consortium of Energy Efficiency
CEQA	California Environmental Quality Act
CIMIS	California Irrigation Management Information System
COG	Council of Governments
CRC	California Resources Corporation
CUWCC	California Urban Water Conservation Council
CVC	Cross Valley Canal
CVP	Central Valley Project

CWC	California Water Code
DBP	Disinfection by-products
DCR	Delivery and Capability Report
DDW	Division of Drinking Water
Delta	Sacramento-San Joaquin Delta
DHS	California Department of Health Services
DMM	Demand Management Measure
DOF	Department of Finance
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
eARDWP	electronic Annual Reports to the Drinking Water Program (SWRCB)
EC	Electrical conductivity
EDT	Electronic Data Transfer
ELT	Early Long-Term scenario
EPA	Environmental Protection Agency
ETo	reference evapotranspiration
FCTHSD	Ford City – Taft Heights Sanitation District
GIS	Geographic Information System
gpcd	gallons per capita per day
gpd	gallons per day
gpf	gallons per flush
gpm	gallons per minute
GSP	Groundwater Sustainability Plan
HCD	State Department of Housing and Community Development
HECW	High-Efficiency Clothes Washers
HET	High Efficiency Toilet
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
KCWA	Kern County Water Agency
KTWD	Kern Tulare Water District
LLC	limited liability company
M&I	Municipal and Industrial
MAF	million acre-feet
MCL	Maximum Contaminant Limit
MG	million gallons
mg/L	milligrams per liter
mgd	million gallons per day
MOU	Memorandum of Understanding
NPDES	National Pollutant Discharge Elimination System
PG&E	Pacific Gas and Electric
psi	pounds per square inch
PWS	Public Water System
PWSS	Public Water System Statistics
R&E	Research & Evaluation
RHNA	Regional Housing Needs Allocation Plan
RRBWSD	Rosedale-Rio Bravo Water Storage District
RWQCB	Regional Water Quality Control Board

SB	State Senate Bill
SBX7-7	Senate Bill 7 of Special Extended Session 7
SCAG	Southern California Association of Governments
SGMA	Sustainable Groundwater Management Act
SMCL	Secondary Maximum Contaminant Limit
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
UWMP	Urban Water Management Plan
UWMPA	Urban Water Management Planning Act
WDR	Waste Discharge Requirement
WHPA	Wellhead Protection Area
WKWD	West Kern Water District
WRR	Water Recycling Requirement
WSCD	Westside Cemetery District
WSCP	Water Shortage Contingency Plan
WSD	Water Storage District
WSRP	Water Shortage Response Plan
WSRPP	Westside Recreation & Parks District
WSS	WaterSense Specification
WWTF	wastewater treatment facility

Lay Description of Urban Water Management in West Kern Water District

This 2020 Urban Water Management Plan (UWMP) has been prepared for the West Kern Water District in Kern County, California and describes the District's water supply, water demands, water reliability, and water conservation efforts. This document provides estimated population growth and water demands through the year 2045 and serves as a long-range planning document for the District. This document is an update to the District's 2015 UWMP.

In 2020, the District had an estimated population of 22,172 and served water to 7,379 homes, businesses and industrial facilities. The area served by the District is considered a Disadvantaged Community. Currently, the District obtains its water from two sources: surface water imported from northern California through a series of canals and pipelines and groundwater that is pumped to the surface using several wells. Most of the surface water is recharged in large spreading areas providing long-term storage, and then pumped and used when needed. These sources are expected to provide adequate water through the year 2045.

The State of California set a goal for all urban water agencies to reduce their water use by 20% and to achieve this goal by the year 2020. To reach this goal, the District needs to limit water use to 189 gallons per day for each person. In 2020, the District narrowly missed this goal with a per person use of 197 gallons per day, but will continue water conservation programs to help meet this goal in the future. About 80 percent of the water in the District is used for industrial purposes, especially power plants and oil field operations. These uses were not considered in estimating the daily water use per person.

The District has special water conservation programs that can be implemented in the event of drought or other water supply issues. The District is also prepared to respond to a water supply interruption from an emergency. These measures are described in an updated Water Shortage Response Plan, which is included in this document. The District will typically not experience water shortages unless there is a catastrophic interruption of supply. The amount of recharged groundwater has grown to provide a ten-year backup supply. As a result, the District is not expected to have water shortages during droughts for the foreseeable future.

1 Introduction and Overview

1.1 Overview

This document presents the 2020 Urban Water Management Plan (Plan or UWMP) for the West Kern Water District (District, WKWD) service area. This section describes the general purpose of the Plan, background information on UWMP requirements, and the organization of the UWMP. This Plan satisfies requirements for a retail UWMP and covers the years 2016 to 2020. This plan is also an update to the District's 2015 UWMP.

1.2 Purpose

An UWMP is a planning tool that generally guides the actions of water management agencies. It provides managers and the public with a broad perspective on a number of water supply issues. It is not a substitute for project-specific planning documents, nor was it intended to be when mandated by the State Legislature. For example, the Legislature mandated that a plan include a section which "describes the opportunities for exchanges or water transfers on a short-term or long-term basis." (California Urban Water Management Planning Act, Article 2, Section 10630(d).) The identification of such opportunities, and the inclusion of those opportunities in a general water service reliability analysis, neither commits a water management agency to pursue a particular water exchange/transfer opportunity, nor precludes a water management agency from exploring exchange/transfer opportunities not identified in the plan. When specific projects are chosen to be implemented, detailed project plans are developed, environmental analysis, if required, is prepared, and financial and operational plans are detailed.

In short, this Plan is a management tool, providing a framework for action, but not functioning as a detailed project development or action. It is important that this Plan be viewed as a long-term, general planning document, rather than as an exact blueprint for supply and demand management. Water management in California is not a matter of certainty, and planning projections may change in response to a number of factors. It is an effort to generally answer a series of planning questions including:

- What are the potential sources of supply and what is the reasonable probable yield from them?
- What is the probable demand, given a reasonable set of assumptions about growth and implementation of good water management practices?
- How well do supply and demand figures match up, assuming that the various probable supplies will be pursued by the implementing agency?

Using these "framework" questions and resulting answers, the implementing agency will pursue feasible and cost-effective options and opportunities to meet demands. WKWD explores enhancing basic supplies and banking of water from the State Water Project (SWP) as well as other options. These include groundwater extraction, water exchanges, and water banking/conjunctive use. Specific planning efforts will be undertaken in regard to each option, involving detailed evaluations of how

each option would fit into the overall supply/demand framework, how each option would impact the environment, and how each option would affect customers. The objective of these more detailed evaluations would be to find the optimum mix of conservation and supply programs that ensure that the needs of the customers are met.

The California Urban Water Management Planning Act (Act) requires preparation of a plan that:

- Accomplishes water supply planning over a 20-year period in five-year increments. (WKWD is going beyond the requirements of the Act by developing a plan which spans 25 years.)
- Identifies and quantifies adequate water supplies for existing and future demands, in normal, single-dry, and multiple-dry years.
- Implements conservation and efficient use of urban water supplies.

In short, the Plan answers the question: *Will there be enough water for the customers of the West Kern Water District service area in future years, and what mix of programs should be explored for making this water available?*

It is the stated goal of WKWD to deliver a reliable and high-quality water supply for their customers, even during dry periods. Based on conservative water supply and demand assumptions over the next 25 years, in combination with conservation of non-essential demand during certain dry years, the Plan successfully achieves this goal.

1.3 Background

1.3.1 Urban Water Management Planning Act

The UWMP is a requirement of the Act (Division 6, Part 2.6 of the CWC §10610-10656). The UWMPs must be filed every five years and submitted to the Department of Water Resources (DWR). The submittal is required to meet the requirements of the Act, including the most current amendments that have been made. The Act applies to urban water suppliers with 3,000 or more connections being served or supplying more than 3,000 acre-feet (AF) of water annually. As of December 2020, WKWD had 7,379 active water connections and is therefore required to prepare an UWMP. UWMP requirements differ for retail and wholesale water agencies; WKWD is a retail water agency and this UWMP satisfies the retail agency requirements.

In 1983, SB797 altered Division 6 of the CWC by producing the Act. Since 1983, several amendments to the original document have increased the requirements of the UWMPs to include sections on recycled water use, demand management measures (DMMs), energy consumption, climate change, water shortage contingency plans, and other topics. See **Table 1-1** for the changes to the Water Code since the 2010 UWMPs.

Table 1-1: Changes to the Water Code Since 2010 UWMPs

Bill	Requirements
SB610 and AB901	Consideration of water availability when reviewing new large developments
SB318	Investigate possibilities of developing desalinated water
AB105	Submit UWMP to State Library
Water Conservation Bill (2009)	Urban water suppliers to reduce the statewide average per capita daily water consumption by 20% by December 31, 2020
AB 2067	Revises requirements on Demand Management Measures
SB 1420	Requires electronic submittal, standard forms and tables, and a report on distribution system losses
SB 1036	Urban suppliers to include energy-related information (optional) and analyze and define artificial water features
SB 606	This bill added several new requirements including, changes to the stages required by the Water Shortage Contingency Plan from four to six, preparation of a drought risk assessment to be included in the UWMP, and addition of a Lay Description to the UWMP.

1.3.2 Previous Urban Water Management Plan

The District has previously prepared a UWMP in 2015, which was approved and adopted by the Board of Directors. Following adoption, the 2015 UWMP was submitted to DWR. The UWMP was submitted with revisions requested by DWR and subsequently approved by DWR. A copy of this UWMP resides in the State Library.

This 2020 UWMP serves as an update to the 2015 UWMP and complies with all new requirements and regulations.

1.3.3 Plan Overview and Organization

This 2020 UWMP describes the District's water demands and supplies, water reliability and water conservation strategies. The UWMP includes data covering the years from 2016 to 2020. The UWMP has been prepared to include the recommended sections, discussions and data reporting required by the CWC and is based on the 2020 UWMP Guidebook provided by DWR. A checklist demonstrating compliance with applicable codes and legislations is included in **Appendix A** of this UWMP. **Appendix B** includes a copy of the resolution adopting the UWMP.

1.3.4 UWMP Organization

This 2020 UWMP is organized into the following sections.

- Section 1: Introduction and Overview

This section provides a discussion of the purpose and content of the 2020 UWMP and the extent of the District's water management planning efforts.

- Section 2: Plan Preparation and Adoption

  This section provides information on the District's development of the 2020 UWMP including the basis for plan preparation, UWMP characteristics, data format and coordination and outreach to nearby agencies. This section also details the steps taken by the District to adopt the UWMP and make it available to the public.

- Section 3: System Description

  This section provides a description of the District's water system including service area maps, climate information and service population and demographic information.

- Section 4: System Water Use

  This section describes the District's current and historic water uses, system losses, estimated water savings, and water use by lower income households.

- Section 5: Baselines and Targets

  This section includes a description of the District's chosen method for calculating their baseline, calculated baseline water use, and compliance with the 2020 target.

- Section 6: System Supplies

  This section includes a discussion of the District's water system supplies including groundwater and surface water, the District's future water projects, a summary of existing and future water sources, and energy consumption.

- Section 7: Water Supply Reliability

  This section describes the reliability of the District's water supply including a supply and demand assessment, drought risk assessment and regional reliability.

- Section 8: Water Shortage Contingency Planning

  This section provides a description of the District's Water Shortage Contingency Plan including stages of action, prohibitions, penalties, reduction methods, and catastrophic supply interruption.

- Section 9: Demand Management Measures

  This section explains the District's existing and historic efforts to promote water conservation and the District's plans to use Demand Management Measures to achieve their water use targets.

- Section 10: Bibliography/References

  List of relevant reports, studies, references, and data sources used in preparing the UWMP.

1.3.5 Report Tables

DWR has developed standardized tables to assist water managers in calculating per capita consumption, baseline consumption, water reduction targets, water use, etc. These tables are a required attachment to the UWMP document. However, they are not required in the body of the text and can be altered as needed to better reflect the water system. When appropriate and relevant, these tables have been included in the body of this text, but some are only found in **Appendix C**. It should be noted that some of the tables in the body of this document are not identical to the tables provided by DWR. Titles and substance may vary.

2 Plan Preparation and Adoption

2.1 Plan Characteristics

WKWD is a Public Water System (PWS), as defined by the California Health and Safety Code. The PWS number, and the number of connections and water delivered in 2020 are shown in the table below.

Table 2-1: Retail: Public Water Systems

Public Water System Number	Public Water System Name	Number of Active Municipal Connections 2020[1]	Volume of Water Supplied 2020[2]
15100222	West Kern Water District	7,379	16,338

1 – Includes residential, commercial and industrial meters and system losses. Does not include fire protection meters.
2 – Includes treated well water and raw surface water deliveries.

WKWD participates in several regional water management programs, including the Kern Integrated Regional Water Management Plan, efforts of the Kern County Water Agency, and coordinate basin-wide Sustainable Groundwater Management Act (SGMA) compliance as a member of the Kern Groundwater Authority. WKWD decided that an individual UWMP was the best option for the following reasons: 1) WKWD is fairly isolated from other urban water agencies; 2) WKWD has a unique customer base and unique water conditions; and 3) WKWD desires to use the UWMP for internal planning purposes.

Table 2-2: Plan Identification

☒	Individual UWMP
☐	Regional UWMP
No	Does this Regional UWMP include a Regional Alliance?

WKWD directly delivers water to customers and is therefore considered a retail water agency. Data in this UWMP is presented in acre-feet (AF) for each calendar year, which is consistent with the previous UWMP and the District's standard reporting procedures.

Table 2-3: Agency Identification

Name of Agency	
Select one or both	
☐	Agency is a wholesaler
☒	Agency is a retailer
Fiscal or Calendar Year	
☒	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Day that the Fiscal Year Begins	
Day	*Month*
Units of Measure	
☒	Acre Feet (AF)
☐	Million Gallons (MG)
☐	Hundred Cubic Feet (CCF)

2.2 Coordination

Legal Requirements:

§10620(d)(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

2.2.1 Coordination and Outreach

Coordination for the UWMP and Water Shortage Contingency Plan (which is a component of the UWMP) updates included two components: 1) coordination with the general public; and 2) coordination with other water agencies. The coordination efforts followed water code requirements for retail water agencies. These efforts included: 1) notifying agencies of the plan to update the UWMP; 2) collecting data from some agencies; 3) making the Draft UWMP available at the WKWD office; 4) soliciting input on the draft UWMP; 5) publishing notices in local newspapers; and 6) holding a public hearing to solicit comments and adopt the UWMP. Copies of the public outreach materials are included in **Appendix D**. **Table 2-4** presents the timeline for public participation. The UWMP was adopted in June 2021, then readopted in January 2023 after comments from DWR were incorporated.

Table 2-4: Public Participation Timeline

June 8, 2021	Preliminary Draft UWMP	Preliminary Draft released to solicit input
June 22, 2021	Public Hearing/Adoption Hearing	Review contents of Draft UWMP and take comments/Adopt UWMP
December 24, 2022	Draft Revised UWMP	Draft Revised UWMP released to solicit input
January 24, 2023	Public Hearing/Adoption Hearing	Review contents of Draft revised UWMP and take comments/Adopt UWMP

2.2.2 Wholesale and Retail Coordination

The District has informed the following wholesale suppliers of projected water use in accordance with CWC §10631. The Kern County Water Agency provides SWP water to WKWD.

Table 2-5: Water Supplier Information Exchange

Wholesale Agency Name
Kern County Water Agency

2.2.3 Coordination with Other Agencies and the Community

Table 2-6 summarizes the coordination efforts with other public agencies and the general public.

Table 2-6: Coordination with Appropriate Agencies

Coordinating Agencies	Participated in Developing the Plan	Was Sent a Copy of the Draft Plan	Commented on the Draft	Attended Public Meetings	Contacted for Assistance	Was Sent a Notice of Intention to Adopt
City of Taft		✓				
City of Maricopa		✓				
Buena Vista WSD		✓				
Rosedale-Rio Bravo WSD		✓				
Kern County Water Agency		✓				
Kern Water Bank		✓				
County of Kern, Council of Governments		✓				
County of Kern		✓				
General Public						

2.3 Plan Adoption, Submittal, and Implementation

The UWMP was adopted in June 2021 then revised and readopted in January 2023 based on comments from DWR. The process followed for both adoption procedures is described below.

2.3.1 Notice of Public Hearing

Legal Requirements:

> ***CWC 10621 (b)***
> *Every urban water supplier required to prepare a plan shall… at least 60 days prior to the public hearing on the plan … notify any city or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*
> ***CWC 10642***
> *The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately-owned water supplier shall provide an equivalent notice within its service area.*

The following table lists the agencies that were notified, via letters, that WKWD was updating the UWMP, and of the date of the public hearing. Copies of the notification letters are included in **Appendix D**.

Table 2-7: Notification to Water Agencies

Names of Cities and Counties	60 Day Notice (CWC 10621 (b))	Notice of Public Hearing (CWC 10642)
City of Taft	☒	☐
City of Maricopa	☒	☐
Buena Vista WSD	☒	☐
Rosedale-Rio Bravo WSD	☒	☐
Kern County Water Agency	☒	☐
Kern Water Bank	☒	☐
County of Kern, Council of Governments	☒	☐
County of Kern	☒	☐

2.3.2 Public Hearing and Adoption

Legal Requirements:

> ***CWC 10642***
> *Prior to adopting a plan, the urban water supplier …shall hold a public hearing thereon.*
> ***CWC 10608.26***
> *(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:*
> *(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.*
> *(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.*
> *(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.*
> ***CWC 10642***
> *After the hearing, the plan shall be adopted as prepared or as modified after the hearing*

The District held a public hearing and adopted the 2020 UWMP and WSCP on June 22, 2021. A copy of the adopting resolution is included in **Appendix B**. Prior to the public hearing, a notice was published in the Taft Midway Driller newspaper (which is only published once per week) on June 10,

2021 and June 17, 2021 informing the public of the pending hearing. At the public hearing the District presented information on baseline values, water-use targets and an UWMP implementation plan. No comments were received from the public prior to or at the public hearing.

For the revised UWMP, The District held a public hearing and adopted the 2020 UWMP and WSCP on January 24, 2023. A copy of the adopting resolution is included in **Appendix B**. Prior to the public hearing, a notice was published in the Taft Midway Driller newspaper (which is only published once per week) on December 22, 2022 and January 5, 2023 informing the public of the pending hearing. At the public hearing the District presented information on the revisions which included changes to the per capita water use. No comments were received from the public prior to or at the public hearing.

2.3.3 Plan Submittal

Legal Requirements:

CWC 10621(d)
An urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.
CWC 10644(a)
An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.
CWC 10635 (b)
The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

After the UWMP and WSCP were adopted, copies were submitted to DWR electronically, the State Library and the public agencies listed in **Table 2-6**.

2.3.4 Public Availability

Legal Requirements:

CWC 10645
Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

The adopted UWMP and WSCP are available on the WKWD website at http://www.wkwd.org/. A copy of the UWMP and WSCP can also be viewed at the WKWD office during normal business hours.

2.3.5 California Environmental Quality Act Compliance

Legal Requirements:

CWC §10652
The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any

project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

This UWMP and WSCP has been prepared in conformance with legislative requirements. Pursuant to CWC Section 10652 the preparation and adoption of this plan, along with the implementation of the Water Shortage Contingency Plan, are exempt from the California Environmental Quality Act (CEQA). This plan does however present projects that comprise the District's long-term water supply strategy. These projects are in various stages of planning and have been or will be evaluated consistent with CEQA requirements.

3 System Description

3.1 Service Area Physical Description

Legal Requirements:

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

3.1.1 Location

WKWD was formed in May 1959, and includes the incorporated cities of Taft and Maricopa, together with the Westside communities of Taft Heights, South Taft, Ford City, Tupman, Dustin Acres, Valley Acres, Derby Acres, Fellows and McKittrick. The District has an irregular boundary and encompasses a service area of approximately 300 square miles. WKWD is located within the San Joaquin Valley approximately 30 miles west of metropolitan Bakersfield and 100 miles north of Los Angeles. A map of the District is shown below as **Figure 3-1**.

3.1.2 Land Use

A summary of land use by several categories is shown in the table below.

Table 3-1: Land Use Categories

Land use	Area (acres)	Percent of Total
Single Family Residential	2,511	1.1%
Multi-Family Residential	166	0.1%
Industrial	4,446	1.9%
Commercial	538	0.2%
Irrigated Agriculture	9,573	4.1%
Other Agricultural Lands[1]	157,457	67.7%
Government	50,241	21.6%
Natural Resources	3,372	1.5%
Miscellaneous / Vacant Land	4,175	1.8%
Total	232,480	100.0%
Source: Kern County Assessor Records (2015)		

1 - These fall under the general category of Agriculture according to County Records. This includes dryland farming, undeveloped land with the potential for agriculture, and oilfields with the potential for agriculture.

Only a small portion of the District is developed for residential use. A significant percentage of the water supply (~80%) is delivered to industrial customers, primarily oil development companies and power plants. Oil companies utilize the District's water to supplement their produced water supply for steam injection (referred to as "secondary recovery") which began during the mid-1960s. Electrical

power generating companies began operation within the District service area during the late 1990s. Domestic water sales account for the remaining twenty percent of the District annual sales.

The District also includes two correctional facilities including the Federal Taft Correctional Institution, whose water use falls under the Industrial category, and the Taft Community Correctional Facility, whose water use falls under the Commercial category. In May 2020, the Federal prison closed temporarily for renovations. The Taft Community Correctional Facility closed permanently in May 2021.

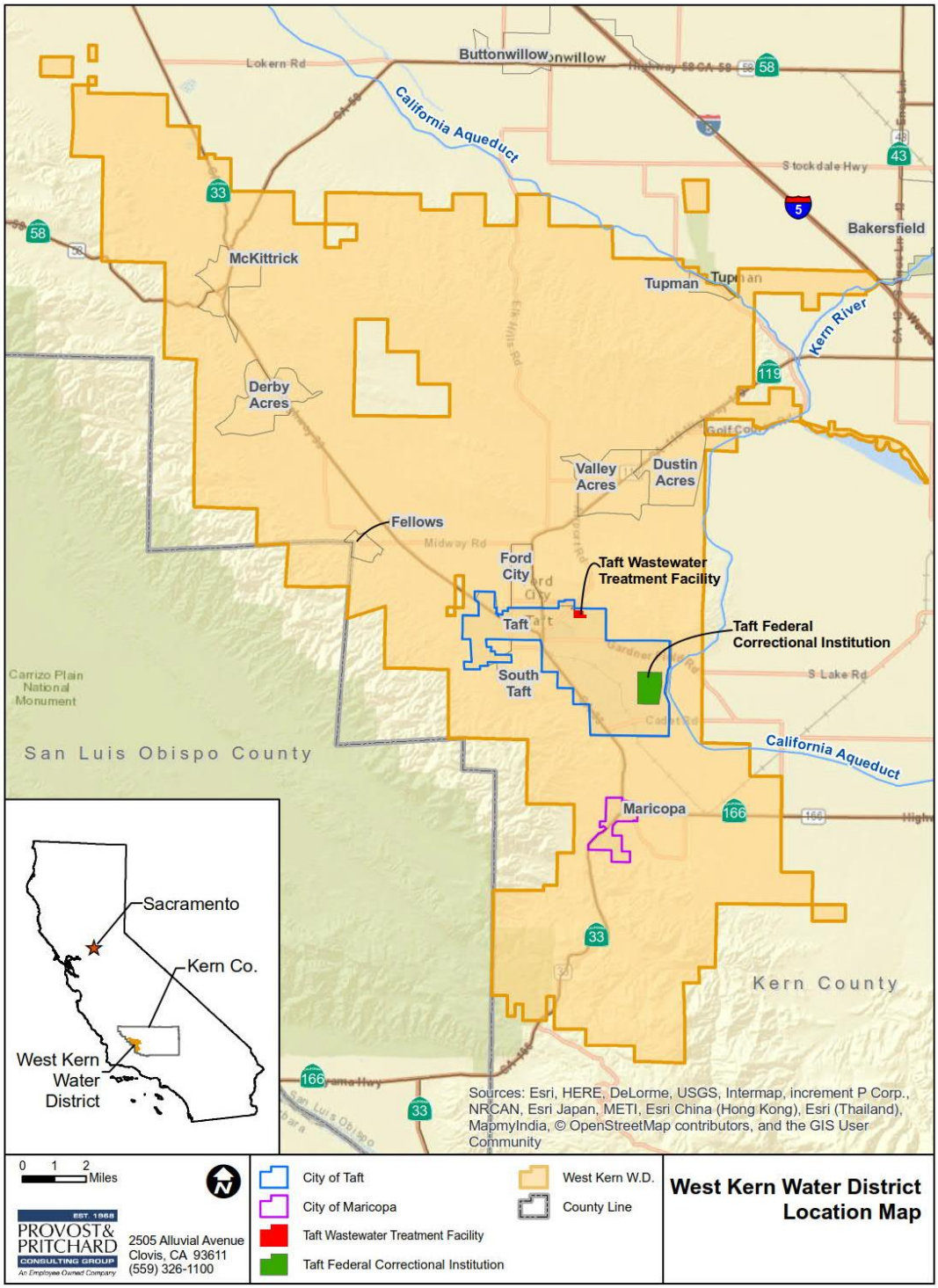


Figure 3-1: Location Map

3.1.3 Water Facilities

A map of the District's distribution system is found in **Appendix E**. The primary facilities in the District include the following:

- 13 active groundwater wells (1 inactive well)
- 26 above ground water storage tanks
- 15 booster pump stations
- 306 miles of distribution pipelines
- Recharge basins of approximately 415 acres
- Recharge basins in project vicinity of approximately 6,862 acres
- Recharge basins in Tule Elk reserve of approximately 729 acres

The District primarily pumps groundwater, but balances this extraction by recharging its SWP water and other supplemental water supplies. The District has an industrial customer with a contract for delivery of up to 5,500 AF of water directly from the California Aqueduct, however future usage is expected to be around 3,000 AF/year. The District water supply is obtained from wells located in the northeast corner of the district in the underflow area of the Kern River Basin and from an area north and adjacent to the State of California's Tule Elk Reserve. The District meters 100 percent of its service connections.

3.1.4 Climate

The greater Taft area, which functions as both the population and commercial center of the District, lies against the gently rolling foothills of the Temblor Range of the Sierra Madre Mountains at an elevation varying from 900 to 1,200 feet above sea level. About ten miles to the east, towards Bakersfield, the valley floor reaches a minimum elevation of 300 feet. The highest facility of the District lies immediately to the south of the City of Taft, where 25 Hill reaches the height of 1,700 feet.

The climate of the southwestern portion of the San Joaquin Valley is semi-arid. The average maximum temperature in the City of Taft for the month of July is 98.4 degrees Fahrenheit, and for the month of January, 57.8 degrees Fahrenheit. The average annual rainfall is 5.39 inches. **Table 3-2** presents the area's annual average climate data.

Table 3-2: Climate Characteristics

	Jan	Feb	Mar	Apr	May	Jun
Standard Monthly Average ETo[a]	1.38	2.29	3.94	5.59	7.43	8.06
Average Rainfall (inches)[b]	1.07	1.29	0.75	0.50	0.37	0.03
Average Max. Temperature (Fahrenheit)[c]	57.8	62.2	69.6	75.2	84.2	91.8

	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Standard Monthly Average ETo[a]	8.26	7.48	5.72	3.99	2.07	1.32	57.53
Average Rainfall (inches)[b]	0.00	0.01	0.06	0.28	0.38	0.65	5.39
Average Max. Temperature (Fahrenheit)[c]	98.4	97.3	91.8	79.6	66.1	58.4	77.7

Notes:
(a) ETo (evapotranspiration) data: Station 5 Shafter/USDA station, http://www.cimis.water.ca.gov/
(b) Average Monthly Rainfall data gathered from long-term average precipitation records from Taft gage (048752) during period 1948-2012. http://www.wrcc.dri.edu/
(c) Temperature data from long-term average precipitation records from Taft gage (048752) during period 1948-2012, http://www.wrcc.dri.edu/

3.2 Service Area Population and Demographics

Legal Requirements:

CWC Section 10631 (a)
Describe the service area of the supplier, including current and projected population . . . The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

The District service area includes the cities of Taft and Maricopa, together with the Westside communities of Taft Heights, South Taft, Ford City, Tupman, Dustin Acres, Valley Acres, Fellows and McKittrick. The Taft Sphere of Influence (planning area) includes the City of Taft and the unincorporated communities of South Taft, Taft Heights, and Ford City. This Sphere of Influence area accounts for the majority of the District's domestic water deliveries. The District also provides water to two correctional facilities which house approximately 2,860 inmates plus the prison workers. WKWD provides water to all virtually all residents within the District boundary. As a result, the total district population is equivalent to the population served water.

The 2010 UWMP had an estimated population of 18,048; however, this has been updated to 20,760 using 2010 Census Data (see Section 5.3 – Service Area Population for more details). The 2015 UWMP and this 2020 UWMP both assume that population growth would be slow, at a rate of about 0.4%/year. This rate is assumed into the future due to several factors that limit population growth. The low population growth within Taft is highly influenced by the lack of available property. Oil companies and government agencies control the majority of the land surrounding Taft, and land for development is generally not for sale.

The 2020 population estimate is based on an evaluation of the "persons per active residential connection" population method. Using the 2010 population, and number of residential connection in 2010, the persons per household is 20,760 residents/5,947 residential connections = 3.49 residents/connection. This results in a 2020 population estimate of 3.49 residents/connection x 6,353 residential connections in 2020 = 22,172. This is considered a reasonable method to estimate population. Using this method, the population growth was close to zero. The table below shows the anticipated District population through 2045, assuming a population growth rate of 0.4%, the same

growth rate assumed in the 2010 UWMP. The table also reflects a population loss of 512 in 2025 due to the closure of the Taft Community Correctional Facility in May 2021. This is based on the facility having 512 beds.

Table 3-3: Population – Current and Projected

Year	2020	2025	2030	2035	2040	2045
Service Area Population[1]	22,172	22,097	22,542	22,997	23,460	23,933

[1] *Service area population is defined as the population served by the distribution system.*

The WKWD service area is considered a disadvantaged community (DAC). DAC maps and a discussion of the methodology for determining the DAC status are provided in **Appendix K**. The DAC status will allow the District to be eligible for state grants and loans, despite not meeting their per capita water use goal (See Chapter 5).

4 System Water Use

This section discusses current and anticipated water deliveries to different water use sectors, the methodology used in estimating future uses, a discussion on system water losses, and estimated water use for lower income households.

4.1 Recycled versus Potable and Raw Water Demand

The District delivers disinfected groundwater to residential, commercial and industrial customers. Raw water from the SWP is delivered directly to one industrial customer, the La Paloma Power Co. LLC (La Paloma). Wastewater effluent from the local wastewater treatment facility is currently used to irrigate fodder crops on adjacent agricultural land. The recycled water is not used to meet District demands, since the District does not provide irrigation water. The District evaluated a recycled water program but found it to be economically unfeasible (see **Section 6.7**). **Table 4-1** shows the current and estimated future demands for potable, raw and recycled water through 2040.

Table 4-1: Retail: Total Water Demands

Description	2020	2025	2030	2035	2040	2045
Potable Water	14,300	13,818	13,907	13,998	14,090	14,185
Raw Water	1,571	3,000	3,000	3,000	3,000	3,000
Recycled Water Demand	0	0	0	0	0	0
Losses	467	538	541	544	547	550
TOTAL WATER DEMAND	16,338	17,356	17,448	17,542	17,637	17,735

1 – Potable Water Demands = Residential, commercial and treated industrial water uses
See Section 4.2 below for details on how future water demands were estimated.

4.2 Water Use by Sector

Legal Requirements:

CWC 10631(e)
(1) 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, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:
(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.
(2) The water use projections shall be in the same five-year increments described in subdivision (a).

This section describes historic and current water usage and the methodology used to project future demands within WKWD's service area. Water usage is divided into five sectors: residential, commercial, industrial (treated), industrial (raw water), and system losses. All water deliveries in WKWD are metered.

Figure 4-1 shows water usage in 2020 according to several water use categories. Industrial water has been the major water demand for many years and comprised about 75% of water demands from 2016-2020.

The District's billing system includes some large landscape water usage under the Industrial billing category. These include accounts for the local golf course (club house and turf irrigation), A.W. Noon Park, and Buena Vista Lake Recreation Park. To be consistent with UWMP reporting criteria, these demands (721 AF) were moved to the Commercial category for the per capita demand analysis presented in Section 5. Hence, the values shown for 2020 differ slightly from official district records, but include the same overall water use. These landscape demands do not include all large landscape water usage, since some is already billed under the Commercial category, and since some Commercial water users do not have dedicated irrigation meters.

Furthermore, the District serves water to two prisons, one federal and one community facility. The Federal Taft Correctional Institution (Federal Prison) water usage is billed to the Industrial category. This Federal Prison had a population of about 2,260 inmates in 2015 and has steadily decreased since that time (based on personal communication with prison staff). Water use for the Federal Prison is included in the Industrial Category. This facility temporarily closed in May 2020 for renovations, however, the inmate population when the prison reopens is unknown at this time. These demands (75 AF in 2020) were also moved to the Commercial category for per capita demand analyses.

The Taft Community Correctional Facility is a local facility with an estimated population of 512 (based on having 512 beds). The water usage for this facility is included in the Commercial category. This

facility closed permanently May 2021 with minimal water required for ground maintenance in the future.

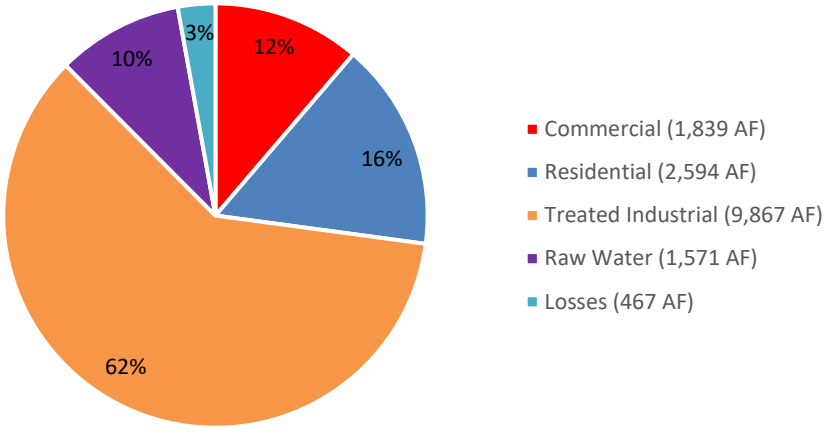


Figure 4-1: 2020 Annual Water Usage

Table 4-2 shows the actual 2020 water usage and projected demand for the planning period (up to 2045).

Table 4-2: Retail: Demands for Potable and Raw Water – Actual and Projected

Use Type	2020 Actual			2025	2030	2035	2040	2045
	Number of Connections	Level of Treatment	Volume					
Residential	6,353	Disinfection	2,594	2,585	2,637	2,690	2,744	2,800
Commercial	607	Disinfection	1,839	1,833	1,870	1,908	1,946	1,985
Industrial –Treated	379	Disinfection	9,867	9,400	9,400	9,400	9,400	9,400
Industrial – Raw (La Paloma Deliveries)	1	None	1,571	3,000	3,000	3,000	3,000	3000
Fire Protection	13	Disinfection	Not metered	-	-	-	-	-
Losses	NA	-	467	538	541	544	547	550
Losses - Industrial	NA	-	337	397	397	397	397	397
Losses – Non Industrial	NA	-	130	141	144	147	150	153
Total	7,379	-	16,338	17,356	17,448	17,542	17,637	17,735

Note: Losses are documented for Industrial and Non-Industrial supplies for accounting purposes, since Industrial losses cannot be subtracted when determining per capita water use.

The 2020 data in **Table 4-2** includes the most complete breakdown of water use available with District records. For instance, the District does not track single-family home usage versus multi-family home usage.

Future water demand estimates were based on the following criteria and assumptions:

1. In 2025 and beyond, residential and commercial demands are based on the 2020 water usage multiplied by the population growth rate (0.4% per year).
2. The net population is estimated to decline by 0.34% from 2020 to 2025 due to the anticipated closure of the State Prison. This results in a drop in residential and commercial water use of 0.34% for the entire 5-year period from 2020 to 2025, After 2025, water use is expected to grow at a rate of 0.4% per year.
3. Raw water demands to La Paloma will be a constant 3,000 AF/year in future years (their total contract supply is 5,500 AF/year)
4. Treated industrial demands remain constant over time due to conservation efforts and assumed limited growth in the industrial sector. They are assumed to be the average of 2016 to 2020 usage, or 9,400 AF/year.
5. Losses are estimated to be 3.2% of total deliveries, based on the actual loss rate in 2020 (groundwater pumping – deliveries).

Several other factors can affect demand projections, which are not included in the estimate above, including:

- Land use revisions
- New regulations
- Consumer choice
- Economic conditions
- Oil prices and oil demand
- Transportation needs
- Highway construction
- Environmental factors
- Conservation programs
- Plumbing codes

The foregoing factors affect the amount of water needed, as well as the timing of when it is needed. Past experience has indicated that the economy is the biggest factor in determining water demand projections. During an economic recession, there is a major downturn in development and a subsequent slowing of the projected demand for water. The projections in this Plan do not attempt to forecast recessions or droughts. Likewise, no speculation is made about future plumbing codes or other regulatory changes. Also, much of the industrial water demand is used by oil exploration companies. Predicting the oil economy and subsequent demand for water in the oil fields is not feasible.

4.3 Distribution System Water Losses

Legal Requirements:

CWC 10631(e)(1) and (2)
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, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:…(J) Distribution system water loss
CWC 10631 (e)(3)
(A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.
(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.

District water losses can be estimated using two different methodologies:

1. **Difference in Well Pumping and Customer Meter Readings.** This methodology was used resulting in the following estimated losses.

Table 4-3: System Losses (Groundwater Pumping minus Deliveries)

Year	Losses (AF)	Percent Loss
2016	2,325	14%
2017	2,485	16%
2018	2,474	16%
2019	481	3%
2020	467	3%

The District began using a new accounting software program in 2016. They were still learning the new program when the system was breached in 2017. The records were rebuilt in 2018, although some items were not included in the rebuild. As a result, the system losses reported for 2019 and 2020 are considered more accurate and typical for the water system. The District is continuously looking for ways to reduce water losses by implementing new programs and techniques (annual in-field meter calibrations, leak detection, meter testing, etc.)

2. **AWWA Water Audit Software.** System water losses were calculated using AWWA Free Water Audit Software (see results in **Appendix F**). The software uses inputs from volume of water supplied, volume of water delivered, metering error percentage, and metering confidence levels to calculate apparent, unauthorized, and real losses.

   The software assumes 1.25% of the total volume supplied is used for authorized, unmetered activities such as line flushing for mains and hydrants and firefighting.

   The difference between volume supplied and volume delivered plus the unmetered consumption is the calculated loss. This value is then broken into apparent loss (caused by

metering errors and data handling inaccuracies) and real loss, leakage, and unauthorized unmetered water consumption.

The table below shows the estimated losses using the AWWA audits. The 2020 losses were estimated as the average of the 2016-2019 losses. The 2020 audit is not due until October 2021 and is therefore not available.

Table 4-4: AWWA Water Audit Results

Year	Estimate Losses (AF/yr)	Losses (% of deliveries)
2016	2,068	13%
2017	2,486	16%
2018	357	2%
2019	1,310	8%
2020[1]	1,555	11%
Average	1,555	10%

1 – The 2020 water audit was not completed yet and was based on the average losses from 2016-2019.

The District was also given Water Audit Data Validity Scores ranging from 50 to 67, with an average of 59. This index scores the validity of the water use data based on factors such as metering, meter calibration, data management, auditing of customer records, etc. As stated above, the more recent water losses are considered more accurate.

4.4 Water Savings from Codes, Standards, Ordinances, or Transportation/Land Use Plans

Legal Requirements:

CWC §10631 (e)(4)
(A) If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.
(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

The West Kern Water District has adopted policies and ordinances to reduce water waste. These ordinances and policies are better described in Sections 8 and 9. The District also meets its 2020 per capita goal, as described later in Section 5, and intends to continue meeting this goal.

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

implementation of a landscape ordinance, the California Energy Commission Title 20 appliances standards for toilets, urinals, faucets, and showerheads, CALGreen Building Code, etc. Enforcing some of these standards is outside the jurisdiction of WKWD.

Passive savings have not been specifically incorporated into projected water demands. Instead, future water demands are projected based on population and the District's target per capita water use, as documented in Section 5, and discussed above. However, the District does expect that passive savings, such as continued implementation of water conservation efforts, rebate programs and modern plumbing codes will help the District continue to meet its target per capita water demand in the future.

4.5 Water Use for Lower Income Households

Legal Requirements:

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

Senate Bill 1087 requires that water use projections of an UWMP include the projected water use for single-family and multi-family residential housing for lower income households as identified in the local housing element or general plan.

Housing elements rely on the Regional Housing Needs Allocation Plan (RHNA) generated by the State Department of Housing and Community Development (HCD) to allocate the regional need for housing. Before the housing element is due, the HCD determines the total regional housing need for the next planning period for each region in the state, and allocates that need. The Kern Council of Governments (COG) then allocates to each local jurisdiction its "fair share" of the RHNA, broken down by income categories; very low, low, moderate, and above moderate, over the housing element's planning period. The current housing element (Kern COG, 2016) covers the planning period 2015-2023. Based on an evaluation of census block group data in the report, 6,880 people are identified as low and very low income in WKWD. This represents 6,880/22,172 = 31.0% of the population. This is close to the 30.7% of residents that were classified as low and very low income in the 2015 UWMP.

Table 4-5 shows the current and estimated future water demands for low-income households.

Table 4-5: Low-Income Projected Water Demands (units in AF)

Low Income Water Demands	2020	2025	2030	2035	2040	2045
Total Residential Demand	2,594	2,585	2,637	2,690	2,744	2,800
Low Income Demand (31%)	804	801	817	834	851	868

5 Baseline and Targets

This section describes the baseline (base daily per capita) water use, the 2015 and 2020 water use targets, and the 2020 actual water use. For additional details on how the per capita goals were established refer to the District's 2015 UWMP.

The UWMPA requires that the UWMP identify a baseline water demand, urban water use target, and interim urban water use target for the District.

Legal Requirements:

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

The base daily per capita use was the first step in determining the District's urban water use target. The historical per capita use set the "baseline" on which the urban water use target was determined. The District established an Interim 2015 water use target and a subsequent 2020 urban water use target to judge compliance with the 2020 use reductions set forth in the Water Conservation Bill of 2009.

5.1 SB X7-7 Forms and Summary Tables

The District calculated its baseline and targets in the 2010 and 2015 UWMPs and will use these previously calculated values to determine compliance with SB X7-7. The following subsections present the SB X7-7 Verification and Compliance forms, as discussed in the 2020 UWMP Guidebook.

The 2015 UWMP included a complete SB X7-7 Verification Form, which is provided for reference in **Appendix C**. The Verification Form is the set of spreadsheets documenting SB X7-7 calculations.

This 2020 UWMP includes a complete 2020 Compliance Form, as required, included in **Appendix C**. The District's 2020 Compliance Water Use Target was set in the 2015 UWMP at 189 gallons per capita per day (gpcd). The District does not need to modify that target based on any reasons provided in the 2020 UWMP Guidebook and will use the target to document compliance with SB X7-7. The District achieved a per capita water use of 197 gpcd in 2020, and therefore slightly missed their goal.

In addition to reporting compliance on the SB X7-7 Compliance Form, the District is also required to report compliance on the DWR Submittal Tables, 5-1 and 5-2, shown below.

Table 5-1: Baselines and Targets Summary

Baseline Period	Start Year	End Year	Average Baseline GPCD	Confirmed 2020 Target
10-15 year	2000	2009	237	189
5 Year	2005	2009	248	

Table 5-2: 2020 Compliance

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)*		
197	0		189	No

5.2 Baseline and Target Calculations for 2020 UWMPs

WKWD has a unique water profile with approximately 75% of the water delivered to industrial customers. Per DWR guidelines for the calculation of gpcd, WKWD is permitted to subtract all industrial (process) deliveries to determine gross water use. Most industrial water supplies were therefore excluded in the per capita demand analyses, however, based on DWR revisions to the 2015 UWMP, water usage for the Federal Taft Correctional Institution and some landscape water demands were included (see **Section 4.2** for additional explanations). In addition, system losses for industrial water supplies cannot be subtracted from the per-capita water use analysis.

Thus per capita demands were based on the commercial and residential demands (which included 796 AF moved from the industrial to commercial category) and 3.2 percent losses based on actual losses in 2020. Using a 2020 population of 22,172, the per capita water use is 197 gallons/day.

The District did not adjust its compliance GPCD using weather normalization, economic adjustment, distribution area expansion, distribution area contraction, or other extraordinary events. No deductions were made for exported water, change in distribution system storage, indirect recycled water, or water delivered for agricultural use. Gross water usage was based on customer meter readings and estimated losses. However, the District does feel that per capita water usage may have been lower if numerous opportunities to promote water conservation had not been cancelled in 2020 due to the COVID pandemic.

5.3 Historical Per Capita Water Use

Figure 5-1 below shows the per capita water use in WKWD from 2000 to 2020. The District has shown a gradual decline in per capita water use over the last 15 years and now meets their per capita water use goal.

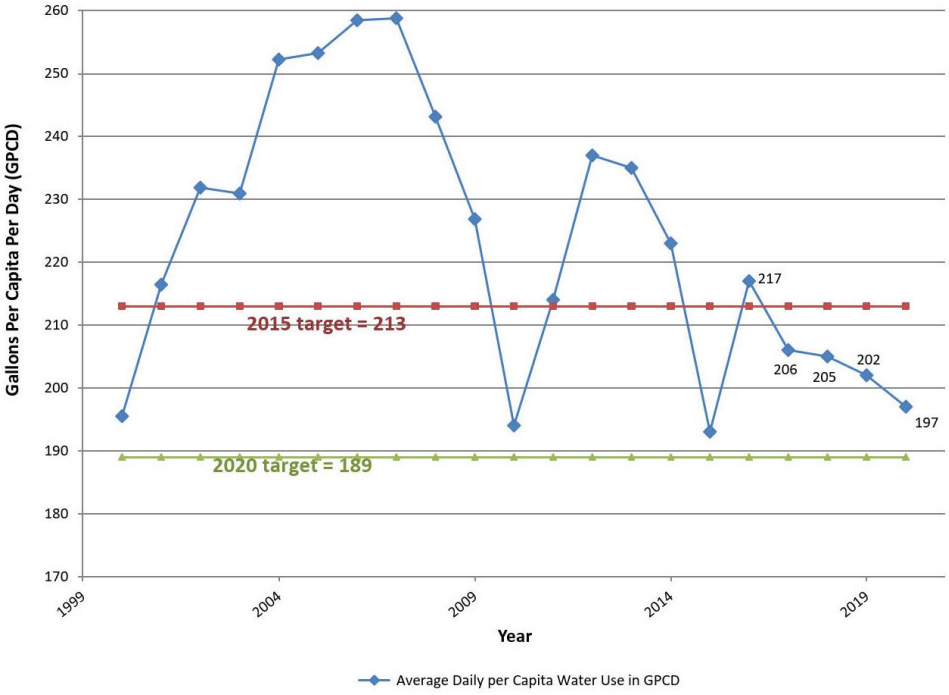


Figure 5-1: Daily Per Capita Water Use (2000-2020)

5.4 Other Factors Affecting Water Usage

Major factors that affect in the District are weather and the implementation of water conservation strategies. Historically, when the weather is hot and dry, water usage increases. The amount of increase varies according to the number of consecutive years of hot, dry weather and the conservation activities imposed. During cool-wet years, historical water usage has decreased to reflect less water usage for external landscaping. Water conservation measures employed within the WKWD service area will have a direct long-term effect on water usage.

In recent years, water conservation has become an increasingly important factor in water supply planning in California. The California plumbing code has instituted requirements for new construction that mandate the installation of ultra-low-flow toilets and low-flow showerheads. These code requirements are overseen by the City of Taft. WKWD continues to support the development of water conservation measures and continually improve upon its conservation plan. Programs supported by WKWD include public information and education programs, metering programs, conservation coordination, water waste prevention, implementation of AWWA M36 methodology,

and conservation pricing. A complete description of these programs and their implementation can be found in Section 9.

Residential, commercial, and industrial usage can be expected to decrease as a result of the implementation of more aggressive water conservation practices. The greatest opportunity for conservation is in developing greater efficiency and reduction in landscape irrigation especially in WKWD's service area where the evapotranspiration rate is high. The irrigation demand can represent as much as 50 percent of the water demand for residential customers depending upon lot size and amount of irrigated turf and plants.

6 System Supplies

Legal Requirements:

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

UWMPA requirements state that the water supplier must describe their existing and planned water supply sources for the next 20 years. The following description includes information on water contracts, surface water, groundwater, water quality, recycled water, exchanges and transfers, future water projects, and future water supplies.

6.1 Water Supply Facilities

Water supply facilities in the District include 13 wells (5 in the North Well Field and 8 in the South Well Field), 26 water tanks, and about 346 miles of pipelines. **Appendix C** includes a map of the District's facilities. The facilities are spread out over the entire district, which covers over 300 square miles.

6.2 Imported Water

The District has a contract to receive surface water from the SWP. The SWP is the largest state-built, multi-purpose water project in the country. It was authorized by the California State Legislature in 1959, with the construction of most initial facilities completed by 1973. Today, the SWP includes 28 dams and reservoirs, 26 pumping and generating plants, and approximately 660 miles of aqueducts. The primary water source for the SWP is the Feather River, a tributary of the Sacramento River. Storage released from Oroville Dam on the Feather River flows down natural river channels to the Sacramento-San Joaquin River Delta (Delta). While some SWP supplies are pumped from the northern Delta into the North Bay Aqueduct, the vast majority of SWP supplies are pumped from the southern Delta into the 444-mile-long California Aqueduct. The California Aqueduct conveys water along the west side of the San Joaquin Valley to Edmonston Pumping Plant, where water is pumped over the Tehachapi Mountains and the aqueduct then divides into the East and West Branches.

In the early 1960s, DWR began entering into individual SWP Water Supply Contracts with urban and agricultural public water supply agencies located throughout northern, central, and southern California. Kern County Water Agency (KCWA) is one of 29 water agencies (commonly referred to as "contractors") that have an SWP Water Supply Contract with DWR. Each contractor's SWP Water Supply Contract contains a "Table A" quantity, which lists the maximum amount of water an agency may request each year throughout the life of the contract. Table A is used in determining each contractor's proportionate share, or "allocation," of the total SWP water supply DWR determines to be available each year. The total planned annual delivery capability of the SWP and the sum of all contractors' maximum Table A amounts was originally 4.23 million acre-feet (MAF). The initial SWP storage facilities were designed to meet contractors' water demands in the early years of the SWP, with the construction of additional storage facilities planned as demands increased. However, essentially no additional SWP storage facilities have been constructed since the early 1970s. SWP conveyance

facilities were generally designed and have been constructed to deliver maximum Table A amounts to all contractors. After the permanent retirement of some Table A amounts by two agricultural contractors in 1996, the maximum Table A amounts of all SWP contractors now totals about 4.17 MAF.

WKWD contracted with KCWA in 1966 to receive an allotment of water through the SWP. KCWA holds a master contract with the State to receive water from the SWP. WKWD and 15 other local water districts, called member units, subcontract with KCWA. Currently, KCWA's annual Table A amount is 998,730 AF; of that amount WKWD is allocated **31,500 acre-feet per year (AFY)**. While these amounts represent the maximum amount of water that these two agencies can request, DWR determines the amount that will actually be delivered in a given year. The reliability of SWP is now estimated to be 59% in 2020 (see **Section 7.3**).

During wet years when high-flow water is available, an additional 10,000 AFY is available to WKWD. Historically, this high-flow water has been purchased or exchanged by WKWD to increase the storage in water banking program. The surface water indirectly available to WKWD consists of in-lieu surface water delivered to Buena Vista Water Storage District (BVWSD) and credited to WKWD as a banked supply . This water is either SWP water or high-flow Kern River water. The surface water is not currently used as a direct domestic water supply source.

WKWD also has two turnouts along the California Aqueduct that have been used to deliver untreated water directly to industrial customers. Currently only one of the turnouts, which supplies untreated water to La Paloma, is operated by the District,. An agreement was established in 2000 between WKWD and La Paloma for a maximum delivery of 6,500 AFY. Historically La Paloma has taken less than 6,500 AFY and WKWD utilizes the balance of the water for recharge to its water banking program or exchanges with other entities.

Appendix J includes a Reduced Delta Reliance analysis, which concludes that the District expects future SWP water demands to be less than historical baseline demands.

6.3 Surface Water

There are no natural surface water features in WKWD, largely due to the arid conditions. Surface water used in WKWD is imported from the SWP in Northern California, or from the Kern River.

6.4 Groundwater

This section presents information on WKWD's groundwater supplies including the local hydrogeology, groundwater levels, groundwater wells, groundwater quality and monitoring.

The 2015 Sustainable Groundwater Management Act (SGMA) requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California.

In 2016 the WKWD GSA was formed for the WKWD service area. The GSA was later expanded to include non-districted areas in and around the WKWD service boundary. In January 2020 the WKWD GSA submitted a Management Area Plan (MAP) that describes projects and actions the WKWD GSA will pursue to sustainably manage groundwater in its portion of the Kern County Subbasin. WKWD GSA's MAP is part of a Subbasin-wide GSP for the Kern County Subbasin, that includes MAPs for several other GSAs and water districts. A copy of the GSP can be found at https://www.wkwd.org/menus/groundwater-sustainability-plan.html.

6.4.1 Groundwater Basin Description

Legal Requirements:

> ***CWC 10631 (b)*** *If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan: (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.*

WKWD is located within the Tulare Lake Hydrologic Region (Region), San Joaquin Valley Groundwater Basin (see **Table 6-1**). The Region has 12 distinct groundwater basins and 7 subbasins of the San Joaquin Valley Groundwater Basin: Kings, Westside, Pleasant Valley, Kaweah, Tulare Lake, Tule, and Kern County. The interconnected depositional basins are grossly separated by a basement high known as the Bakersfield Arch, which trends roughly along and parallel to the Kern River. The District is within the Kern County Groundwater Sub-basin. The Sub-basin encompasses roughly 3,040 square miles and is bounded by the Sierra Nevada foothills on the east, the Tehachapi and San Emigdio Mountains and White Wolf Subbasin on the south, the Temblor Range on the west, and portions of the KGA jurisdictional boundary to the north. The Kettleman Plain, Tulare Lake and Tule sub-basins border the KGA jurisdictional line to the north. The WKWD area overlies the southwestern portion of the Sub-basin, along the western edge of Kern County, roughly 30 miles west of metropolitan Bakersfield.

According to Department of Water Resources, California Bulletin 118, the basin is in a water-short condition. It is also a non-adjudicated basin. It receives its recharge from the Kern River which traverses through a wide, flat bed. In the riverbed are 500 to 2,000 foot thick poorly sorted deposits of silt, sand, rock, and clay that originated from the Sierra Nevada, and that provide moderate to high permeability through the riverbed. Historically, floodwaters that overflowed on lands on both sides of the river contributed further to groundwater recharge. Although natural recharge is primarily from stream seepage along the eastern subbasin and the Kern River; recharge of applied irrigation water is the largest contributor to the recharge of the subbasin.

Table 6-1: San Joaquin Valley Groundwater Basin

Groundwater Basin	DWR Groundwater Basin Number	Surface Area (acres)	Groundwater Storage Capacity (1,000 AF)
San Joaquin Valley Groundwater Basin	5-22.14	1,945,000	4,000

The San Joaquin Valley is surrounded on the west by the Coast Ranges, on the south by the San Emigdio and Tehachapi Mountains, on the east by the Sierra Nevada and on the north by the Sacramento-San Joaquin Delta and Sacramento Valley. The northern portion of the San Joaquin Valley drains toward the Delta by the San Joaquin River and its tributaries, the Fresno, Merced, Tuolumne, and Stanislaus Rivers. The southern portion of the valley is internally drained by the Kings, Kaweah, Tule, and Kern Rivers that flow into the Tulare drainage basin including the beds of the former Tulare, Buena Vista, and Kern Lakes.

The geologic history and geometry of the valley is one of a continually sinking basin being filled with sediment. The sediment was supplied to the basin by the rising Coast Ranges (San Emigdio Mountains), the Transverse Ranges (Tehachapi Mountains), and the Sierra Nevada. The District produces groundwater from its South Well Field in the Tupman area, about 15 miles northeast of Taft, and the new North Well Field, located about three miles northwest of the South Well Field. The geologic units underlying the valley, and which are present underneath the District's wellfield area, are generally grouped into three broad categories. These include the crystalline rocks of ·pre-Tertiary age (>65 million years old), the marine sedimentary rocks of Tertiary age (from 65 million to roughly 20 million years old), and the continental sedimentary deposits of Tertiary and Quaternary age (20 million years old to present). Generally, the crystalline rocks and the marine deposits are non-waterbearing rocks in this area, and play no significant role in the ability of the District to produce groundwater.

Overlying the crystalline rocks and the marine sedimentary rocks is a thick sequence of continental, semi-consolidated to unconsolidated sediments. These continental sediments are several thousand feet thick in the thickest portions of the basin, near the central part of the San Joaquin Valley. Along the fringe of the basin, or on top of the Bakersfield Arch, the sediments are considerably thinner.

In the area of the District's wellfield, the continental rocks consist of the Plio-Pleistocene Tulare Formation, a thick sequence of water-laden sands, silts, and clays. Throughout much of the San Joaquin Valley, the Tulare Formation contains a regionally extensive lacustrine or lakebed clay, generally referred to as Corcoran Clay, which serves as a confining layer separating the shallow semi-confined to unconfined aquifer system from a deeper confined aquifer system. The water-producing portion of the groundwater basin is within the upper sections of the continental deposits and the overlying alluvium. The hydrogeology of the basin above the base of fresh water is an alluvial fan complex deposited by the Kern River.

6.4.2 Groundwater Management

Legal Requirements:

> ***CWC 10631 (b)*** *If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
> *A copy of any groundwater management plan adopted by the urban water supplier… or any other specific authorization for groundwater management.*
> *…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.*

The WKWD Groundwater Sustainability Agency (WKWD GSA) prepared a Management Area Plan (MAP), dated December 2019, to comply with the Sustainable Groundwater Management Act

(SGMA). The WKWD GSA jurisdictional area is defined by the District service area boundary with some additional proximal parcels owned and operated by oil production companies and other private landowners.

Continuous review of banking practices is necessary, and enables the District to gain the maximum benefit of its groundwater banking and water exchange efforts. WKWD continues to pursue active recharge programs that result in positive water level and water quality benefits. In an effort to expand the local recharge programs, evaluation of groundwater banking opportunities in areas surrounding the District's well fields and coordination with those entities is an on-going effort.

Water quality monitoring results will be used to augment the information obtained from historical water level readings. The combination of routine water quality monitoring and groundwater level measurements, allow the District to effectively manage its groundwater supply.

Hydrogeologic Basin Assessment

The District is within the Kern Groundwater Sub-Basin. The WKWD MAP , which is part of an overall umbrella GSP for the entire Sub-basin, included a hydrogeologic assessment of WKWD's portion of the subbasin . Elements of the MAP included:

- Compilation of historical data;
- Determination of the hydraulic parameters and characteristics of the basin that govern groundwater flow (and contaminant transport); and
- Evaluation of the recharge and discharge components of the basin that affect the ability of the District to pump water

Conjunctive Use Program

WKWD has historically practiced conjunctive water use, integrating surface and groundwater supplies, to meet current and future demand. Continuing this proactive approach will require an objective review of past and future procedures, including a review and assessment of:

- The effectiveness of past surface water recharge efforts.
- The effectiveness and impacts of recharge efforts conducted by neighboring groundwater users.
- The role WKWD will take in future conjunctive use programs.
- The continuing participation in banking and exchange programs currently in effect.
- The siting and construction of new or additional recharge facilities.
- WKWD efforts to maximize the amount and quality of surface water available for recharge purposes.
- Programs that stress water conservation efforts throughout WKWD.
- Existing and new domestic users landscape irrigation methods.
- Reuse of industrial water.
- Encouraging the use of domestic water saving devices.

Well Field Evaluation

The physical condition of WKWD's production wells is routinely evaluated and documented to identify potential issues related to the structural integrity and any change in production. WKWD

maintains a regular rehabilitation maintenance program designed to effectively evaluate and enhance well performance. Any issues are addressed immediately.

Monitoring Plan

In addition, as a member of the Kern Groundwater Authority, WKWD participates in a coordinated groundwater monitoring program the requires participants measure groundwater levels and collect groundwater quality samples from January 15 through March 30, and again from September 15 to November 15. WKWD is also required to conduct routine monitoring under their drinking water permit.

Groundwater Contamination Management

Groundwater contamination from anthropogenic or natural sources is one of paramount concern to WKWD. Sources of contamination include, but are not limited to, leaking petroleum storage and distribution facilities, fertilizers or pesticides and septic systems. Although WKWD continues to meet water quality requirements of the SWRCB Division of Drinking Water, Drinking Water Source Assessment Program, the District will continue to assess the potential for source water contamination. Effective control of contamination problems will require:

- Coordinated efforts between all regulatory agencies
- Source control
- A comprehensive understanding of the regional hydrogeology
- Identifying sources of contamination.

6.4.3 Groundwater Levels and Overdraft Conditions

Legal Requirements:

CWC 10631(b)(2).*For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.*

The Kern Groundwater Sub-Basin was identified as being "critically overdrafted" by the California Department of Water Resources (DWR, 2003). DWR also identified the basin as "High Priority" (through the State's CASGEM Basin Prioritization Process) due to overdraft, land subsidence and groundwater quality degradation. Similarly, the Kern Groundwater Sub-basin has been designated by SGMA as a high priority.

Figure 6-1 is a representative hydrograph in the District's South Well Field. The past 5 years (2015 to 2020) have seen an overall increase in groundwater levels. In the South Well Field, the groundwater level decreased from 2015 to 2016 (approximate end of a multi-year drought) and then increased significantly from 2016 to 2020 when active recharge occurred. By the end of 2019 groundwater levels were near historically high levels for the period of record.

Figure 6-2 is a representative hydrograph in the District's North Well Field. In the North Well Field groundwater levels generally decreased by approximately 25 feet from the summer of 2014 to the summer

of 2016. From the summer of 2016 to the winter of 2019/2020 groundwater levels increased by approximately 85 feet. From the winters of 2019/2020 to 2020/2021 levels fell approximately 12 feet.

WKWD recognizes the benefit of the banking operations and continues to support the efforts of sustainable groundwater management to further reduce declines.

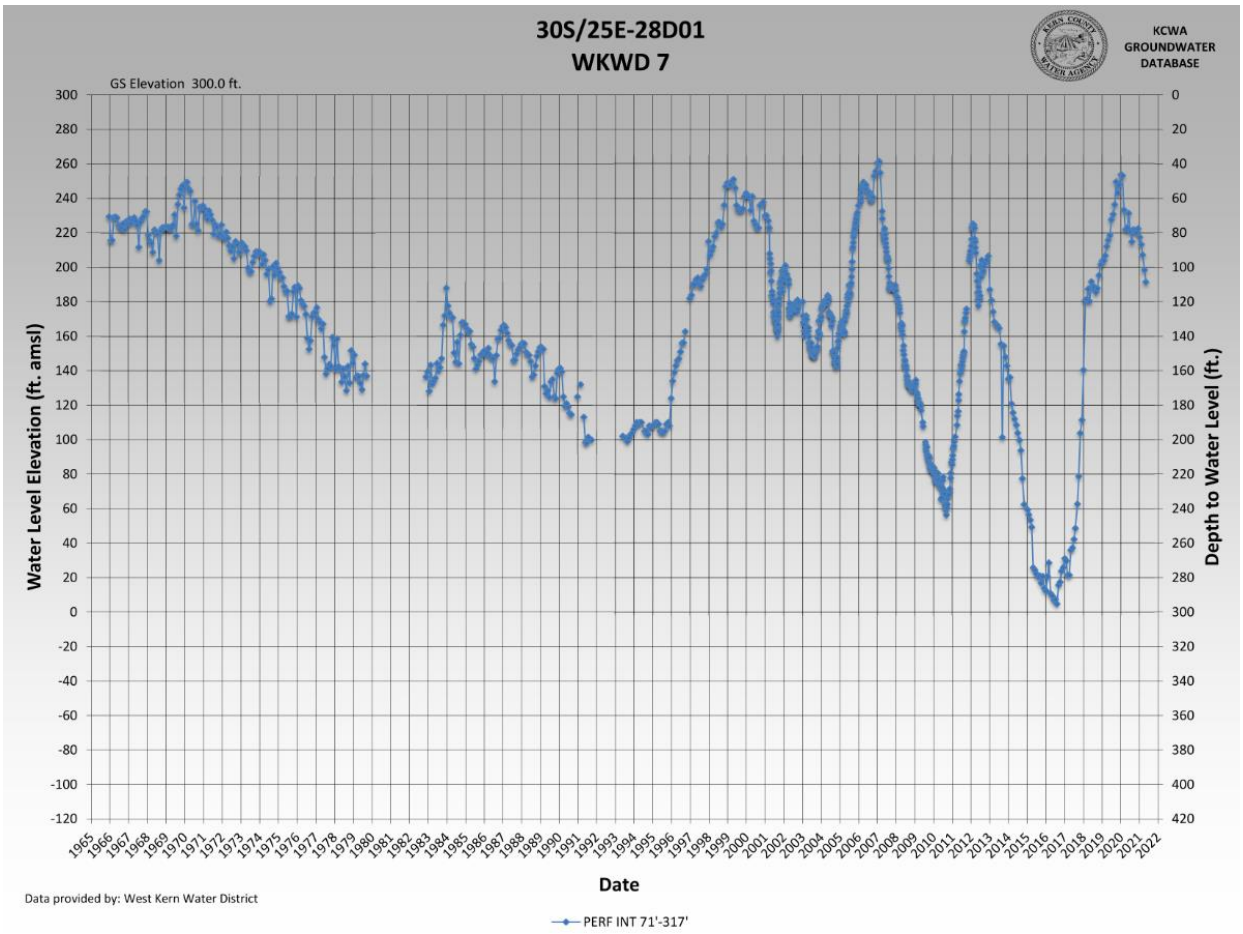


Figure 6-1: Historical Groundwater Levels – South Well Field

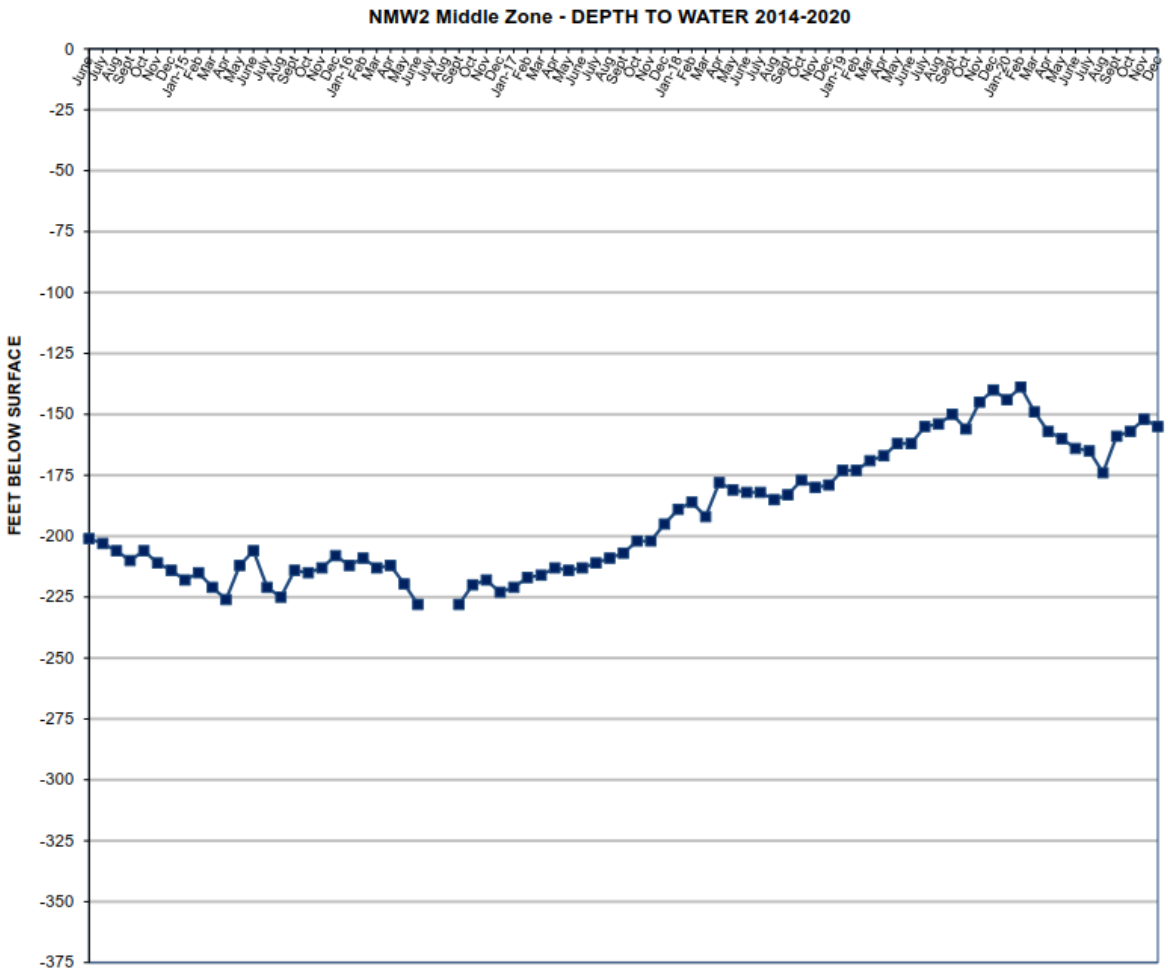


Figure 6-2: Historical Groundwater Levels – North Well Field

6.4.4 Historical Pumping

Legal Requirements:

> ***CWC 10631 (b)*** *If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
> *3) (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. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*

Estimated groundwater pumping is shown in **Table 6-2**. All water is pumped from an alluvial aquifer, and no water is pumped from fractured bedrock. Water is pumped from the North and South Well Fields, as shown on the map in Appendix C. Groundwater pumping has declined in recent years as numerous conservation measures have been enacted by the District. The total volume pumped saw Approximately 14,275 AF less groundwater was pumped during the five-year period of 2016 to 2020 when compared to five-year period of 2011 to 2015, which was a period of a multi-year drought.

Table 6-2: Groundwater – Volume Pumped

Basin	Sub-Basin	2016	2017	2018	2019	2020
San Joaquin Valley Groundwater Basin	Kern River Alluvial Basin	16,300	15,392	15,765	15,487	14,767
Total (2016-2020)						77,711
Units in Acre-Feet, includes values pumped by WKWD and groundwater transfers						

6.4.5 Groundwater Recharge, Storage, and Banking

KCWA (according to DWR Bulletin 118) estimates total groundwater in storage in the Kern Groundwater Subbasin to be nearly 40,000,000 AF and dewatered storage to be 10,000,000 AF. Water banking by WKWD is performed in the Kern River Fan area and began in 1966. All the surface water deliveries to WKWD are banked and later recovered from wells, except for direct industrial water deliveries to La Paloma.

As part of the banking program WKWD has monitored and recorded groundwater levels in its production wells on a regular basis for several decades. DWR and the KCWA contribute additional water level data in the vicinity of the District's well fields. The compilation of WKWD, KCWA and DWR data provides an understanding of the groundwater flow patterns and trends in water levels.

WKWD delivers the majority of its SWP water by exchange with BVWSD as part of an in-lieu groundwater pumping/groundwater banking exchange program. BVWSD, which is located adjacent to WKWD's well fields, typically delivers water from the Kern River and from local groundwater pumping. In the exchange, BVWSD takes WKWD SWP water from the California Aqueduct for its in-district needs instead of pumping local groundwater. WKWD, in turn, can then pump or bank a volume of water equivalent to that which BVWSD would otherwise have pumped. This source of supply is typically stored Kern River water.

On average WKWD recharged approximately 23,100 AFY from 1976 – 2020. The total amount of water currently stored in WKWD's groundwater banking facilities is approximately 247,545 AF (see **Figure 6-3**). Currently, WKWD maintains a positive balance in its banking program and has approximately 10 years of supply currently banked. Therefore, while the Kern County Groundwater Sub-Basin is in a state of overdraft, WKWD has maintained a net positive balance and helped to reduce the overall overdraft.

Continued balanced pumping of groundwater and recharge of imported supplies has and will continue to be the operational norm for WKWD. Under this management action, recharge and recovery activity will continue to be monitored closely by WKWD to maintain balanced conditions.

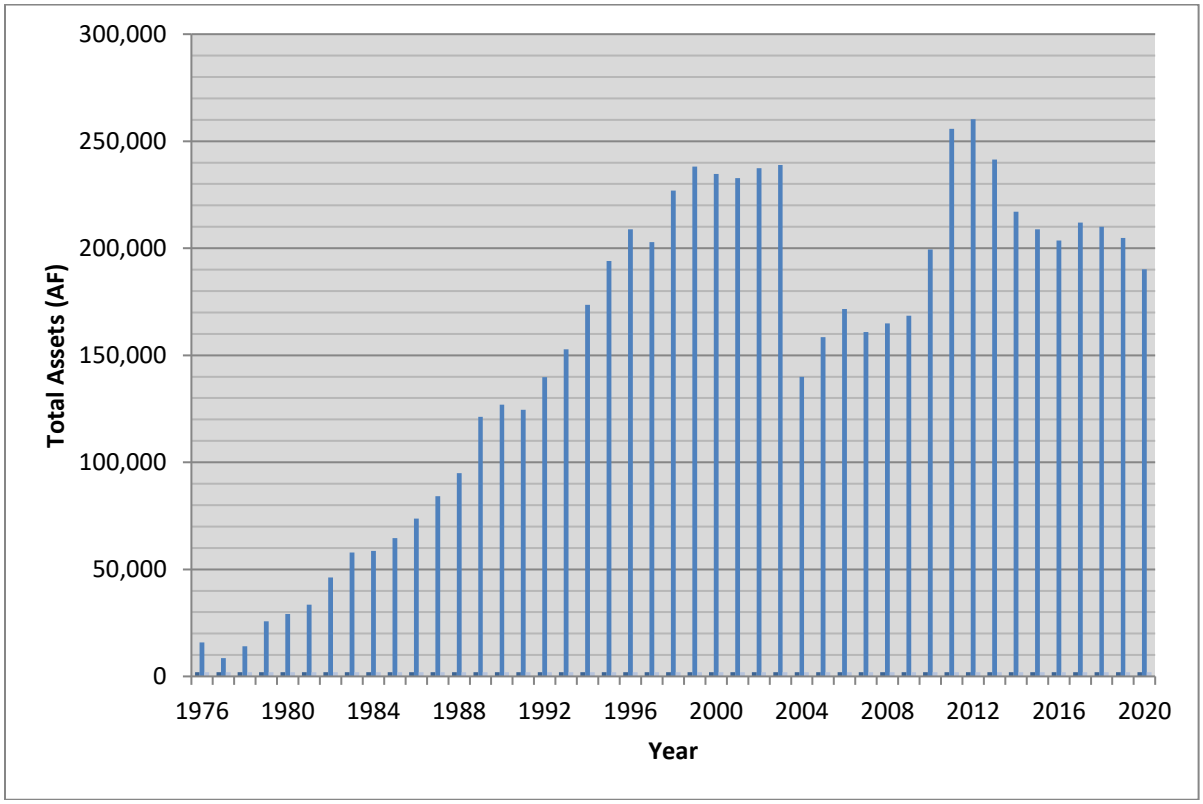


Figure 6-3: Historical Banking

6.5 Stormwater

WKWD experiences low rainfall (about 5.4 inches/year) and stormwater volumes are typically small. In addition, only a small part of the District is urbanized and has a stormwater collection system. As a result, stormwater is not considered a potential water supply for the District.

6.6 Water Quality

The quality of any natural water is dynamic in nature. This is true for the local groundwater of the Kern River Alluvial Fan Basin. During periods of intense rainfall or snowmelt, routes of surface water movement are changed; new constituents are mobilized that are often dependent on local land use and enter the water while other constituents are diluted or eliminated. The quality of water changes over the course of a year. These same basic principles apply to groundwater. Depending on water depth, groundwater will pass through different layers of rock and sediment and leach different materials from those strata. Water depth is a function of local rainfall and snowmelt. During periods of drought, the mineral content of groundwater increases. Water quality is not a static feature of water, and these dynamic variables must be recognized.

Water quality regulations also change. This is the result of the discovery of new contaminants, changing understanding of the health effects of previously known as well as new contaminants, development of new analytical technology, and the introduction of new treatment technology. All water purveyors who provide water for human consumption are subject to drinking water standards

set by the Federal EPA and the SWRCB DDW. WKWD pumps local groundwater to meet the potable water supply demands of its customers. An annual Consumer Confidence Report (CCR) is provided to all residents receiving water from WKWD. That report includes detailed information on water quality testing during the preceding year (WKWD, May 2020). WKWD's water supplies currently meet State and Federal drinking water standards.

This section provides a general description of the water quality of various water supplies. Water quality impacts on water reliability are discussed in **Section 7.2**.

6.6.1 Imported Water Quality

The District's primary supply is pumped groundwater, however, the source of groundwater recharge is imported surface supplies from the SWP and Kern River through the BVWSD Exchange Program. Water from the SWP is not directly delivered as a potable supply, but some SWP water is directly delivered to La Paloma for industrial use.

6.6.2 Groundwater Quality

Overall, groundwater quality in the vicinity of the District well fields is excellent. The water quality of the District's wells represents a family of water that is typical of water recharged by the Kern River. The water is typically a sodium bicarbonate water of low Total Dissolved Solids (TDS), although the upper portion of the aquifer contains a thin interval of calcium bicarbonate water, as indicated in several of DWR's multiple completion monitoring wells (Groundwater Management Plan, 1997). The water chemistry of the Kern River water tends to be a calcium sodium bicarbonate type. The calcium bicarbonate water recharged from the river apparently undergoes an ion exchange process as it infiltrates the deeper parts of the aquifer, changing it to a sodium bicarbonate type.

Groundwater quality in other parts of the District, especially the western portion, has high salinity and is generally unusable. This includes groundwater in the vicinity of Taft and the Taft Wastewater Treatment Facility. Groundwater quality generally improves to the east, which explains why the wellfields are located on the far eastern end of the District, nearly fifteen miles from Taft, the largest urban area in the District.

The local groundwater generally does not have microbial water quality problems. Parasites, bacteria, and viruses are filtered out as the water percolates through the soil, sand, and rock on its way to the aquifer. Even so, disinfectants are added to local groundwater when it is pumped by wells to protect public health. Local groundwater has very little TOC and generally has very low concentrations of bromide which minimizes the potential for DBP formation. Taste and odor problems from algae are not an issue with groundwater. The recharge waters and the local Kern River are very low in TDS thus the groundwater is also low.

Information in the WKWD GSA's MAP indicates that groundwater quality has generally been consistent in the past, including through the historically low groundwater levels of 2015. Groundwater quality does not appear to degrade with decreased groundwater elevations.

Groundwater from district wells have had occasional one-off detections of constituents of concern. In these instances, in cooperation with the State Water Resources Control Board, Division of Drinking

Water, the district has operated under approved temporary blending programs to ensure drinking water standards are maintained for delivered water.

WKWD maintains a telemetry system which allows for automated control of pumping, flow, tank levels and numerous other system operations. Production wells are manually prioritized in sequence, allowing for dominant flows from select wells, if needed. Once established, the process is monitored to ensure that proper blending is occurring to protect public health. WKWD, at a minimum, maintains daily records of the flow and hours of operation of each well used for blending. WKWD's blending plan includes:

1. WKWD shall maintain daily, theoretical blending calculations submit a copy of the daily blending calculations for the month by the 10th day of the following month.
2. WKWD shall collect samples of the blended effluent for analysis by an approved laboratory monthly. Results must be submitted by the laboratory to SWRCB DDW using the Electronic Data Transfer (EDT) method.
3. WKWD shall collect a blended sample of all wells utilized in blending, for analysis by an approved laboratory, quarterly. Results shall be submitted by the laboratory to SWRCB DDW using the EDT method.
4. WKWD shall calibrate the flow meters on the wells and the blended effluent discharge line at least annually.
5. SWRCB DDW must be notified if there is a failure in the blending operation.

6.6.3 Aquifer Protection

The District is working independently, and in cooperation with public agencies and oil companies, to address and correct any contamination threats to its groundwater. However, to date no significant threat to the groundwater has occurred as WKWD has met all state and federal MCLs and secondary MCLs.

6.7 Wastewater and Recycled Water

6.7.1 Recycled Water Coordination

Legal Requirements:

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

The District has been interested in developing a recycled water program to provide water to large landscaped areas in Taft and surrounding communities. Recycled water would be a new water source that could help the District meet sustainability requirements mandated by the Sustainable

Groundwater Management Act. It would also be a firm water supply, available every year, and much more reliable than their SWP supply. The District applied for and received a State grant to perform a Recycled Water Study.

In 2018 the District participated in a feasibility evaluation as to the use of recycled potable water produced by the Taft wastewater treatment facility in the City of Taft. The City of Taft and the Ford City-Taft Heights Sanitation District received a water recycling grant from the State Water Resources Control Board to assess the cost and feasibility of implementing tertiary treatment facilities and recycled water pipelines to irrigate large landscaped areas. This would expand current uses for of secondary treated wastewater already taking place under an agreement with a local alfalfa farmer to distribute treated water on City owned farmland. The study area included the City of Taft, Taft Heights, and Ford City.

The market best considered for recycled water in the Taft study area is predominantly landscape irrigation for public spaces such as cemeteries, parks, play fields and schools. Additional uses may include dust control on roadways and streets as well as use on construction projects. The goal of the study was to expand the existing recycled water program in Taft to augment potable water supplies by substituting potable water with recycled water whenever possible. Multiple alternatives were explored including the consequences of not expanding the current recycling program. Additionally, the study explored use of recycled water from a tertiary treatment facility and secondary level recycled water for irrigation and the associated costs of each approach.

It was concluded that reuse of all water produced by the Taft WWTF for ongoing alfalfa production on the 135-acre City-owned property was the best alternative given the service area's needs and the associated cost of implementation. The use of recycled water for urban landscaping was deemed uneconomical. Several factors were taken into consideration including but not limited to: current effluent management practices, low associated costs with ongoing use as irrigation water, existing infrastructure, the City's added benefit of receiving 5% of the net alfalfa cultivation, and groundwater quality improvement caused by natural nitrogen uptake by the alfalfa crop. Since the District does not provide agricultural water, the current and future planned use of the wastewater effluent does not impact District supplies and demands.

6.7.2 Wastewater Collection, Treatment, and Disposal

Legal Requirements:

> ***CWC 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.*
> ***CWC 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.*

WKWD provides water supply but does not oversee sewage collection or treatment. The City of Taft and Ford City-Taft Heights Sanitation District jointly own a Wastewater Treatment Facility (WWTF) just outside the Taft City limits. The WWTF treats wastewater from the City of Taft, Taft Heights, and Ford City (see location on **Figure 3-1** in **Section 3**). The treatment plant is operated by the Kern Sanitation Authority. Wastewater flows are primarily domestic and commercial in nature. Annual wastewater treatment is about 1,085 AF. The Federal Taft Correctional Institution also has a separate

wastewater treatment plant. Data on the correctional institution's effluent stream is not available and is not reported here.

The WWTF currently provides secondary level treatment which includes two aerated ponds and two settling ponds; chlorine contact basin (not in service); holding pond and effluent pumping station; solar sludge drying beds, and a 12.8 AF capacity reservoir which provides effluent storage prior to discharge to the effluent disposal area. The WWTF has a capacity of 1.5 MGD. In 2017, improvements were completed through the installation of the Biolac treatment process. A tertiary treatment facility would be needed to provide recycled water for landscape uses.

The wastewater effluent is currently used in the vicinity of the WWTF for irrigating non-edible fodder crops. No wastewater effluent is discharged to any water bodies. Some of the effluent percolates to the groundwater during the irrigation process. Area groundwater near the WWTF is at an approximate depth of 400 to 800 feet below ground surface and is of poor mineral quality with EC (electro-conductivity at 25°C) of 4,000 to 6,000 µmhos/cm and TDS greater than 4,000 mg/l, which rapidly diminishes in quality with depth. As a result, wastewater effluent that percolates into the ground flows to a saline sink and is no longer usable.

Table 6-3 and **Table 6-4** provide information on the existing treatment and water recycling program.

Table 6-3: Wastewater Generated within Service Area in 2020

Wastewater Collection Agency	Wastewater Treatment Agency	Treatment Plant Name	Is WWTP Located Within Service Area?	Is WWTP Operation Contracted to a Third Party?	Was Volume Measured or Estimated?	Volume of Wastewater Collected from the Service Area 2020
The City of Taft and Ford City-Taft Heights Sanitation District	The City of Taft & Ford City-Taft Heights Sanitation District	Taft Wastewater Treatment Facility	Yes	Yes	Yes	1,085 AF
					Total Wastewater Collected from Service Area	1,085 AF

Table 6-4: Wastewater Treatment and Discharge within Service Area in 2020

Name of Wastewater Treatment Plant	Discharge Location Description	Method of Disposal	Does this Include Wastewater Generated Outside the Service Area?	Treatment Level	2020 Volumes (AF)			
					Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Taft Wastewater Treatment Facility	Adjacent agricultural fields	Land Disposal (Fodder irrigation)	No	Secondary, undisinfected	1,085	0	1,085	0

6.7.3 Recycled Water Systems

Legal Requirements:

CWC 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.*

The wastewater effluent from the Taft area is currently used in the vicinity of the WWTF for irrigating non-edible fodder crops. This water currently receives secondary level treatment.

6.7.4 Recycled Water Beneficial Uses

Legal Requirements:

CWC 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 .*
CWC 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…*
CWC 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 pursuant to this subdivision.

Currently, wastewater effluent is beneficially used to irrigate fodder crops near the wastewater treatment plant. However, this recycling does not beneficially impact the District's water supplies or demands since the District does not supply agricultural water. A 2018 Recycled Water Study by The Wallace Group that evaluated recycled water for urban uses concluded that a recycled water system was economically unfeasible.

6.7.5 Actions to Encourage and Optimize Future Recycled Water Use

Legal Requirements:

CWC 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.*
CWC 10633(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.*

In June 2015, the City of Taft, WKWD, West Side Cemetery District (WSCD), and the West Side Recreation & Park District (WSRPD) signed a Memorandum of Understanding (MOU) to explore water recycling opportunities (see **Appendix G**). The MOU outlines their common interest in recycled water, and the terms for securing a consultant to perform a recycled water study. This MOU exemplifies the level of cooperation and local interest in recycled water in the local community. The City of Taft also supports recycled water through long-term goals and inclusion within the City's General Plan as Policy PF-10. However, the District's recycled water study showed that recycled water was economically unfeasible.

While the recycled water study showed that recycled water was not economically feasible, WKWD is still open to exploring other options in the future if economic or water supply conditions change.

While not a form of recycled municipal water, the District is also interested in reusing produced water brought to the surface in oil wells. This concept is in the early investigation phase and no details are yet available.

6.8 Desalinated Water Opportunities

Legal Requirements:

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

The California UWMP Act requires a discussion of potential opportunities for use of desalinated water (Water Code Section 10631[i]). WKWD has evaluated such opportunities, and they are described in the following section, including opportunities for desalination of brackish water, groundwater, oilfield produced water, and seawater.

6.8.1 Brackish Water and/or Groundwater Desalination

The sources of groundwater for WKWD include SWP and Kern River water that is recharged within the District. Neither of these supplies contains high TDS levels and therefore do not contribute significant amounts of TDS which would cause brackish groundwater.

The oil industry is prevalent in the District, and significant quantities of water are pumped from deep aquifers during oil recovery operations. This water, called 'produced water' is currently injected back into deep geologic formations through wells. The water is typically brackish and would require treatment for salinity, and possibly other constituents, before it could be reused. WKWD is exploring several opportunities for using this produced water.

6.8.2 Seawater Desalination

Because the WKWD service area is not in a coastal area, it is neither practical nor economically feasible for WKWD to implement a seawater desalination program. Therefore, WKWD has no current plans to pursue seawater desalination, and desalinated supplies are not included in the supply summaries in this Plan.

6.9 Exchanges or Transfers

Legal Requirements:

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

Important elements to enhancing the long-term reliability of water supplies are transfers and exchanges. These have been important supplies that supplement the District's SWP water. The primary transfers and exchanges for WKWD are summarized in the table below.

Table 6-5: Transfer and Exchange Opportunities

Transfer agency	Transfer or exchange	Short term or long term	Proposed Volume	Time Period
Kern Tulare Water District	2:1 Exchange	Short-Term	650 AF/year	Through 2036
Buena Vista WSD	Transfer	Long-term	6,500 AF/year	On-going
Total	-	-	7,150AF/year	-
Units : Acre-feet				

6.10 Energy Consumption

Energy intensity is defined as the amount of energy used to collectively divert, store, convey, treat, and distribute each unit volume of water and herein is reported as kilowatt hours per acre-foot (kW-hr/ac-ft). The analysis was performed using data for 2020, which had the best overall energy use records between 2016 and 2020 and is considered representative of the District's water delivery profile.

WKWD utilizes two sources of water: groundwater, and raw water from the State Water Project. Raw water from the State Water Project is delivered directly to one of the District's customers with the use of WKWD pump stations. The customer directly pays these energy costs, and the energy usage is included in the analysis

The energy intensity analysis is shown below in **Table 6-6**. The final calculated energy intensity is 6,137 kWh/AF. WKWD is different from many other retail urban water suppliers in that several facilities used for groundwater extraction, conveyance, and distribution are powered by natural gas from the SoCal Gas Company and PG&E. Natural gas wells and booster pumps operate at lower efficiencies than their electric counterparts, however, due to site location limitations, this is often the only practical power option. Natural gas use is metered and measured in units of Therms. To calculate Energy Intensity all energy units must be in the same units of kWh. The equation to convert Therms to kWh, provided by SoCal Gas, can be seen below. All other facilities are powered by electricity from PG&E or solar panels depending on location.

$$1\ Therm * \frac{100{,}000\ BTU}{Therm} * \frac{1\ kWh}{3412\ BTU}$$

Table 6-6: Energy Intensity (2020)

Description	Extract and Divert	Place into Storage	Distribution	Total Utility
Volume of Water Entering Process (AF)	19,229	1,786	15,415	15,415
Energy Consumed (kWh)	18,625,899	11,787	77,728,169	94,600,608
Energy Intensity (kWh/AF)	969	7	5,042	6,251

6.11 Future Water Projects

Legal Requirements:

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

Table 6-7 summarizes proposed actions to improve water supplies and water management in WKWD. Implementation of each project will be dependent on available funding and staff time.

Table 6-7: Future Water Supply Projects

Action	Joint Project with other agencies		Description	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply (AF)
	Y/N	Agency				
Delta Conveyance Facility	Y	State of California	Through Delta conveyance to improve supply water reliability	Unknown	Average	2,200 AF (7% of SWP contract)
Automatic Meter Reading	N		Install new automatic reading digital meters at all customer turnouts. Some have already been installed on existing customers.	In progress	All	Unknown. Some increase in efficiency with better data is expected.

6.12 Summary of Existing and Planned Sources of Water

Legal Requirements

CWC 10631
(b)Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a). (4) (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 reasonably available, including, but not limited to, historic use records.

WKWD is always interested in pursuing new water supplies through short and long-terms transfers, exchanges, or banking agreements. Given potential impacts from climate change, and the gradual reduction in SWP reliability, new water sources may be needed in the future. No specific sources are

currently known, but WKWD staff will stay apprised of opportunities to increase importation of water into the District.

Table 6-8 tabulates the existing and anticipated future water supplies for WKWD.

Table 6-8: Water Supplies — Current and Projected

Water Source	2020		2025	2030	2035	2040	2045
	Actual Volume	Level of Treatment of Source Water					
Purchased Water	0	-	0	0	0	0	0
Groundwater (recovered from local bank)	15,415	Disinfection	14,795	14,870	14,947	15,026	15,106
Imported Surface water	103	None	18,396	18,207	18,050	17,892	17,735
Recycled Water	0	-	0	0	0	0	0
Desalinated Water	0	-	0	0	0	0	0
Stormwater Use	0	-	0	0	0	0	0
Transfers		-					
Buena Vista WSD	5,000	None	6,500	6,500	6,500	6,500	6,500
Exchanges	-						
Santa Clarita Retun	-500		-	-	-	-	-
Rosedale-Rio Bravo WSD	0	None					
Kern Tulare WD	-2,986	None	650	650	650	-	-
Total	17,032		40,341	40,227	40,147	39,418	39,340
Estimated Demands[2]	16,338		17,356	17,448	17,542	17,637	17,735

Notes:

1. Groundwater (recovered from local bank) reflected the total treated water demands plus system losses, since the District could meet all treated water demands with banked groundwater for the foreseeable future.
2. For years 2025 to 2045, imported surface water based on the reliability in the 2019 SWP Delivery Capability Report, which varies from 58.4% in 2025 down to 56.3% in 2045.
3. Demands based on assumptions and criteria described in Section 4 – Water Uses.
4. Some transfers are recovery of groundwater.

7 Water Supply Reliability

The UWMPA requires urban water suppliers to assess water supply reliability by comparing total projected water demands with the expected water supply over the UWMP planning period. The UWMPA requires this assessment for normal (average), single-dry and multiple-dry-years. This section presents the reliability assessment for WKWD's service area.

It is the stated goal of WKWD to deliver a reliable and high-quality water supply for their customers, even during dry periods. Based on conservative water supply and demand assumptions, in combination with conservation of non-essential demand during certain dry years, the District expects to continue achieving this goal over the next 25 years.

7.1 Constraints on Water Sources

Legal Requirements:

CWC 10631(c)(2)
For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.
CWC Section 10634
The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

7.1.1 Constraints on Surface Water Supplies

Overview
The District's primary surface water supply comes from the SWP. The District has a contract amount of 31,500 AF, however SWP water deliveries are variable and typically less than the full contract amount.

The amount of SWP water allocated to contractors each year is dependent on a number of factors that can vary significantly from year to year. The primary factors affecting SWP supply include hydrologic conditions in northern California, the amount of water in SWP storage reservoirs at the beginning of the year, regulatory and operational constraints on SWP facilities, and the total amount of water requested by the contractors. On average the availability of SWP supplies to SWP contractors is generally less than their full Table A amounts in many years and can be significantly less in very dry years.

State Water Project Delivery Capability Report
DWR prepares a biennial report to assist SWP contractors and local planners in assessing the near and long-term availability of supplies from the SWP. DWR issued its most recent update, the 2019 DWR State Water Project Delivery Capability Report (DCR), in August 2020. In this report, DWR provides

SWP supply estimates for use in various planning efforts, including 2020 UWMP updates. Water availability estimates are provided for both current and future conditions.

DWR's estimates of SWP deliveries are based on a computer model that simulates monthly operations of the SWP and Central Valley Project systems. Key assumptions and inputs to the model include the system facilities, hydrologic inflows, regulatory and operational constraints on system operations, and projected contractor demands for SWP water. For example, the 2019 DCR uses the following assumptions to model current conditions: existing facilities, hydrologic inflows to the model based on 82 years of historical inflows (1922 through 2003), current regulatory and operational constraints, and contractor demands at maximum Table A amounts.

The DCR provides a reliability of about 59% for 2020, which equates to 18,600 AF/year for WKWD (31,500 AF (100% Table A amount) x 59% = 18,600 AF/year).

Delta Conveyance Project

An ongoing planning effort to increase long-term supply reliability for both the SWP and CVP is taking place through the Delta Conveyance Project. The Delta Conveyance Project facilities would allow for greater flexibility in balancing the needs of the estuary (Delta) with the reliability of water supplies. The plan would also provide other benefits, such as reducing the risk of long outages from Delta levee failures.

Public negotiations between Department of Water Resources (DWR) and Public Water Agencies (PWAs) for the Delta Conveyance Project (DCP) began in 2019 and were completed in April 2020. These negotiations led to an Agreement in Principle (AIP) for an Amendment to the State Water Contract regarding the DCP. The Parties' goal was to equitably allocate costs and benefits of a DCP and to preserve State Water Project operational flexibility. A decision by each participating PWA for approving a contract amendment with DWR would not occur until after the environmental review for the DCP is completed.

While there is widespread support for the DCP, it is early in the planning and design phase. To date, WKWD has committed considerable resources to the DCP planning effort and has committed to support the process in the future.

7.1.2 Constraints on Groundwater Supplies

Three factors affect the availability of groundwater: 1) Sufficient recovery capacity (wells and pumps), 2) Sustainability of the groundwater resource to meet pumping demand on a renewable basis, and 3) Groundwater quality including protection of groundwater resources (wells) from known contamination, and provisions for treatment/blending in the event of contamination. These topics are addressed below:

Recovery Capacity

For many years the District's groundwater supply came entirely from the South Well Field, located about 15 miles northeast of Taft. The wells were grouped in a small area, which began to impact groundwater levels and total recovery capacity. Reductions in SWP supplies also created additional stress on the groundwater levels. As a result, the District constructed the North Well Field in 2013. Located about 3 miles northwest of the South Well Field, these facilities provide the District more flexibility and reliability for operations and increases access to its water supplies. The North Well Field project increased the number of production wells from 8 to 13.

Sustainability of Groundwater Resources

Groundwater supplies in WKWD have provided a reliable buffer against drought and reduced surface water supplies. The District currently recharges the majority of its surface water supply (with the exception of about 3,000 AF/year which is delivered directly to one industrial water user). This practice helps regulate water supplies and reduce the need for water-use restrictions in dry years and even multi-year droughts. The District currently has a net positive balance of about 240,000 AF in the local aquifer, which would provide about a ten-year water supply, if necessary. The Sustainable Groundwater Management Act (SGMA) requires that WKWD manage their groundwater supplies sustainably with no net long-term overdraft or other undesirable results. More information on SGMA is provided in Section 6.4.2.

Groundwater Quality

Groundwater quality in the two well fields is generally excellent, with the exception of one well with slightly elevated arsenic concentrations. The District has enacted a blending program to address the arsenic. Refer to Section 7.2 for more details.

7.1.3 Constraints on Recycled Water Supplies

The Taft metropolitan area currently recycles wastewater effluent for non-edible crop irrigation but does not have a recycled water program to help meet domestic water demands. The District investigated a program to recycle 400 AF/year for large landscape use but it was found to be uneconomical. Refer to Section 6.7 for more information on the proposed recycled water program. If economic conditions for recycled water change, it would be a reliable supply and provide the same quantity in every hydrologic year type. While indoor water usage (and hence wastewater effluent) can go down in dry years due to conservation efforts, the recycled water program would only use about 25% of the effluent (400 AF versus 1,460 AF), so the full amount would be available every year, and thus help to reduce demands for potable water.

7.2 Water Quality Impacts on Water Reliability

The quality of the imported water and other recharge sources are not anticipated to reduce reliability. These waters come from high quality sources including the SWP and Kern River.

Overall, groundwater quality in the vicinity of the District well fields is excellent. The water quality of the District's wells represents a family of water that is typical of water recharged by high quality Kern River water. Groundwater quality in other parts of the District, especially the western portion, has high salinity and is generally unusable. Groundwater quality generally improves to the east, which

explains why the well fields are located at the far eastern end of the District. This has limited the area that can be developed for wells, but that has been partially rectified by the construction of the North Well field, which now supplements the South Well field, and provides greater pumping capacity and redundancy.

In summary, water quality issues are not anticipated to have any significant impact on water reliability for the District.

7.3 Reliability by Type of Year

Legal Requirements:

> ***CWC 10631(c) (1)***
> *Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) an average water year, (B) a single dry water year, (C) multiple dry water years.*

The available supplies and water demands for WKWD's service area were analyzed to assess the region's ability to satisfy demands during three scenarios: a normal water year, single-dry year, and multiple-dry years. **Table 7-1** presents the base years for the development of water year data. The base years were determined from the historical SWP deliveries. The Average Water Year is simply the estimate long-term average conditions for the SWP.

Table 7-1: Bases of Water Year Data

Water Year Type	Base Year(s)	Available Supplies		
		Volume Availability	SWP Reliability	% of avg supply
Average Water Year	-	18,600	59%	100%
Single-Dry Water Year	2014	1,600	5%	8%
Multiple-Dry Water Years – 1st Year	1988	3,500	11%	19%
Multiple-Dry Water Years – 2nd Year	1989	14,500	46%	78%
Multiple-Dry Water Years - 3rd Year	1990	4,400	14%	24%
Multiple-Dry Water Years – 4th Year	1991	7,900	25%	42%
Multiple-Dry Water Years – 5th Year	1992	5,400	17%	29%

7.4 Supply and Demand Assessment

Legal Requirements:

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

This section compares the supplies and demands for normal, single-dry year, and multiple-dry year scenarios in WKWD. Also included are tables showing the source of the waters, including surface water, transfers and exchanges, and pumping from the District's local groundwater bank. The tables show current conditions in 2020 and projections in 5-year increments through 2045. All values in these tables are rounded to the nearest 100.

Some of the tables show a water surplus in certain years. In these years, the surplus water will be banked for use in dry years. In all year types the District can meet demands; when water supplies are low due to dry conditions the balance can be made up with banked groundwater.

Normal Year

Table 7-2: Normal Year Supply and Demand Comparison

Water Use	Water Use (AFY)					
	2020	2025	2030	2035	2040	2045
Surface Water (100% of Normal)	18,600	18,600	18,600	18,600	18,600	18,600
Surface Water Transfers/Exchanges	7,150	7,150	7,150	7,150	6,500	6,500
Total Supply	25,750	25,750	25,750	25,750	25,100	25,100
Total Demand	16,338	17,356	17,448	17,542	17,637	17,735
Difference (from Banked Groundwater)	0	0	0	0	0	0

Single Dry Year

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

Water Use	Water Use (AFY)					
	2020	2025	2030	2035	2040	2045
Surface Water (8% of Normal)	1,600	1,600	1,600	1,600	1,600	1,600
Surface Water Transfers/Exchanges	7,150	7,150	7,150	7,150	6,500	6,500
Total Supply	8,750	8,750	8,750	8,750	8,100	8,100
Total Demand	16,338	17,356	17,448	17,542	17,637	17,735
Difference (from Banked Groundwater)	7,588	8,606	8,698	8,792	9,537	9,635

Multiple Dry Years

The Multiple Dry Year analysis assumes that Stage I of the Water Shortage Response Plan (WSRP) will be enacted in the third year of a drought (see **Section 8** – Water Shortage Contingency Planning). This results in demands that are 10% lower than demands in other years.

Table 7-4: Multiple Dry Year Supply and Demand Comparison

Year	Description	Water Use (AFY)					
		2020	2025	2030	2035	2040	2045
Year 1	Surface Water (19% of Normal)	3,500	3,500	3,500	3,500	3,500	3,500
	Surface Water Transfers/Exchanges	7,150	7,150	7,150	7,150	6,500	6,500
	Total Supply	10,650	10,650	10,650	10,650	10,000	10,000
	Total Demand	16,338	17,356	17,448	17,542	17,637	17,735
	Difference (from Banked Groundwater)	5,688	6,706	6,798	6,892	7,637	7,735
Year 2	Surface Water (78% of Normal)	14,500	14,500	14,500	14,500	14,500	14,500
	Surface Water Transfers/Exchanges	7,150	7,150	7,150	7,150	6,500	6,500
	Total Supply	21,650	21,650	21,650	21,650	21,000	21,000
	Total Demand	16,338	17,356	17,448	17,542	17,637	17,735
	Difference (from Banked Groundwater)	0	0	0	0	0	0
Year 3	Surface Water (24% of Normal)	4,400	4,400	4,400	4,400	4,400	4,400
	Surface Water Transfers/Exchanges	7,150	7,150	7,150	7,150	6,500	6,500
	Total Supply	11,550	11,550	11,550	11,550	10,900	10,900
	Total Demand	14,704	15,620	15,703	15,788	15,873	15,962
	Difference (from Banked Groundwater)	3,154	4,070	4,153	4,238	4,973	5,062
Year 4	Surface Water (42% of Normal)	7,900	7,900	7,900	7,900	7,900	7,900
	Surface Water Transfers/Exchanges	7,150	7,150	7,150	7,150	6,500	6,500
	Total Supply	15,050	15,050	15,050	15,050	14,400	14,400
	Total Demand	14,704	15,620	15,703	15,788	15,873	15,962
	Difference (from Banked Groundwater)	0	570	653	738	1,473	1,562
Year 5	Surface Water (29% of Normal)	5,400	5,400	5,400	5,400	5,400	5,400
	Surface Water Transfers/Exchanges	7,150	7,150	7,150	7,150	6,500	6,500
	Total Supply	12,550	12,550	12,550	12,550	11,900	11,900
	Total Demand	14,704	15,620	15,703	15,788	15,873	15,962
	Difference (from Banked Groundwater)	2,154	3,070	3,153	3,238	3,973	4,062

Summary of Comparisons

As shown in the analyses above, WKWD has adequate supplies to meet demands during normal, single-dry, and multiple-dry years throughout the 25-year planning period. WKWD will pump banked groundwater to meet demand when demand exceeds the surface water supply in single-dry and multiple-dry year periods. In times of excess, the water will be banked for use in the future. Currently, WKWD has about 247,545 AF in storage which represents about 10 years of full annual demands and helps to ensure reliability in dry periods. The groundwater storage often increases in wet and dry years

from recharge efforts, so the storage is expected to last for several decades. WKWD's water reliability is stable, largely due to the long history of banking groundwater for use in dry years.

7.5 Drought Risk Assessment

A drought risk assessment was completed to evaluate the District's ability to meet a 5-year drought if it occurred over the next five years. The assessment looks at current demands and effectiveness of water augmentation and water use reduction measures.

The assessment simulates the same 5-year drought (1988-1992) evaluated in **Section 7.3**. This drought is simulated using estimated water demands over the next 5 years (2021-2025). The following procedure was used in developing the Drought Risk Assessment:

1. Water demands were interpolated between current (2020) usage and anticipated 2025 demands.
2. SWP supplies are based on the values presented in **Table 7-1.**
3. Water augmentation measures included the District's wells; demand reduction of 10% is assumed to occur in the third year of drought with implementation of Stage 1 of the District's Water Shortage Response Plan.

The results of the Drought Risk Assessment are shown in **Table 7-5** below.

Table 7-5: Drought Risk Assessment (2021-2025)

Description	Water Use (AFY)				
	2021	2022	2023	2024	2025
Water Demands	16,194	16,051	14,317	12,756	15,620
SWP Allocation	11%	46%	14%	25%	17%
SWP Supplies	3,500	14,500	4,400	7,900	5,400
Shortfall	12,694	1,551	9,917	4,856	10,220
Water Conservation Measures	0	0	1,432	1,276	1,562
Recovery of Banked Groundwater	12,694	1,551	8,485	3,580	8,658
Revised Surplus/(shortfall)	0	0	0	0	0
Resulting % Use Reduction from WSCP action	0%	0%	10%	10%	10%

The Drought Risk Assessment shows that supply augmentation and water use reduction savings can adequately address water shortage in the simulated drought and allow urban water needs to be met.

7.6 Regional Supply Reliability

Legal Requirements

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

Each water supply source has its own reliability characteristics. In any given year, the variability in weather patterns around the state may affect the availability of supplies to the Kern River Alluvial Fan and SWP. For example, from 2013 through 2015, California experienced dry conditions in all three years. WKWD was able to provide sufficient water due to agreements with local agencies and an active banking program. To ensure reliability, WKWD intends to increase their water reliability by maximizing their banking program. If one supplier reduces deliveries, then additional supply can be acquired through the banked water in drier years.

WKWD's supply is pumped from the groundwater which is recharged using SWP and Kern River waters. Water banking by the District began in 1966 in the Kern River Fan area. Long-term groundwater sustainability is ensured by a positive balance maintained in the ground. WKWD is required to maintain a positive balance according to local agreements, and the amount of banked water exceeds the annual demands. Many other agencies in the Kern Groundwater Subbasin also practice groundwater recharge and banking in an effort to stabilize groundwater levels and augment supplies.

Storm water and imported water contribute to the recharge of the Basin. Storm water recharge is affected by changes in the local hydrology and is highly limited to the dry climate of the region. The amount of SWP water allocated to contractors each year is dependent on a number of factors that can vary significantly from year to year. The primary factors affecting SWP supply availability include hydrologic conditions in northern California, the amount of water in SWP storage reservoirs at the beginning of the year, regulatory and operational constraints on SWP facilities, and the total amount of water requested by the contractors. The availability of SWP supplies to SWP contractors is generally less than their full Table A amounts in most years and can be significantly less in very dry years.

The Kern River Alluvial Fan depends on local and imported supplies located in two distinct hydrologic regions of the state. A drought in Southern California may not necessarily mean a drought in Northern California. Reliability for WKWD will be tied to droughts in Northern California and SWP deliveries since the majority of the water is from the SWP. While the surface water is unreliable, it is recharged and stored underground thus providing a reliable supply.

Table 7-6 summarizes factors resulting in inconsistent supplies for WKWD's various water supplies.

Table 7-6: Factors Resulting in Inconsistency of Supply

Water supply sources	Limitation quantification	Legal	Environmental	Water quality	Climatic	Additional information
Surface Water						
Kern County Water Agency (SWP)	X		X			Dependent on SWP deliveries and environmental pumping restrictions
Groundwater						
Kern River Alluvial Fan (WKWD Bank Extractions)	X					Dependent on SWP deliveries
Transfers / Exchanges						
Rosedale-Rio Bravo		X				Time limit on agreement
Kern-Tulare Water District		X				Time limit on agreement
Buena Vista Water Storage District		X				Time limit on agreement but not during this planning period

7.7 Climate Change Impacts on Water Demands, Supplies, and Reliability

DWR guidelines require urban water suppliers consider the potential effects related to climate change in the UWMP as it relates to water demands, water supply, and water supply reliability. These three topics are provided below after a general discussion on climate change impacts.

General Impacts from Climate Change

Climate change model projections indicate that California in general can expect to be impacted by the following:

- Increased temperatures
- Decrease in snowpack due to increasing winter temperatures
- More precipitation falling as rain and less as snow
- More winter runoff and less spring/summer runoff due to warmer temperatures
- Greater water demand for crop and landscape irrigation
- Greater extremes in flooding and droughts
- Sea level rise, which could impact Delta water quality and Delta water deliveries

The Tulare Lake Basin portion of the Kern County Integrated Regional Water Management Plan prepared a Climate Change Vulnerability Assessment in August 2014 (Kennedy/Jenks, 2014). This technical memorandum identifies the potential climate change vulnerabilities in the Kern Region and potential future actions to mitigate the vulnerabilities. The Vulnerability Assessment is an extensive document and should be referenced for more detailed information. The assessment prioritized the vulnerabilities in Kern County as follows (1 being the sector most prioritized [high risk] and 4 being the sector least prioritized [low risk] with respect to climate change vulnerability):

1. Water Supply; Water Quality
2. Water Demand; Flooding
3. Ecosystem and Habitat
4. Sea Level Rise and Hydropower

Climate Change Impact to Water Demands

One of the primary effects expected from climate change in the future is an increase in average global temperature. According to the Western Region Climate Center, California has experienced an increase of 1.1 to 2 degrees Fahrenheit (°F) in mean temperature in the past century. Both minimum and maximum annual temperatures have increased, with the minimum temperatures (+1.6 to 2.5 °F) increasing more than maximums (+0.4 to 1.6 °F). The average annual temperature of Kern County is expected to rise 3.5-6.3°F by the end of the 21st Century (DWR, June 2015). As a result, summer dryness is predicted to start earlier and last longer than it has historically. This change in temperature will increase evaporation, lengthen growing seasons, intensify evapotranspiration, and will lead to drier soils which will require more irrigation water.

Increases in temperature may be expected to impact water resources through changes to precipitation patterns, evapotranspiration rate increases, increased customer water use, increased wildfire potential, and faster snowmelt. These potential impacts are likely to impact the State Water Project supplies.

As climate change becomes noticeable and quantifiable, the WKWD response will need to include reducing demands to match possible reduction of water supplies from the SWP. At this point, impacts from possible climate change are not quantifiable. Reduction of the per capita demands in the system can help respond to climate change in two ways. Reduced water demands equate to less energy use through reduced groundwater pumping and/or movement of water supplies through the system. Further reduction of per capita water demands may be challenging to achieve, as the WKWD has already implemented many demand management or conservation methodologies.

It is anticipated climate change increase in temperatures and more hot days will impact landscape water demands by WKWD municipal/domestic customers; however, as WKWD has goals to maintain their per capita use goal, urban water demands are not anticipated to increase. Temperature rises will translate to increased evapotranspiration rates. Mitigating possible increased water demands for landscape may require less landscaping, increased use of drought tolerant plantings, or more efficient irrigation strategies with the District.

Warmer temperatures will result in a shift towards more rain and less snow, resulting in less snowpack storage. DWR (June 2015) states that most climate model precipitation projections for the state anticipate drier conditions in Southern California, with heavier and warmer winter precipitation in Northern California. On average projections indicate little change in total annual precipitation in

California (Kennedy/Jenks, August 2014). However, the distribution, timing and type of that precipitation may vary. Even modest changes in California would have a significant impact because California ecosystems are conditioned to historical precipitation levels and water resources are nearly fully utilized. In WKWD, local rainfall provides only a small contribution to landscape irrigation demands and groundwater recharge, but any reduction would be detrimental. Precipitation that impacts SWP supplies is more important to WKWD's water supplies.

Climate Change Impacts to Water Supplies

Because the Kern Region relies heavily on imported supplies, any reduction or change in the timing or availability of those supplies could have negative impacts on the water supplies of the Region. Reductions in imported water supplies would lead to increased reliance on local groundwater, recycled water, or other sources of supplies if demand was not reduced. WKWD is highly reliant on SWP contract water originating from Northern California and receives Kern River water through exchanges and transfers. As the northern Sierra's peaks are relatively lower than the southern Sierra, a warmer climate is projected to cause greater snowpack reduction in the state's northern Mountains, which provide much of the SWP water delivered from the Delta. Climate change could cause earlier runoff in the Delta, and result in water supplies being available during months when Delta pumping restrictions are more severe. The timing and availability of these supplies could be impacted by climate change.

Oil and gas drilling in the county could be impacted by decreasing water availability, particularly in times of drought by limiting the amount of water available for cooling, fuel extraction, and power generation. The effects of climate change and water availability on the oil and gas sector include a combination of potential direct and indirect impacts. Water is required in many different stages of the oil and gas value chain, from exploration to processing to transport, and the volume of water used in these activities varies, with the largest volume used in the refining process. Among exploration and production processes, the largest volume of water is used as a supplemental source. Industrial water accounts for about 75% of the water use in WKWD, so this sector could be significantly impacted.

The Kern Region is not directly subject to sea level rise. However, sea level rise would affect imported water supplies. The principal concern is the potential for sea water intrusion that would increase Delta salinity. Climate change could adversely impact Delta water quality through the following:

- Reduce surface water flows into the Delta
- Raise sea level and cause sea water intrusion into the Delta
- Require more freshwater releases from reservoirs to maintain Delta water quality, thereby reducing water available for urban uses
- Increase water temperatures in the Delta and rivers/streams flowing into the Delta
- Increase sediment loading in the Delta (because of increased wildfires and more extreme precipitation events)
- Threaten the stability of Delta levees, whose failure would impact water quality and Delta conveyance capacity

Also, changes in local hydrology could affect natural recharge to the local groundwater aquifers and the quantity of groundwater that could be pumped sustainably over the long-term. Decreased inflow from runoff, increased evaporative losses, and warmer and shorter winter seasons can alter natural recharge of groundwater. Furthermore, additional reductions in the imported water imposed by

climate change would lead to more reliance on local groundwater, resulting in reductions in base flows, reduced groundwater outflows, increased depth to groundwater, and increased land subsidence.

WKWD will need to meet these potential reductions in SWP surface water supplies by improved water efficiency measures, additional groundwater recharge or a reduction in groundwater pumping in wet years to leave water in the aquifer for drier years.

Climate Change Impact on Water Supply Reliability

The state is already experiencing decreases to natural snowpack in the Sierra Nevada, which has implications for SWP deliveries. Climate change will likely cause more precipitation to fall as rain, and warmer temperatures will cause snowpack to melt 4 to 14 days earlier in the season. DWR is predicting that the Sierra snowpack will experience a 25% to 40% reduction by 2050 based on historical modeling, with additional decreases caused by warmer storms due to climate change. At the local level, changes in the timing and intensity of precipitation could negatively affect groundwater recharge, runoff flowing to rivers and reservoirs, flooding frequency, and length of the dry season and resulting increased risk of wildfires and vegetation die off.

Average monthly runoff is a critical component of California's water supply planning. Flood protection and water supply infrastructure have been designed and optimized for historical conditions. However, the timing of peak monthly runoff in the Sacramento River between 1906-1955 and 1956-2007 has shifted nearly a month earlier indicating that this key hydrology metric is no longer stationary (DWR, June 2015). Timing is projected to continue to move earlier in the year, further constraining water management by reducing the ability to refill reservoirs after the flood season has passed.

The Sacramento–San Joaquin River Delta is the central hub of the SWP. Potential impacts to the Delta resulting from climate change include increased risk of levee failure, reduced water quality, and reduced water supply, all of which could significantly impact SWP operations, and the reliability of the supply of water delivered through the Kern County Water Agency. Sea-level rise threatens to disrupt deliveries from the SWP if saltwater advances into the Delta and increased quantities of fresh water would need to be released to protect water quality.

The agencies like WKWD who receive SWP supplies through Kern County Water Agency will need to consider adapting to reduced deliveries from the SWP as a component of climate change adaptation. Climate change and sea level rise have both been taken considered in determining the future reliability and future allocations as presented in the 2019 SWP Delivery Capability Report (DWR, 2020). The Technical Addendum to The Final State Water Project Delivery Capability Report 2019 (California Department of Water Resources, August 26,2020) incorporated climate change modeling impacts to historically hydrology based on a high emissions scenario occurring and a 1.5-foot (45 cm) sea level rise in San Francisco. The high emissions scenario is predicated to have a 1 in 200 chance or 0.5% probability. The Kern County Water Agency (KCWA) has a municipal & industrial (M&I) Table A entitlement from the State Water Project of 135,000 AF. For historical hydrology from 1922 to 2003, the average entitlement for KCWA was predicted to have been 79,000 AF (59% of Table A full entitlement) where with said climate change models, the average entitlement is estimated at 72,000 AF (53% of Table A full entitlement), about a 9% reduction in supplies. West Kern Water District portion of the KCWA Table A entitlement is 31,500 AF or about 23.3% of KCWA (31,500/135,000 = 0.233). Therefore, if high emissions modeled scenario occurs, the WKWD average entitlement would reduce a similar 9% or about 1,657 AF (79,000 x 0.233 x 0.09 = 1,657 AF). Since this situation is unlikely

(0.5%), these reductions are not included in this UWMP, but WKWD will continue to monitor climate change impacts.

WKWD plans to adapt to climate change using a variety of strategies. Most of these strategies are considered "no-regret strategies." In other words, if climate change does not occur, or the impacts are less than expected, WKWD would have no regrets from implementing the adaptation strategies, since they would still benefit overall water reliability.

Proposed strategies to adapt to climate change essentially include projects/programs that the District is already pursuing, but perhaps more aggressively as funding and staffing availability permit. These strategies include:

- Urban water conservation
- Water transfers
- Conjunctive use programs (primarily groundwater storage within WKWD)
- Support projects that could improve the reliability of imported SWP water

8 Water Shortage Contingency Planning

The Urban Water Management Planning Act requires that the UWMP include an urban water shortage contingency analysis that addresses stages of action to be undertaken by the urban water supplier in response to water supply shortages, including more than a 50 percent reduction in water supply. In addition, the District is required to develop mandatory water conservation measures to implement during each water shortage stage.

The District's Water Shortage Response Plan (WSRP), which is synonymous with a Water Shortage Contingency Plan, is an independent document from the UWMP and can be found in **Appendix H**. The previous WSCP was prepared in 2015. The WSCP has been reorganized and expanded based on new State requirements. Some of the main topics covered in the updated WSCP include:

- Procedures for evaluating water supplies
- Criteria for declaring a water shortage
- Water shortage levels
- Shortage response actions
- Seismic risk and mitigation actions
- Community outreach
- Customer compliance and enforcement
- Revenue impacts
- Monitoring and reporting requirements
- Monitoring and evaluating the WSCP

The primary change from the 2015 WSCP was the expansion of Water Shortage Stages from four levels to six levels, which was required by the State.

9 Demand Management Measures (DMM)

Legal Requirements:

CWC 10631 (f)
(A) …A narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.
(B)The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:
(i) Water waste prevention ordinances.
(ii) Metering.
(iii) Conservation pricing.
(iv) Public education and outreach.
(v) Programs to assess and manage distribution system real loss.
(vi) Water conservation program coordination and staffing support.
(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.
CWC 10631
(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
(1) (A) … a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.

9.1 DMMs

The District recognizes that conserving water is an integral component of a responsible water strategy, and is committed to providing education, tools, and incentives to help its customers reduce the amount of water they use. The following sections review compliance with the existing Demand Management Measures (DMMs) and provide an implementation plan for compliance with the UWMP Act. The District plans to expand demand management measures with a goal of reaching their per capita water use goal of 189 gpcd by 2025. Implementing DMMs, however, may be dependent on available funding and staff time to execute the programs.

9.1.1 Water Waste Prevention Ordinances

The District actively pursues incidents of water waste. District supervisors, Customer Service Representative, meter readers, and the flushing and sampling crews inspect customer usage routinely for anomalies. Incidents of waste are investigated and recommendations for correction are provided. Water sources are regulated and can be disconnected in cases of excessive leakage and/or facilities failure.

Appendix H includes the District's WSRP, which was first adopted in 2010, and was readopted as part of this UWMP update. The WSRP establishes six levels of response actions to be implemented in times of shortage (Response Level 1 through Response Level 6), with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies. The policy establishes progressive response levels including regulations to be implemented during times of declared water shortages in order to attain escalating conservation goals.

Penalties for water waste are discussed in the WSRP. Customers are given a warning after their first water waste violation. Subsequent violations can include a $300 Administrative Fee, $600 Administrative Fee (third offense), and finally Discontinuance of Service (fourth offense).

9.1.2 Metering

The District boundary encompasses 300 square miles with approximately 300 miles of transmission and distribution lines. All water deliveries provided through the District's system are metered and all new water service accounts require meters which are installed, maintained and read for billing purposes by the District. Meters are calibrated on a periodic basis. Meters that are not performing adequately are replaced.

All residential and commercial customers are billed by volume. Some industrial customers are billed by volume and some, accounting for about 40 percent of deliveries, have long-term "take or pay" contracts. (See Conservation Pricing section below for more information.) The District monitors its system in a number of different ways.

Most of the large landscapes in the District's service area have dedicated irrigation meters, including greenbelts, park accounts and a golf course (which has four meters and is classified as an Industrial account). Public school accounts have mixed use meters, but District staff are currently working with the local school district to explore the possibility of installing dedicated meters on school play fields.

The District also has meters on all of their productions wells. Beginning in 2015, the District implemented a program for annual testing of the flow meters at each well (as required by the District's State Operating Permit).

Acoustic and propeller meters are used to measure deliveries from the SWP.

The District is in the process of replacing all industrial meters with Automatic Meter Reading (AMR) technology. As of April 2021, AMR meters have been installed on all industrial accounts and residential-commercial meters in outlying communities, which track daily versus monthly usage.

9.1.3 Conservation Pricing

The District has different pricing structures, depending on customer type:

1. Residential/Commercial Rate

   Residential and Commercial customers are classified as "Domestic" customers in the District's billing system and are billed at the same rate and on a bimonthly schedule. In 2009 the District started to migrate its Domestic customers from a declining block rate structure to a flat rate. The new structure is designed for compliance with the standard that 70 percent of revenue come from volumetric rates (**Table 9-1**).

Table 9-1: Residential and Commercial Volumetric Rates (per HCF)

Volume	2020
Up to 1,000 ft³	$17.30
1,000 to 3,000 ft³	$1.73
3,001 to 4,000 ft³	$1.73
Over 4,001 ft³	$1.24

2. Industrial Rate

Industrial water use accounts for about 80 percent of the District's annual water demand; customers are subject to one of two rate structures:

a. Increasing block volumetric rates: Industrial water users subjecting to an increasing block rate structure pay for water as follows:

All water up to 3,000 cu.ft.: $2.24/hcf ($975.74 per AF)
Additional water per 100 cu.ft. $2.70/hcf (1,170.53 per AF)

Meter charges are not included in the rates above.

b. Fixed Rate "Take or Pay" contracts: Most of the industrial customers have long term "Take or Pay" contracts which guarantee customers an agreed upon amount of water (Base Supply). Should the customer take less than the Base Supply, they must still pay one-half of the contract price for the water not taken. For any purchases beyond the Base Supply, the customer is required to pay for such water that is actually delivered and is billed volumetrically.

For those customers holding "Take or Pay" contracts (which do not conform to the requirements of the DMM), the District claims a legal exemption. The "Take or Pay" contracts are legally binding; some have expiration dates, others do not. Contracts with expirations expire in various stages, the latest of which is in 2036. As these contracts begin to expire the District is shifting those customers to a negotiated volumetric rate structure with no "Take or Pay" clause and a standard volumetric rate structure that does conform to the requirements.

Most Take or Pay contracts were executed in 1988, long before the DMM requirements were developed, and are legally binding. The District does not have the legal authority to change the terms and conditions of these contracts prior to their expiration.

Appendix I includes a summary of water rates and fees in WKWD.

9.1.4 Public Education and Outreach

The District promotes water conservation efforts in coordination with AWWA, ACWA, KCWA and Water Association of Kern County programs. The District distributes public information through brochures, local speaking engagements, its website (www.wkwd.org) and special events such as community and street fairs. Some of these programs, especially those involving contact with the general public, were suspended in 2020 due to the pandemic. They are expected to resume some time in 2021 depending on health and safety conditions.

WKWD's education and outreach activities support conservation programs and enhance customer awareness of conservation. WKWD offers water conservation programs and services for all residential and commercial accounts. Programs and services include general and targeted promotions, presentations, workshops, free water savings devices, incentives for installing water-saving fixtures and equipment, as well as other education and outreach programs.

A variety of educational publications/brochures that include conservation practices are utilized. Some brochures include charts for quick references relative to indoor and outdoor conservation techniques, lists of appropriate plants for weather zones and landscape design tips.

Marketing techniques used include a specific approach for individual customers and a broad approach to communities, and include the following:

- Advertisements
- Public Service Announcements
- Bill Inserts
- Door Hangers
- District Office Displays
- Newspaper and Magazine Ads
- Community Billboards
- Newsletters/Brochures/Magazines distributed around communities at other business offices
- Radio
- Demonstration gardens
- Special Events – Media
- Programs coordinated with other agencies and public interest groups
- Educational/informational sessions for commercial, industrial and landscape irrigation customers

As part of these efforts, the District General Manager provided education on water conservation, and handed out conservation items at various schools, clubs, meetings and community events. District staff attended various community events where they handed out nozzles, educational materials and spoke to the community about saving water throughout the year.

The District has been meeting the goal of at least four contacts/year with the public and four contacts/year with the media.

The budget for these conservation-related public information programs averaged $18,912 per year from 2016 to 2020, with maximum spending of $22,628 in 2020.

Quantifying water savings through education and outreach is not feasible, however these efforts make a significant contribution towards promoting conservation efforts.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

The District has conducted pre-screening system audits of its distribution system and leak detection since 1990 as part of its regular operation and maintenance procedures. These audits are conducted each month and at the end of each year. The District's monthly metered units of ground water production and metered units of water deliveries are tracked and provided to DWR each year as part of our Public Water System Statistics Report. Reports covering the past five years indicate the District's system has an annual water loss of less than 4 percent of total annual production.

In the past, this loss rate fell below the threshold that required action, but that standard has been replaced by a new requirement that specifies implementation of the AWWA M36 Standard Water Audit methodology. Implementation of the M36 methodology requires a specific set of information on authorized and unauthorized consumptions, metering inaccuracies and more; most of this data are being collected through the District's current program. The District implemented the AWWA M36 Standard Water Audit methodology for Calendar Years 2016 through 2020. The District's water audit data validity score averaged 59 out of 100.

9.1.6 Water Conservation Program Coordination and Staffing Support

The District has four staff responsible for various conservation-related tasks. The General Manager, Regulatory Administrator, Administrative Assistant, and a Water Service Technician work on conservation part-time and are in charge of program planning, development and administration. There is also a position that is assigned to responding to customer issues such as high bills, leaks, and water waste.

9.1.7 Other Demand Management Measures

Following are discussions on other DMMs that WKWD implements but are not required components of an UWMP.

9.1.7.1 School Education

WKWD recognizes the importance of educational benefits and works with the Kern County Water Agency to provide local students and teachers a variety of education programs and tools. WKWD designed a water education curriculum for elementary schools in the District that meets Common Core standards. The curriculum is district specific and was created for 2nd/3rd and 5th/6th graders. A book was provided to each classroom and it will become part of the regular curriculum.

The District and Kern County Water Agency (KCWA) are now reaching students about water conservation through Links4Ed (formerly JS Strategic) for a Standards Based Curriculum.

Students were taught at five different schools from 2016 to 2020. A total of 3,739 students were reached from 2015-2020. A summary of the students reached is shown in **Table 9-2**.

Table 9-2: School Education Activities

	McKittrick Elementary No. Students		Midway School District No. Students		Taft City School District No. Students		Maricopa Unified School District No. Students		Elk Hills School District No. Students		Total Students
	2nd	5th	2nd	5th	2nd	5th	2nd	5th	2nd	5th	
2015/16	20	20	17	19	249	240	27	18	25	32	**667**
2016/17	22	22	36	15	300	270	58	29	27	27	**806**
2017/18	22	22	21	15	300	270	58	29	27	27	**791**
2018/19	18	15	14	13	300	270	24	27	25	27	**733**
2019/20	18	17	20	14	300	270	24	27	25	27	**742**
Totals	**100**	**96**	**108**	**76**	**1,449**	**1,320**	**191**	**130**	**129**	**140**	**3,739**

9.1.7.2 Indoor and Outdoor Water Surveys for Single/Multi-Family Residential Customers Residential Plumbing Retrofits

The District has combined the Residential Assistance and Landscape Water Survey programs into a single analysis because the program is implemented as a single audit program with indoor and landscape elements. This is expected to improve efficiency and result in cost savings.

Free water use surveys are offered to WKWD residential and commercial customers, designed to help customers use water more efficiently, ranging from self-evaluations to on-site consultation of usage, targeting large residential and commercial landscape irrigators. Customers are also provided with educational materials and water-saving products to improve water use efficiency. Examples include free low-flow shower heads, shower timers and aerators for inside fixtures and for outside use, and water shut-off nozzles for hose bibs. WKWD also provides Indoor Water Conservation Kits to residential users upon request and at community outreach events. The kits provide customers information to help assess current practices and how to detect leaks.

Statistics on the number of water surveys have not been tracked closely in recent years, but the District will begin tracking it in 2021. Fixture giveaways during water surveys and at special events have had estimated values of $891 in 2018 and $7,050 in 2020.

The District currently has one full-time employee who is assigned to respond to customer issues such as high bills, leaks and water waste. The position is currently focused on meter testing and utility-side meter issues as well as high bill complaints, posting door hangers, and providing information in water waste situations. The inspector also provides low-flow devices to customers as appropriate.

9.1.7.3 Residential Plumbing Codes

There is very little new development in the District's service area; it's estimated to be on the order of about 0.5 percent growth per year or less. See Section 2 for discussion of service area characteristics.

The DMM requires that the District provide incentives such as rebates, recognition programs, or reduced connection fees, or ordinances requiring residential construction meeting water sense

specifications (WSS) for single and multi-family housing until a local, state or federal regulation is passed requiring water efficient fixtures. The 2019 California Green Building Standards Code (CAL Green Code, CALGreenCode.pdf) addresses these WSS requirements.

The 2010 CAL Green Code originally set mandatory green building measures, including a 20 percent reduction in indoor water use, as well as dedicated meter requirements and regulations addressing landscape irrigation and design. The 2019 Code identifies voluntary measures that set a higher standard of efficiency. The District, in collaboration with the local planning departments is reviewing the proposed standards to determine the most appropriate direction. The District is also supporting implementation and monitoring of the Code by incorporating the new rules into its water service or "will serve" requirements.

9.1.7.4 High-Efficiency Washing Machine Rebate Programs

The District began offering High-Efficiency Clothes Washers (HECW) rebates in 2013. The District offers $200 per washing machine that is on the Consortium for Energy Efficiency (CEE) approved list. Applications are available at the main district office and on the District website.

The District has a goal of providing at 70 rebates per year, for a total savings of about 2 gpcd for each new washing machine. The cost of this program is $9,000 per year and program participation is currently tracked through the District billing system.

Washing machine rebates from 2016 to 2020 and rebate expenditures (not including staff salary costs) included:

- 2016 – 34 rebates ($6,800)
- 2017 – 68 rebates ($12,400)
- 2018 – 54 rebates ($10,800)
- 2019 – 31 rebates ($6,200)
- 2020 – 33 rebates ($6,600)

The District has set a goal of 70 rebates per year and plans to continue outreach in an effort to increase and maintain participation. The District will also look for local program partners such as Pacific Gas and Electric (PG&E) and/or the wastewater utility to combine marketing, outreach and administrative costs, and potentially increase incentive amounts.

The District would like to evaluate a tiered rebate system, based on the potential water savings from three different levels of washing machine efficiency listed by the CEE.

9.1.7.5 Residential ULFT Replacement Programs

The District began offering High Efficiency Toilet (HET) rebates in 2012. The program was initially called the 'Junk your John Kickoff' program. Rebates are $150 per toilet. The toilets must be on the EPA WaterSense approved list and replace a toilet using 3.5 gallons/flush or higher. Applications are available at the main district office and on the District website.

Based on a resale rate for the City of Taft of 4 percent[1], the program goal is a replacement of 260 units per year over 10 years. The savings would be about 3.2 gpcd for each new toilet.

Toilet rebates from 2016 to 2020 and rebate expenditures (not including staff salary costs) included:

- 2016 – 85 rebates ($11,849)
- 2017 – 37 rebates ($4,426)
- 2018 – 51 rebates ($6,752)
- 2019 – 53 rebates ($6,710)
- 2020 – 38 rebates ($5,189)

Customers have been notified of the program through several forms of media, but the program has not yet reached its annual goals of 260 units per year. WKWD will increase outreach efforts in an effort to increase participation.

The District plans to explore revisions to the toilet rebates so they are tiered for different uses. For example, hotel toilets are used less often than residential toilets since there are less users per toilet and hotel rooms are often vacant. Alternatively, toilets at restaurants and other public areas are used more often than residential toilets and offer more potential water savings.

Program participation is currently tracked through the billing system; water savings will either be estimated based on standard assumptions or through the billing system if the capacity can be developed.

In the future, the District may consider rebates for installing xeriscape or artificial turf, to supplement the toilet and washing machine rebate programs.

9.1.7.6 Conservation Programs for Commercial, Industrial and Institutional

The District offers several conservation programs to commercial and institutional customers. Current and future efforts will focus on commercial and institutional customers, since verifying industrial savings is difficult or impossible as water usage depends on the market conditions for crude oil and demands for power generation.

Commercial and Institutional

Commercial and institutional water conservation efforts will include a combination of other DMMs including large landscape conservation, education and rebates. These water users fall into the same billing category as residential customers, and water conservation will be achieved through similar measures as residential customers.

Industrial

The District set an internal goal in 2015 of reducing industrial water usage by 10% over 10 years. About 80% of water deliveries in the District go to industrial customers. Based on 2015 deliveries of 16,970 AF, the industrial sector must reduce consumption 170 AF/year for a period of ten years through 2025 to meet this goal.

[1] City of Taft, Assessor's Office. Conversation 10/22/10.

Industrial water is primarily supplied to oil development companies and power plants. Water usage typically varies with the market for crude oil and power demands across the state, so conservation efforts are difficult, if not impossible to track. However, one improvement the District has made for industrial customers is the installation of automatic meters that read daily. That data will be available to industrial customers, where they previously received the data monthly. This data will provide more detailed information that could help them better track, manage and conserve their water usage. The industrial customers are also asked to reduce water usage on landscaping to conserve water during droughts.

The primary industries represented by these industrial accounts are oil production and electrical generation; each use almost 50% of the industrial water. More information on each is provided below:

- Oil Industry. Oil producing operations have provided the majority of the District's water sales for more than forty years. Oil production in western Kern County relies heavily on the injection of steam into the oil bearing formations to enhance the recovery of oil. Steam injection is required due to the oil's low gravity, which reduces its ability to flow or to be pumped to the surface. Once the steam is injected into the formation the steam condenses and forms an oil/water emulsion, which can be pumped or lifted back to the earth's surface. After the oil/water emulsion is recovered the oil and water must be separated to a maximum of 3 percent residual water and sediment in the oil. The oil leaves the facility via pipelines to be further refined and the water remains on site and is recycled back to steam. The water recycling process has a water loss from water staying with the oil (at a rate of about 3 percent) and because not all of the steam is recovered from the geologic formation.
- Electrical Generation. The electrical generation industry utilizes steam or natural gas, which power turbines to generate electricity. Both systems require a large amount of water for cooling tower operations. Where steam is used to turn the turbine, the steam will pass through the turbines up to seven times before the steam degrades to a quality which it can no longer be used. Once the steam becomes unsuitable, it is necessary to purchase additional water to produce new steam. When the process permits, the steam can turn the electrical turbine and then be utilized for steam injection for the oil-producing industry. This process is limited to the co-located geographic sites of the electrical generation facility and the oil-producing facility.
- Golf Courses. Golf courses are also classified as "industrial" use in the District's billing system, but as required by DWR, that water usage is reported in the Residential/Commercial category in this UWMP. Golf course water conservation is discussed in the DMM for Large Landscape Conservation (see following below).

To achieve the ten percent industrial water savings, the District will outreach directly to its largest customers. Most of these customers are relatively large and already have a relationship with the District. Both the oil and electrical generation industries employ technical personnel with a high level of expertise who are dedicated to exploring methods to enhance production and reduce operational costs. The District is somewhat limited in the added value it can provide in terms of providing technical assistance to these industries for reducing water consumption, however it is actively exploring new opportunities. Recent discussions have addressed using "produced water" to offset potable supplies.

Produced water is a term used in the oil industry to describe water that is produced along with the oil and gas. Oil reservoirs have a natural water layer (formation water) that lies under the hydrocarbons and frequently contains large volumes of water. To achieve maximum oil recovery, additional water is often injected into the reservoirs to help force the oil to the surface. Both the formation water and the injected water are eventually produced along with the oil, and, therefore, as the field becomes depleted the produced water content of the oil increases.

Historically, produced water was disposed of in large evaporation ponds, however there is increasing focus on beneficial re-uses for produced water. Some options that have been discussed are using produced water for landscape and/or dust control. Produced water is considered an industrial waste and therefore there are numerous water quality related issues to consider. Currently, the oil companies are not permitted to use the water for dust control, but they are exploring this option further. Understanding customer water quality needs and outputs could help the District evaluate whether alternative supplies would be feasible and/or whether customer produced water can be utilized to offset potable supplies elsewhere in the service area, or in other parts of Kern County. The District will continue to explore measures directly related to the process, resource and water quality needs of its largest customers in the power and oil industries.

9.1.7.7 Large Landscape Conservation Programs and Incentives

About one-third of Domestic use goes to large landscape irrigation. The District has dedicated meters on all of its parks accounts and four for the golf course while the 11 schools are on mixed use meters. Consumption information is available for all of these users.

The District plans to develop an ETo based water budget for its irrigation accounts at a rate of four per year starting in 2021. The District will include the budget information with the customer's bills and provide technical support as required.

The District and Taft Unified School District have on-going conversations about opportunities to install dedicated meters for the large fields. This metering project is estimated to cost about $18,000 and started with the high school in January 2011. The City of Maricopa High School, in the City of Maricopa, has also expressed a willingness to work with the District to split its meters. Both these projects will allow the District and the schools to gather the information required to understand the landscape uses and then do a proper assessment of potential efficiency improvements.

The Jr. College, High School, Grammar Schools, and Park District each employ individuals trained in landscape water efficiency. The District will work with staff from those entities to explore further opportunities to promote efficient water use at the schools as well.

The District has also been working with one major golf course in the service area to explore conservation options. To conserve water, the golf course has allowed fairways to go fallow, and installed ground moisture sensors. As a result, the golf course has seen an overall average water savings of 11% per year when compared to 2015 volumes.

Future goals also include:

1. Irrigation water use surveys for 1.5% of mixed use meter commercial accounts/year.

2. Implement and maintain a customer incentive program for irrigation equipment retrofits.

Increasing water use efficiency on large landscapes is a high priority for the District. The District is already in direct contact with most of its landscape customers. The District will continue to work with these customers, identify efficiency opportunities and support implementation through upgrades, rebates, metering or in other ways that are determined to be most effective. Consumption patterns will be more closely tracked and communicated with the customer, and water savings will be measured through the billing system.

9.1.7.8 Wholesale Agency Assistance Programs

The District does not provide wholesale water and this DMM therefore does not apply.

9.2 Planned Implementation to Achieve Water Use Targets

Legal Requirements

> ***CWC 10631***
> *(f) 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 measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

The District recognizes the need to expand conservation programs and efforts in order to continue to maintain its future water conservation goals. The District plans to implement all of the aforementioned DMMs in an effort to conserve as much water as feasible, and provide a full portfolio of water conservation measures and opportunities.

The District is in the process of identifying programs and preparing implementation plans. In addition to the activities identified for DMM implementation, the District is considering implementation of the following programs:

1. Landscape: The District will work with the School District to install dedicated irrigation meters and identify appropriate efficiency options. The District will also work with the Parks to identify opportunities to improve their irrigation efficiency. The District will provide the School District and Parks with financial and technical support as needed.

2. The District will continue to work with the golf course to identify and implement water saving opportunities.

3. The District will offer rebates for smart irrigation controllers.

10 Bibliography/References

1. California Department of Water Resources (DWR), *2015 Urban Water Management Plans - Guidebook for Urban Water Suppliers,* 2021.
2. California Department of Water Resources, *California Climate Science and Data for Water Resources Management*, June 2015.
3. California Department of Water Resources, *California Groundwater – Bulletin 118*, 2003.
4. California Department of Water Resources, *Climate Change Handbook for Regional Water Planning*, November 2011.
5. California Department of Water Resources, *The State Water Project Draft Delivery Capability Report 2019*, August 2020.
6. Kenned/Jenks Consultants, *Vulnerability to Climate Change Technical Memorandum – Kern IRWMP*, August 2014.
7. State of California*, 20x2020 Water Conservation Plan*, February 2010.
8. California Energy Commission, Public Interest Energy Research Program, *The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California*, May 2009.
9. West Kern Water District, *2019 Consumer Confidence Report.*
10. West Kern Water District Groundwater Sustainability Agency, *Chapter Groundwater Sustainability Plan*, December 2019.

APPENDIX A – UWMP CHECKLIST

Appendix A: UWMP Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Section
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	Lay Description at beginning of UWMP
x	x	Section 2.2	10620(b)	Every agency 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

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.2.3
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Section 2.2
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Section 2.2.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
	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 3.1
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.1.4
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.2
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 3.2
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 3.2
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.1.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 4.1-4.2
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	Section 4.4
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.4
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 7.7

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Section 5
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.2
	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
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	Section 5.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.1
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	Appendix C
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 7.3
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, *including changes in supply due to climate change.*	System Supplies	Section 7.7

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Section 6.2-6.5
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.1.2
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 6.1.2
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 6.4, 6.1.2
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 6.4.2
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.4.1

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 6.4.1
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 6.4.1
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.4.4
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 6.1.2
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 6.9

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 6.7
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 6.7.1
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 6.7.1
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 6.7.1
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 6.7.5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 6.7.5
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.8
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 6.7.2
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 6.11
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 6.10

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.3
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 7.1.1
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 7.4
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 7.5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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 7.5
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 7.3
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 7.7
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Section 8, Appendix H

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Appendix H
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	Appendix H
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Appendix H

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Appendix H
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	N/A
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Appendix H

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Appendix H
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	Appendix H
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	Appendix H
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Appendix H
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Appendix H
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	Appendix H

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Appendix H
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	Appendix H
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	Appendix H
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	Appendix H
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix H

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	Appendix H
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Appendix H
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	Appendix H
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	Section 2.3.4

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Section 2.3.4
	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	Section 9
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Section 2.3.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Appendix B
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	Section 2.3.3
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Section 2.3, Appendix B
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	Appendix B
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 2.3.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 2.3.3
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 2.3.3
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 2.3.3
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 2.3.4
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 2.3.4

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	NA
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 2.3.4

WEST KERN WATER DISTRICT
URBAN WATER MANAGEMENT PLAN

APPENDIX B – ADOPTION RESOLUTION

RESOLUTION 23-02
RESOLUTION OF THE GOVERNING BOARD OF WEST KERN WATER DISTRICT ADOPTING THE REVISED URBAN WATER MANAGEMENT PLAN 2020 UPDATE

WHEREAS, the California Urban Water Management Planning Act (Wat. Code § 10610, et seq) (Act) mandates that every 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, prepare and adopt an updated Urban Water Management Plan (UWMP) at least once every five years; and

WHEREAS, West Kern Water District (District) is an urban water supplier for purposes of the Act; and

WHEREAS, the District prepared, adopted, and submitted its most recent 2020 UWMP Update to the California Department of Water Resources (DWR) in June 2021; and

WHEREAS, DWR provided comments on the 2020 UWMP Update in June 2022 regarding water usage analyses, and the District revised the 2020 UWMP Update to reflect those comments; and

WHEREAS, in accordance with applicable law, including Water Code sections 10608.26 and 10642, and Government Code section 6066, the District made its draft 2020 UWMP Update available for public inspection, and caused at least two notices of public hearing regarding the 2020 UWMP Update to be published within the District's jurisdiction; and

WHEREAS, the District held a public hearing on January 24, 2023 at 800 Kern Street, Taft, California during which members of the public and other interested entities were provided with the opportunity to be heard regarding the District's 2020 UWMP Update; and

WHEREAS, the Board of Directors has reviewed and considered the Act, SBX7-7, the contents of the 2020 UWMP Update, the documentation contained in the administrative record in support of the 2020 UWMP Update, and all public and agency input received with regard to the 2020 UWMP Update, and has determined that the factual analyses and conclusions set forth in the revised 2020 UWMP are supported by substantial evidence.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of West Kern Water District as follows:

1. The General Manager, or his designee, is hereby authorized and directed, in accordance with Water Code section 10644, subdivision (a), to file the 2020 Urban Water Management Plan Update, attached hereto and incorporated herein as **Exhibit A**, and a copy of this

Resolution with the California Department of Water Resources, the California State Library, and any city or county within which the District provides water supplies within thirty (30) days of the adoption of this Resolution.

2. The General Manager, or his designee, is hereby authorized and directed, in accordance with Water Code section 10645, to make the 2020 Urban Water Management Plan Update available for public review during normal business hours not later than thirty (30) days after filing a copy thereof with the California Department of Water Resources.

3. The General Manager, or his designee, is hereby authorized and directed, in accordance with Water Code section 10635, subdivision (b), to provide that portion of the 2020 Urban Water Management Plan Update prepared pursuant to Water Code section 10635, subdivision (a) to any city or county within which the District provides water supplies not later than sixty (60) days after filing a copy thereof with the California Department of Water Resources.

All the foregoing being upon the motion of Director Niblett, seconded by Director Morris, carried by the following vote:

AYES:	President David A. Wells Vice President Barry Jameson Director Gary Morris Director Scott Niblett Director Bo Bravo
NOES:	None
ABSENT:	None
ABSTAIN:	None

ADOPTED, SIGNED AND APPROVED this 24TH day of January, 2023.

DAVID A. WELLS,
President of the Board of Directors
WEST KERN WATER DISTRICT

SECRETARY'S CERTIFICATE

I, Greg A. Hammett, being the appointed secretary of the **West Kern Water District,** do hereby certify that the above and foregoing **Resolution No. 23-02** was duly adopted by the Board of Directors of said District at a legally convened meeting of said Board held on the **24th day of January, 2023,** that the above and foregoing is a full, true, and correct copy of **Resolution 23-02**, and that the same has not been amended or repealed.

ATTEST:

GREG A. HAMMETT
Secretary of the Board of Directors
WEST KERN WATER DISTRICT

(SEAL)

RESOLUTION 21-04
RESOLUTION OF THE GOVERNING BOARD OF
WEST KERN WATER DISTRICT
ADOPTING THE URBAN WATER
MANAGEMENT PLAN 2020 UPDATE
RESCINDING RESOLUTION NO. 16-02

WHEREAS, the California Urban Water Management Planning Act, Water Code section 10610 et seq. (the Act) mandates that every 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, prepare and adopt an updated Urban Water Management Plan (UWMP) at least once every five years.

WHEREAS, the West Kern Water District (WKWD) is an urban water supplier for purposes of the Act, and approved and adopted its most recent 2015 UWMP and submitted that UWMP to the California Department of Water Resources (DWR); and

WHEREAS, the Water Conservation Act of 2009, Water Code section 10608 et seq. (SBX7-7), established requirements for urban retail water suppliers to prepare urban water use targets in accordance with the goals of SBX7-7 to reduce statewide daily per capita water use by 20 percent by the year 2020; and

WHEREAS, the West Kern Water District is an "urban retail water supplier" for purposes of SBX7-7 because it directly provides potable municipal water to more than 3,000 end users; and

WHEREAS, in accordance with applicable law, including the requirements of the Act and SBX7-7, the West Kern Water District has prepared its UWMP 2020 Update and has undertaken certain agency coordination, public notice, public involvement and outreach, public comment, and other procedures in relation to its UWMP 2020 Update; and

WHEREAS, the District updated it's Water Shortage Response Plan (WSRP) as part of this UWMP 2020 Update, and adoption of the UWMP will include adoption of the revised WSRP. The WSRP was revised to provide better guidance on how decisions are made to declare water shortage Response Levels, and greater flexibility in selecting which water conservation measures will be required; and

WHEREAS, as authorized by Section 10620(e) of the Act, the West Kern Water District has prepared its UWMP 2020 Update with its own staff, with the assistance of consulting professionals, and in cooperation with other governmental agencies, and has utilized and relied upon industry standards and the expertise of industry professionals in preparing its UWMP, and has also in part utilized and relied upon the DWR Urban Water Management Plans - Guidebook for Urban Water Suppliers (March 2021) in preparing its UWMP 2020 Update; and

WHEREAS, in accordance with applicable law, including Water Code sections 10608.26 and 10642, and Government Code section 6066, the West Kern Water District made its Draft UWMP 2020 Update available for public inspection, and caused to be published within the jurisdiction of the West Kern Water District at least two notices of public hearing regarding the WKWD's UWMP 2020 Update; and

WHEREAS, the West Kern Water District held its public hearing on June 22, 2021 in the Board Room of the West Kern Water District, located at 800 Kern Street, Taft CA, regarding its UWMP 2020 Update, wherein, among other things, members of the public and other interested entities were provided with the opportunity to be heard in connection with the District's UWMP 2020 Update and the proposed adoption thereof; and

WHEREAS, pursuant to said June 22, 2021 public hearing on the UWMP 2020 Update, the West Kern Water District encouraged the active involvement of diverse social, cultural, and economic elements of the population within the West Kern Water District's service area with regard to the preparation and adoption of the 2020 UWMP Update, allowed input by members of the public and any other interested party regarding all aspects of the 2020 UWMP Update, allowed community input regarding the District's implementation plan for complying with SBX7-7, and considered the economic impacts of the District's implementation plan for complying with SBX7-7; and

WHEREAS, the Board of Directors of the West Kern Water District has reviewed and considered the purposes and requirements and of the Urban Water Management Planning Act and SBX7-7, the contents of the UWMP 2020 Update, the documentation contained in the administrative record in support of the UWMP 2020 Update, and all public and agency input received with regard to the UWMP 2020 Update, and has determined that the factual analyses and conclusions set forth in the UWMP 2020 Update are supported by substantial evidence.

NOW, THEREFORE, be it resolved, determined, and ordered by the board of directors of the West Kern Water District as follows:

1. The General Manager of the West Kern Water District is hereby authorized and directed to include a copy of this Resolution in the West Kern Water District's Urban Water Management Plan 2020 Update and, in accordance with Water Code section 10644(a), to file the Urban Water Management Plan 2020 Update with the California Department of Water Resources, the California State Library, and any city or county within which the District provides water supplies within thirty (30) days of this adoption date.
2. The General Manager is hereby authorized and directed, in accordance with Water Code section 10645, to make the Urban Water Management Plan 2020 Update available for public review during normal business hours not later than thirty (30) days after

filing a copy thereof with the California Department of Water Resources.

3. The General Manager is hereby authorized and directed, in accordance with Water Code section 10635(b), to provide that portion of the Urban Water Management 2020 Plan Update prepared pursuant to Water Code section 10635(a) to any city or county within which the District provides water supplies not later than sixty (60) days after filing a copy thereof with the California Department of Water Resources.
4. The General Manager is hereby authorized and directed to implement the components of the Urban Water Management Plan 2020 Update in accordance with the Urban Water Management Planning Act and SBX7-7, including, but not limited to, the West Kern Water District's Water Conservation Programs and its Water Shortage Response Plan.
5. The General Manager is hereby authorized and directed to recommend to the Board of Directors additional steps necessary or appropriate to effectively carry out the implementation of the Urban Water Management 2020 Plan Update, the Urban Water Management Planning Act and SBX7-7.

All the foregoing being upon the motion of Director Niblett, seconded by Director Morris, carried by the following vote:

AYES:	President David A. Wells Vice President Barry Jameson Director Gary Morris Director Scott Niblett Director Bo Bravo
NOES:	None
ABSENT:	None
ABSTAIN:	None

ADOPTED, SIGNED AND APPROVED this 22ND day of June, 2021.

DAVID A. WELLS,
President of the Board of Directors
WEST KERN WATER DISTRICT

SECRETARY'S CERTIFICATE

I, Greg A. Hammett, being the appointed secretary of the **West Kern Water District,** do hereby certify that the above and foregoing **Resolution No. 21-04** was duly adopted by the Board of Directors of said District at a legally convened meeting of said Board held on the **22nd day of June, 2021,** that the above and foregoing is a full, true, and correct copy of **Resolution 21-04,** and that the same has not been amended or repealed.

ATTEST:

GREG A. HAMMETT
Secretary of the Board of Directors
WEST KERN WATER DISTRICT

(SEAL)

APPENDIX C – STANDARDIZED DWR TABLES

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
Add additional rows as needed			
CA1510222	West Kern Water District	7,379	16,338
	TOTAL	7,379	16,338
NOTES: Unit of volume in acre-feet			

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
Unit	AF
NOTES:	

Submittal Table 2-4 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Add additional rows as needed
Kern County Water Agency
NOTES:

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	22,172	22,097	22,542	22,997	23,460	23,933
NOTES:						

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable[1] Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Add additional rows as needed			
Single Family	Residential	Drinking Water	2,594
Industrial	Treated	Drinking Water	9,867
Industrial	La Paloma deliveries	Raw Water	1,571
Commercial		Drinking Water	1,839
Losses		Drinking Water	467
		TOTAL	16,338
NOTES:			

Submittal Table 4-2 Retail: Use for Potable and Non-Potable[1] Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use[2] *Report To the Extent that Records are Available*				
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family	Residential	2,585	2,637	2,690	2,744	2,800
Commercial		1,833	1,870	1,908	1,946	1,985
Industrial	Treated	9,400	9,400	9,400	9,400	9,400
Industrial	Raw water	3,000	3,000	3,000	3,000	3,000
Losses		538	541	544	547	550
TOTAL		17,356	17,448	17,542	17,637	17,735
NOTES:						

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	16,338	17,356	17,448	17,542	17,637	17,735
Recycled Water Demand[1] *From Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]	0	0	0	0	0	0
TOTAL WATER USE	16,338	17,356	17,448	17,542	17,637	17,735
NOTES:						

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
01/2016	2325
01/2017	2,485
01/2018	2,474
01/2019	481
01/2020	467
NOTES: The more recent numbers are considered more accurate due to issues with data management. Refer to UWMP for more details.	

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

Submittal Table 5-2: 2020 Compliance **From** **SB X7-7 2020 Compliance Form** *Retail Supplier or Regional Alliance Only*				
2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*		
197	*0*	*197*	*189*	*No*
**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*				
NOTES:				

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	Kern County Subbasin	16300	15392	15765	15487	14767
	TOTAL	16,300	15,392	15,765	15,487	14,767
NOTES:						

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
☐	Percentage of 2020 service area covered by wastewater collection system *(optional)*					
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
City of Taft and Ford City /Taft Heights Sanitation District	Metered	1,085	City of Taft and Ford City /Taft Heights Sanitation District	Taft Wastewater Treatment Facility	Yes	Yes
Total Wastewater Collected from Service Area in 2020:		1,085				
NOTES:						

☑	**No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [2]	Method of Disposal ***Drop down list***	Does This Plant Treat Wastewater Generated Outside the Service Area? ***Drop down list***	Treatment Level ***Drop down list***	**2020 volumes** [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Taft WWTF	Agricultural Fields	Adjacent Agricultural lands		Land disposal	No	Secondary, Undisinfected	1,085	1,085	1,085		
						Total	1,085	1,085	1,085	0	0

NOTES:

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

☑	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.

Name of Supplier Producing (Treating) the Recycled Water:	
Name of Supplier Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2020 (volume) *Include units*	
Source of 2020 Supplemental Water	

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)										
Golf course irrigation										
Commercial use										
Industrial use										
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						

NOTES:

☑	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.

Beneficial Use Type	2015 Projection for 2020 [1]	2020 Actual Use[1]
Insert additional rows as needed.		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
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

NOTE:

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☑	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
		Total	0
NOTES:			

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
California Water Fix	Yes	State of California	Improvements to Delta to improve water reliability	Unknown	Average Year	2,200 AF (7% of SWP contract)
Autmoatic Meter Reading	No		Install new AMR meters. Some have already been installed.	In progress	All Year Types	Unknown, some increase in efficiency expected
NOTES:						

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	Banked groundwater	14,767	Drinking Water	
	Total	14,767		0
NOTES:				

OPTIONAL Table 6-8 Retail: Water Supplies — Actual *Potable*				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Purchased or Imported Water	Raw SWP water	1,571	Other Non-Potable Water	
	Total	1,571		0
NOTES:				

Submittal Table 6-9 Retail: Water Supplies — Projected											
Water Supply		Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	**2025**		**2030**		**2035**		**2040**		**2045** (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
		40,341		40,227		40,147		39,418		39,340	
Total		40,341	0	40,227	0	40,147	0	39,418	0	39,340	0
NOTES:											

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	**Base Year** If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	**Available Supplies if Year Type Repeats**	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	**% of Average Supply**
Average Year	Long-Term Avg	18600	100%
Single-Dry Year	2014	1600	8%
Consecutive Dry Years 1st Year	1988	3500	19%
Consecutive Dry Years 2nd Year	1989	14500	78%
Consecutive Dry Years 3rd Year	1990	4400	24%
Consecutive Dry Years 4th Year	1991	7900	42%
Consecutive Dry Years 5th Year	1992	5400	29%
NOTES:			

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals (*autofill from Table 6-9)*	40,341	40,227	40,147	39,418	39,340
Demand totals *(autofill from Table 4-3)*	17,356	17,448	17,542	17,637	17,735
Difference	22,985	22,779	22,605	21,781	21,605
NOTES:					

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	17,356	17,448	17,542	17,637	17,735
Demand totals*	17,356	17448	17,542	17,637	17,735
Difference	0	0	0	0	0
NOTES: No shortages will occur since banked groundwater will be used to meet demands not met by current year water supplies					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	17,356	17,448	17,542	17,637	17,735
	Demand totals	17,356	17,448	17,542	17,637	17,735
	Difference	0	0	0	0	0
Second year	Supply totals	17,356	17,448	17,542	17,637	17,735
	Demand totals	17,356	17,448	17,542	17,637	17,735
	Difference	0	0	0	0	0
Third year	Supply totals	15,620	15,703	15,788	15,873	15,962
	Demand totals	15,620	15,703	15,788	15,873	15,962
	Difference	0	0	0	0	0
Fourth year	Supply totals	15,620	15,703	15,788	15,873	15,962
	Demand totals	15,620	15,703	15,788	15,873	15,962
	Difference	0	0	0	0	0
Fifth year	Supply totals	15,620	15,703	15,788	15,873	15,962
	Demand totals	15,620	15,703	15,788	15,873	15,962
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
NOTES: No shortages will occur since banked groundwater will be used to meet demands not met by current year water supplies. 10% conservation measures implemented in year 3.						

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

2021	Total
Total Water Use	16,194
Total Supplies	3,500
Surplus/Shortfall w/o WSCP Action	(12,694)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	12694
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	16,051
Total Supplies	14,500
Surplus/Shortfall w/o WSCP Action	(1,551)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	1551
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	14,317
Total Supplies	4,400
Surplus/Shortfall w/o WSCP Action	(9,917)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	8485
WSCP - use reduction savings benefit	1,432
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%

2024	Total
Total Water Use	12,756
Total Supplies	7,900
Surplus/Shortfall w/o WSCP Action	(4,856)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	3580
WSCP - use reduction savings benefit	1,276
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%

2025	Total
Total Water Use	15,620
Total Supplies	5,400
Surplus/Shortfall w/o WSCP Action	(10,220)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	8658
WSCP - use reduction savings benefit	1,562
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	Up to 10%	Reduce water use by up to 10%
2	Up to 20%	Reduce water use by up to 20%
3	Up to 30%	Reduce water use by up to 30%
4	Up to 40%	Reduce water use by up to 40%
5	Up to 50%	Reduce water use by up to 50%
6	>50%	Reduce water use by over 50%

NOTES:

Submittal Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1-6	Expand Public Information Campaign			
NOTES:				

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
1-6	Stored Emergency Supply	Retrieve banked groundwater	
NOTES:			

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

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
NOTES: None

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 Population (may check more than one)	
☐	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☑	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	22,172
NOTES: None	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**2020 Deductions**					**2020 Gross Water Use**
		Exported Water *	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	16,338			-	-	11,438	**4,900**
NOTES:							

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Groundwater and Raw Water
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	16,338	-	16,338

NOTES

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source	State Water Allocation
This water source is *(check one)* **:**	
☐	The supplier's own water source
☑	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
			0

NOTES:

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C: 2020 Process Water Deduction Eligibility **(For use only by agencies that are deducting process water) Choose Only One**	
☑	**Criteria 1**- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
☐	**Criteria 2** - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
☐	**Criteria 3** - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
☐	**Criteria 4** - Disadvantaged Community. Complete SB x7-7 Table 4-C.4
NOTES:	

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.1: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 1)*

Criteria 1
Industrial water use is equal to or greater than 12% of gross water use

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction	2020 Industrial Water Use	Percent Industrial Water	**Eligible for Exclusion Y/N**
	16,338	11,438	70%	YES

NOTES: Industrial water = Treated water deliveries + La Paloma deliveries - Industrial water deliveries moved to the commercial category. Losses in industrial deliveries are not included.

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.3: 2020 Process Water Deduction Eligibility *(For use only*
by agencies that are deducting process water using Criteria 3)

Criteria 3
Non-industrial use is equal to or less than 120 GPCD

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction *Fm SB X7-7 Table 4*	2020 Industrial Water Use	2020 Non-industrial Water Use	2020 Population *Fm SB X7-7 Table 3*	Non-Industrial GPCD	**Eligible for Exclusion Y/N**
	16,338		16,338	22,172	658	NO

NOTES:

Data from these tables will not be entered into WUEdata. Instead, the entire tables will be uploaded to WUEdata as a separate upload in Excel format.

This table(s) is only for Suppliers that deduct process water from their 2020 gross water use.

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume *Complete a separate table for each industrial customer with a process water exclusion*

Name of Industrial Customer	*La Paloma*				
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
	1,571	1,571	100%	1,571	1,571

* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES: La Poloma received raw untreated water

SB X7-7 Table 4-D: 2020 Process Water Deduction - Volume *Complete a separate table for each industrial customer with a process water exclusion*

Name of Industrial Customer	*Numerous other power and oil companies*				
Compliance Year 2020	Industrial Customer's Total Water Use *	Total Volume Provided by Supplier*	% of Water Provided by Supplier	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
	9,867	9,867	100%	9,867	9,867

* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES: There are too many industrial customers to list. These customers received treated potable water. Volume includes industrial deliveries plus 3.2% for losses

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
4,900	22,172	**197**
NOTES:		

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD (Enter "0" if Adjustment Not Used)			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
197	-	-	-	-	197	189	**NO**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

NOTES:

WUEdata Entry Exceptions

The data from the tables below will not be entered into WUEdata tables (the tabs for these tables' worksheets are colored **purple**). These tables will be submitted as separate uploads, in Excel, to WUEdata.

Process Water Deduction

SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE data tool, and include them in its UWMP.

Target Method 2

SB X7-7 tables 7-B, 7-C, and 7-D

A supplier that selects Target Method 2 will contact DWR (gwen.huff@water.ca.gov) for SB X7-7 tables 7-B, 7-C, and 7-D.

Target Method 4

These tables are only available online at http://www.dwr.water.ca.gov/wateruseefficiency/sb7/committees/urban/u4/ptm4.cfm A supplier that selects Target Method 4 will save the tables from the website listed above, complete the tables, submit as a separate upload to WUE data, and include them with its UWMP.

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Table 2-3*
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	21,788	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	2000	
	Year ending baseline period range[3]	2009	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2005	
	Year ending baseline period range[4]	2009	

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

[3] The ending year must be between December 31, 2004 and December 31, 2010.

[4] The ending year must be between December 31, 2007 and December 31, 2010.

NOTES:

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☐	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) 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	2000	16,778
Year 2	2001	17,176
Year 3	2002	17,574
Year 4	2003	17,973
Year 5	2004	18,371
Year 6	2005	18,769
Year 7	2006	19,167
Year 8	2007	19,565
Year 9	2008	19,964
Year 10	2009	20,362
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2005	18,769
Year 2	2006	19,167
Year 3	2007	19,565
Year 4	2008	19,964
Year 5	2009	20,362
2015 Compliance Year Population		
2015		20,591
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *								
Baseline Year *Fm SB X7-7 Table 3*		**Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**Deductions**					**Annual Gross Water Use**
			Exported Water	**Change in Dist. System Storage** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use**	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	2000	15,906			-		12,233	3,673
Year 2	2001	16,236			-		12,073	4,163
Year 3	2002	17,574			-		13,011	4,563
Year 4	2003	18,911			-		14,262	4,649
Year 5	2004	20,883			-		15,692	5,191
Year 6	2005	21,239			-		15,914	5,325
Year 7	2006	22,457			-		16,907	5,550
Year 8	2007	22,612			-		16,941	5,671
Year 9	2008	21,788			-		16,351	5,437
Year 10	2009	21,740			-		16,567	5,173
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**4,939**
5 Year Baseline - Gross Water Use								
Year 1	2005	21,239			-		15,914	5,325
Year 2	2006	22,457			-		16,907	5,550
Year 3	2007	22,612			-		16,941	5,671
Year 4	2008	21,788			-		16,351	5,437
Year 5	2009	21,740			-		16,567	5,173
5 year baseline average gross water use								**5,431**
2015 Compliance Year - Gross Water Use								
2015		16,542	-		-		12,508	**4,034**

* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3

NOTES: Exludes direct raw water deliveries to La Paloma Powerplant

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	District wells and banked groundwater
This water source is:	
☑	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2000	15,906		15,906
Year 2	2001	16,236		16,236
Year 3	2002	17,574		17,574
Year 4	2003	18,911		18,911
Year 5	2004	20,883		20,883
Year 6	2005	21,239		21,239
Year 7	2006	22,457		22,457
Year 8	2007	22,612		22,612
Year 9	2008	21,788		21,788
Year 10	2009	21,740		21,740
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2005	21,239		21,239
Year 2	2006	22,457		22,457
Year 3	2007	22,612		22,612
Year 4	2008	21,788		21,788
Year 5	2009	21,740		21,740
2015 Compliance Year - Water into Distribution System				
2015		16,542		16,542

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES: Excludes raw water deliveries to La Paloma Powerplant

SB X7-7 Table 4-B: Indirect Recycled Water Use Deduction *(For use only by agencies that are deducting indirect recycled water)*

Baseline Year *Fm SB X7-7 Table 3*		**Surface Reservoir Augmentation**					**Groundwater Recharge**			**Total Deductible Volume of Indirect Recycled Water Entering the Distribution System**
		Volume Discharged from Reservoir for Distribution System Delivery	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility*	Transmission/ Treatment Losses	Recycled Volume Entering Distribution System from Groundwater Recharge	
10-15 Year Baseline - Indirect Recycled Water Use										
Year 1	2000			-		-			-	-
Year 2	2001			-		-			-	-
Year 3	2002			-		-			-	-
Year 4	2003			-		-			-	-
Year 5	2004			-		-			-	-
Year 6	2005			-		-			-	-
Year 7	2006			-		-			-	-
Year 8	2007			-		-			-	-
Year 9	2008			-		-			-	-
Year 10	2009			-		-			-	-
Year 11	0			-		-			-	-
Year 12	0			-		-			-	-
Year 13	0			-		-			-	-
Year 14	0			-		-			-	-
Year 15	0			-		-			-	-
5 Year Baseline - Indirect Recycled Water Use										
Year 1	2005			-		-			-	-
Year 2	2006			-		-			-	-
Year 3	2007			-		-			-	-
Year 4	2008			-		-			-	-
Year 5	2009			-		-			-	-
2015 Compliance - Indirect Recycled Water Use										
2015				-		-			-	-

**Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.*

NOTES:

SB X7-7 Table 4-C: Process Water Deduction Eligibility *(For use only by agencies that are deducting process water) Choose Only One*	
☑	**Criteria 1**- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
☐	**Criteria 2** - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
☐	**Criteria 3** - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
☐	**Criteria 4** - Disadvantaged Community. Complete SB x7-7 Table 4-C.4
NOTES:	

SB X7-7 Table 4-C.1: Process Water Deduction Eligibility

Criteria 1
Industrial water use is equal to or greater than 12% of gross water use

Baseline Year *Fm SB X7-7 Table 3*		Gross Water Use Without Process Water Deduction	Industrial Water Use	Percent Industrial Water	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	2000	15,906	12,233	77%	YES
Year 2	2001	16,236	12,073	74%	YES
Year 3	2002	17,574	13,011	74%	YES
Year 4	2003	18,911	14,262	75%	YES
Year 5	2004	20,883	15,692	75%	YES
Year 6	2005	21,239	15,914	75%	YES
Year 7	2006	22,457	16,907	75%	YES
Year 8	2007	22,612	16,941	75%	YES
Year 9	2008	21,788	16,351	75%	YES
Year 10	2009	21,740	16,567	76%	YES
Year 11	0	-			NO
Year 12	0	-			NO
Year 13	0	-			NO
Year 14	0	-			NO
Year 15	0	-			NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2005	21,239	15,914	75%	YES
Year 2	2006	22,457	16,907	75%	YES
Year 3	2007	22,612	16,941	75%	YES
Year 4	2008	21,788	16,351	75%	YES
Year 5	2009	21,740	16,567	76%	YES
2015 Compliance Year - Process Water Deduction Eligiblity					
2015		16,542	12,508	76%	YES

NOTES:

SB X7-7 Table 4-C.2: Process Water Deduction Eligibility

Criteria 2

Industrial water use is equal to or greater than 15 GPCD

Baseline Year *Fm SB X7-7 Table 3*		Industrial Water Use	Population	Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	2000		16,778	-	NO
Year 2	2001		17,176	-	NO
Year 3	2002		17,574	-	NO
Year 4	2003		17,973	-	NO
Year 5	2004		18,371	-	NO
Year 6	2005		18,769	-	NO
Year 7	2006		19,167	-	NO
Year 8	2007		19,565	-	NO
Year 9	2008		19,964	-	NO
Year 10	2009		20,362	-	NO
Year 11	0		-		NO
Year 12	0		-		NO
Year 13	0		-		NO
Year 14	0		-		NO
Year 15	0		-		NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2005		18,769	-	NO
Year 2	2006		19,167	-	NO
Year 3	2007		19,565	-	NO
Year 4	2008		19,964	-	NO
Year 5	2009		20,362	-	NO
2015 Compliance Year - Process Water Deduction Eligibility					
2015			20,591	-	NO

NOTES:

SB X7-7 Table 4-C.3: Process Water Deduction Eligibility

Criteria 3

Non-industrial use is equal to or less than 120 GPCD

Baseline Year *Fm SB X7-7 Table 3*		Gross Water Use Without Process Water Deduction *Fm SB X7-7 Table 4*	Industrial Water Use	Non-industrial Water Use	Population *Fm SB X7-7 Table 3*	Non-Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility							
Year 1	2000	15,906		15,906	16,778	846	NO
Year 2	2001	16,236		16,236	17,176	844	NO
Year 3	2002	17,574		17,574	17,574	893	NO
Year 4	2003	18,911		18,911	17,973	939	NO
Year 5	2004	20,883		20,883	18,371	1,015	NO
Year 6	2005	21,239		21,239	18,769	1,010	NO
Year 7	2006	22,457		22,457	19,167	1,046	NO
Year 8	2007	22,612		22,612	19,565	1,032	NO
Year 9	2008	21,788		21,788	19,964	974	NO
Year 10	2009	21,740		21,740	20,362	953	NO
Year 11	0	-		-	-		NO
Year 12	0	-		-	-		NO
Year 13	0	-		-	-		NO
Year 14	0	-		-	-		NO
Year 15	0	-		-	-		NO
5 Year Baseline - Process Water Deduction Eligibility							
Year 1	2005	21,239		21,239	18,769	1,010	NO
Year 2	2006	22,457		22,457	19,167	1,046	NO
Year 3	2007	22,612		22,612	19,565	1,032	NO
Year 4	2008	21,788		21,788	19,964	974	NO
Year 5	2009	21,740		21,740	20,362	953	NO
2015 Compliance Year - Process Water Deduction Eligiblity							
2015		16,542		16,542	20,591	717	NO

NOTES:

SB X7-7 Table 4-C.4: Process Water Deduction Eligibility

Criteria 4
Disadvantaged Community
Use IRWM DAC Mapping tool http://www.water.ca.gov/irwm/grants/resources_dac.cfm

California Median Household Income		Service Area Median Household Income	Percentage of Statewide Average	**Eligible for Exclusion? Y/N**
2015 Compliance Year - Process Water Deduction Eligibility				
2010	$53,046		0%	YES

A "Disadvantaged Community" is a community with a median household income less than 80 percent of the statewide average.

NOTES:

SB X7-7 Table 4-D: Process Water Deduction - Volume *Complete a separate table for each industrial customer with a process water exclusion*						
Name of Industrial Customer		*Total for 283 industrial meters*				
Baseline Year *Fm SB X7-7 Table 3*		Industrial Customer's Total Water Use	Total Volume Supplied by Water Agency	% of Water Supplied by Water Agency	Customer's Total Process Water Use	Volume of Process Water Eligible for Exclusion for this Customer
10 to 15 Year Baseline - Process Water Deduction						
Year 1	2000	12,233	12,233	100%	12,233	12,233
Year 2	2001	12,073	12,073	100%	12,073	12,073
Year 3	2002	13,011	13,011	100%	13,011	13,011
Year 4	2003	14,262	14,262	100%	14,262	14,262
Year 5	2004	15,692	15,692	100%	15,692	15,692
Year 6	2005	15,914	15,914	100%	15,914	15,914
Year 7	2006	16,907	16,907	100%	16,907	16,907
Year 8	2007	16,941	16,941	100%	16,941	16,941
Year 9	2008	16,351	16,351	100%	16,351	16,351
Year 10	2009	16,567	16,567	100%	16,567	16,567
Year 11	0					-
Year 12	0					-
Year 13	0					-
Year 14	0					-
Year 15	0					-
5 Year Baseline - Process Water Deduction						
Year 1	2005	15,914	15,914	100%	15,914	15,914
Year 2	2006	16,907	16,907	100%	16,907	16,907
Year 3	2007	16,941	16,941	100%	16,941	16,941
Year 4	2008	16,351	16,351	100%	16,351	16,351
Year 5	2009	16,567	16,567	100%	16,567	16,567
2015 Compliance Year - Process Water Deduction						
2015		12,508	12,508	100%	12,508	12,508
NOTES:						

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2000	16,778	3,673	195
Year 2	2001	17,176	4,163	216
Year 3	2002	17,574	4,563	232
Year 4	2003	17,973	4,649	231
Year 5	2004	18,371	5,191	252
Year 6	2005	18,769	5,325	253
Year 7	2006	19,167	5,550	259
Year 8	2007	19,565	5,671	259
Year 9	2008	19,964	5,437	243
Year 10	2009	20,362	5,173	227
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**237**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2005	18,769	5,325	253
Year 2	2006	19,167	5,550	259
Year 3	2007	19,565	5,671	259
Year 4	2008	19,964	5,437	243
Year 5	2009	20,362	5,173	227
5 Year Average Baseline GPCD				**248**
2015 Compliance Year GPCD				
2015		20,591	4,034	**175**
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	237
5 Year Baseline GPCD	248
2015 Compliance Year GPCD	175
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		Supporting Documentation
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D *Contact DWR for these tables*
☐	Method 3	SB X7-7 Table 7-E
☐	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**
237	**189**
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%)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☐		Tulare Lake	188	179
☐		South Lahontan	170	162
☐		South Coast	149	142
☐		Colorado River	211	200
Target *(If more than one region is selected, this value is calculated.)*				**0**
NOTES:				

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**
248	236	189	**189**

[1] Maximum 2020 Target is 95% of the 5 Year Baseline 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 *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	**2015 Interim Target GPCD**
189	237	**213**
NOTES:		

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)* Enter "0" if Adjustment Not Used: Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2015 GPCD	2015 GPCD *(Adjusted if applicable)*	**Did Supplier Achieve Targeted Reduction for 2015?**
175	213	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	-	175	175	**YES**
NOTES:								

APPENDIX D - NOTICE OF PUBLIC HEARINGS & NOTIFICATION LETTERS

Notice of Public Hearing

Notice is hereby given that a public hearing will be held to consider adoption of the West Kern Water District's Revised 2020 Urban Water Management Plan (UWMP), which has been prepared according to 2021 State Guidelines. A copy of the Revised UWMP is available to the public for inspection at 800 Kern Street in Taft or on the District's website https://www.wkwd.org. A public hearing will be conducted on the adoption of the Plan on 1/24/23 at 5:30 pm at 800 Kern Street in Taft. Public comments are invited.

Publish Dates: 12/22/22, 1/5/23

Pub: Midway Driller

November 21, 2022

Mr. Tim Ashlock
Buena Vista Water Storage District
PO Box 756
Buttonwillow, CA 93206
tim@bvh2o.com

Subject: West Kern Water District – Notification of Revisions to Urban Water Management Plan Update

Dear Mr. Ashlock:

In response to comments from the Department of Water Resources, West Kern Water District (WKWD) is making minor revisions to its 2020 Urban Water Management Plan (UWMP). The UWMP evaluates existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP revisions in January 2023 and will issue a formal notice when a draft revised UWMP is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or have any questions.

Sincerely,

Greg A. Hammett
General Manager

November 21, 2022

Mr. Eric Ziegler
City of Maricopa
PO Box 550
Maricopa, CA 93252
lrobison_com@bak.rr.com

Subject: West Kern Water District – Notification of Revisions to Urban Water Management Plan Update

Dear Mr. Ziegler:

In response to comments from the Department of Water Resources, West Kern Water District (WKWD) is making minor revisions to its 2020 Urban Water Management Plan (UWMP). The UWMP evaluates existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP revisions in January 2023 and will issue a formal notice when a draft revised UWMP is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or have any questions.

Sincerely,

Greg A. Hammett
General Manager

November 21, 2022

Mr. Mark Staples
City of Taft
209 E. Kern
Taft, CA 93268
mstaples@cityoftaft.org

Subject: West Kern Water District – Notification of Revisions to Urban Water Management Plan Update

Dear Mr. Staples:

In response to comments from the Department of Water Resources, West Kern Water District (WKWD) is making minor revisions to its 2020 Urban Water Management Plan (UWMP). The UWMP evaluates existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP revisions in January 2023 and will issue a formal notice when a draft revised UWMP is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or have any questions.

Sincerely,

Greg A. Hammett
General Manager

November 21, 2022

Ms. Lorelei Oviatt
County of Kern
2700 M Street, Ste 250
Bakersfield, CA 93301-2370
kerncd@kerncounty.com

Subject: West Kern Water District – Notification of Revisions to Urban Water Management Plan Update

Dear Ms. Oviatt:

In response to comments from the Department of Water Resources, West Kern Water District (WKWD) is making minor revisions to its 2020 Urban Water Management Plan (UWMP). The UWMP evaluates existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP revisions in January 2023 and will issue a formal notice when a draft revised UWMP is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or have any questions.

Sincerely,

Greg A. Hammett
General Manager

November 21, 2022

Ms. Rochelle Invina
Kern Council of Governments
1401 19th St., Ste 300
Bakersfield, CA 93301
rinvina@kerncog.org

Subject: West Kern Water District – Notification of Revisions to Urban Water Management Plan Update

Dear Ms. Invina:

In response to comments from the Department of Water Resources, West Kern Water District (WKWD) is making minor revisions to its 2020 Urban Water Management Plan (UWMP). The UWMP evaluates existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP revisions in January 2023 and will issue a formal notice when a draft revised UWMP is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or have any questions.

Sincerely,

Greg A. Hammett
General Manager

November 21, 2022

Mr. Tom McCarthy
Kern County Water Agency
3200 Rio Mirada Dr.
Bakersfield, CA 93308-4944
tmccarthy@kcwa.com

Subject: West Kern Water District – Notification of Revisions to Urban Water Management Plan Update

Dear Mr. McCarthy:

In response to comments from the Department of Water Resources, West Kern Water District (WKWD) is making minor revisions to its 2020 Urban Water Management Plan (UWMP). The UWMP evaluates existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP revisions in January 2023 and will issue a formal notice when a draft revised UWMP is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or have any questions.

Sincerely,

Greg A. Hammett
General Manager

November 21, 2022

Mr. Jon Parker
Kern Water Bank Authority
1620 Mill Rock Way, Ste 500
Bakersfield, CA 93311
jparker@kwb.org

Subject: West Kern Water District – Notification of Revisions to Urban Water Management Plan Update

Dear Mr. Parker:

In response to comments from the Department of Water Resources, West Kern Water District (WKWD) is making minor revisions to its 2020 Urban Water Management Plan (UWMP). The UWMP evaluates existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP revisions in January 2023 and will issue a formal notice when a draft revised UWMP is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or have any questions.

Sincerely,

Greg A. Hammett
General Manager

November 21, 2022

Mr. Dan Bartel
Rosedale-Rio Bravo Water Storage District
849 Allen Road
Bakersfield, CA 93314
dbartel@rrbwsd.com

Subject: West Kern Water District – Notification of Revisions to Urban Water Management Plan Update

Dear Mr. Bartel:

In response to comments from the Department of Water Resources, West Kern Water District (WKWD) is making minor revisions to its 2020 Urban Water Management Plan (UWMP). The UWMP evaluates existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP revisions in January 2023 and will issue a formal notice when a draft revised UWMP is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or have any questions.

Sincerely,

Greg A. Hammett
General Manager

NOTICE OF DIVIDED PUBLICATION

Pursuant to Sections 3381 through 3385, Revenue and Taxation Code, the Notice of Power to Sell Tax-Defaulted Property in and for County of Kern, State of California, has been divided and distributed to various newspapers of general circulation published in said county, for publication of a portion thereof in each of said newspapers.

NOTICE OF IMPENDING POWER TO SELL TAX-DEFAULTED PROPERTY

Notice is hereby given that real property taxes and assessments on the parcels described below will have been defaulted for five or more years. By law on July 1, 2021, at the hour of 12:01a.m. the herein described real property will become subject to the Treasurer-Tax Collector's power to sell for failure to pay said duly assessed and legally levied taxes against said property, unless the property is redeemed or an installment redemption plan is initiated prior to 5:00 p.m. on June 30, 2021. If the property is not redeemed the right of redemption will terminate upon any subsequent sale by the Treasurer-Tax Collector. All information concerning redemption, or the initiation of an installment plan of redemption will upon request be furnished by Jordan Kaufman, County of Kern Treasurer-Tax Collector, Bakersfield, California, (661) 868-3490 or E-Mail: ttc@kerncounty.com.

The amount to redeem, in dollar and cents, is set forth opposite its parcel number. This amount includes all defaulted taxes, penalties, and fees that have accrued from the date of tax-default to the date of this publication.

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

JORDAN KAUFMAN, TREASURER-TAX COLLECTOR, COUNTY OF KERN Executed at Bakersfield, Kern County on May 25, 2021.

PARCEL NUMBERING SYSTEM EXPLANATION

A parcel numbering system is a numerical system for referring to each parcel or property within Kern County. The standard parcel numbering system consists of, first; the map book number; secondly, the page number within the map book, and block number if one exists; and the parcel number within the block. By this system a county is divided into geographical areas called map books, each map book into geographical areas called pages, each page into blocks, and each block into parcels as owned and used. The maps referred to are available for inspection in the office of the Kern County Assessor.

EXAMPLE: Parcel number: 052-623-13-01-1

052-Book 52 of the Assessor's Maps

623-Map Page 62 and Block 3

13-Parcel 13 within Block 3

01-Indicates partial ownership when not 00

1-Check digit for numerical processing integrity

The real property that is the subject of this Notice is situated in the County of Kern, State of California, and is described as follows:

PROPERTY TAX-DEFAULTED IN THE YEAR 2016, FOR TAXES, ASSESSMENTS AND OTHER CHARGES FOR THE FISCAL YEAR 2015 - 2016

067-113-02-00-6 $7,752.21
433 FAIRVIEW ST RIDGECREST
ANGLE MELBA J

067-174-14-00-6 $8,150.11
209 FLORENCE ST RIDGECREST
MC BRIDE TAMARA L

081-072-53-00-0 $1,281.27
ONG FRANCISCO C & YORK SIN

081-081-47-00-9 $6,341.98
1445 FARRAGUT ST RIDGECREST
LONGO PETER A & GLORIA R FMLY LTD PTP

081-104-08-00-2 $285.06
CHRISTIAN HERITAGE COLLEGE

081-232-17-00-2 $874.64
WONG TONY

081-241-27-00-7 $1,341.41
FRUKTOW NICHOLAS N

081-292-23-00-7 $1,437.21
ARCADIA UNLTD LLC

081-331-38-00-5 $1,236.47
FRUKTOW NICHOLAS N

081-332-29-00-6 $420.33
MARIANI MONICA MARIE

081-333-29-00-3 $1,276.35
MONTADRATH LLC

097-040-30-00-5 $901.32
LARA CARL

153-294-23-00-5 $829.57
NEWSOM TRUST

154-150-08-00-0 $295.02
FRUKTOW NICHOLAS

154-250-43-00-0 $157.52
MC INTYRE LIV TR

155-020-05-00-0 $192.80
DRESSELHAUS CARL D

155-050-16-00-1 $175.41
HIGHLAND AV RANDSBURG
YODER KEITH

155-071-23-00-4 $3,661.07
129 BUTTE AV RANDSBURG
DAGER FAMILY TRUST

155-121-08-00-5 $162.01
SNOWDEN C L ET AL

155-190-24-00-5 $433.99
NORMAN WARREN

155-210-06-00-8 $162.01
FABER SANDY

155-225-06-00-6 $319.11
AMERICAN LEGION RAND POST 298

155-236-09-00-5 $2,879.55
27804 GOLER AV JOHANNESBURG
CLARK MAGGIE L

155-251-01-00-2 $282.12
FABER SANDY

155-284-08-00-3 $3,435.22
WINCHESTER WALTER R ET AL

155-293-01-00-8 $310.51
LYNN ROBERT & ANNA

155-312-03-00-2 $387.17
TRUESDELL DONALD

155-335-15-00-4 $567.79
RODRIGUEZ REYNALDO S

155-380-12-00-5 $3,983.59
145 BUTTE AV RANDSBURG
DAGER FAMILY TRUST

341-101-18-00-5 $123.54
CUOMO MICHAEL ANTHONY

341-300-16-00-0 $618.38
GOBOURNE LLOYD G JR & WANDA M

343-031-14-00-7 $303.11
WHITELEY BETTYE JOANA

343-032-07-00-4 $879.04
FAIRCHILD FLOYD F & CORRAINE M

343-032-08-00-7 $879.04
FAIRCHILD FLOYD F & CORRAINE M

343-032-09-00-0 $879.04
FAIRCHILD FLOYD F & CORRAINE M

343-032-10-00-2 $634.15
FAIRCHILD FLOYD F & CORRINE M

343-082-30-00-5 $4,650.17
724 WASP AV RIDGECREST
MELLO RANNA J

343-190-40-00-2 $682.03
GREENLAWN ST RIDGECREST
WELCH LISA KAY

343-190-41-00-5 $6,520.93
1162 GREENLAWN ST RIDGECREST
WELCH LISA KAY

343-221-05-00-6 $2,228.89
225 LILAC ST RIDGECREST
LUTU FAASUKA P & KAREN ALISHAVAH M

352-132-08-00-2 $631.03
1445 CALVERT BL RIDGECREST
MC DANELL DAVID E & PRISCILLA

352-141-05-00-9 $1,041.02
JAEGER MICHAEL V & VANESSA R

352-143-31-00-8 $1,884.33
3956 WARD AV RIDGECREST
MAR CAT 6 REVOCABLE LIVING TRUST

352-143-32-00-1 $1,884.33
3950 WARD AV RIDGECREST
MAR CAT 6 REVOCABLE LIVING TRUST

352-152-38-00-5 $2,919.14
1151 THORN ST RIDGECREST
PERRY DEAN J

352-161-11-00-2 $1,043.83
ANDRUS MARK AARON & BELEN TORRES

352-243-08-00-1 $113.06
SIERRA BREEZE MUTUAL WATER CO

352-243-09-00-4 $157.61
SIERRA BREEZE MUTL WATER CO INC

352-243-10-00-6 $1,230.64
1618 CHAPARRAL DR RIDGECREST
SIERRA BREEZE SUN & SWIM CLUB

352-261-30-00-6 $1,673.57
POWERS GAYLORD D

352-273-18-00-9 $502.19
SMITH LESLIE F & LYNDA D

352-273-40-00-2 $2,521.46
3604 WARD AV RIDGECREST
RODRIGUEZ JOSE & PENA CLAUDIA

352-300-44-00-1 $1,761.94
907 CLIFFORD ST RIDGECREST
NEWMAN ARTHUR

352-310-37-00-4 $851.76
FALLGATTER JAMES C

396-053-01-00-5 $7,911.51
120 PURPLE SAGE LN RIDGECREST
MOSES MARIA M

396-100-08-00-9 $3,896.22
SANCHEZ EDWARD A & RODRIGUEZ LUZ MARIA

419-042-17-00-8 $3,350.90
321 MOYER AV RIDGECREST
MEZA MARIA F

419-042-36-00-3 $12,849.58
404 WARD AV RIDGECREST
ZELENY HOWARD S

456-052-03-00-1 $110.45
WHITE GARY A & NANCY L

477-060-18-00-7 $12,170.63
455 NORMA ST RIDGECREST
WEBB DARYL

477-070-20-00-5 $955.04
136 SUNSET ST RIDGECREST
HENDERSON BETTYE M

478-063-12-00-7 $11,186.48
318 WILSON AV RIDGECREST
STORRUSTE MILREE D

508-041-23-00-7 $2,484.78
GIFFORD WILLIAM J ET AL

508-120-18-00-9 $424.34
STANTON FAMILY TRUST

508-152-21-00-0 $9,045.00
1164 GUAM ST RIDGECREST
CARRASCO ALFRED & MONICA L

511-052-23-00-1 $515.28
EUKEL BRONSON

DATED THIS 25th DAY OF MAY 2021

Total Records: 66

PUB: June 3, 10, 2021
PUB: MIDWAY DRILLER

Notice of Public Hearing

Notice is hereby given that a public hearing will be held to consider the adoption of the West Kern Water District's Urban Water Management Plan (UWMP) 2020 Update and Water Shortage Response Plan (WSRP) 2020 Update, which have been prepared according to March 2021 State Guidelines. A copy of the Draft UWMP and WSRP are available to the public for inspection at 800 Kern Street in Taft or on the District's website https://www.wkwd.org/. A public hearing will be conducted on the adoption of both Plans on June 22, 2021, at 5:30 pm at 800 Kern Street in Taft. Public comments are invited.

PUB: June 10, 17, 2021
PUB: Midway Driller

ORDER TO SHOW CAUSE FOR CHANGE OF NAME
Case Number BCV-21-100444 TO ALL INTERESTED PERSONS:

1. Petitioner Celeste Kimberly Selnick filed a petition with this court for a decree changing names as follows:

Celeste Kimberly Selnick to Celeste Kimberly Webb

2. THE COURT ORDERS that all persons interested in this matter shall appear before this court at the hearing indicated below to show cause, if any, why the petition for change of name should not be granted. Any person objecting to the name changes described above must file a written objection that includes the reasons for the objection at least two days before the matter is scheduled to be heard and must appear at the hearing to show cause why the petition should not be granted. If no written objection is timely filed, the court may grant the petition without a hearing.

NOTICE OF HEARING on 07/19/21 at 8:30 a.m. in Dept. 12, Superior Court, County of Kern, Metropolitan Division, 1415 Truxtun Ave., Bakersfield, CA 93301

3. A Copy of this Order to Show Cause shall be published at least once each week for four successive weeks prior to the date set for hearing on the petition in the following newspaper of general circulation, printed in this county: Midway Driller, 800 Center Street, Taft, CA 93268.

Dated: 05/17/2021
Court Commissioner
PUB: May 20, 27, June 3, 10, 2021
PUB: MIDWAY DRILLER

T.S. No. 2020-20628 Loan No. OGORMAN APN: 017-130-046 NOTICE OF TRUSTEE'S SALE YOU ARE IN DEFAULT UNDER A DEED OF TRUST DATED 6/1/2010. UNLESS YOU TAKE ACTION TO PROTECT YOUR PROPERTY, IT MAY BE SOLD AT A PUBLIC SALE. IF YOU NEED AN EXPLANATION OF THE NATURE OF THE PROCEEDING AGAINST YOU, YOU SHOULD CONTACT A LAWYER. A public auction sale to the highest bidder for cash, cashier's check drawn on a state or national bank, check drawn by a state or federal credit union, or a check, MUST BE MADE PAYABLE TO: CALIFORNIA TRUSTEE SERVICES, INC., drawn by a state or federal savings and loan association, or savings association, or savings bank specified in Section 5102 of the Financial Code and authorized to do business in this state will be held by the duly appointed trustee as shown below, of all right, title, and interest conveyed to and now held by the trustee in the hereinafter described property under and pursuant to a Deed of Trust described below. The sale will be made, but without covenant or warranty, expressed or implied, regarding title, possession, or encumbrances, to pay the remaining principal sum of the note(s) secured by the Deed of Trust, with interest and late charges thereon, as provided in the note(s), advances, under the terms of the Deed of Trust, interest thereon, fees, charges and expenses of the Trustee for the total amount (at the time of the initial publication of the Notice of Sale) reasonably estimated to be set forth below. The amount may be greater on the day of sale. PLEASE NOTE ALL CASHIER CHECKS MUST BE MADE PAYABLE TO: CALIFORNIA TRUSTEE SERVICES, INC. Trustor: Debbie Reid O'Gorman Duly Appointed Trustee: California Trustee Services, Inc. Recorded 6/25/2010 as Instrument No. 2010-0014311 in book XX, page XX of Official Records in the office of the Recorder of Napa County, California, Date of Sale:7/7/2021 at 1:30 PM Place of Sale: At the fountain to the right of the Napa County Superior Court, 1111 Third Street, Napa, CA 94559 Amount of unpaid balance and other charges: $1,493,198.00 Street Address or other common designation of real property: 3225 Lake County Highway Calistoga, CA 94515 A.P.N.: 017-130-046 The undersigned Trustee disclaims any liability for any incorrectness of the street address or other common designation, if any, shown above. If no street address or other common designation is shown, directions to the location of the property may be obtained by sending a written request to the beneficiary within 10 days of the date of first publication of this Notice of Sale. If the Trustee is unable to convey title for any reason, the successful bidder's sole and exclusive remedy shall be the return of monies paid to the Trustee, and the successful bidder shall have no further recourse. NOTICE TO POTENTIAL BIDDERS: If you are considering bidding on this property lien, you should understand that there are risks involved in bidding at a trustee auction. You will be bidding on a lien, not on the property itself. Placing the highest bid at a trustee auction does not automatically entitle you to free and clear ownership of the property. You should also be aware that the lien being auctioned off may be a junior lien. If you are the highest bidder at the auction, you are or may be responsible for paying off all liens senior to the lien being auctioned off, before you can receive clear title to the property. You are encouraged to investigate the existence, priority, and size of outstanding liens that may exist on this property by contacting the county recorder's office or a title insurance company, either of which may charge you a fee for this information. If you consult either of these resources, you should be aware that the same lender may hold more than one mortgage or deed of trust on the property. NOTICE TO PROPERTY OWNER: The sale date shown on this notice of sale may be postponed one or more times by the mortgagee, beneficiary, trustee, or a court, pursuant to Section 2924g of the California Civil Code. The law requires that information about trustee sale postponements be made available to you and to the public, as a courtesy to those not present at the sale. If you wish to learn whether your sale date has been postponed, and, if applicable, the rescheduled time and date for the sale of this property, you may call 916-939-0772 or visit this Internet Website http://www.nation-wideposting.com on the home page and click sale list to get the most updated sale information, using the file number assigned to this case 2020-20628. Information about postponements that are very short in duration or that occur close in time to the scheduled sale may not immediately be reflected in the telephone information or on the Internet Website. The best way to verify postponement information is to attend the scheduled sale. NOTICE TO TENANT: You may have a right to purchase this property after the trustee auction pursuant to Section 2924m of the California Civil Code. If you are an "eligible tenant buyer," you can purchase the property if you match the last and highest bid placed at the trustee auction. If you are an "eligible bidder," you may be able to purchase the property if you exceed the last and highest bid placed at the trustee auction. There are three steps to exercising this right of purchase. First, 48 hours after the date of the trustee sale, you can call 916-939-0772, or visit this internet website http://www.nation-wideposting.com, using the file number assigned to this case 2020-20628 to find the date on which the trustee's sale was held, the amount of the last and highest bid, and the address of the trustee. Second, you must send a written notice of intent to place a bid so that the trustee receives it no more than 15 days after the trustee's sale. Third, you must submit a bid so that the trustee receives it no more than 45 days after the trustee's sale. If you think you may qualify as an "eligible tenant buyer" or "eligible bidder," you should consider contacting an attorney or appropriate real estate professional immediately for advice regarding this potential right to purchase. DATE: 5/21/2021 California Trustee Services, Inc. 3639 Midway Drive, Suite B232 San Diego, California 92110 Sale Info Line 916-939-0772 Or Login to: http://www.nation-wideposting.com All Other Info: 1-619-630-0631 Thomas Dandrea, Trustee's Sale Officer NPP0374096 To: DAILY MIDWAY DRILLER 06/03/2021, 06/10/2021, 06/17/2021
PUB: June 3, 10, 17, 2021
PUB: MIDWAY DRILLER

NOTICE OF PETITION TO ADMINISTER ESTATE OF Virva Hedland, AKA Virva Eliisa Hedland. Case No. BPB-21-002523

To all heirs, beneficiaries, creditors, and contingent creditors, and persons who may otherwise be interested in the will or estate, or both, of Virva Hedland, AKA Virva Eliisa Hedland

A Petition for Probate has been filed by Curtis Hedland in the Superior Court of California, County of Kern. The Petition for Probate requests that Curtis Hedland be appointed as personal representative to administer the estate of the decedent. The Petition requests the decedent's will and codicils, if any, be admitted to probate. The will and any codicils are available for examination in the file kept by the court. The petition requests authority to administer the estate under the Independent Administration of Estates Act. (This authority will allow the personal representative to take many actions without obtaining court approval. Before taking certain very important actions, however, the personal representative will be required to give notice to interested persons unless they have waived notice or consented to the proposed action.) The independent administration authority will be granted unless an interested person files an objection to the petition and shows good cause why the court should not grant the authority.

A hearing on the petition will be held in this court as follows originally set for 07/09/2021 at 8:30 a.m. in Div. P located at SUPERIOR COURT OF CALIFORNIA, COUNTY OF KERN, METROPOLITAN DIVISION, 1215 TRUXTUN AVENUE, BAKERSFIELD, CA 93301. If you object to the granting of the petition, you should appear at the hearing and state your objections or file written objections with the court before the hearing. Your appearance may be in person or by your attorney. If you are a creditor or a contingent creditor of the decedent, you must file your claim with the court and mail a copy to the personal representative appointed by the court within the later of either (1) four months from the date of first issuance of letters to a general personal representative, as defined in section 58(b) of the California Probate Code, or (2) 60 days from the date of mailing or personal delivery to you of a notice under section 9052 of the California Probate Code. Other California statutes and legal authority may affect your rights as a creditor.

You may want to consult with an attorney knowledgeable in California Law. You may examine the file kept by the court. If you are a person interested in the estate, you may file with the court a Request for Special Notice (form DE154) of the filing of an inventory and appraisal of estate assets or of any petition or account as provided in Probate Code section 1250. A Request for Special Notice form is available from the court clerk. Attorney for petitioner (name) Bill Wright (Address) 1800 Westwind Dr. Suite 401 Bakersfield, CA 93301 (Telephone) 661-325-5719.

PUB: June 10, 17, 24, 2021
PUB: Midway Driller

February 15, 2021

Mr. Mark Staples
Planning & Development Services Director
City of Taft
209 E. Kern
Taft, CA 93268
mstaples@cityoftaft.org

Subject: West Kern Water District – Notification of Urban Water Management Plan Update

Dear Mr. Staples:

West Kern Water District (WKWD) wishes to inform you that we are updating our Urban Water Management Plan (UWMP) to comply with 2020 guidelines in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). The UWMP update will evaluate existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP update in May or June of 2021. We will formally notify you when a draft UWMP update is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or participate in the UWMP development.

Sincerely,

Greg A. Hammett
General Manager

February 15, 2021

Ms. Rochelle Invina
Regional Planner
Kern Council of Governments
1401 19th St., Ste 300
Bakersfield, CA 93301
rinvina@kerncog.org

Subject: West Kern Water District – Notification of Urban Water Management Plan Update

Dear Ms. Invina:

West Kern Water District (WKWD) wishes to inform you that we are updating our Urban Water Management Plan (UWMP) to comply with 2020 guidelines in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). The UWMP update will evaluate existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP update in May or June of 2021. We will formally notify you when a draft UWMP update is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or participate in the UWMP development.

Sincerely,

Greg A. Hammett
General Manager

February 15, 2021

Mr. Tim Ashlock
Engineer-Manager
Buena Vista Water Storage District
PO Box 756
Buttonwillow, CA 93206
tim@bvh2o.com

Subject: West Kern Water District – Notification of Urban Water Management Plan Update

Dear Mr. Ashlock:

West Kern Water District (WKWD) wishes to inform you that we are updating our Urban Water Management Plan (UWMP) to comply with 2020 guidelines in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). The UWMP update will evaluate existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP update in May or June of 2021. We will formally notify you when a draft UWMP update is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or participate in the UWMP development.

Sincerely,

Greg A. Hammett
General Manager

February 15, 2021

Mr. Tom McCarthy
General Manager
Kern County Water Agency
3200 Rio Mirada Dr.
Bakersfield, CA 93308-4944
tmccarthy@kcwa.com

Subject: West Kern Water District – Notification of Urban Water Management Plan Update

Dear Mr. McCarthy:

West Kern Water District (WKWD) wishes to inform you that we are updating our Urban Water Management Plan (UWMP) to comply with 2020 guidelines in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). The UWMP update will evaluate existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP update in May or June of 2021. We will formally notify you when a draft UWMP update is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or participate in the UWMP development.

Sincerely,

Greg A. Hammett
General Manager

February 15, 2021

Mr. Eric Averett
General Manager
Rosedale-Rio Bravo Water Storage District
PO Box 20820
Bakersfield, C A 93390-0820
eaverett@rrbwsd.com

Subject: West Kern Water District – Notification of Urban Water Management Plan Update

Dear Mr. Averett:

West Kern Water District (WKWD) wishes to inform you that we are updating our Urban Water Management Plan (UWMP) to comply with 2020 guidelines in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). The UWMP update will evaluate existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP update in May or June of 2021. We will formally notify you when a draft UWMP update is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or participate in the UWMP development.

Sincerely,

Greg A. Hammett
General Manager

February 15, 2021

Mr. Eric Ziegler
City Administrator
City of Maricopa
PO Box 550
Maricopa, CA 93252
lrobison_com@bak.rr.com

Subject: West Kern Water District – Notification of Urban Water Management Plan Update

Dear Mr. Ziegler:

West Kern Water District (WKWD) wishes to inform you that we are updating our Urban Water Management Plan (UWMP) to comply with 2020 guidelines in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). The UWMP update will evaluate existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP update in May or June of 2021. We will formally notify you when a draft UWMP update is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or participate in the UWMP development.

Sincerely,

Greg A. Hammett
General Manager

February 15, 2021

Mr. Jon Parker
General Manager
Kern Water Bank Authority
1620 Mill Rock Way, Ste 500
Bakersfield, CA 93311
jparker@kwb.org

Subject: West Kern Water District – Notification of Urban Water Management Plan Update

Dear Mr. Parker:

West Kern Water District (WKWD) wishes to inform you that we are updating our Urban Water Management Plan (UWMP) to comply with 2020 guidelines in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). The UWMP update will evaluate existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

We anticipate completing the UWMP update in May or June of 2021. We will formally notify you when a draft UWMP update is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or participate in the UWMP development.

Sincerely,

Greg A. Hammett
General Manager

February 15, 2021

Ms. Lorelei Oviatt
Director, Planning & Community Development
County of Kern
2700 M Street, Ste 250
Bakersfield, CA 93301-2370
kerncd@kerncounty.com

Subject: West Kern Water District – Notification of Urban Water Management Plan Update

Dear Ms. Oviatt:

West Kern Water District (WKWD) wishes to inform you that we are updating our Urban Water Management Plan (UWMP) to comply with 2020 guidelines in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). The UWMP update will evaluate existing water conservation measures, as well as water supply, water demand and water supply reliability over the next 25 years.

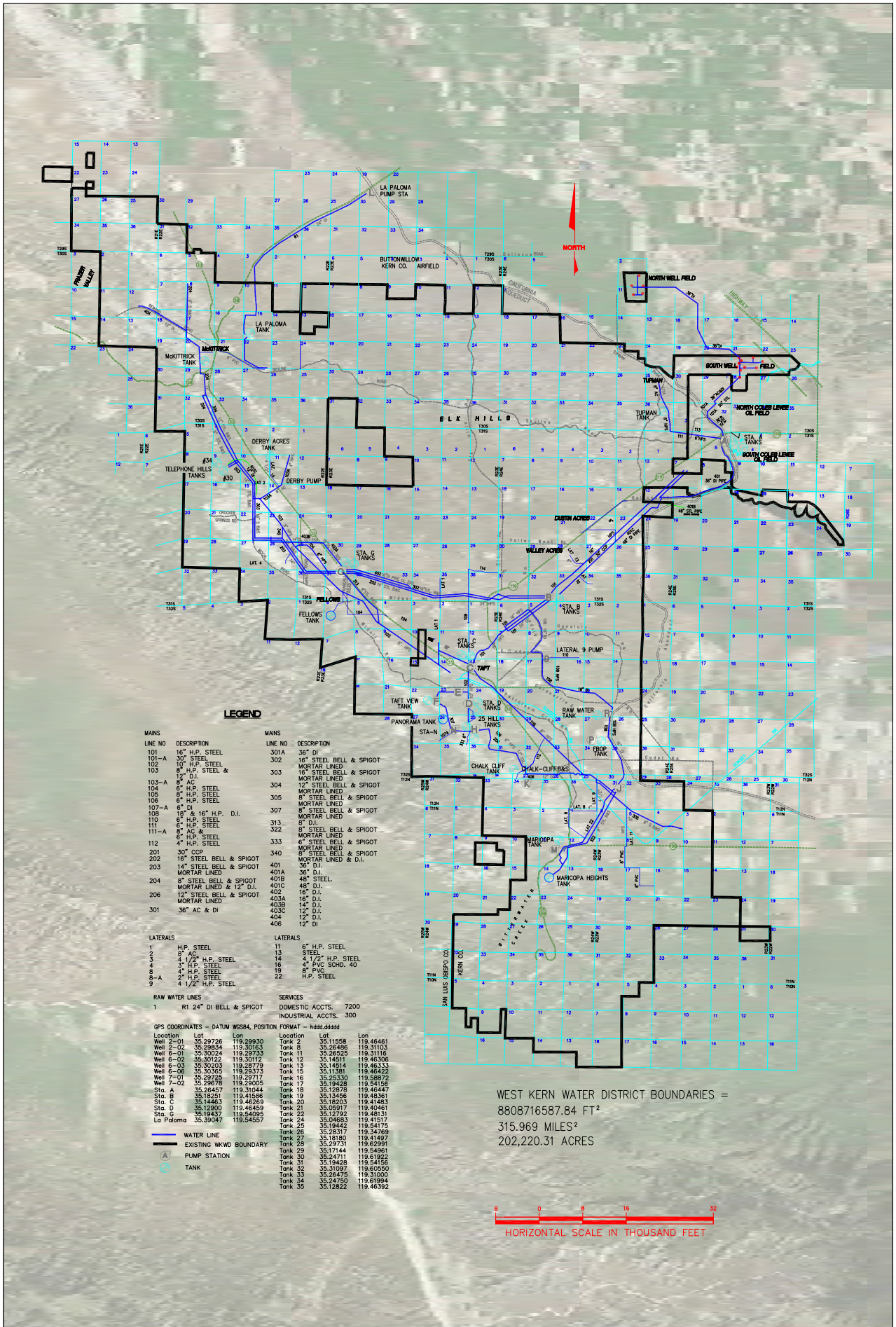
We anticipate completing the UWMP update in May or June of 2021. We will formally notify you when a draft UWMP update is available. The public and all interested agencies will have 14 days to provide comments before the Draft is considered for adoption by the WKWD Board of Directors.

Please feel free to contact me at (661) 763-3151 or ghammett@wkwd.org if you would like to provide input or participate in the UWMP development.

Sincerely,

Greg A. Hammett
General Manager

APPENDIX E – DISTRIBUTION SYSTEM MAP



LEGEND

MAINS

LINE NO	DESCRIPTION
101	16" H.P. STEEL
101-A	30" STEEL
102	10" H.P. STEEL
103	8" H.P. STEEL & 12" D.I.
103-A	8" AC
104	6" H.P. STEEL
105	8" H.P. STEEL
106	6" H.P. STEEL
107-A	6" DI
108	18" & 16" H.P. D.I.
110	6" H.P. STEEL
111	6" H.P. STEEL
111-A	8" AC & 6" H.P. STEEL
112	4" H.P. STEEL
201	30" CCP
202	16" STEEL BELL & SPIGOT
203	14" STEEL BELL & SPIGOT MORTAR LINED
204	8" STEEL BELL & SPIGOT MORTAR LINED & 12" D.I.
206	12" STEEL BELL & SPIGOT MORTAR LINED
301	36" AC & DI

MAINS

LINE NO	DESCRIPTION
301A	36" DI
302	16" STEEL BELL & SPIGOT MORTAR LINED
303	16" STEEL BELL & SPIGOT MORTAR LINED
304	12" STEEL BELL & SPIGOT MORTAR LINED
305	8" STEEL BELL & SPIGOT MORTAR LINED
307	8" STEEL BELL & SPIGOT MORTAR LINED
313	8" D.I.
322	8" STEEL BELL & SPIGOT MORTAR LINED
333	6" STEEL BELL & SPIGOT MORTAR LINED
340	8" STEEL BELL & SPIGOT MORTAR LINED & D.I.
401	36" D.I.
401A	36" D.I.
401B	48" STEEL.
401C	48" D.I.
402	16" D.I.
403A	16" D.I.
403B	14" D.I.
403C	12" D.I.
404	12" D.I.
406	12" DI

LATERALS

1	H.P. STEEL
2	8" AC
3	4-1/2" H.P. STEEL
4	3" H.P. STEEL
8	4" H.P. STEEL
8-A	2" H.P. STEEL
9	4 1/2" H.P. STEEL

LATERALS

11	6" H.P. STEEL
13	8" STEEL
14	4 1/2" H.P. STEEL
16	4" PVC SCHD. 40
19	8" PVC
22	H.P. STEEL

RAW WATER LINES

1	R1 24" DI BELL & SPIGOT

SERVICES

DOMESTIC ACCTS.	7200
INDUSTRIAL ACCTS.	300

GPS COORDINATES – DATUM WGS84, POSITION FORMAT – hddd.ddddd

Location	Lat	Lon
Well 2-01	35.29726	119.29930
Well 2-02	35.29834	119.30163
Well 6-01	35.30024	119.29733
Well 6-02	35.30122	119.30112
Well 6-03	35.30203	119.29779
Well 6-06	35.30365	119.29373
Well 7-01	35.29725	119.29717
Well 7-02	35.29678	119.29005
Sta. A	35.26457	119.31044
Sta. B	35.18251	119.41586
Sta. C	35.14463	119.46269
Sta. D	35.12900	119.46459
Sta. G	35.19437	119.54095
La Paloma	35.39047	119.54557

Location	Lat	Lon
Tank 2	35.11558	119.46461
Tank 8	35.26486	119.31103
Tank 11	35.26525	119.31116
Tank 12	35.14511	119.46306
Tank 13	35.14514	119.46333
Tank 15	35.11381	119.46422
Tank 16	35.25330	119.58872
Tank 17	35.19428	119.54156
Tank 18	35.12878	119.46447
Tank 19	35.13456	119.48361
Tank 20	35.18203	119.41483
Tank 21	35.05917	119.40461
Tank 22	35.12792	119.48131
Tank 24	35.04683	119.41517
Tank 25	35.19442	119.54175
Tank 26	35.28317	119.34769
Tank 27	35.18180	119.41497
Tank 28	35.29731	119.62991
Tank 29	35.17144	119.54961
Tank 30	35.24711	119.61922
Tank 31	35.19428	119.54156
Tank 32	35.31097	119.60550
Tank 33	35.26475	119.31000
Tank 34	35.24750	119.61994
Tank 35	35.12822	119.46392

WATER LINE
EXISTING WKWD BOUNDARY
PUMP STATION
TANK

WEST KERN WATER DISTRICT BOUNDARIES =
8808716587.84 FT²
315.969 MILES²
202,220.31 ACRES

8 0 8 16 32
HORIZONTAL SCALE IN THOUSAND FEET

SHEET 1 OF 1
JOB NO.: N/A

D. JAMESON | H. O. STARKEY
T. TURLEY | JD. BRAMLET

WEST KERN WATER DISTRICT FACILITIES MAP

CAD FILENAME:	DRAWN BY:	DATE:	SCALE:
FACILITIES	WLB	6/8/99	1"=8000'

westkern water district
P.O. Box 1105 • Taft, CA 93268
661 763-3151 • FAX 661 765-5435

REV. NO.	DATE	DESCRIPTION	DRAWN BY	CHK'D BY
2	10/18/99	DISTRIBUTION SYSTEM	WLB	TTT
3	9/12/00	DISTRIBUTION SYSTEM	ZCC	FJ
4	1/7/02	LA PALOMA	ZCC	TTT
5	7/15/02	ELK HILLS ANNEXATION	DCJ	TTT
6	1/21/08	ANNEXATION #14	DCJ	JDB
7	7/24/12	NWF/TANK GIS/LAYOUT UPDATE	DCJ	

APPENDIX F - ESTIMATED DISTRIBUTION SYSTEM WATER LOSSES

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0
American Water Works Association

? Click to access definition
+ Click to add a comment

Water Audit Report for: West Kern Water District (1510022)
Reporting Year: 2016 (1/2016 - 12/2016)

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

All volumes to be entered as: ACRE-FEET PER YEAR

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

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

Master Meter and Supply Error Adjustments

WATER SUPPLIED

				Pcnt:	Value:	
Volume from own sources:	4	20,196.370	acre-ft/yr			acre-ft/yr
Water imported:			acre-ft/yr			acre-ft/yr
Water exported:	4	3,895.860	acre-ft/yr	7		acre-ft/yr

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

WATER SUPPLIED: 16,300.510 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	5	14,186.070	acre-ft/yr			
Billed unmetered:			acre-ft/yr			
Unbilled metered:	5	5.409	acre-ft/yr			
Unbilled unmetered:	5	40.751	acre-ft/yr		40.751	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 14,232.231 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 2,068.279 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		40.751	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	3	289.622	acre-ft/yr	2.00%		acre-ft/yr
Systematic data handling errors:	5	35.465	acre-ft/yr	0.25%		acre-ft/yr

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

Apparent Losses: 365.838 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1,702.441 acre-ft/yr

WATER LOSSES: 2,068.279 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 2,114.440 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	318.0	miles
Number of active AND inactive service connections:	6	7,704	
Service connection density:		24	conn./mile main

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

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

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

Average operating pressure: 5 60.0 psi

COST DATA

Total annual cost of operating water system:	10	$19,381,158	$/Year	
Customer retail unit cost (applied to Apparent Losses):	5	$2.50	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$237.67	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 50 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

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: West Kern Water District (1510022)
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: ACRE-FEET PER YEAR

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

Master Meter and Supply Error Adjustments

WATER SUPPLIED

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

					Pcnt:	Value:	
Volume from own sources:	5	15,592.440	acre-ft/yr				acre-ft/yr
Water imported:	n/a	0.000	acre-ft/yr				acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr				acre-ft/yr

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

WATER SUPPLIED: 15,592.440 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	6	12,906.500	acre-ft/yr			
Billed unmetered:	n/a		acre-ft/yr			
Unbilled metered:	5	4.995	acre-ft/yr			
Unbilled unmetered:		194.906	acre-ft/yr	1.25%		acre-ft/yr

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

AUTHORIZED CONSUMPTION: 13,106.401 acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

2,486.040 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		38.981	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	5	476.617	acre-ft/yr	3.56%		acre-ft/yr
Systematic data handling errors:		32.266	acre-ft/yr	0.25%		acre-ft/yr

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

Apparent Losses: 547.864 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1,938.175 acre-ft/yr

WATER LOSSES: 2,486.040 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 2,685.940 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	318.0	miles
Number of active AND inactive service connections:	6	7,712	
Service connection density:		24	conn./mile main

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

Average length of customer service line:

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

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

Average operating pressure:	5	60.0	psi

COST DATA

Total annual cost of operating water system:	10	$18,503,251	$/Year	
Customer retail unit cost (applied to Apparent Losses):	8	$2.70	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$86.12	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 58 out of 100 ***

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

PRIORITY AREAS FOR ATTENTION:

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

1: Volume from own sources
2: Billed metered
3: Unbilled metered

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: West Kern Water District (1510022)
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: ACRE-FEET PER YEAR

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

Master Meter and Supply Error Adjustments

WATER SUPPLIED

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

					Pcnt:	Value:	
Volume from own sources:	6	17,086.620	acre-ft/yr	3			acre-ft/yr
Water imported:	n/a	0.000	acre-ft/yr				acre-ft/yr
Water exported:	5	1,435.520	acre-ft/yr	3			acre-ft/yr

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

WATER SUPPLIED: 15,651.100 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	6	15,249.800	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	6	4.450	acre-ft/yr			
Unbilled unmetered:	5	39.128	acre-ft/yr		39.128	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 15,293.378 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 357.722 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		39.128	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	4	311.311	acre-ft/yr	2.00%		acre-ft/yr
Systematic data handling errors:		38.125	acre-ft/yr	0.25%		acre-ft/yr

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

Apparent Losses: 388.563 acre-ft/yr

Check input values; APPARENT LOSSES should be less than WATER LOSSES

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: -30.841 acre-ft/yr

WATER LOSSES: 357.722 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 401.300 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	318.0	miles
Number of active AND inactive service connections:	8	7,784	
Service connection density:		24	conn./mile main

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

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

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

Average operating pressure:	5	60.0	psi

COST DATA

Total annual cost of operating water system:	10	$18,149,172	$/Year	
Customer retail unit cost (applied to Apparent Losses):	8	$2.40	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$144.45	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 62 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

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: West Kern Water District (1510022)
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: ACRE-FEET PER YEAR

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

Master Meter and Supply Error Adjustments

WATER SUPPLIED

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

						Pcnt:	Value:	
Volume from own sources:	7	15,206.000	acre-ft/yr	3			-1,114.080	acre-ft/yr
Water imported:	n/a		acre-ft/yr					acre-ft/yr
Water exported:	6	0.000	acre-ft/yr					acre-ft/yr

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

WATER SUPPLIED: 16,320.080 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	8	14,947.000	acre-ft/yr			
Billed unmetered:	n/a		acre-ft/yr			
Unbilled metered:	6	22.000	acre-ft/yr			
Unbilled unmetered:	5	40.800	acre-ft/yr		40.800	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 15,009.800 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 1,310.280 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	40.800	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	4	151.202	acre-ft/yr	1.00%	acre-ft/yr
Systematic data handling errors:	5	37.368	acre-ft/yr	0.25%	acre-ft/yr

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

Apparent Losses: 229.370 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1,080.910 acre-ft/yr

WATER LOSSES: 1,310.280 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 1,373.080 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	318.0	miles
Number of active AND inactive service connections:	8	7,521	
Service connection density:		24	conn./mile main

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

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

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

Average operating pressure:	5	60.0	psi

COST DATA

Total annual cost of operating water system:	10	$18,668,470	$/Year	
Customer retail unit cost (applied to Apparent Losses):	8	$2.07	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$120.26	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 67 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: Variable production cost (applied to Real Losses)

APPENDIX G – MEMORANDUM OF UNDERSTANDING ON WATER RECYCLING

ATTACHMENT 1.2

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MOU") is executed as of June 16, 2015, by and among **City of Taft** ("Taft"), **West Side Recreation & Park District** ("WSRPD"), **West Side Cemetery District** ("WSCD"), and **West Kern Water District** ("WKWD").

RECITALS

A. California is in the middle of an historic drought and state officials have mandated that Californians conserve water and develop new water use patterns that will reduce total demand over the medium and long terms.

B. Taft owns and operates a sewage treatment plant east of Taft. WSRPD operates parks and recreational facilities and WSCD operates a cemetery, all of which facilities consume a total of approximately 200 acre feet of water per year for watering lawns and landscaping. WKWD provides potable water service to the facilities operated by WSRPD and WSCD, as well as nearly all other urban consumers in the Taft area.

C. WSRPD and WSCD do not need potable water for landscape irrigation. If non-potable water from a source other than WKWD's existing supplies could be substituted for the potable water now used by WSRPD and WSCD for irrigation, it would be equivalent to reducing consumption of potable water within the WKWD service area. Water from the treatment plant treated to tertiary standards would likely be usable for irrigation, but the parties do not currently know if that idea is practical. Therefore, they have agreed to study the concept.

UNDERSTANDINGS AND AGREEMENTS

1. WKWD will retain a qualified consultant to study and produce a report on the issues, cost and practicality of treating effluent at the Taft Municipal Wastewater Treatment Plant to tertiary standards and then delivering the treated water to WSRPD and WSCD for use in irrigating their parks, recreational facilities and cemetery. Issues to be considered by the consultant will include:

(a) the practicality of providing tertiary treatment of a specified quantity of effluent at the treatment plant and required improvements to do so,

(b) regulatory and safety issues that might be raised by using tertiary treated gray water at the specified facilities,

(c) how gray water would be delivered from the treatment plant to end use facilities,

(d) work that would be required to segregate new gray water from existing potable water at those facilities, and

(e) the capital and operating costs of such a project.

WKWD shall advise the other parties of the consultant that WKWD intends to retain and solicit their comments on the appropriateness of the particular consultant. WKWD shall then provide the other parties with the agreement retaining the consultant and will provide a reasonable opportunity for them to comment or object to the consultant or the agreement. WKWD will not proceed to enter into an agreement with a consultant if a party objects. WKWD will not agree to any amendment of the consultant's agreement without first obtaining the approval of the other parties. If the parties cannot reach agreement on the consultant or the consultant's agreement, including the cost, then this Memorandum of Understanding will terminate.

2. District and Taft will cooperate with the consultant retained by WKWD in conducting this study, including providing the consultant with reasonable access to (a) the treatment plant, (b) existing delivery systems, (c) plant personnel, and (d) records of treatment plant operations such as quantities of effluent treated, test results, equipment specifications, and maintenance and repair records.

3. WSRPD and WSCD will cooperate with the consultant retained by WKWD in conducting this study, including providing the consultant with reasonable access to (a) plans for irrigation systems, (b) water use records and (c) operational personnel.

4. WKWD will (a) provide its consultant with any records in its possession requested by the consultant, access to district personnel, and information on its existing water delivery system, (b) provide supervision and oversight of the consultant, and (c) administer the consultant's contract for services and pay the consultant.

5. All parties agree to provide such other reasonable assistance or agreements as may be needed for the proper conduct of the study, at no material cost to such party.

6. The parties agree to provide the following contributions toward the cost of the consulting contract as finally approved by all of the parties:

WKWD: Remaining Balance TBD
Taft: $ 2,000
WSRPD: $ 1,000
WSCD: $ 1,000

The parties other than WKWD will pay their share of the study cost to WKWD within thirty (30) days of WKWD executing the agreement to retain the consultant. WKWD shall apply all funds received toward the cost of the consulting contract. Each party will bear its own incidental out of pocket costs and staff time associated with providing the

consultant with requested information and documents. A party's share of the cost may not be increased without the written consent of that party.

7. WKWD will provide the other parties with a working draft of the consultant's report for their review and correction of factual errors before it is finalized. Each party will receive several copies of the final report.

8. Any party may withdraw its cooperation from the conduct of this study on thirty (30) days' prior written notice to the other parties. No governing body of a party shall be required to accept or otherwise acknowledge the report prepared by the consultant. No party is agreeing to participate in or pay for any recommendations that may be contained in the report, and specifically, no party is agreeing to undertake a project for the tertiary treatment of effluent and use of gray water.

9. The memorandum of understanding will terminate upon the consultant rendering its final report. The parties will not be obligated to enter into any future agreements.

[Signatures on next page]

The parties have executed this Memorandum of Understanding as of the date first above written.

City of Taft

By: _____
Name: Randy Miller
Title: Mayor

West Side Recreation and Park District

By: _____
Name: Donald F Koenig
Title: District Administrator

West Side Cemetery District

By: _____
Name: Joel Bauer
Title: District Manager

West Kern Water District

By: _____
Name: HARRY O. STARKEY
Title: GENERAL MANAGER

APPENDIX H - WATER SHORTAGE RESPONSE PLAN

WATER SHORTAGE RESPONSE PLAN

FOR

WEST KERN WATER DISTRICT

May 2021

Prepared By:

Provost & Pritchard Consulting Group

Table of Contents

List of Tables

Attachments

1 – Matrix of Water Use Restrictions by Water Shortage Stage
2 – Financial Impact of Water Shortage Reduction

Definitions

The following words and phrases whenever used in the Water Shortage Response Plan will have the meaning defined in this Section:

"Customer" means any person, business, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, or any other user of water provided by West Kern Water District.

"Days" are defined as calendar days, unless otherwise indicated.

"District" means the West Kern Water District.

"Drought" will mean any shortage in water supply based upon expected demands that are caused by hydrological, environmental, legislative, judicial actions, or by infrastructure failure.

"Reasonable Probability" refers to potential reductions due to shortages due to drought conditions, regulatory restriction enacted upon imported supplies, catastrophic emergencies, and other factors.

"Waste/Unreasonable Use" means among other things, violations of the restrictions set forth in this policy at each specific response level.

"Water Conservation" means the efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

"Water" will refer to potable water, unless otherwise specified.

"WSRP" refers to West Kern Water District's Water Shortage Response Plan in existence on the effective date of this ordinance and as readopted or amended from time to time, or an equivalent plan of the District to manage or allocate supplies during shortages. The Water Shortage Response Plan is the same as a Water Shortage Contingency Plan.

1 - PURPOSES AND PRINCIPLES OF PLAN

The purpose of the West Kern Water District (WKWD or District) Water Shortage Response Plan (WSRP) is to provide a methodology for analyzing water supply reliability, establish water shortage levels, identify appropriate response actions, and document protocols for enforcing the WSRP. This WSRP was prepared according to requirements in Sections 10632 & 10635 of the California Water Code. **Table 1** below shows the required components of a WSRP, the relevant water code section, and where they are found in this document.

Table 1: Water Shortage Response Plan Requirements

Topic	CA Water Code Section	WSRP Section
Water Supply Reliability Analysis	WC 10632 (a.1)	Section 2
Annual Assessment Procedures	WC 10632 (a.2)	Section 2
Water Shortage Levels	WC 10632 (a.3)	Section 3 Table 2
Shortage Response Actions	WC 10632 (a.4) WC 10632 (b)	Section 4
Communication Protocols	WC 10632 (a.5)	Section 5
Compliance and Enforcement	WC 10632 (a.6)	Section 6
Legal Authority	WC 10632 (a.7)	Section 7
Financial Consequences of WSRP	WC 10632 (a.8)	Section 8
Monitoring and Reporting	WC 10632 (a.9)	Section 9
WSRP Refinement Procedures	WC 10632 (a.10)	Section 10

2 - PROCEDURES FOR CONDUCTING ASSESSMENT

2.1 Decision Making Process

Regulatory Requirement

§10632(a.2.A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.
§10632 (a.2.B) (iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

The District's Operations Staff and Regulatory Administrator are responsible for collecting and analyzing various hydrologic datasets, assessing water demands, and assessing system capacities versus anticipated supplies. The General Manager will be updated regularly, and the District Board of Directors will also be provided informative briefings at monthly Board meetings. Please be advised that the levels below correspond to the required Water Shortage Levels outlined in WC 10632.

Response Level 1
The existence of a Water Shortage Response Level 1 shall be ongoing when declared by Board action. Declaration of Level 1 may be implemented upon reaching:

1. Three-years of consecutive state-wide drought; and
2. Significant reduction in groundwater levels, as deemed by the Board of Directors; and
3. Significant reduction in groundwater storage, as deemed by the Board of Directors.

Response Level 1 can also be declared if there are facility or infrastructure issues (such as well failure, pipeline failure, aqueduct breach, etc.) that reduce water supplies.

Response Levels 2 to 6 & 6a
Response Levels 2 to 6 & 6a shall be enacted only after situations occur that are more severe than those needed to enact Response Level 1 & 1a. These Response Levels can only be declared after the Board of Directors has first declared a 'Water Shortage Emergency'.

WKWD recharges most of their surface water, creating a storage buffer to help deal with droughts and other water supply interruptions. These reserves have proven to be very effective and have historically eliminated the need for water use restrictions in WKWD for many years. Current groundwater storage can meet demands for approximately ten years.

As a result, hard triggers for implementing Response Levels 2 to 6 & 6a are not considered practical. Instead, these levels will be enacted by the Board of Directors based on a subjective evaluation of the following factors:

1. Assessing three years of unconstrained supply to the District
2. Local drought conditions
3. General Statewide drought conditions
4. Groundwater depths, including recent changes
5. Total banked groundwater storage, including recent changes
6. Changes in well capacity due to groundwater level declines
7. Recent allocation of surface water

8. Short-term ability to purchase water from other sources
9. Water quality issues impacting the water supply
10. Infrastructure issues (such as well failure, pipeline failure, aqueduct breach, etc.) that could significantly reduce water supplies

The existence of Water Shortage Response Level 2 or Level 3 conditions may be declared by resolution of the WKWD Board of Directors and adopted at a regular or special public meeting held in accordance with state law. The mandatory conservation measures applicable to Response Level 2 or Level 3 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the District shall publish a summary of the resolution in one or more newspapers. The District may also post notice of the condition on its website. Lastly, the District does currently maintain an automated robocalling system that may be utilized to alert all water users within the District's service area.

Water Shortage Response Levels 4 through Level 6 may be declared as deemed necessary by the Board of Directors. The mandatory conservation measures applicable to Response Levels 4 through 6 shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the District shall publish a summary of the resolution in one or more newspapers. The District may also post notice of the condition on its website. The most restrictive Water Shortage Response Level 6a is only to be implemented in very extreme conditions. This Level is designed to be implemented on a short-term basis no longer than 45 days. These extreme conditions could call for a complete prohibition on all water use throughout the District and would require water tanks to be brought into the District for emergency situations of health and safety. Both Levels 6 and 6a will be implemented in accordance with the procedures specified in California Water Code Sections 351 and 352. These sections indicate the protocol for publicly noticing the public hearing that is needed when implementing or declaring a water shortage emergency.

The District's Board of Directors may declare an end to a Water Shortage Response Level 2 or higher by the adoption of a resolution at any regular or special meeting held in accordance with state law.

2.2 Data Inputs and Assessment Methodology

Current Year Demand

Regulatory Requirement

§10632 (a.2.B) (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.

The District currently delivers disinfected groundwater to residential, commercial, and industrial customers. In addition, Raw water from the State Water Project (SWP) is delivered to one industrial customer in the District, the La Paloma Power Co. LLC (La Paloma). The District provides water to the local wastewater treatment facility but does not oversee sewage collection or treatment. The recycled water from this facility is used to irrigate fodder crops on adjacent agricultural land The District's current and projected water demand is broken down into three categories: Potable Water, Raw Water, and Recycled Demand. This demand summary can be found in **Table 2** below.

Table 2: Total Water Demands

Description	2015	2020
Potable Water	16,542	14,767
Raw Water	4,461	1,571
Recycled Water Demand	0	0
TOTALWATER DEMAND	21,003	16,338

Future water demand estimates will typically be based on the following criteria and assumptions:

1. Future population growth is 0.4% per year, which is consistent with the population growth rate that was assumed in the 2010 UWMP.
2. In 2020 and beyond, residential, and commercial demands are based on the District meeting its 2020 per capita goal of 189 gallons/capita/day.
3. Raw water demands to La Paloma have fluctuated over the years with an average usage of 3000 AF/yr. their total contract supply is 5,500 AF/year).
4. Treated industrial demands after 2020 are based on the average water use from 2016 to 2020, which is 10,400 AF/year.

Several other factors can affect demand projections, which are not included in the estimate above, including:

- Land use revisions
- New regulations
- Consumer choice
- Economic conditions
- Oil prices and oil demand
- Transportation needs
- Highway construction
- Environmental factors
- Conservation programs
- Plumbing codes

The foregoing factors affect the amount of water needed, as well as the timing of when it is needed. Past experiences have indicated that the economy is the biggest factor in determining water demand projections. During an economic recession, there is a major downturn in development and a subsequent slowing of the projected demand for water. The projections in this Plan do not attempt to forecast recessions or droughts. Likewise, no speculation is made about future plumbing codes or other regulatory changes. Also, much of the industrial water demand is used by oil exploration companies. Predicting the oil economy and subsequent demand for water in the oil fields is not feasible.

Quantification of Water Supply

Regulatory Requirement

§10632 (a.2.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.
§10632 (a.2.B) (iii) 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.
§10632 (a.2.B) (v) A description and quantification of each source of water supply.

Water supply facilities in the District include 13 wells (5 in the North Well Field and 8 in the South Well Field), 26 water tanks, and approximately 346 miles of pipelines. The facilities are spread out over the entire district, which covers over 300 square miles.

Imported Water Supply
The District maintains a contract for surface water from the State Water Project (SWP) in conjunction with the Kern County Water Authority (WKWA) of an annual amount of 31,500 acre-feet per year (AFY). The 2020 UWMP analysis estimated that the long-term reliability of this SWP supply is estimated to be approximately 60%

During wet years when high-flow water is available, an additional 10,000 AFY is available to WKWD. Historically, this high-flow water has been purchased or exchanged by WKWD to increase the water banking program. The surface water indirectly available to WKWD consists of in-lieu surface water delivered to Buena Vista Water Storage District (BVWSD) and credited to WKWD for recharge. This water is either SWP water or high-flow Kern River water. The surface water is not currently used as a direct domestic water supply source.

WKWD also has two turnouts along the California Aqueduct that have been used to deliver untreated water directly to industrial customers. Currently only one of the turnouts is operated by the District, which supplies untreated water to La Paloma. An agreement was established in 2001 between WKWD and La Paloma for a maximum delivery of 6,500 AFY, with the Agreement being amended in 2018 for an annual delivery of 5,500 AF.. Historically La Paloma has taken less than their contract amount and WKWD utilizes the balance of the water for recharge to its water banking program or exchanges with other entities.

Delta Conveyance Facility Supply
The District plans to participate in the Delta Conveyance Facility project and is hopeful that this will drastically improve and sustain their long-term water reliability. However, this project is not scheduled to be implemented for several years.

Groundwater Supplies
The District has two well fields that primarily pump groundwater that has been banked over several decades. The pumping capacity is capable of meeting the District's peak summertime demands. The amount of groundwater in storage fluctuates based on hydrologic conditions, but currently represent about a 10-year supply. This is the source directly used to meet most District demands.

Existing Infrastructure Constraints

Regulatory Requirement

§10632 (a.2.B) (iii) Existing infrastructure capabilities and plausible constraints.

The District maintains an existing distribution system. The primary facilities in the District include the following:

- 13 active groundwater wells (1 inactive well)
- 26 above ground water storage tanks
- 15 booster pump stations
- 346 miles of distribution pipelines
- Recharge basins of approximately 415 acres
- Recharge basins in project vicinity of approximately 6,862 acres
- Recharge basins in Tule Elk reserve of approximately 729 acres
- 2 Aqueduct Turnouts (1 active)

Possible infrastructure constraints include problems with State Water Project facilities or internal well and conveyance facilities. If there are problems with the Delta, California Aqueduct, or Aqueduct Turnouts, then the District could rely on the large volume of groundwater banked to meet demands. The District currently has excess capacity in their wellfields and conveyance facilities; however, any number of conditions could constrain capacity of existing infrastructure in a manner than would require the District to declare a water shortage and enforce water conservation measures.

3 - WATER SHORTAGE LEVELS

Regulatory Requirement

§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 of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

As outlined in the new Water Code requirements (10632 a & b.), Water Shortage Contingency Plans must include or be adapted to the six standard water shortage levels, which correspond to the progressive conservation ranges of <10%, 10-20%, 20-30%, 30-40%, 40-50% and 50+%. These six levels are described in **Table 2.** The various Response Actions that correspond with these levels are addressed in **Section 4** of this plan.

Table 2: Updated Levels of Water Shortage

RESPONSE LEVELS	DESCRIPTION	RESTRICTIONS	CONSERVATION TARGET[2]
Level 1	Water Awareness	Voluntary	0 to 10%
Level 2	Moderate Water Shortage	Mandatory	10% - 20%
Level 3	Severe Water Shortage	Mandatory	20% - 30%
Level 4	Extreme Water Shortage	Mandatory	30% - 40%
Level 5	Critical Water Shortage	Mandatory	40% - 50%
Level 6	Emergency Water Shortage	Mandatory	Greater than 50%
Level 6a Short Term[2]	Short-Term Water Emergency	Mandatory	Greater than 50%

Notes:
1 – Short term conditions occur for 45 days or less and may be attributed to infrastructure, water quality or power issues, as well as hydrologic conditions.
2 – 'Normal Water Production' refers to the average water production during the last 3 years with unconstrained supplies.

These water shortage stages each include specific water use restrictions that will be adopted and enforced. The following should also be noted regarding these water shortage stages:

- This policy establishes water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water within the District in order to assure adequate supplies of water to meet the needs of the public, and further the public's health, safety, and welfare, recognizing that water is a limited natural resource that requires careful management not only in times of drought but at all times.

- This policy establishes progressive response levels including regulations to be implemented during times of declared water shortages or declared water shortage emergencies. It establishes six levels of response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.

- Level 1 shortage response measures are voluntary and will be reinforced through local and regional public education and awareness measures that may be funded in part by the District. During response condition Levels 1 through 6 & 6a, the District Board of Directors will determine the necessity for each conservation measures and water-use restriction, which become increasingly restrictive to attain escalating conservation goals.

  Detailed descriptions of each water shortage stage and their associated water use restrictions are provided in the following section.

4 - SHORTAGE RESPONSE ACTIONS

4.1 Response Actions by Water Shortage Level

Regulatory Requirement

§10632 (a.4) Shortage response actions that align with the defined shortage levels

While there are six different water shortage levels with varying response actions, there are several response actions that are considered permanent and are always implemented. Each Water Shortage Level must adhere to these response actions as well as any additional actions that are pertinent to that level.

Permanent Response Actions

- All hoses shall be equipped with a shut-off nozzle. Hosing down driveways, streets, parking lots, sidewalks or buildings is prohibited unless required for health and safety.
- Excessive watering or over-saturation causing water to run off onto sidewalks, streets, or gutters is prohibited.
- Residential and commercial landscape irrigation shall not take place between the hours of 10am and 6pm. (Consider adjusting the landscape irrigation run time)
- Washing of motor vehicles, trailers, boats and other types of equipment shall only be done using a bucket and/or a hand-held hose that has a shut-off nozzle, a high pressure/low volume wash system, or be conducted at a commercial site that recirculates water on-site. Washing during hot weather conditions shall be avoided as additional water then becomes required due to evaporation.
- Eating or drinking establishments, including but not limited to: Restaurants, cafes, cafeterias, bars or other public places where food or drink are served and/or purchased, shall serve water only upon request.
- Operators of hotels and motels shall offer patrons the option of not having their towels and linens washed daily.
- Pools, spas, and ornamental fountains/ponds should have recirculation and be leak proof. Draining and refilling is only permitted for health, maintenance, or structural reasons.
- Stop use of potable water for compaction or dust control where non-potable or recycled water is available.
- Repair all leaks within twenty-four (24) hours of notification by the District unless other arrangements are made with the General Manager.
- Users of construction meters and fire hydrant meters will be monitored for efficient water use.

Water Shortage Response Levels

Following are response actions for each of the six water shortage stages that can be declared by the District. These response actions are also illustrated in a matrix included as **Attachment 1**. The District has the authority to be flexible when selecting which response actions to require, but the following are recommended guidelines for each stage.

When the State mandates specific response actions during a Water Shortage Emergency they will be added to the lists below.

Level 1. Water Awareness (90% to 100% of Normal Water Production)

Level 1. Below Normal Water Supply is categorized with a possible reduction percentage of up to 10%. A Level 1 condition applies when there is reasonable probability that there will be supply reduction but is considered a voluntary level. Existence of a Response Level 1 condition is considered on-going, and the District shall take action to implement the Level 1 conservation practices identified in this Plan. These actions may include:

- Increased public education and outreach efforts to emphasize public awareness of the need to implement voluntary water conservation practices.

Level 2. Moderate Water Shortage (80% to 90% of Normal Water Production)

Level 2. Moderate Water Shortage is categorized with a possible reduction percentage of 10-20%. A Level 2 condition applies when the District notifies its customers to reduce water usage due to drought or other reduction supplies. The WKWD Board of Directors shall declare the existence of a Response Level 2 condition and implement selected mandatory Level 2 conservation measures identified in this Plan. These actions may include:

- Reduce large & significant landscape watering by 25%
- Eliminate all over-use of water by contracted industrial customers
- Reduce non-contracted industrial water use by 15%

Level 3. Severe Water Shortage (70% to 80% of Normal Water Production)

Level 3. Severe Water Shortage is categorized with a possible reduction percentage of 20-30%. A Level 3 condition applies when increasing cutbacks are necessary due to continued drought or disaster. The WKWD Board of Directors shall declare the existence of a Response Level 3 condition and shall implement selected actions from Levels 1 & 2 as well as additional actions outlined below pursuant to this Plan. These actions may include:

- Reduce non-contracted industrial water use by 60%
- Lawn watering and landscape irrigation shall be limited to no more than 10 minutes per water station per assigned day as follows: Residents with even street number addresses water on Wednesday, Friday, and Sunday. Residents with odd number addresses may water on Tuesday, Thursday, and Saturday. NO watering is allowed on Monday. (These restrictions apply to manual and automatic watering.) Irrigation run time shall be adjusted to avoid runoff.

Upon declaration of a Response Level 3 condition, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statement of immediate ability to serve or provide potable water service such as will serve letters shall be issued, except under the following circumstances:

- A valid, unexpired building permit has been issued for the project;
  or
- The Project is necessary to protect the public's health, safety, and welfare; or
- The applicant provides substantial evidence to the District, of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the District.

Level 4 Extreme Water Shortage (60% to 70% of Normal Water Production)

Level 4. Extreme Water Shortage is categorized with a possible reduction percentage of 30-40%. A Level 4 condition applies when the District's Board of Director's declares a water shortage emergency pursuant to this Plan and notifies its customers that Level 4 requires a demand reduction in order for the District to have supplies available to meet basic needs. The WKWD Board of Directors shall declare the existence of a Response Level 4 condition and implement selected actions from Levels 1 through 3 as well as additional actions outlined below. These actions may include:
All the Response Actions in Level 3 plus the following new Response Actions:

- Reduce large and significant landscape watering by 35%
- Eliminate all over-use of water by contracted industrial customers
- Eliminate non-contracted industrial water use
- Reduce contracted industrial customers, excluding large landscape watering by 10%
- Reduce California Resources Corporation water use by 10%
- Reduce Elk Hills Power water use by 10%
- Limit residential and commercial landscape irrigation to no more than once per week. Residents and commercial businesses with odd street number addresses water on Tuesdays. Residents and commercial businesses with even street number addresses water on Wednesdays. No watering is allowed on Monday, Thursday, Friday, Saturday or Sunday. (These restrictions apply to manual and automatic watering.) Irrigation run time shall be adjusted to avoid runoff.
- Washing of motor vehicles, trailers, boats, and other types of equipment is prohibited unless required for health and safety.
- The application of potable water to driveways and sidewalks is prohibited.
- The installation of new turf or landscaping is prohibited.
- No irrigation with potable water of ornamental turf on public street medians
- New connections to the District's water distribution system will be allowed but their water use shall be restricted to the minimum requirements for personal health and safety.

Level 5 Critical Water Shortage (50% to 60% of Normal Water Production)

Level 5 Critical Water Shortage is categorized with a possible reduction percentage of 40-50%. A Level 5 condition applies when the District's Board of Director's declares a water shortage emergency pursuant to this Plan and notifies its customers that Level 5 requires a demand reduction in order for the District to have supplies available to meet basic needs. All the Response Actions in Levels 1 through 4 are required plus the following new Response Actions:

- Reduce large and significant landscape watering by 50%
- Reduce contracted industrial customers, excluding large landscape watering by 20%
- Reduce California Resources Corporation water use by 20%
- Reduce Elk Hills Power water use by 20%
- Water use for ornamental ponds and fountains is prohibited.

The following Response Actions replace previous less stringent actions:

- Water for flow testing and construction purposes from water agency fire hydrants and blow-offs is prohibited.

- Water use exceedance tiered pricing and/or excessive water use fines will be implemented.

Level 6 Emergency Water Shortage (>50% of Normal Water Production)

Level 6 Critical Water Shortage is categorized with a possible reduction percentage of 40-50%. All the Response Actions in Level 5 are required plus the following and those that replace previous less stringent actions:

- Motor vehicles and equipment shall be washed only at commercial establishments that use recycled or reclaimed water.
- Import water tanks into the District's service area to provide potable water
- Reduce large and significant landscape watering by 75%
- Reduce contracted industrial customers, excluding large landscape watering by 40%
- Reduce potable water deliveries for power generation by 40%
- Reduce Elk Hills Power water use by 40%

The following Response Actions replace previous less stringent actions:

- Water use exceedance tiered pricing and/or excessive water use fines will be increased.
- No commitments ("will serves") will be made to provide service for new water service connections.

Level 6a Emergency Water Shortage Short-Term (>50% of Normal Water Production)

Level 6 Critical Water Shortage is categorized with a possible reduction percentage of >50%+. A short-term declaration is for water shortage conditions expected for a duration of less than 45 days. Level 6a is the most critical and restrictive Water Shortage Level and is considered an Emergency Shortage. All the Response Actions through Level 6 are required plus the following:

- Motor vehicles and equipment shall not be washed under any circumstances
- Eliminate all landscape watering
-
- Reduce contracted industrial customers, excluding large landscape watering by 80%
- Reduce California Resources Corporation water use by 50%
- Reduce Elk Hills Power water use by 50%

The following Response Actions replace previous less stringent actions:

- All non-emergency or water use not defined in this Plan will be prohibited

4.2 Locally Appropriate Supply Augmentation Actions

Regulatory Requirement

§10632 (a.4.A) Locally appropriate supply augmentation actions.

If surface water supplies are limited, there may be other options through transfer, exchanges or open-market water purchases to secure additional surface water from the State Water Project of Kern River

In the event of a water shortage, the District has significant reserves of groundwater that can be used if surface water supplies are low. The current reserves can provide ten years of the District's annual water demands.

4.3 Locally Appropriate Demand Reductions

Regulatory Requirement

§10632 (a.4.B) Locally appropriate demand reduction actions to adequately respond to shortages.

The demand reductions in this plan address the unique water use characteristics in the District where about 80% of the water is used for industrial purposes, including oil field operations and power plants. The demand reductions also focus on the priorities of the water supplies. Some industrial water users are not contracted, and they have lower priority over contracted industrial water users. Municipal use is a higher priority than industrial use, but outdoor watering is considered lower priority than indoor use.

4.4 Locally Appropriate Operational Changes

Regulatory Requirement

§10632 (a.4.C) Locally appropriate operational changes.

During a water shortage operational changes are generally not needed, unless there is a catastrophic interruption in supply. This may require modifying the wells typically used or redirecting through different routes if a pipeline is non-operational.

4.5 Gap Between Supply and Demand

Regulatory Requirement

§10632 (a.4.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.

Each Water Shortage Level includes response actions that are estimated to provide the needed water savings required. These response actions have also been refined over time and proven to generally provide the reductions needed. If prohibitions at any level do not result in the required water savings, the District can simply go to the next level. The District also has flexibility to enforce only some of the response actions in a level, providing the opportunity to make small adjustments when needed.

5 - COMMUNITY OUTREACH

5.1 Current and Predicted Shortages

Regulatory Requirement

§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 the following:
(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

The WKWD has identified the four following categories as significant points of discussion, regarding current and predicted drought shortages.

- Various causes of drought in the area
- Regulatory impacts on water supplies
- Drought impacts on water supplies
- Constraints on deliveries, transfers and exchanges

Should a potential shortage be anticipated, the public and WKWD customers will be notified of the potential for a drought declaration and water conservation measures via public notices, announcements on the District's web page, (www.wkwd.org) and in their billing statements.

5.2 Shortage Response Actions

Regulatory Requirement

§10632 (a.5.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.
Any other relevant communications.

The District's Board of Directors will be kept informed of water shortage conditions to enable them to make timely and appropriate decisions on the following actions:

- Coordination with customers on the development and implementation of plans
- Frequent assessment of water shortage status
- Adoption of resolutions to change water shortage levels
- Declaration of a water shortage emergency
- Adoption of an Emergency Water Reduction Plan

These actions may be communicated to District customers by way of billing inserts, newspaper advertising, on the District's webpage (www.wkwd.org) and by verbal communication with District personnel

6 - CUSTOMER COMPLIANCE AND ENFORCEMENT

Regulatory Requirement

§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.

Any person, who uses, causes to be used, or permits the use of water in violation of this policy is guilty of an offense punishable as provided herein. Each day that a violation of this policy occurs is a separate offense.

Violation of a provision of this policy may be subject to enforcement through installation of a flow-restricting device in the service meter. If a flow-restrictor is placed in the service, the violator shall pay the cost of the material and labor for device installation and removal.

Willful violations of the mandatory conservation measures and water use restrictions as set forth in this policy may be enforced by discontinuing service to the property at which the violation occurs as provided by Water Code Section 356. Violations may also be subject to criminal, civil, and administrative penalties and remedies specified in this policy. If water service is disconnected, restoration shall be according to the District's Rules and Regulations. All remedies provided for herein shall be cumulative and not exclusive for the duration of the declared water shortage emergency.

First Violation

Upon notification or observation of waste or misuse of water, the District shall:

a. Make a photographic and written record of the violation; and
b. Provide notice to the customer in writing and/or by means of a door tag; and
c. Log the warning in the customer's account record.

Second Violation - $300.00 Administrative Fee

In the event a second violation occurs, the District shall:

a. Make a photographic and written record of the violation; and
b. Assess an administrative fee of $300.00 upon the customer for the second offense; and
c. Give notice to the customer in writing that if such waste or misuse continues or subsequent violation occurs, the consumer will be subjected to escalating administrative fees and potential discontinuance of service; and
d. Log the warning in the customer's account record.

Third Violation - $600.00 Administrative Fee

Upon a third offense the District shall:

a. Make a photographic and written record of the violation; and
b. Assess an administrative fee of $600.00 upon the customer for the third offense; and
c. Give notice to the customer in writing that if such waste or misuse continues or subsequent violation occurs, the consumer will be subject to discontinuance of service; and
d. Log the warning in the customer's account record; and
e. Report violation to appropriate law enforcement for possible criminal prosecution.

Fourth Violation – Discontinuance of Service

Upon a fourth offense the District shall:

a. Make a photographic and written record of the violation;
b. Give written notice to the customer that disconnection of the service will occur within five (5) working days of the date of the notice;
c. Disconnect the customer's service; and
d. Restoration and reconnection fees will be charged in accordance with the District's Rules and Regulations. Service will be restored only when the customer has provided satisfactory evidence to the District indicating waste and unreasonable use of water will no longer occur.

Appeals

The District recognizes there may be mitigating or intervening circumstances bearing upon a customer's apparent misuse of water. Upon receipt of any notice regarding purported misuse or waste of water, the customer shall have five (5) working days within which to file a written request for reconsideration with the General Manager. If the customer is not satisfied with the General Manager's decision, the customer shall have fifteen (15) days after the General Manager's decision within which to file a written appeal to the Board of Directors. The Board shall conduct a hearing on the appeal at the next regularly scheduled Board meeting immediately following the appeal. The Board's decision following such hearing shall be final and conclusive.

7 - LEGAL AUTHORITY OF THE PLAN

Regulatory Requirement

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

This WSRP adheres with the California Water Code 10632. This document is also required by State law as outlined in the Water Code, which states that, "Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan…" (WC 10632). As an established California Water District, WKWD has the authority to implement the WSRP, declare water shortages, and implement shortage response actions including statutory authorities, ordinances, resolutions, and contract provisions.

This Policy shall be known as the West Kern Water District Water Shortage Response Plan ("WSRP" or "Policy"). Article 10, Section 2 of the California Constitution declares that waters of the state are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for public welfare.

West Kern Water District may experience shortages due to drought conditions, regulatory restriction enacted upon imported supplies, catastrophic emergencies, and other factors. Conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to the public health, safety, and welfare. Regulation of the time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, and installation and use of water-saving devices provide an effective means of conserving water.

In addition, California Water Code Sections 375 et seq. authorizes a water supplier to adopt and enforce a comprehensive water conservation program. Adoption and enforcement of a comprehensive water conservation program will allow the District to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code Sections 350 et seq.

The District has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of its programs to provide a reliable supply of water to meet the needs of the public within its service territory. The District's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This WSRP is consistent with the Urban Water Management Plan adopted by the District.

7.1 Declaring a Water Shortage Emergency

Regulatory Requirement

§10632 (a.7.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.

The WKWD will follow the protocols outlined in this Plan should it become necessary to declare a water shortage emergency. The process will follow the pertinent sections of the California Water Code and be noticed for a public hearing, typically at a Board of Directors meeting.

7.2 Supplier Coordination

Regulatory Requirement

§10632 (a.7.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.

The General Manager or designated staff will be available and responsible for coordinating with City and County officials within the District's service area should there be a necessary proclamation for a local water emergency.

8 - REVENUE REDUCTIONS AND EXPENSE INCREASES

The various revenue sources available to the District during droughts include, but are not limited to water sales, system connection fees, interest income, special assessments, reserves, and other non-operating revenues such as grant funding when available. In addition, there may be special outside funding sources made available to water agencies during a water emergency (e.g., Levels 4 through 6a). Following are discussions on potential revenue reductions during droughts and how they will be addressed.

8.1 Potential Revenue Reductions and Expense Increases

Regulatory Requirement

§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 Action described in paragraph (4)

Potential revenue reductions include lost water sales to any of the customer categories served by WKWD including oil companies, power companies, golf courses, agriculture, domestic, commercial and industrial water users. All water users are billed volumetrically, so a drought or water shortage could cause a revenue reduction in the District.

Potential expense increases may include, but are not limited to:

- Higher SWP water costs due to reduced water deliveries
- Due to the proximity of the active well field, increased demand could exacerbate existing pumping depressions, resulting in increased lifts and increased pumping costs
- Purchases of higher priced transfer water

Attachment 2 includes tables estimating the potential revenue impacts from implementing the six water shortage stages.

8.2 Mitigation Actions

Regulatory Requirement

§10632 (a.8.B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage Response Actions described in paragraph (4).

Currently, WKWD has sufficient funds in their operating reserves to supplement deficiencies in revenue caused from a water shortage. Additionally, water shortages will require additional pumping of groundwater, which is the most cost effective water sources for WKWD. WKWD has substantial groundwater reserves that can meet District's water needs for about ten years.

8.3 Cost Compliance

Regulatory Requirement

§10632 (a.8.C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

The District Rules and Regulations address penalties for wasteful use of water. Declaring a water shortage and enforcing response actions can be performed by existing staff with no significant increases in operating cost.

9 - MONITORING AND REPORTING REQUIREMENTS

Regulatory Requirement

§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.

WKWD has and will continue to comply with State reporting requirements. The District meters all water deliveries to its customers, which assists in assuring customer compliance. Additionally, the District maintains a protocol for receiving and addressing complaints of non-compliance and misuse.

Production

Under normal water supply conditions, potable water production figures are recorded daily. An accounting sheet of water owed to WKWD, carryover from the previous year, and totals in the ground that have been banked are also reviewed daily and tallied monthly.

Disaster Shortage

During emergency shortages, production figures are reported to the Supervisor hourly and to the Manager and the Water Shortage Response Team daily. Daily reports will also be provided to the Board of Directors.

10 - MONITORING AND EVALUATING THE PLAN

Regulatory Requirement

§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.

This WSRP is in update to a previous 2016 WSRP. This update satisfies new State requirements for WSRPs, and reflects the refinements and improvements deemed necessary to adequately address the District's needs. In addition, this WSRP incorporates important lessons learned during the historic drought of 2013-2015. The WSRP will be re-evaluated at least every five years and at the end of each major drought period to assess its performance. If deemed necessary, it will be modified and improved based on lessons learned. The Plan may also be updated in the middle of a drought year if needed.

ATTACHMENT 1

West Kern Water District - Water Use Restrictions by Water Shortage Stage

Water Supply Reduction %	Permanent Response Actions	Stage 1 < 10%	Stage 2 Up To 20%	Stage 3 Up To 30%	Stage 4 Up To 40%	Stage 5 Up To 50%	Stage 6 >50%	Stage 6A* >50% short term
Hoses equipped with a shut-off nozzle	●	●	●	●	●	●	●	●
Excessive watering on streets & sidewalks prohibited	●	●	●	●	●	●	●	●
Residential & commercial landscape irrigation restrictions	●	●	●	●	●	●	●	●
Restrictions for washing outdoor vehicles, trucks or boats	●	●	●	●	●	●	●	●
Restaurants shall serve water only upon request	●	●	●	●	●	●	●	●
Hotels shall have opt-out linen service	●	●	●	●	●	●	●	●
Restrictions for spas, pools & fountains	●	●	●	●	●	●	●	●
Use of potable water for compaction or dust control	●	●	●	●	●	●	●	●
Repair all leaks within 24 hours	●	●	●	●	●	●	●	●
Monitor users of construction meters or fire hydrant meters	●	●	●	●	●	●	●	●
Increased public education		●	●	●	●	●	●	●
Reduce large & significant landscape watering			25%	25%	35%	50%	75%	100%
Eliminate industrial water use above contracted amounts			●	●	●	●	●	●
Reduction of non-contracted industrial water			15%	60%	100%	100%	100%	100%
Stop use of potable water for sewer system maintenance or fire protection				●	●	●	●	●
Restrictions on new connections				●	●	●	●	●
Reductions for contracted industrial customers					10%	20%	40%	80%
Reduce California Resources Corporation & Elk Hills Power water use					10%	20%	40%	50%
No irrigation with potable water of ornamental turf or public street medians					●	●	●	●
Water flow testing of fire hydrants or blow offs is prohibited						●	●	●
Water exceedance tiered pricing and fines						●	●	●
All non-emergency water use not defined in the WSCP is prohibited								●
Import water tanks to provide potable water								●

* Level 6a is a short term declaration less than 45 days.

Note: At any time the District may choose to increase these efforts to promote water savings, based on the current implemented Stage. Additionally, all regulations associated with a State Drought Emergency Declaration may become mandatory at any given Stage.

ATTACHMENT 2

WEST KERN WATER DISTRICT - WATER SHORTAGE RESPONSE PLAN

TABLE 1 - ENTITLEMENT / BANKED WATER OVERVIEW

(all units in AF)

RESPONSE LEVEL	% REDUCTION	DISTRICT DEMAND Historical High 2007 (1)	DEMAND MINUS REDUCTION	REDUCTION	CUSTOMER REDUCTION[2]	DISTRICT FROM BANKED WATER	DISTRICT BANKED WATER ACCOUNT IN 2020	YEARS UNTIL CURRENT BANK IS DEPLETED
I	10%	27,700	24,900	2,800	-	2,800	180,000	64
II	20%	27,700	22,200	5,500	2,750	2,750	180,000	65
III	30%	27,700	19,400	8,300	4,150	4,150	180,000	43
IV	40%	27,700	16,600	11,100	5,550	5,550	180,000	32
V	50%	27,700	13,900	13,800	6,900	6,900	180,000	26
VI	60%	27,700	11,100	16,600	8,300	8,300	180,000	22

(1) Based on 2007 (which was a high water use year) plus supplying La Paloma 4,500 AF/year

(2) Stage 1 requests a 10% voluntary customer reduction, and the District will supply any shortfall from the banked water account. In Stages 2 through 4 the shortfall will be split 50% with customer reduction and 50% from District banked water

WEST KERN WATER DISTRICT
WATER SHORTAGE RESPONSE PLAN
TABLE 2 - WATER SHORTAGE ACTIONS

ATTACHMENT 2

RESPONSE LEVEL	ACTION
	1 BOD determines which stage to implement based on consideration of climate, surface water deliveries, overall drought conditions, groundwater levels, and volume of groundwater banked.
	2 BOD adopts conservation measures of "Water Shortage Response Plan"
	3 In order to enact Stage 2 or higher, the BOD will need to adopt Resolution declaring a Water Shortage Emergency
	4 Reduce by 25% or 35% large landscape watering (parks, schools, ball fields, golf course, cemetery, green belt)
	5 Eliminate all over-use of water to industrial customers
	6 Eliminate water deliveries by 15%, 60% or 100% to non-contracted industrial customers
	7 Reduce by 10%, contracted industrial customers, excluding large landscape watering
I	Public conservation education program/request customer voluntary reduction
II	Public conservation education program/request customer voluntary reduction
II	Enforce Residential/Commercial conservation measures of Water Shortage Response Plan
II	Reduce by 25% large landscape watering
II	Eliminate all over-use of water by industrial customers
II	Reduce by 15% non-contracted industrial water use
III	Public conservation education program/request customer voluntary reduction
III	Enforce Residential/Commercial conservation measures of Water Shortage Response Plan
III	Reduce by 25% large landscape watering
III	Eliminate all over-use of water by industrial customers
III	Reduce by 60% non-contracted industrial water use
IV	Public conservation education program/request customer voluntary reduction
IV	Enforce Residential/Commercial conservation measures of Water Shortage Response Plan
IV	Reduce by 35% large landscape watering
IV	Eliminate all over-use of water by industrial customers
IV	Eliminate non contracted industrial water use
IV	Reduce by 10% contracted industrial customers, excluding large landscape watering
IV	Reduce by 10% California Resources Corporation
IV	Reduce by 10% Elk Hills Power

WEST KERN WATER DISTRICT
WATER SHORTAGE RESPONSE PLAN
TABLE 3 - 2007 WATER USAGE

Description	2007 Water Demand (AF)
Residential / Commercial	4,200
Large Landscape	800
Contracted Industrial	5,100
Overuse of Industrial Supplies	1,200
Non-Contracted Industrial	3,300
California Resources Corporation	2,200
Elk Hills	3,000

Note: 2007 water usage data is used in evaluating total water usage and conservation requirements. 2007 was selected since it was a high water use year.

WEST KERN WATER DISTRICT - WATER SHORTAGE RESPONSE PLAN **ATTACHMENT 2**

TABLE 4 - WATER SAVINGS AND REVENUE IMPACTS

(all units in acre-feet)

RESPONSE LEVEL I 0-10%	District Can Meet Current Demands	REDUCTION %	ESTIMATED ACRE FEET	ESTIMATED REDUCED REVENUE $ Annual Revenue[1]	Reduction
Public conservation education program		-	-	$11,000	$11,000
RESPONSE LEVEL II 20%	**2,750 Customer Reduction Required**				
Public conservation education program		-	-	$11,000	$11,000
Enforce conservation measures on Residential/Commercial customers		20%	840	$4,200,000	$840,000
Reduce large landscape watering		25%	200	$800,000	$200,000
Eliminate over-use of water by industrial customers		100%	1,200	$1,200,000	$1,200,000
Reduce non-contracted industrial water use		15%	495	$3,300,000	$495,000
			2,735		$2,746,000
RESPONSE LEVEL III 30%	**4,150 Customer Reduction Required**				
Public conservation education program		-	-	$11,000	$11,000
Enforce conservation measures on Residential/Commercial customers		20%	840	$4,200,000	$840,000
Reduce large landscape watering		25%	200	$800,000	$200,000
Eliminate over-use of water by industrial customers		100%	1,200	$1,200,000	$1,200,000
Reduce non-contracted industrial water use		60%	1,980	$3,300,000	$1,980,000
			4,220		$4,231,000
RESPONSE LEVEL IV 40%	**6,900 Customer Reduction Needed**				
Public conservation education program		-	-	$11,000	$11,000
Enforce conservation measures on Residential/Commercial customers		25%	1,050	$4,200,000	$1,050,000
Reduce large landscape watering		35%	280	$800,000	$280,000
Eliminate over-use of water by industrial customers		100%	1,200	$1,200,000	$1,200,000
Eliminate non-contracted industrial water use		100%	3,300	$3,300,000	$3,300,000
Reduce contracted industrial water use		10%	510	$5,100,000	$510,000
Reduce California Resources Corporation water use		10%	220	$2,200,000	$220,000
Reduce Elk Hills Power water use		10%	300	$3,000,000	$300,000
			6,860		$6,871,000
RESPONSE LEVEL V 50%	**6,900 Customer Reduction Needed**				
Public conservation education program		-	-	$11,000	$11,000
Enforce conservation measures on Residential/Commercial customers		25%	1,050	$4,200,000	$1,050,000
Reduce large landscape watering		50%	400	$800,000	$400,000
Eliminate over-use of water by industrial customers		100%	1,200	$1,200,000	$1,200,000
Eliminate non-contracted industrial water use		100%	3,300	$3,300,000	$3,300,000
Reduce contracted industrial water use		20%	1,020	$5,100,000	$1,020,000
Reduce California Resources Corporation water use		20%	440	$2,200,000	$440,000
Reduce Elk Hills Power water use		20%	600	$3,000,000	$600,000
			8,010		$8,021,000
RESPONSE LEVEL VI 60%	**6,900 Customer Reduction Needed**				
Public conservation education program		-	-	$11,000.00	$11,000.00
Enforce conservation measures on Residential/Commercial customers		25%	1050	$4,200,000	$1,050,000.00
Reduce large landscape watering		75%	600	$800,000	$600,000.00
Eliminate over-use of water by industrial customers		100%	1200	$1,200,000	$1,200,000.00
Eliminate non-contracted industrial water use		100%	3300	$3,300,000	$3,300,000.00
Reduce contracted industrial water use		40%	2040	$5,100,000	$2,040,000.00
Reduce California Resources Corporation water use		40%	880	$2,200,000	$880,000.00
Reduce Elk Hills Power water use		40%	1200	$3,000,000	$1,200,000.00
			10270		$10,281,000.00

1 - Water costs assumed to be $1,000/AF

WEST KERN WATER DISTRICT
WATER SHORTAGE RESPONSE PLAN
TABLE 5 - ACTIONS TO OVERCOME REVENUE IMPACTS

RESPONSE LEVEL I	**District Can Meet Current Demands**	
REPSONSE LEVEL II	Water Use Reduction (AF)	2,750
	Impacts to Revenue	$2,746,000
Miscellaneous expenditure reduction		$650,000
Capital and equipment reduction		$800,000
Power costs will reduce		$900,000
SWP costs/miscellaneous water purchases will reduce		$450,000
	Total	$2,800,000
RESPONSE LEVEL III	Water Use Reduction (AF)	4,150
	Impacts to Revenue	$4,231,000
District will require monetary adjustments		
Miscellaneous expenditure reduction		$800,000
Capital and equipment reduction		$1,200,000
Power costs will reduce		$1,350,000
SWP costs/miscellaneous water purchases will reduce		$900,000
	Total	$4,250,000
RESPONSE LEVEL IV	Water Use Reduction (AF)	5,550
	Impacts to Revenue	$6,871,000
District will require monetary adjustments		
Miscellaneous expenditure reduction		$1,400,000
Capital and equipment reduction		$1,700,000
Power costs will reduce		$2,400,000
SWP costs/miscellaneous water purchases will reduce		$1,400,000
	Total	$6,900,000
RESPONSE LEVEL V	Water Use Reduction (AF)	6,900
	Impacts to Revenue	$8,021,000
District will require monetary adjustments		
Miscellaneous expenditure reduction		$2,100,000
Capital and equipment reduction		$2,400,000
Power costs will reduce		$3,000,000
SWP costs/miscellaneous water purchases will reduce		$2,100,000
	Total	$9,600,000
RESPONSE LEVEL VI	Water Use Reduction (AF)	8,300
	Impacts to Revenue	$1,200,000
District will require monetary adjustments		
Miscellaneous expenditure reduction		$2,800,000
Capital and equipment reduction		$3,100,000
Power costs will reduce		$4,000,000
SWP costs/miscellaneous water purchases will reduce		$2,800,000
	Total	$12,700,000

APPENDIX I - WATER RATE SCHEDULE

Exhibit A
DISTRICT'S FEES AND CHARGES
For Year 2021

(Public) ***(Reviewed Annually)*** ***Effective 2/1/2021***

DEPOSITS

Residential/Commercial/Public Entity - Existing

3/4" or 5/8" Meter	$50
1" Meter	$100
Collection Acct.	$50 (Re-establish credit with balance due to District)

Industrial

Up to 1" Meter	$100
2" Meter	$300
3" Meter	$400
4" Meter	$500

Temporary Hydrant Meter

Cost of Replacement (as listed in Rules & Regs)

Current Charge	$900

METER INSTALLATION FEE

1" Meter	$176
2" Meter	$663
Larger than 2"	Actual Cost

Automatic Meter Reading Installation Fees

Cell Card	$210
Register	$90

SERVICE CONNECTION FEE

1" Meter	**$2,888**	+ Water Supply Fee *
2" Meter	**$3,970**	+ Water Supply Fee *
Larger than 2"	Actual Cost	

THEFT OF WATER- PENALTY CHARGES

(Includes Jumper)	Residential	Industrial
Service Fee (minimum)	$200	$500
Deposit	$100	$500

If damages and water loss are more, customer will be charged accordingly.

METER LOCKING SYSTEM - $100

Replace Angle Valve - **$700 Minimum. If repair is more, customer is charged accordingly.*

RECONNECT FEE - $50

RETURN CHECK FEE - $35

CALLOUT FEE - $150 *- restore service outside of regular business hours*

METER TEST - $50 *- test within 6 months after last test or more than once a year*

INDUSTRIAL SHORT TERM (3 yrs. or less) WATER RATE - $750/AF

CAPACITY PURCHASE SURCHARGES (buy into the infrastructure system):

****RESIDENTIAL - $510.31 - $2,071.48***
(varies by location)

****INDUSTRIAL - $272.17/bpd***

WATER SUPPLY FEE – $6,000/AF

SERVICE / FINANCE CHARGES

INDUSTRIAL - 1 ½ % per month on past due accounts

Residential / Commercial / Public Entity -

Delinquent Notice - $10 Flat Fee

Relocation of Hydrant Meters - $50.00

WEST KERN WATER DISTRICT
WATER RATES (Public)

RESIDENTIAL/COMMERCIAL/PUBLIC ENTITY (Schedule No. R) Effective 6/11 Billing

Applicable to all metered water service other than for industrial purposes.

Rates

	Per Meter - Bimonthly
Quantity Rates	
First 1000 cu.ft. or less	$ 17.30
Over 1000 cu.ft. per 100 cu.ft	$ 1.73
Over 4000 cu.ft. per 100 cu.ft.	$ 1.24
Minimum Charge	
For 5/8 x 3/4 meter	$ 17.30
For 1 inch meter	$ 21.53
For 2 inch meter	$ 46.62
For 3 inch meter	$ 86.14
For 4 inch meter	$119.07
For 6 inch meter	$190.22

INDUSTRIAL (Schedule No. IW-1) Effective 6/11 Billing

Applicable to all metered water service furnished for industrial purposes except water furnished to NPR No. 1, Elk Hills, Buena Vista Golf Course, Federal Prison, La Paloma Generating, Sunrise, and Occidental of Elk Hills Cogen Plants and raw water.

Rates

Quantity Rates	
All water up to 3000 cu.ft.	$ 2.24 per meter $975.74 per AF
Add'l water per 100 cu.ft.	$ 2.70/hcf

All industrial customers will be charged $68 per meter per month.
6" meters will be charged a minimum of $111 per meter per month.

APPENDIX J – REDUCED DELTA RELIANCE ANALYSIS

West Kern Water District
Reduced Delta Reliance Analysis

The Sacramento-San Joaquin Delta Reform Act of 2009 established a new state agency, the Delta Stewardship Council (DSC), to develop a Delta Plan that ensures coordinated action at the state, federal and local levels in meeting ecosystem health and water supply reliability needs in the Sacramento-San Joaquin Delta. The Delta Plan, adopted by the DSC in 2013, includes a policy (WR-P1) to Reduce Reliance on the Delta Through Improved Regional Water Self Reliance. Projects that are "covered actions" affecting the Delta (e.g., transfers of water from North of the Delta) must demonstrate that they are consistent with the policies in the Delta Plan, including WR-P1.

WR-P1 subsection (a) states that:

a) *Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:*
    1) *One or more water suppliers that would receive water as a result of the export, transfer or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);*
    2) *That failure has significantly caused the need for the export, transfer, or use; and*
    3) *The export, transfer, or use would have a significant adverse environmental impact in the Delta.*

WR P1 subsection (c)(1) defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above as:

c) *Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:*

    A. *Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6 and 2.8;*
    B. *Identified, evaluated and commenced implementation, consistent with the implementation schedule set forth in the plan, of all programs and projects included in the Plan that are locally cost effective and technical feasible which reduced reliance on the Delta; and*
    C. *Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For purposes of reporting, water efficiency is considered a new source of supply, consistent with Water Code section 1011(a).*

West Kern Water District
Reduced Delta Reliance Analysis

The analysis provided here provides documentation related to compliance with WR-P1 for the West Kern Water District (WKWD). The approach taken is somewhat simplified from the detailed analysis identified in Appendix C of DWR's Urban Water Management Plan Guidebook (Guidebook Appendix C). The analysis uses the following steps:

1. Identify Delta Water Supply Baseline;
2. Qualitatively identify water management measures and increased regional self-reliance within WKWD;
3. Indicate projected use of Delta water supplies within WKWD for projection periods; and
4. Quantify the reduction in reliance on the Delta for projection periods.

Delta Water Supply Baseline

The Sacramento-San Joaquin Delta Reform Act went into effect in 2010, which is proposed for use as the baseline. The most representative analysis of the Delta supply available to Kern County Water Agency (KCWA) as of 2010 is DWR's State Water Project (SWP) 2009 Delivery Reliability Report (DRR). The 2009 SWP DRR identified a SWP average reliability of 60% of SWP contractors' Table A amounts (Table 6.3). Based on WKWD's Table A Allocation through the KCWA contract with DWR, the estimated baseline supply available for WKWD through the KCWA contract is 18,900 acre-feet. This 18,900 acre-feet Delta water supply baseline will be maintained for purposes of both the 2015 UWMP and the 2020 UWMP.

Water Management Measures and Increased Regional Self Reliance

As described in Chapter 9 of the 2020 UWMP, WKWD has implemented significant demand reduction measures. The demand reduction These measures include the following:

- Water Waste Prevention ordinances
- Metering
- Conservation Pricing
- Public Education and Outreach
- Programs to Assess and Manage Distribution System Real loss
- Water Conservation Program Coordination and Staffing Support
- School Education
- Indoor and Outdoor Water Surveys for Single/Multi-Family Residential Customers Residential Plumbing Retrofits
- Residential Plumbing Codes
- High-Efficiency Washing Machine Rebate Programs
- Residential ULFT Replacement Programs
- Conservation Programs for Commercial, Industrial and Institutional Customers
- Large Landscape Conservation Programs and Incentives
- Wholesale Agency Assistance Programs

These measures will be implemented and supplemented with additional demand reduction measures as those measured are demonstrated to be technologically feasible. Currently WKWD is considering implementing the following programs:

- Work with Park and School Districts to install dedicated Irrigation meters and identify appropriate efficiency options
- Continue to work with golf courses to identify and implement water saving opportunities
- Offer rebates for smart irrigation controllers.

Projected use of Delta Water Supplies by West Kern Water District

Based on projected WKWD water use and the availability of other resources, average WKWD use of imported water from KCWA is projected to remain below the 2019 SWP DCR supply level of 18,400 acre-feet. This projected water use reflects the water conservation and water management actions implemented by WKWD water conservation program measures. With its projected use of imported water remaining below its 2010 water supply baseline of 18,900 acre-feet, WKWD is maintaining a net reduction in reliance on Delta water supplies of 500 acre-feet per year.

APPENDIX K – DISADVANTAGED COMMUNITY DOCUMENTATION

EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

455 W Fir Avenue
Clovis, CA 93611-0242
Tel: (559) 449-2700
Fax: (559) 449-2715
www.provostandpritchard.com

Memorandum

To:	Greg Hammett, West Kern Water District
From:	Owen Kubit
Subject:	West Kern Water District – Disadvantaged Community Status
Date:	October 21, 2022

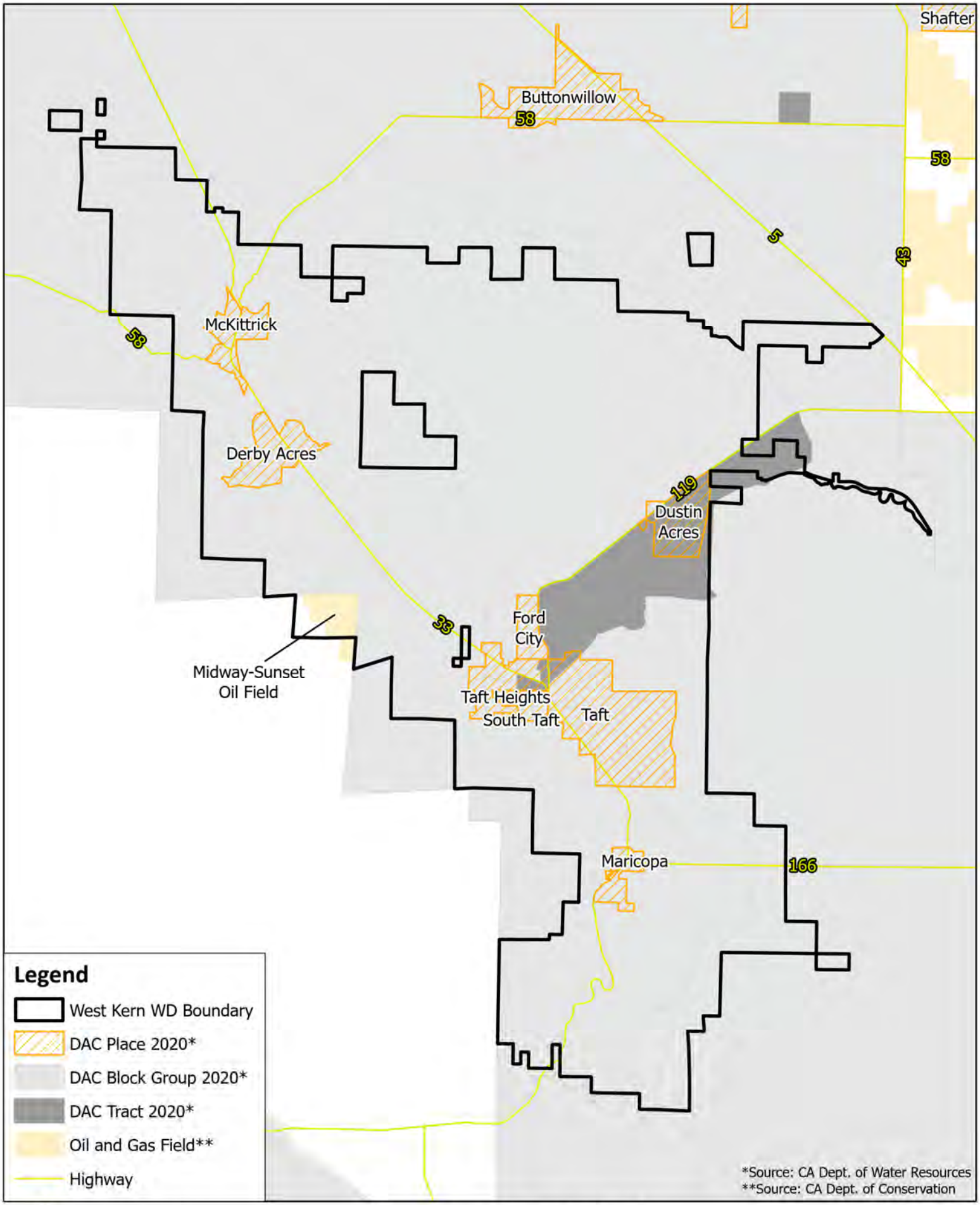
This memorandum documents an analysis of Disadvantaged Community (DAC) status for the service area of West Kern Water District. The State of California defines a disadvantaged community as a census designated area with household income less than 80% of the State's median household income. This designation can be an important factor in securing from the State of California. Having status as a DAC can provide more opportunities for funding, reduce the required cost share for some grant programs, is often a scoring-criteria in grant programs. In addition, water agencies are not eligible for certain funding if they do not meet their State per capita water use goal, but are exempt from this requirement if they are 100% DAC.

The DAC status of WKWD was evaluated using the State DAC Mapping Tool (https://water.ca.gov/Work-With-Us/Grants-And-Loans/Mapping-Tools). **Figure 1** shows the entire district and those areas considered DACs. Most of WKWD is within Kern County, and all of these areas are considered DACs based on income data for census places, tracts and block groups. A small part of WKWD is located in San Luis Obispo County in the central western part of the District (see **Figure 2**). This area, which includes only 0.9% of the WKWD area, is not considered a DAC based on census data.

A review of aerial photographs and other maps of the San Luis Obispo County area show no residences, and therefore no population, in this area. The area is desert land developed principally as The Midway-Sunset Oilfield. The area has no services or known potable water supply. In fact, the area does not have the facilities for even developing a transient non-community water supply. In addition, this area is not expected to be developed for any habitation in the foreseeable future. The non-DAC status appears to be based on demographic data for communities many miles away in San Luis Obispo County.

Since the land within San Luis Obispo County has no population, no data for calculating mean income, no services, no potable water supply, and is not expected to be developed for habitation in the near future, WKWD has excluded it from their DAC analysis, and as a result, 100% of the WKWD service area is considered DAC.

The Department of Water Resources (DWR) reviewed the District's DAC analysis, including the proposal to exclude the area within San Luis Obispo County. In an email dated July 29, 2022, Gwen Huff of DWR responded "*We have reviewed your DAC assessment and find that it appropriately documents that the entire service area is a Disadvantaged Community (DAC). The DAC assessment and DWR's approval make the Water District eligible to apply for state funded water grants or loans*."

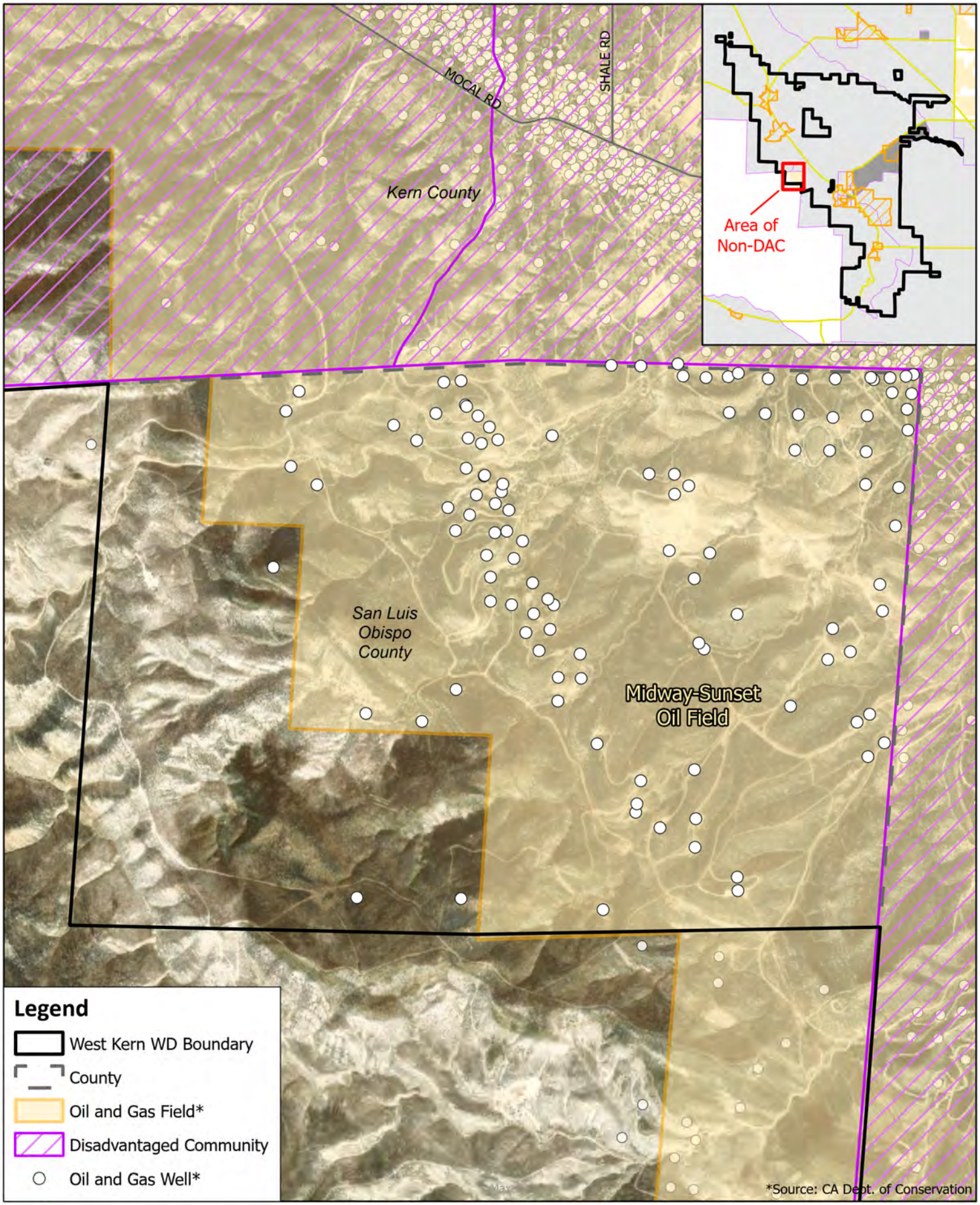


West Kern Water District

Figure 1- Disadvantaged Communities- 2020 Census Data

PROVOST& PRITCHARD

12/16/2022 G:\West Kern Water District - 1809\180920001-WKWD 2020 UWMP\400 GIS\Map\WKWD_DAC2020\WKWD_DAC2020.aprx



West Kern Water District

Figure 2- Non-DAC Area in San Luis Obispo County

PROVOST& PRITCHARD

12/16/2022 G:\West Kern Water District - 1809\180920001-WKWD 2020 UWMP\400 GIS\Map\WKWD_DAC2020\WKWD_DAC2020.aprx