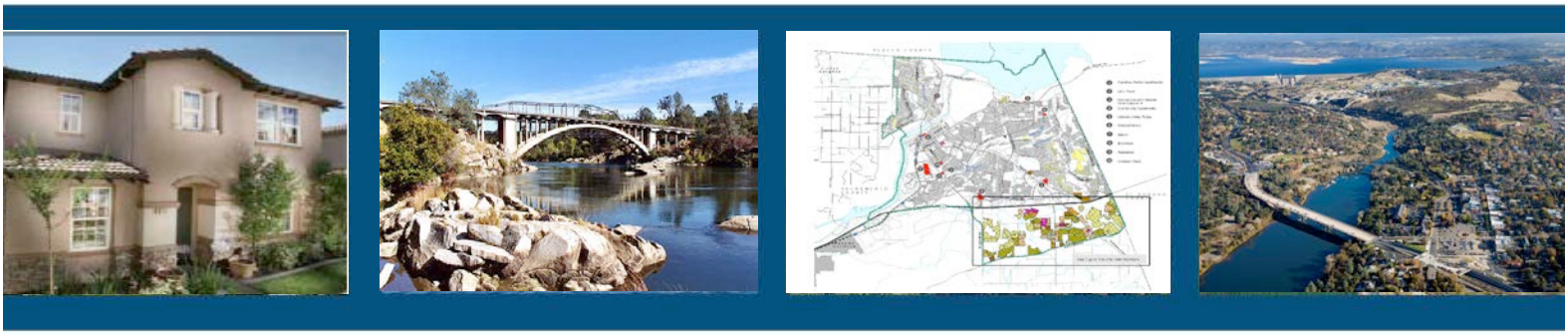

2015 Urban Water Management Plan

Adopted: June 14, 2016

CITY OF
FOLSOM
DISTINCTIVE BY NATURE

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City of Folsom
2015 Urban Water Management Plan

Final

June 2016

Prepared by:

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The City of Folsom's 2015 Urban Water Management Plan was prepared under the direction of a California licensed civil engineer.

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CHAPTER 1. INTRODUCTION

The City of Folsom (City) was founded along the banks of the American River in 1856. The City was incorporated in 1946 and has been supplying water to the surrounding areas for nearly 160 years. The earliest water customers in the area had gold mining and agricultural interests. Over time, as rural communities transitioned to urban settlements, the City has become almost exclusively an urban water supplier[1]. The namesake Folsom Dam and Folsom Lake Reservoir, both of which are part of the Central Valley Project (CVP), share part of the City's boundary. Folsom Dam regulates runoff from about 1,875 square miles of drainage area and the Reservoir provides flood control, water supply, hydropower, and recreation opportunities for the Sacramento area. The reservoir is the primary diversion point for all surface water supplies delivered throughout the City's service area. Folsom is located about twenty-three miles east of downtown Sacramento on the northeast edge of Sacramento County. The City currently serves about 27,000 af/yr[2] to a population of approximately 64,000 through nearly 19,000 metered connections.

The City has prepared this 2015 Urban Water Management Plan (2015 UWMP) to comply with the Urban Water Management Planning Act (UWMPA) requirements for urban water suppliers.

Note to DWR

The City of Folsom has written this UWMP primarily as a water resources planning tool and secondarily to satisfy the requirements of the UWMPA.

The body of the document provides narratives and discusses data that DWR requests in its 2015 UWMP Guidebook, including changes to the California Water Code since 2010.

To facilitate review by DWR for compliance with the UWMPA, data from the body of the document has been transferred into DWR Tables consistent with the organization of the tables in Section E of the 2015 UWMP Guidebook Appendices. These tables are in **Appendix A-1**.

Also, this UWMP has been reviewed for adequacy according to the UWMP Checklist as contained in Section F in the 2015 UWMP Guidebook. A completed checklist is included in **Appendix A-2**.

The City's 2015 Urban Water Management Plan (2015 UWMP) documents the City's water management planning efforts to ensure adequate water supply to meet demands over the next 25 years. As required by the UWMPA, the City's 2015 UWMP specifically

[1] The City of Folsom's boundaries are not coterminous with the City's water service areas.
[2] This estimation applies to the existing water service area only and is derived from historical water use as well as existing additional growth and improved water efficiency. Use represents an estimate of recent demands without mandatory conservation.

assesses the availability of supplies to meet future demands during normal, single-dry and multiple dry years through 2040. Verification that future demands will not exceed supplies and assuring the availability of supplies in dry year conditions are critical outcomes of this UWMP.

The 2015 UWMP is an update to the City's 2010 UWMP and presents new data and analysis as required by DWR and the California Water Code (CWC) since 2010. It is also a comprehensive water planning document which describes existing and future supply reliability, forecasts future demands, presents demand management progress, and identifies local and regional cooperative efforts to meet projected water use.

The current four-year drought has emphasized the importance of planning ahead to meet water demands with potentially at-risk water supplies. Such forward planning is an important outcome of the 2015 UWMP, which also addresses the evolving impact of drought on City water supply and operations.

1.1 Urban Water Management Planning Act

The Urban Water Management Planning Act requires every urban water supplier to prepare an urban water management plan pursuant to California Water Code § 10610 et seq.[3] Because the City is an urban water supplier, it is preparing its 2015 UWMP consistent with the UWMPA. The 2015 UWMP provides a framework for water planning to minimize the negative effects of potential water shortages, and provides useful information to the public about the City and its water management programs.

Specifically, the City's 2015 UWMP describes and evaluates the quality and reliability of the City's existing and planned water supplies to meet short-term and long-term customer water demands; especially availability and sufficiency of surface water assets and the vulnerability of these supplies to seasonal and climactic conditions. Groundwater is a miniscule component of the City's supply strategy as groundwater supplies within the City of Folsom are limited.[4]

The UWMP also revisits baseline per-capita water use data and target conservation values, first developed and presented in the 2010 UWMP as required by CWC §10608 et seq., and assess compliance with those targets. This UWMP also includes narratives describing the City's water demand management measures[5], its long-term plan for efficient water use, and estimated future water savings based on water use projections are

[3] An "urban water supplier" is a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually." CWC § 10617.
[4] 2006 Groundwater Resources Study by Brown and Caldwell
[5] As detailed in the CWC § 10631 (f)(1) and (2).

included, where available. Also included are discussions regarding distribution system water loss, information on potential use of recycled water as a water source for the City, and the City's comprehensive water shortage contingency analysis, which details stages of action to be undertaken by the City in response to water supply shortages.[6]

In short, this 2015 UMWP allows the City to assess and plan for on-going effective management of its water supplies to meet its evolving water demands.

1.2 Public Participation and Agency Coordination

The UWMPA requires a water purveyor to coordinate the preparation of its UWMP with other appropriate agencies and organizations in and around its service area. This includes coordination with other water suppliers that share a common source, water management agencies, and relevant public agencies. Additionally, the City encouraged active involvement of other sectors of the population prior to and during the preparation of the plan. The City coordinated preparation of its UWMP with the entities listed in **Table 1-1**. Copies of the various notifications are included in **Appendix B-3**.

Table 1-1 – Public and Agency Coordination

Coordinating Agencies	Coordinate Regarding Demands	Sent Copy of Draft UWMP	Sent 60-Day Notice	Notice of Public Hearing
Cities, Counties, Customers and Interested Parties				
Sacramento County			√	√
Sacramento County (Planning Department)	√	√	√	√
United States Bureau of Reclamation - CVP	√	√	√	√
San Juan Water District	√	√	√	√
Southern California Water Company			√	√
Placer County Water Agency			√	√
Regional Water Authority			√	√
Sacramento County Water Agency			√	√
Sacramento Groundwater Authority			√	√
El Dorado Irrigation District			√	√
El Dorado County Water Agency			√	√
City of Roseville			√	√
Fair Oaks Water District			√	√
Orange Vale Water Company			√	√
Citrus Heights Water District			√	√
Sacramento Suburban Water District			√	√
General Public			√	√

Note: The UWMP draft was made available www.folsom.ca.us

[6] A recent amendment to CWC § 10632 includes defining water features that are artificially supplied with water as part of this contingency analysis.

1.2.1 Water Forum

Community leaders, along with water managers from Sacramento, Placer and El Dorado counties negotiated the Water Forum Agreement (WFA), which is a comprehensive package of linked actions that will achieve two coequal objectives: (1) Provide a reliable and safe water supply for the region's economic health and planned development through to the year 2030; and (2) Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River. The District is a signatory to the Water Forum Agreement. Pursuant to the Water Forum provisions, the District has also developed best management practices that are consistent with the Demand Management Measures in the 2015 UWMPA.

1.2.2 Sacramento Groundwater Authority

The City of Folsom co-developed the Sacramento Groundwater Authority (SGA) in 1998 as a collaborative and inclusive approach to sustainable groundwater management. Formation of SGA notably preceded California's 2014 Sustainable Groundwater Management Act (SGMA)[7], which requires the formation of local groundwater sustainability agencies to assess conditions in their local water basins and adopt locally-based management plans. SGA is a joint powers authority created to collectively manage groundwater resources in the North Area Groundwater Basin (North Basin), which includes Sacramento County north of the American River. In 2003, SGA adopted a groundwater management plan (GMP) that identifies management objectives for the North Area Groundwater Basin and includes several components aimed at monitoring and managing groundwater levels and quality in that basin.[8] In 2008, and again in 2014, SGA adopted an updated GMP to ensure that management objectives and responses remain responsive to developing needs. The groundwater management plan is designed to achieve an overarching objective of the Water Forum Agreement related to the North Area Groundwater Basin – groundwater production that is within the groundwater basin's 131,000 af/yr[9] annual average sustainable yield as estimated in the Water Forum Agreement.

SGA members have also developed a Water Accounting Framework (Framework), which establishes a set of policies and procedures that will encourage and support conjunctive use operations within the SGA area. The Framework will facilitate the long-term

[7] The SGA preceded California's landmark 2014 Sustainable Groundwater Management Act and was recognized as a model program by one of the primary authors of the SGMA (Sacramento Business Journal, 2014).
[8] A copy of the plan is available at http://www.sgah2o.org/sga/files/GMP_SGA_2014_Final.pdf.
[9] This value was estimated based on long-term average water use, supply conditions, and facilities in the basin at the time of the WFA. This value was not intended to be a fixed value that could not be modified as conditions and assumptions changed in the basin.

sustainability of the underlying groundwater basin as a source of public water supply. The Framework recognizes investments by the SGA member agencies in the development of conjunctive use programs and supports groundwater banking programs that enhance the long-term sustainability of the groundwater basin.

1.2.3 Central Sacramento County Groundwater Management Plan

The City is also a founding member of the Central Sacramento County Groundwater Management Plan (CSCGMP).[10] The plan encompasses a larger portion of the City of Folsom and could be utilized in the future for groundwater extraction and groundwater banking. At this time, the City receives raw water deliveries derived from the Aerojet/Rocketdyne Groundwater Extraction and Treatment (GET) efforts in the Central Basin. These activities include delivering water from GET A and GET B to use at the Aerojet facilities in the Folsom Plan Area.

The City has access to groundwater through two smaller wells in the Central Basin located at the Empire Ranch Golf Course. These wells are used to offset irrigation demand as much as possible throughout the year. Groundwater in the City of Folsom is limited by the underlying geology, where the underlying rocks hold and transmit little water, so it is a very small part of the City's service area supply. Despite these limitations, the Central Basin and North Basin water users implement conjunctive use operations – that may offer exchange and banking opportunities for the City in the future.[11] Additional groundwater pumping and banking efforts are being examined as part of the City's long-term water management strategy.

1.2.3 Regional Water Authority

The Regional Water Authority (RWA) is a joint powers authority that serves and represents the interests of 24 water providers in the greater Sacramento, Placer, El Dorado and Yolo County regions. The Authority's primary mission is to help its members protect and enhance the reliability, availability, affordability and quality of water resources. RWA has launched significant programs and services on a regional scale, including: (1) a water efficiency program designed to help local purveyors implement best management practices on a regional basis; (2) implementation of the American River Basin Regional Conjunctive Use Program to build and upgrade water facilities throughout the region to better manage surface and groundwater resources; and (3) development of an Integrated Regional Water Management Planning Program to

[10] A full copy of the plan can be found at http://www.amwater.com/files/CSCGMP_final.pdf.
[11] Sacramento Groundwater Authority – Groundwater Management Plan – 2014, Section 2.3 Surface Water Resources.

continually identify the regional projects and partnerships that will help the region best meet its future water needs.

1.2.4 Additional Entities

The City has shared water interests with a several other entities due to its water supply agreements and interconnections. These neighboring entities include Sacramento County, San Juan Water District, and El Dorado Irrigation District. A complete list of entities is included in **Table 1-1**. All of these entities, including the general public and adjacent water suppliers, were sent 60 day notices and encouraged to attend the public hearing prior to the adoption of the 2015 UWMP. A copy of the letter is provided in **Appendix B-3**.

1.3 Plan Adoption

Prior to adoption of its UWMP, the City held a public hearing regarding its UWMP on June 14, 2016. Before the hearing, the City made a draft of the UWMP available for public inspection at Folsom City Hall at 50 Natoma Street. Pursuant to CWC Section 10642, general notice of the public hearing was provided through publication of the hearing date and time[12], and posting of the hearing at City Hall. The City Council received comments at the public hearing.

As part of its public hearing, the District received community input regarding its implementation plan for complying with the water conservation requirements contained in CWC § 10608.20 et seq., including the implementation plan's economic impacts.[13] Also, at the public hearing, the District presented the method for determining its urban water use target pursuant to CWC § 10608.20(b).

The City of Folsom adopted its 2015 UWMP on June 14, 2016.[14] A copy of the adopted 2015 UWMP will be provided to Sacramento County and the California State Library, and posted onto the City's website.

1.3.1 Additional Compliance

The City plans to submit all required documentation related to the UWMPA soon after adoption. These include the required DWR UWMP Tables as **Appendix A-1**, the DWR Checklist as **Appendix A-2**, the SB X7-7 compliance forms as **Appendix A-3**, and the AWWA Water Audit worksheet as **Appendix A-4**.

[12] See **Appendix B-2** for copies of the published notices.
[13] CWC § 10608.26
[14] The resolution adopting the 2015 UWMP is in **Appendix B-1**.

1.4 Previous Reports

The 2015 City of Folsom UWMP has been prepared using a number of related planning documents and previous reports, including, but not limited to:

- 2010 City of Folsom UWMP
- City of Folsom, Bureau of Reclamation Five-Year Water Management Plan Update, Dec 2010
- Sacramento County General Plan of 2005—2030
- Regional Water Authority Integrated Regional Water Management Plan (IRWMP)
- Sacramento Groundwater Authority, Groundwater Management Plan – 2014
- Central Sacramento Basin Groundwater Management Plan - 2006

1.5 Plan Organization

This UWMP is organized as follows:

- Chapter 2 provides a description of the City's (a) service area, including climate; demographic and population characteristics; and current and projected land-use changes integral to the demand forecasts, and (b) water system, including the potable and non-potable delivery systems.
- Chapter 3 describes the City's current and future water supplies and the reliability of the supplies.
- Chapter 4 details the demands on the City's system, including the past and future estimated demands.
- Chapter 5 provides information regarding the City's demand management measures.
- Chapter 6 discusses the City's water shortage contingency plan.
- Chapter 7 compares the City's supplies and demands in normal and dry years.

The appendices include background information, details, and necessary supporting documents.

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CHAPTER 2. WATER SYSTEM INFORMATION

2.1 City of Folsom Service Area and General Description

The City of Folsom is a public agency that provides potable water directly to its residential and business customers.

The City's boundaries are not coterminous with the City's water service areas. San Juan Water District (SJWD) supplies retail water service to the American River Canyon Area, which is within the City's boundaries. The City purchases wholesale water from SJWD for the Ashland Area, which is also within the City's boundaries. The City in turn provides retail water service to the customers in the Ashland Area. El Dorado Irrigation District will provide water to a small portion of the Folsom Plan Area south of Highway 50 along the Sacramento County and El Dorado County border. The Easton Development (Nimbus) is in the unincorporated area of Sacramento County that is included in the City's water service area.

The current service area is divided into six (6) zones, with Zone 1 in the western part of the service area a Zone 6 on the eastern border of the service area. The Easton Development is located south of Zone 1, south of U.S. Highway 50, west of Prairie City Road. Water service area is shown in **Figure 2-1**.

Figure 2-1 – City of Folsom Water Service Area

2.1.1 Climate

Climate data for the City of Folsom service area was obtained from local reporting stations with the same microclimate characteristics as the City's service area. The City has cool and humid winters with hot and dry summers. The rainy season begins in November and ends in March, with the lowest humidity occurring in the summer months.

Standard monthly average evapotranspiration (ETo) data was obtained from the California Irrigation Management Information System (CIMIS) station located in Fair Oaks, California, which is just west of the City of Folsom service area – about 4 miles from the City center. Evapotranspiration varies seasonally, and during a drought the significance of evapotranspiration is magnified because it continues to deplete surface and soil water supplies that are not being replenished by sufficient precipitation. The City closely monitors rates of ETo. Average annual ETo for the period 1998-2015 measured 50.564 inches.

Average precipitation and temperature data was also obtained from the CIMIS station 131 in Fair Oaks. For the period 1998-2015, average annual rainfall was measured as 19.66 inches. The wettest months are December, January and February, and the driest months are normally July and August.

For the same time period, average daily maximum and minimum temperature was recorded by month. Typically, July and August are the hottest months of the year with an average daily temperature of about 75 degrees Fahrenheit, though daytime high temperatures average close to 92 degrees. December and January are generally the coolest months of the year, with an average annual temperature of about 55 degrees, with the average minimum dipping down to 49 degrees.

All evapotranspiration (ETo), rainfall, and temperature data is provided in **Table 2-1**.

Table 2-1 – City of Folsom Climate Data

Month	Standard Monthly Average ETo (inches)	Average Precipitation (inches)	Average Temperature (Fahrenheit)	Average Maximum Temperature (Fahrenheit)	Average Minimum Temperature (Fahrenheit)
January	1.12	3.06	47.1	56.9	39.1
February	1.70	4.06	50.8	61.1	41.4
March	3.29	2.49	55.6	66.8	44.1
April	4.49	1.80	58.4	71.0	46.2
May	6.36	0.94	65.0	79.4	51.1
June	7.40	0.14	71.6	87.4	56.9
July	7.95	0.02	76.1	93.2	60.4
August	7.05	0.00	75.2	92.2	59.4
September	5.17	0.08	71.4	88.0	57.1
October	3.37	1.06	63.1	77.5	50.2
November	1.63	2.02	53.0	64.5	43.2
December	1.05	3.99	47.3	56.7	38.9
Annual :	50.56	19.66	61.2	74.6	49.0

DWR CIMIS Data, Fair Oaks Station 131, 1998-2015

2.1.2 Demographics and Population Characteristics

The population served by the City includes a mix of users and user classes. This includes residential, as well as commercial, industrial, and public customers. Population estimates were derived from census data following the methods set forth by DWR. The historic population for the District's service area is presented in the left side of **Table 2-2**.

Table 2-2 also includes a population projection through build out (BO) which should occur around 2050 according to Sacramento Area Council of Governments' (SACOG) Blueprint plan.[15] The timing of the City's actual buildout will depend on a number of factors and market conditions but the SACOG timing is in line with a long-term average growth rates. The majority of the City growth will be in the new developments south of Highway 50 but not all areas in the City boundary are consistent with the water service boundary. These current and future differences between the administrative and water service boundaries necessitated the use of the DWR population tool rather than simply using DOF tables.

These south of 50 developments will increase the population to nearly double its current number.

[15] http://www.sacregionblueprint.org/sacregionblueprint/the_project/stats/folsom.pdf.

Table 2-2 – City of Folsom Historic Population and Projection

Year	Population	Year	Population
2005	56,253	2015	63,536
2006	57,658	2020	69,196
2007	58,811	2025	74,855
2008	60,449	2030	81,223
2009	60,842	2035	88,552
2010	61,187	2040	96,787
2011	61,351	BO	114,507
2012	61,600		
2013	62,145		
2014	62,756		
2015	63,536		

Note: * The left side population was determined using the DWR Population tool. The right column future population estimates are calculated from the housing unit growth anticipated by the City and a persons per household number.

2.1.3 Current and Projected Land Use

The City currently serves a variety of land use including residential, industrial, retail and commercial customers. The current and projected population shown in **Table 2-2** reflects these land uses, with the increased population reflecting proposed development, as well as continued growth.

In 2012 the City annexed the Folsom Specific Plan Area (FSPA), which covers 3,513 acres along the southern edge of the City south of U.S. Highway 50, bounded by the Sacramento/El Dorado County boundary to the east and Prairie City Road to the west.[16] The FSPA is shown in **Figure 2-2**. The FSPA is being developed consistent with the City's Housing Element[17] and the Plan Area planning principles, the FPASP proposes a mix of residential, commercial and public uses.

The Easton Place/Glenborough development is located in an unincorporated area of Sacramento County outside the City limits but within the City's water service area since 1967.[18] In 1994 Sacramento County designated the land Aerojet Special Planning Area

[16] The City completed the Folsom Plan Area Water Master Plan in October 2014.
[17] City of Folsom Housing Element adopted 14 July 2009.
[18] See California Public Utilities Commission Decision No. 71889, and dated January 24, 1967, which authorized the City to provide water service within the service area designated in the decision in connection with the acquisition by the City of certain water facilities and water supplies from Southern California Water Company.

which allowed owners to submit Land Use Master Plans. The development is situated on approximately 1,380 acres south of Highway 50 and Folsom Boulevard east of Hazel Avenue as shown in **Figure 2-3**.

Figure 2-2 – Folsom Specific Plan Area

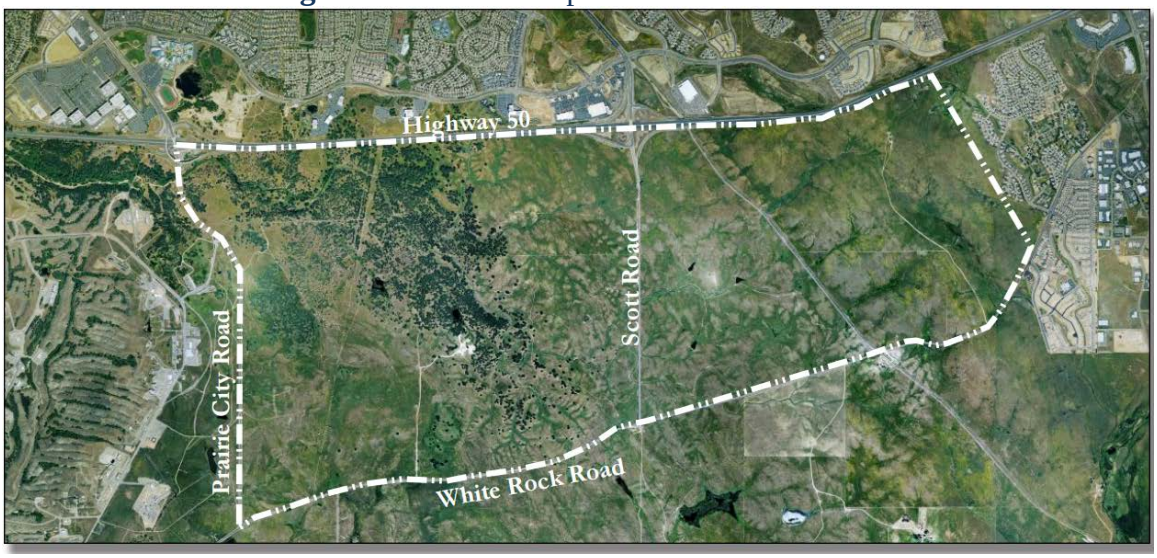


Figure 2-3 – Easton Plan Area

Table 2-3 presents anticipated total growth by land-classification from the adopted Folsom Specific Plan Area Plan for the FSPA as well as the Easton Project.

Table 2-3 – Land Use Summary

Land-class	Folsom Specific Plan Area		Easton Project	
	Dwelling Units	Acres	Dwelling Units	Acres
Multi-Family	5,481	343	2,528	76
Single Family	5,376	1,176	2,597	455
Commercial/Industrial		306		202
Schools		185		40
Parks		136		104
Municipal		0		10
Total Acres	**3,565**		**1,383**	

Note: Roadways and Open Space acreages are not listed in the land-classes

2.2 Water Delivery System

The City's obtains its surface water supply at two diversion points. The first draws water directly from Folsom Reservoir. The second diversion point is on the Folsom South Canal (FSC). The City, through its water service contracts, has the ability to develop an intake facility at the Folsom South Canal but has not yet done so. The water delivery system is described in greater detail in **Chapter 3**. As discussed previously, the City produces only minimal supply from groundwater and none of that supply augments its potable water system. **Figure 2-4** shows the current and proposed water delivery system.

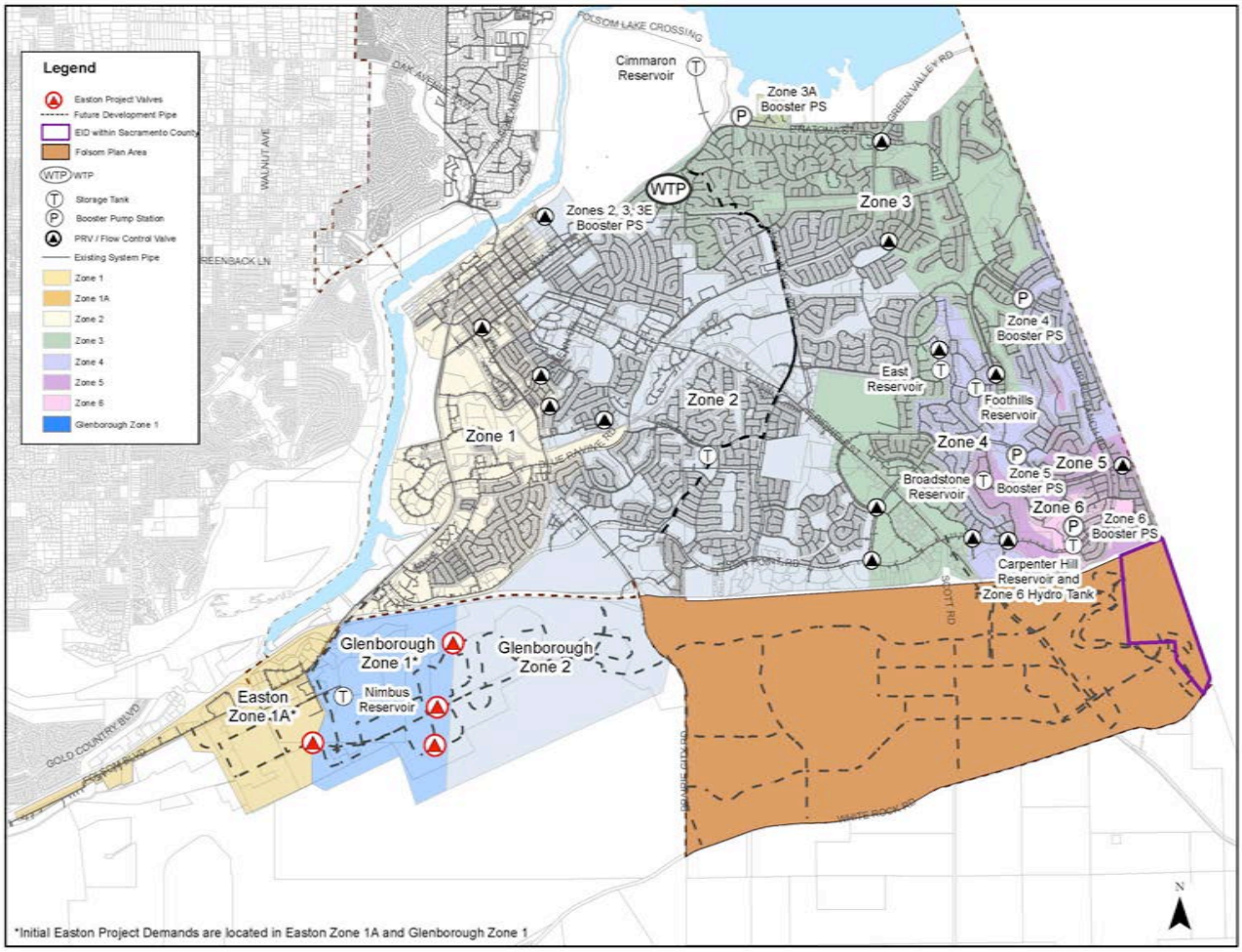
2.2.1 Potable Delivery System

For areas south of the American River, the City takes deliveries from the Natoma Pipeline, a 42-inch steel pressure pipe that originates at Folsom Dam. The Natoma Pipeline splits into two separate lines: one line to the Folsom Prison water treatment plant, and one line to the Folsom Water Treatment Plant (Folsom WTP). This water is measured through the Folsom PIA ultrasonic meters, a 36-inch (97 percent accuracy) and a 24- inch (98.5 percent accuracy).

At the inlet to the Folsom WTP, the raw water line splits. A portion of the raw water is delivered to the Willow Hill Reservoir through a 30-inch reinforced concrete pipeline equipped with a propeller meter. This portion of the water serves non-potable industrial uses on the Aerojet Industrial Property. Recently, Groundwater Extraction and Treatment (GET) A and B facilities are being used to serve a majority of Aerojet's needs. The balance of the water is delivered to the Folsom WTP through a 60-inch ultrasonic meter (95 percent accuracy) and is treated. After treatment at the City's plant, water is stored and pumped through a system of reservoirs and pumping stations to seven pressure zones within the City, and a small pressure zone in Southwest Folsom (the Nimbus Zone) that extends slightly beyond the City limits.

For the Ashland Area, water is diverted from the Folsom Reservoir and piped to the Sydney N. Peterson Water Treatment Plant, which is owned and operated by San Juan Water District (SJWD). After treatment, water is stored in Hinkle Reservoir until SJWD releases it and pumps or delivers it by gravity flow to the Ashland Area. While SJWD provides water supplies to the Ashland Area, the City physically serves the SJWD water to customers in the Ashland service area. The water is measured through a 24-inch magmeter with a ± 0.50 percent accuracy.

Figure 2-4 – City of Folsom Existing System, Future Easton Project, Future Folsom Specific Plan Area[19]



[19] Map from FPA Water Master Plan - (Brown & Caldwell, 2014).

2.2.2 Non-Potable and Recycled Water Systems

The City does not currently deliver any recycled water. The City's wastewater is delivered to Sacramento Regional County Sanitation District. The City does, however, deliver remediated water supplies to Aerojet at its industrial facilities derived from GET A and GET B. These remediated supplies offset raw water demands on the City's water system that are derived from its water rights and entitlements and delivered from Folsom Reservoir. The FSPA incorporates recycled water supply and storage in future water demand management planning.[20] As such, the City is developing water assets and facilities that could deliver and utilize recycled, non-potable or reclaimed water assets.

[20] Folsom Plan Area Water System Master Plan – 2014.

CHAPTER 3. WATER SUPPLY CHARACTERISTICS

3.1 Introduction

Section 3 describes the City of Folsom's (City's) existing and planned water supplies through an analysis of its various surface water and groundwater rights. The majority of the City's water supplies are derived from surface water rights based upon its pre-1914 appropriative right filings and a contract with the Bureau of Reclamation. The City also uses a portion of its groundwater assets on a golf course and has established rights to Groundwater Extraction and Treatment (GET) water derived from the Aerojet-Rocketdyne groundwater contamination. Further, the City has water assets and delivery arrangements with San Juan Water District for service in the American River Canyon Area and the Ashland Area. Last, the City has water asset and delivery arrangements with El Dorado Irrigation District for water service in the eastern portion of the Folsom Plan Area that lies within EID's service area boundary.

All of the City's water supplies are subject to reduction under certain conditions. These conditions may manifest through (a) hydrological circumstances, like a drought; (b) the City's contractual relationships, like the Water Forum Agreement; and (c) legal and regulatory constraints, like species protection in the Sacramento-San Joaquin Bay Delta. The water supply reductions impact the availability of each water asset in a different way that implicates the City's operations and long-term planning. All of these aspects of the City's water supplies are outlined in the text below.

3.2 Existing Surface Water Supplies and Entitlements

The City-controlled surface water supplies serve the Folsom Service Area – West, Folsom Service Area – East, and Nimbus Service Area. These City controlled water assets will also serve a majority of the Folsom Plan Area south of Highway 50. Collectively, these service areas are referred to in this document as the "Folsom Service Area." The City also has groundwater assets available for these service areas that are derived from appropriative groundwater rights as well as access to Aerojet GET water described later in this section. The surface water supplies were developed through different circumstances and, as such, are subject to unique conditions and limitations. These conditions and limitations affect the volume of water available under certain hydrological and regulatory settings.

The surface water supplies for Folsom Service Area are listed below. The five surface water supplies are summarized in **Table 3-1**.

- A pre-1914 appropriative water right for 22,000 acre-feet per year
- A pre-1914 appropriative water right for 5,000 acre-feet per year
- A Central Valley Project (CVP) contract entitlement for 7,000 acre-feet per year
- Contract rights with San Juan Water District
- EID Water Service Agreement to Folsom Plan Area

The City's surface water supplies have additional limitations that may impact where and when each source can be used. We describe these additional limitations in the detailed description of each water asset below. **Table 3-1** below identifies each of the City's surface water assets.

Table 3-1 – City of Folsom Water Right Summary

Water Right	Supply	Diversion Point	Place of Use	Transferable
Pre-1914 Appropriative Right	22,000	Folsom Reservoir Folsom South Canal	Folsom Service Area	Yes
GSWC Contract	5,000	Folsom Reservoir Folsom South Canal	Folsom Service Area	Yes
CVP Fazio Contract	7,000	Folsom Reservoir	Folsom East Area	Yes
Ashland Area Contract	1,540	Folsom Reservoir	Ashland Area	No
GET A and GET B Supply	3,250	Direct Application Folsom South Canal	Folsom Service Area	Yes
Total Supply	**38,790**			

3.2.1 Pre-1914 Rights for 22,000 Acre-Feet per Year

The City's 22,000 acre-foot entitlement is based on a pre-1914 appropriative right from the South Fork of the American River established by the Natoma Water Company in 1851. Natoma Water Company's original pre-1914 water right established a maximum diversion rate "to fill a Canal Eight feet wide and Four feet deep with a current running ten miles per hour." This correlates to a diversion rate of 60 cubic feet per section (cfs) and a maximum allocation of 32,000 acre-feet per year. This right is held jointly with Golden State Water Company (GSWC) pursuant to a co-tenancy agreement. The co-tenancy agreement means that both the City and GSWC have the right to use the water to the fullest extent possible as desired by the respective entities. The City and GSWC have allocated the supplies under the entire 32,000 acre-foot water right. The City unilaterally controls 22,000 acre-feet and GSWC controls the remaining 10,000 acre-feet.

The place of use under the City's pre-1914 right includes a wide area that encompasses the City and additional surrounding areas (including Easton Place/Glenborough) that made up

the boundaries of the Natoma Water Company. The pre-1914 appropriative right status of this water asset makes it more flexible in delivery to additional locations so long as those deliveries do not injure other legal users of water. The 1851 filing is the earliest in priority of perfected appropriative rights on the South Fork of the American River and is recorded. The entire 22,000 acre-feet of this water right is formally recognized in the settlement agreement between the U.S. Bureau of Reclamation ("Reclamation") and the City of Folsom. Under this agreement, Reclamation delivers this entire water supply without reduction on a permanent basis.

This water asset may be diverted at its point of diversion in the water right itself, as well as Folsom Reservoir and Folsom South Canal pursuant to the Settlement Agreement. The City currently diverts the water at Folsom Reservoir in order to deliver that supply to its water treatment plant. In 2015, the ability to divert this water at Folsom Reservoir proved vulnerable because reservoir elevation forecasts indicated that the level would drop below the physical intake. In response to this, Reclamation in partnership with agencies dependent upon Folsom Reservoir diversion developed a physical pumping solution that would modify how the water would be delivered to the intake in the case of extreme drought conditions.

In 2015, the driest year in the last 100 years in California, the State Water Resources Control Board curtailed some pre-1914 appropriative water rights with priority dates as early as 1903. The City's 1851 water right was protected from curtailment because of its seniority. As such, the entirety of this water right is available to the City in all year types. Furthermore, the United States Bureau of Reclamation must deliver the entire supply under this water asset in all year types.

3.2.2 Pre-1914 Rights for 5,000 Acre-Feet per Year

The City's 5,000 acre-foot entitlement is also based on Natoma Water Company's pre-1914 appropriative water right from the South Fork of the American River. In November 1994, the City executed a contract with Southern California Water Company-Folsom Division (SCWC) under which the City acquired the right to lease 5,000 acre-feet of water per year. As described above, SCWC controlled the remaining 10,000 acre-feet of the 32,000 acre-foot total water right under the original co-tenancy Natoma Water Company purchase. As such, the basis of this water asset is held with Golden State Water Company pursuant to the co-tenancy agreement but the lease of the water asset to the City is pursuant to a lease agreement. This water right is also formally recognized in the settlement agreement between Reclamation and the City of Folsom.

This water asset for 5,000 acre-feet has the same diversion provisions as does the 22,000 acre-foot diversion right above since both assets are derived from the same water right. Moreover, this water asset has the same priority as the 22,000 acre-foot water asset which makes it extremely resilient against drought conditions and regulatory curtailment.

3.2.3 CVP Project Contract Right up to 7,000 Acre-Feet per Year

On April 8, 1999, Reclamation entered into Contract No. 6-07-20-W1372 with the Sacramento County Water Agency (SCWA) under Section 206 of Public Law 101-514. The contract dedicated 22,000 acre-feet of water to SCWA, commonly called "Fazio Water." The City was specifically named in the SCWA-Reclamation contract as a subcontractor to gain benefit of a portion of the Fazio Water supply. On April 25, 2000, SCWA entered into a separate contract with the City to provide 7,000 acre-feet of the 22,000 acre-feet of Fazio Water.

The Fazio Water supply is a standard Central Valley Project (CVP) "Project Supply" water entitlement – derived entirely from federal Central Valley Project water supplies. More specifically, the Fazio water is derived solely from American River water rights held by the Bureau of Reclamation for diversion and storage at Folsom Reservoir. Reclamation's CVP water rights are junior to water rights that existed prior to the development of the CVP. In other words, in the case of shortages, the CVP water rights are curtailed before other, more senior water rights, are curtailed. In both 2014 and 2015, the CVP water rights on the American River were curtailed forcing Reclamation to release water (not store water) from Folsom Reservoir in order to meet the natural flow conditions for downstream senior water right holders.

The Fazio Water contract entitlement for the City of Folsom is fairly reliable. In normal and wet years, the City may call upon the supply for delivery and should receive 100 percent allocation. In dry years, the water supply is subject to Reclamation's Municipal and Industrial Water Shortage Policy (M&I Shortage Policy). Under this policy, water supplies are reduced from a baseline volume depending upon the inflow and storage conditions. The baseline volume is calculated by averaging the last three years of use under normal supply conditions and incorporating other details to account for variability like actual demand expansion and other minor adjustments. As an example, if the City's contract was for 7,000 acre-feet but City had used (or calculated use) of 5,000 acre-feet over the course of the last 3 normal water years, then the City's baseline from which to measure supply reduction is 5,000 acre-feet.

The supply reduction under the M&I Shortage Policy, then is calculated against the baseline. Before the extreme drought conditions of 2014 and 2015, the maximum project reduction for north of Delta municipal and industrial water purveyors was 75 percent of baseline demand. In 2015, however, conditions were so extreme, that the CVP allocation was cut to 25 percent of baseline demand. For a City like Folsom, the potential for future reductions is real in light of supplies available in Folsom lake and the American River watershed. However, the worst-case scenario for CVP contract entitlements is delivering water in order to meet "Health and Safety Conditions." These conditions represent a maximum demand reduction and allow a purveyor to deliver water to provide the most

minimal level of sustainability for its end users. The City considers the M&I Shortage Policy to limit dry year supplies to 75 percent of historical average except in the case of an extreme drought. The single dry year supply reliability number as well as the first two years of a multi-year drought reliability number is 5,250 acre-feet. For purposes of that assessment, the City will consider a 50 percent supply allocation in the third year of a multi-year drought. In the third year of a multi-year drought, the CVP Fazio supply reliability number is 3,500 acre-feet. All other supply reductions would consist of emergency conditions and be accompanied by severe water restrictions mandated by the State of California (as done in 2015) that would offset supply reliability concerns. These supply reliability numbers are shown in **Tables 3-2** through **3-4** below.

The City is working with Sacramento County Water Agency and the United States Bureau of Reclamation to assign the City's 7,000 acre-foot portion the CVP Fazio Water Contract from SCWA to the City. The purpose of this assignment is to consolidate the City's water assets derived from the City's relationship with Reclamation in order to better facilitate administrative issues associated with those water assets.

3.2.4 Contract Rights with San Juan Water District

The City has a contract with the San Juan Water District (SJWD) for water use on City lands on the north side of the American River. There are two areas located here: the Ashland Area and the American River Canyon Area. In the Ashland Area, the City controls the water conveyance facilities but the water provided to those facilities is delivered by San Juan Water District. In the American River Canyon Area, SJWD provides all water services. Water service to these two areas is subject to the San Juan Water District and City of Folsom Wholesale Water Supply Agreement (Agreement) that was signed on September 26, 2007 and the subsequent Amendment dated January 1, 2011. The Agreement covers water service to the Ashland Area as well as the American River Canyon Area.

Under this Agreement, SJWD provides surface water assets to the City to serve the Ashland Area. SJWD agrees to serve the Ashland Area in the City and could reduce allocations to the City in times of water shortage. It would reduce its deliveries to the City in pursuant to SJWD's "Surface Water Supply and Water Shortage Management Plan."[21] At this time, SJWD has significant water assets that are very reliable and curtailment of the water supplies is unlikely. Nevertheless, out of an abundance of caution we reduce this supply to 1,000 acre-feet in the second and third years of a multi-year drought.

For the American River Canyon Area, the Agreement upholds the findings in the Case City of Folsom v. San Juan Suburban Water District that was decided in 1972. Under that

[21] Article 6 H San Juan Water District and City of Folsom Wholesale Water Supply Agreement as amended by Amendment 1 to San Juan Water District and City of Folsom Wholesale Water Supply Agreement dated January 1, 2011.

finding, San Juan provides the retail water service to the end users residing in the American River Canyon Area. The Agreement does, however, allow the City the first right of refusal to become the retail provider for water in this area should SJWD seek to cease water service within the City of Folsom jurisdictional boundaries.

3.2.5 El Dorado Irrigation District Water Supply

El Dorado Irrigation District (EID) will provide the water supply to meet demands of 530 residential dwelling units.[22] Like the American River Canyon Area related to SJWD mentioned in **Section 3.2.4**, EID will be the sole provider of this water supply to the development. As such, this supply is not incorporated into the supplies available to the City of Folsom. This water supply is derived from EID's pre-1914 water rights, its American River water rights (Project 184), and its Central Valley Project contract entitlement. The delivery protocols and total volumes from identified sources have not yet been identified.

Table 3-2 – Normal Year Surface Supply Availability

Supply Source (values in acre-feet/yr)	2020	2025	2030	2035	2040	2045
Pre-1914 Appropriative Right	22,000	22,000	22,000	22,000	22,000	22,000
GSWC Contract	5,000	5,000	5,000	5,000	5,000	5,000
CVP Fazio Contract	7,000	7,000	7,000	7,000	7,000	7,000
Ashland Area Contract	1,540	1,540	1,540	1,540	1,540	1,540
Total Potable Supply	**35,540**	**35,540**	**35,540**	**35,540**	**35,540**	**35,540**
GET A and GET B Raw Water	3,250	3,250	3,250	3,250	3,250	3,250
Total Water Supply	**38,790**	**38,790**	**38,790**	**38,790**	**38,790**	**38,790**

Table 3-3 – Single Dry Year Surface Supply Availability

Supply Source (values in acre-feet/yr)	2020	2025	2030	2035	2040	2045
Pre-1914 Appropriative Right	22,000	22,000	22,000	22,000	22,000	22,000
GSWC Contract	5,000	5,000	5,000	5,000	5,000	5,000
CVP Fazio Contract	5,250	5,250	5,250	5,250	5,250	5,250
Ashland Area Contract	1,540	1,540	1,540	1,540	1,540	1,540
Total Potable Supply	**33,790**	**33,790**	**33,790**	**33,790**	**33,790**	**33,790**
GET A and GET B Raw Water	3,250	3,250	3,250	3,250	3,250	3,250
Total Water Supply	**37,040**	**37,040**	**37,040**	**37,040**	**37,040**	**37,040**

[22] Folsom Specific Plan Area SB 610 Water Supply Assessment, October 29, 2009, at page 5.

Table 3-4 – Multiple Dry Year Surface Supply Availability

Supply Source (values in acre-feet/yr)	2020	2025	2030	2035	2040	2045
Multi-dry Year 1 (same as "Single-dry")						
Pre-1914 Appropriative Right	22,000	22,000	22,000	22,000	22,000	22,000
GSWC Contract	5,000	5,000	5,000	5,000	5,000	5,000
CVP Fazio Contract	5,250	5,250	5,250	5,250	5,250	5,250
Ashland Area Contract	1,540	1,540	1,540	1,540	1,540	1,540
Total Potable Supply	**33,790**	**33,790**	**33,790**	**33,790**	**33,790**	**33,790**
GET A and GET B Raw Water	3,250	3,250	3,250	3,250	3,250	3,250
Total Water Supply	**37,040**	**37,040**	**37,040**	**37,040**	**37,040**	**37,040**
Multi-dry Year 2						
Pre-1914 Appropriative Right	22,000	22,000	22,000	22,000	22,000	22,000
GSWC Contract	5,000	5,000	5,000	5,000	5,000	5,000
CVP Fazio Contract	5,250	5,250	5,250	5,250	5,250	5,250
Ashland Area Contract	1,000	1,000	1,000	1,000	1,000	1,000
Total Potable Supply	**33,250**	**33,250**	**33,250**	**33,250**	**33,250**	**33,250**
GET A and GET B Raw Water	3,250	3,250	3,250	3,250	3,250	3,250
Total Water Supply	**36,500**	**36,500**	**36,500**	**36,500**	**36,500**	**36,500**
Multi-dry Year 3						
Pre-1914 Appropriative Right	22,000	22,000	22,000	22,000	22,000	22,000
GSWC Contract	5,000	5,000	5,000	5,000	5,000	5,000
CVP Fazio Contract	3,500	3,500	3,500	3,500	3,500	3,500
Ashland Area Contract	1,000	1,000	1,000	1,000	1,000	1,000
Total Potable Supply	**31,500**	**31,500**	**31,500**	**31,500**	**31,500**	**31,500**
GET A and GET B Raw Water	3,250	3,250	3,250	3,250	3,250	3,250
Total Water Supply	**34,750**	**34,750**	**34,750**	**34,750**	**34,750**	**34,750**

3.2.6 Water Forum Agreement

Community leaders, along with water managers from Sacramento, Placer and El Dorado counties negotiated the Water Forum Agreement (WFA). The WFA is a comprehensive package of linked actions that will achieve two coequal objectives: (1) Provide a reliable and safe water supply for the region's economic health and planned development through to the year 2030; and (2) Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River. The City of Folsom is a signatory to the Water Forum Agreement. The City's Water Forum "purveyor specific agreement" (PSA) states that, under certain conditions, the City would take specific water management actions under a range of hydrologic events that are linked primarily to the American River Basin and Folsom Reservoir. The water management actions could impact the availability of water to the City under its water rights and entitlements in order to make water available to meet Lower American River flow requirements. Pursuant to the Water Forum provisions, the City has also developed best management practices that are consistent with the Demand Management Measures in the 2015 UWMPA.

Under the conditions applicable under the City's PSA, the City's water diversions may be limited depending on the identified year type. Under the PSA, however, the City is not required to implement the Water Forum actions unless its foregone water supplies are made up by alternative water supplies provided by the other purveyors. Nevertheless, an average or wet year is defined under the Agreement as unimpaired inflow into Folsom Reservoir from March through November that exceeds 950,000 acre-feet per year. The probability of an average or wet year inflow of this volume is 82 percent, meaning that this inflow has occurred approximately 8 out of every 10 years.[23] Accordingly, even under its PSA, the City has a good chance of receiving its full annual surface water allocations from Folsom Reservoir in any given year.

In drier years – defined by the Water Forum Agreement as Stages 1, 2, and 3 – the City's PSA states that, under certain conditions, the City would reduce its diversions from Folsom Reservoir. These reductions are relatively proportional to reductions in March through November unimpaired inflow into Folsom Reservoir of less than 950,000 but equal to or more than 400,000. The decreased inflows could require the City's allowable surface diversions to drop from 34,000 acre-feet to 22,000 acre-feet, separated into a three-stage stepped and ramped reduction in proportion to the decreased inflows. These reductions are known as "the Water Forum Wedge" and illustrated below in **Table 3-5**.

[23] The State of California Department of Water Resources (DWR) conducts annual snowpack surveys and provides a forecast of runoff for the American River watershed along with other watersheds in the State beginning in February and ending in May of each year. Results of these four surveys are published annually in a series of State DWR Bulletins (Bulletin 120-1 through 120-4) and are the basis for determining the unimpaired inflow into Folsom Reservoir; Water Forum Proposal Final EIR, October 1999 at Appendix I.

- Under Stage 1 reductions where the unimpaired inflow to Folsom Reservoir is greater than 870,000 acre-feet but less than 950,000 acre-feet, the City could divert a decreasing amount from 34,000 acre-feet to 30,000 acre-feet in proportion to the reduced flow into Folsom Reservoir.
- Under Stage 2 reductions where the unimpaired inflow to Folsom Reservoir in March through November is greater than 650,000 acre-feet but less than or equal to 870,000 acre-feet, the City could divert a maximum of 27,000 acre-feet.
- Under Stage 3 when the unimpaired inflow to Folsom Reservoir in March through November is equal to or greater than 400,000 acre-feet but less than or equal to 650,000 acre-feet, the City could divert a maximum of 22,000 acre-feet.

The differences in these staged reductions are important. Stage 1 reductions are different than Stage 2 and Stage 3 reductions because the reduced Stage 1 surface supply diversion is directly proportional to the decreased inflow. Under Stages 2 and 3, diversion rates are set based on the stated range of inflow into Folsom Reservoir. Accordingly, diversion reductions under Stage 1 may require different types of supply augmentation mechanisms than those required under the other two stages.

In the driest years – also called the conference years – when the March through November unimpaired inflow to Folsom Reservoir is less than 400,000 acre-feet, the City PSA states that, under certain conditions, the City could reduce diversions to a maximum of 20,000 acre-feet. The City's PSA also states that the City could further reduce diversions in the driest years to 18,000 acre-feet by imposing extra-ordinary conservation measures throughout its service area. A Conference Year was called in 2015. Although the City's PSA describes this significant surface diversion reduction in the driest years, the Water Forum Agreement has the following caveat:

> [I]t is recognized that in years when the projected unimpaired inflow to Folsom Reservoir is less then 400,000 acre-feet there may not be sufficient water available to provide the purveyors with the driest years quantities specified in their agreements and provide the expected driest years flows to the mouth of the American River. In those years the City will participate in a conference with other stakeholders on how the available water should be managed.

Table 3-5 – WFA Surface Water Diversion Scenarios in the City's PSA

Water Forum Year Type	City of Folsom Unimpaired Inflow	City of Folsom Surface Water Diversion	Probability of year type or above [1]
Average or Wet Year	Greater than 950,000 AF	34,000 AF	82%
Stage 1	950,000 to 871,000 AF	34,000 to 30,000 AF	90%
Stage 2	870,000 to 651,000 AF	27,000 AF	95%
Stage 3	650,000 to 400,000 AF	22,000 AF	97%
Driest Years (conference years)	<400,000 AF	20,000 to 18,000 AF	99%

[1] DWR Bulletins (Bulletin 120-1 through 120-4) and are the basis for determining the unimpaired inflow into Folsom Reservoir; Water Forum Proposal Final EIR, October 1999 at Appendix I.

The Water Forum Agreement included a key provision that, in consideration for its reduction in diversion and use of its surface water entitlements from Folsom Reservoir and the American River, "Folsom will enter into agreements with other purveyors that have access to both surface water and groundwater for an equivalent exchange of the amount of reduction needed by Folsom as outlined above in the 3 stages of reduction."[24] Accordingly, unless the City receives an equivalent amount of water for its foregone water assets to meet Lower American River flow objectives, it will not be required to forego the water. Thus, for planning purposes, the City has reliable supplies based upon its existing water assets in accordance with the replacement provisions in the WFA.

In the event the City foregoes water supplies to other purveyors as part of an exchange opportunity, the City will retain both the ownership of the water asset as well as the unilateral authority as to where the water will be delivered. The City will not lose control of its water even if required to send water down the American River as part of the Water Forum Agreement.

The City seeks to develop these arrangements with regional water purveyors as it fulfills its obligation to reduce diversions in certain year types under the Water Forum Agreement. All signatories to the Water Forum Agreement have, among other things, agreed to assist each other in meeting supply reliability objectives.

3.3 Groundwater

The City overlies portions of the Sacramento Valley Groundwater Basin. Specifically, the City overlies two smaller subbasins wholly contained in the Sacramento Valley

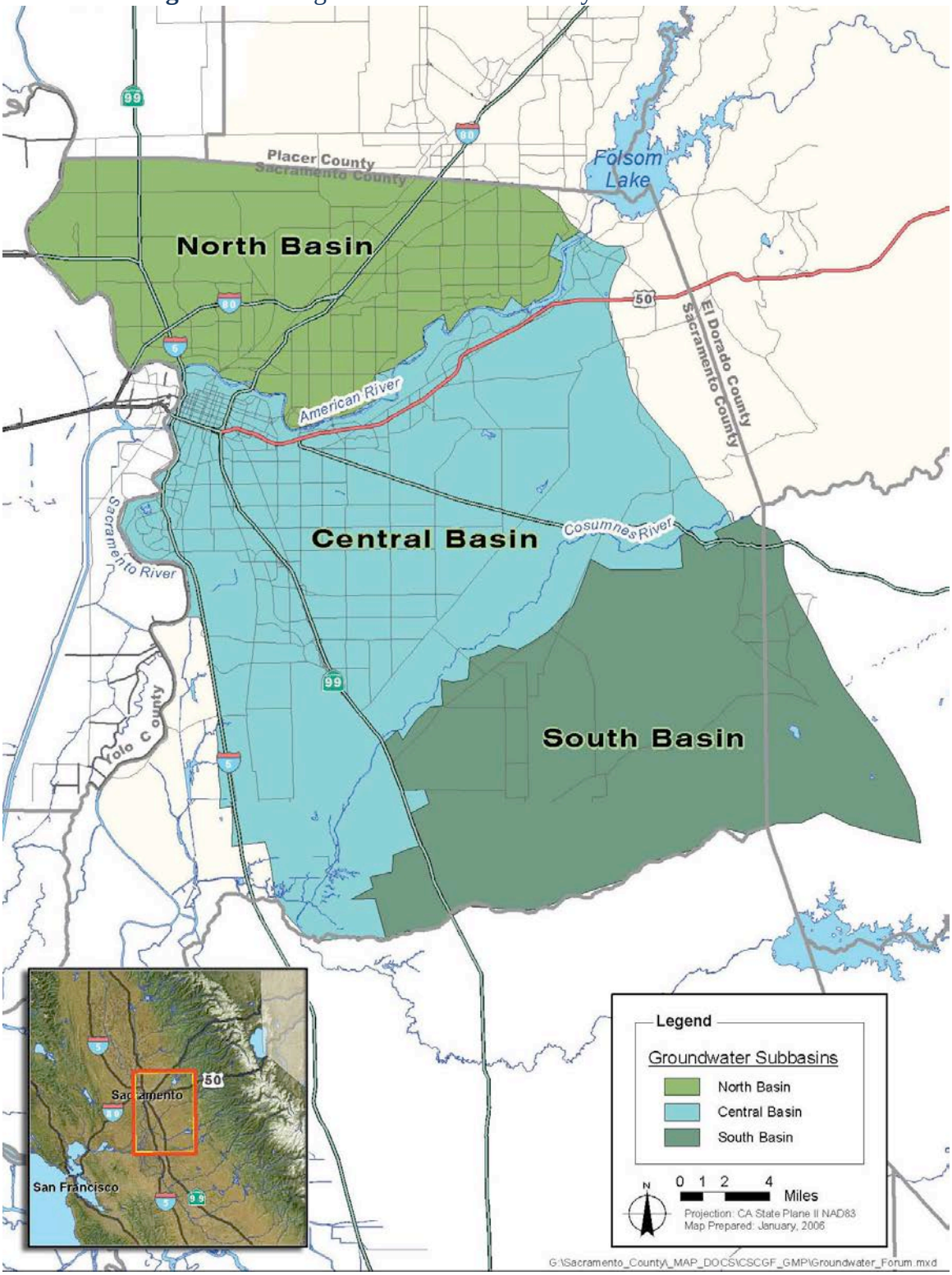
[24] Water Forum Agreement at page 178.

Groundwater Basin: the Sacramento North Area Groundwater Subbasin ("North Basin") and the Central American Groundwater Subbasin ("Central Basin"). These two subbasins are two of 18 subbasins that comprise the Sacramento Valley Groundwater Basin. These two subbasins are depicted in **Figure 3-1**.

3.3.1 North Basin

The North Basin lies within portions of Sutter, Placer, and Sacramento Counties. The North Basin is delimited by the Bear River on the north, the Feather River and the Sacramento River on the west, the American River on the south, and the Sierra Nevada foothills on the east. The North Basin is identified by the California Department of Water Resources (DWR) in Bulletin 118-2003 as Basin No. 5-21.64. The approximate total storage of the North Basin is 4.9 million acre-feet of water, across a surface land area of approximately 351,000 acres.

Figure 3-1 – Regional Sacramento County Groundwater Basins[25]



[25] 2006 CSCGMP Figure ES-1.

3.3.2 Sacramento Groundwater Authority

The Sacramento Groundwater Authority (SGA), formerly the Sacramento North Area Groundwater Management Authority, was formed as a joint powers authority and charged with the management of the North Basin. The SGA's formation in 1998 resulted from a coordinated effort by the Sacramento Metropolitan Water Authority and the Water Forum to establish an appropriate management entity for the basin. SGA draws its authority from a joint powers agreement signed by the cities of Citrus Heights, Folsom and Sacramento as well as the County of Sacramento to exercise their common police powers to manage the underlying groundwater basin. In turn, these agencies chose to manage the basin in a cooperative fashion by allowing representatives of the 14 local water purveyors and representatives from the agricultural and self-supplied pumper interests to serve as the Board of Directors of the SGA.

SGA has developed a Groundwater Management Plan (GMP). The SGA GMP is a quasi-contractual document that identifies basin management objectives and binds the members of SGA to follow certain agreed upon criteria to meet those objectives. The GMP outlines the volumes of water in the basin, the safe yield of the basin, and recharge expectations that water users rely on in planning and using their groundwater assets. In 2014, SGA updated its groundwater management plan to ensure that management objectives and responses remain responsive to developing needs. SGA may again refine its basin management objectives in the context of the Sustainable Groundwater Management Act (SGMA) enacted in 2014.

The SGA GMP includes a discussion of the groundwater levels in the central portion of the North Basin – the area within the North Basin which SGA claims jurisdiction. This sub-area is bounded on the west by the Natomas Central Mutual Water Company and Rio Linda/Elverta Community Water District and on the east by San Juan Avenue. For about 40-50 years up through the mid-1990s, groundwater production in the North Basin resulted in a general lowering of the groundwater levels near its center.[26] Even though the central portion of the North Basin has experienced a decline in groundwater elevations, DWR has not identified the Northern American Groundwater Subbasin as overdrafted, nor has it projected it would become overdrafted.[27]

Since the mid-1990s, groundwater elevations have stabilized throughout the area overlying the regional cone of depression and, in some cases, groundwater elevations are continuing to rise.[28] Recent conjunctive use activities have resulted in providing new surface water supplies to water purveyors historically producing groundwater in the central portion of the

[26] *Id*. at 12.
[27] See California's Groundwater Bulletin 118, Sacramento Valley Groundwater Basin, North American Subbasin (DWR Subbasin 5-21.64), January 2006.
[28] *Id.* at 53.

North Basin.[29] Although water purveyors in the region will rely more heavily on groundwater during dry periods, the net increase in available surface water will result in a maintained or improved amount of groundwater in storage in the basin over the long term.[30] The average sustainable yield of the groundwater basin is estimated by SGA to be 131,000 af/yr[31], and the groundwater elevations range from about 10 feet above mean sea level (msl) and 40 msl.

3.3.3 Central Basin

The Central Basin is identified by DWR in Bulletin 118-2003 as Basin No. 5-21.65. The Central Basin is located in the Central Basin Area of the Sacramento County Groundwater Basin, as identified in the Central Sacramento County Groundwater Management Plan (CSCGMP). The aquifer system within the Central Basin consists of continental deposits of the late Tertiary to Quaternary age (DWR Bulletin 118). The Central Basin is depicted in **Figure 3-1** above. The major fresh water bearing geologic units are the Laguna Formation and the Mehrten Formation. The Laguna Formation, which extends to a total depth of approximately 300 feet within the Central Basin, is used for private domestic wells and municipal water supply wells.

3.3.4 Central Basin Groundwater Management

The Central Basin Groundwater Management Plan is the primary planning tool for the current Central Basin groundwater management.[32] The CSCGMP was formally adopted by the participating agencies in 2006 and identified the safe yield of the Central Basin as 273,000 acre-feet per year. The emerging rules associated with the Sustainable Groundwater Management Act, however, will likely change the plan. The SGMA requires formation of a Groundwater Sustainability Agency (GSA) and adoption of a Groundwater Sustainability Plan (GSP) – may greatly impact the long-term management of the Central Basin.

Central Sacramento County Groundwater Management Plan

As described above, the City overlies the Central Basin but it does not extract groundwater from the Basin for use on overlying lands. Instead, it relies on Aerojet to extract and treat groundwater for use in the City's service area. The public water systems and water service providers that extract water from the Central Basin include: the California American Water

[29] *Id.*
[30] *Id.*
[31] This value was estimated based on long-term average water use, supply conditions, and facilities in the basin at the time of the WFA. This value was not intended to be a fixed value that could not be modified as conditions and assumptions changed in the basin.
[32] A copy of the Central Basin Groundwater Management Plan is available at http://www.amwater.com/files/CSCGMP_final.pdf

Company, Sacramento County Water Agency, the Golden State Water Company, Elk Grove Water District and numerous private landowners that possess overlying groundwater rights linked to their property ownership.

The Central Basin is not adjudicated or considered to be in a state of overdraft. Due to the active planning by water agencies and conjunctive use efforts, the basin will remain stable in the future. The CSCGMP provides for the long- term protection of groundwater quantity and quality within the region, and contains policies directing the development of surface water supplies, conservation, and other measures to service urban development as it occurs, thereby protecting the sustainable annual groundwater yield threshold of 273,000 AF.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act requires establishing a GSA and a GMP as noted above. Although the Central Basin has an existing Groundwater Management Plan, the CSCGMP may not be the controlling planning document in the future because of this new law. Moreover, the CSCGMP participating agencies have not yet been chosen to act as a GSA. Once a GSA is formed, the participating agencies will be required to develop a GMP that coordinates management with all Central Basin water users and stakeholders. This GMP may mimic the CSCGMP fundamental analyses but it is too early to tell if those analyses will meet the states' more stringent GMP regulations.

3.3.5 City Groundwater Development and Use

The City does not pump groundwater for use in the City's water service area but has a vested interest in the management of the Central Basin. The City will continue to work in the Central Basin in order to protect its short-term and long-term water management interests, including groundwater banking and conjunctive use options.

In previous years, the City of Folsom relied on groundwater to serve the area south of U.S. Highway 50, including the areas within the Aerojet area (referred to as the Natomas Nimbus service subarea). During the late 1970's to 1980's, the City recognized the need to develop the conjunctive use of groundwater and surface water to meet future water demands. However, with the recognized contamination of groundwater within the City's water service area from the 1990's to present, the City pursued surface water as the primary source of water supplies, and a reliance on other agencies outside of the Folsom water service area to meet any conjunctive use plans for dry-year water supplies.

However, as technology has improved and uses for remediated water supplies have been identified, the City has embraced using groundwater derived from its service area for certain identified uses. These uses are described in **Section 3.3.6** below.

3.3.6 Groundwater Extraction and Treatment (GET) Water

Pursuant to terms of the 2007 Aerojet Agreement between the City and Aerojet, the City acquired rights to treated groundwater produced by Aerojet's Groundwater Extraction and Treatment Facilities A and B (GET A and GET B). The GET A facility consists of extraction wells and a treatment facility. GET A's 17 wells will produce treated water of approximately 537 gallons per minute (GPM). The GET B Facility, also currently consisting of extraction wells and a treatment facility will be extracting approximately 2,077 GPM, of which approximately 1,477 GPM will be made available to the City. In total, these facilities will provide the City with an additional water supply of approximately 3,250 acre-feet per year. Water derived from the GET facilities will be used to meet industrial demands within the Aerojet Industrial Property (projected to average 2,731 acre-feet per year) as well as other potential non- potable demands throughout the City.

Because the City has not yet developed additional non-potable uses for the GET water supply, the amount of GET water represented will show this supply as only that which is projected to be used by Aerojet industrial facilities. Any GET water remaining above and beyond the demonstrated use by Aerojet can be used by the City for other non-potable demands.

3.3.7 Other Groundwater within the City's Water Service Area

Other groundwater use within the City's service area is limited to private use by the Empire Ranch Golf Course and as an emergency supply for Intel Corporation. The golf course uses groundwater in the spring and early summer months as a primary source of irrigation water. As the irrigation season progresses, groundwater levels typically decline and the golf course purchases supplemental potable surface supplies from the City. And Intel Corporation has established two emergency backup wells capable of delivering 100 GPM and 15 GPM, respectively.

To better understand the groundwater conditions and supply potential that may underlie the golf course and other areas within the City limits, the City completed a Groundwater Resources Investigation through an AB 303 grant. Two test wells were installed for this study in localized areas of high electrical resistivity in ancestral paleochannels of the American River. These wells are considered to be of the South American Groundwater Sub-basin (5-21.65) of the Sacramento Valley Basin. The two test wells yielded 200 to 400 GPM during short-term pumping tests, but additional aquifer testing would be required to confirm the sustainability of the yields.

3.4 Recycled Water

The City of Folsom completed a *Water Recycling Feasibility Study*. This study evaluated the potential use of recycled water in Folsom's Service Area. The study identified two categories of potential recycled water use, landscape irrigation use and non-potable, non-irrigation uses. Based on the finding of the report, a future City of Folsom recycling program would likely be limited by the availability of supplies and seasonal storage. At this time, the City does not have a source of recycled water.

3.4 Desalinated Water

Desalination of ocean water is not physically or financially viable for the City at this time and it has no future plans to develop water supplies derived from desalination activities.

3.5 Transfer and Exchange Opportunities

The City has opportunities for water transfers and exchanges. The City is already engaged in one water transfer in transferring its GSWC leased water asset back to GSWC for compensation in order for GSWC to have a temporary supply to supplant groundwater contamination. Additional opportunities are available now. With some creative thinking and willing partnerships, the City could engage in numerous forms of water transfers that may have short-term benefit to the City as well as long-term regional benefit. Some examples of these are described below.

Water Forum Transfers

As an initial matter, in order for the City's obligations under the Water Forum Agreement to manifest, other regional water purveyors must provide the City with a replacement water supply. As such, the City may be amenable to receiving water through water transfer mechanisms derived from surface water assets and groundwater assets.

But the WFA also provides the City with an opportunity to sell foregone water assets in below normal years. In these years, where Folsom releases its water assets into the Lower American River, it retains its rights to those assets through the confluence of the American and Sacramento Rivers. As such, the City could potentially sell those assets when they are available. Placer County Water Agency (PCWA) a fellow WFA signatory agency is selling its foregone water assets under the WFA each year.

In Lieu Banking Arrangement with Groundwater Purveyor

The City could engage a water purveyor with surface water assets connected to the Sacramento River watershed and deliver the City's surface water assets in lieu of the recipient using its groundwater assets. The foregone groundwater assets could be retained

as banked groundwater available when surface water is not available or simply left in the ground to recharge the groundwater basin. A potential partner in this sort of water transfer arrangement would be Sacramento County Water Agency with its diversion capabilities from the Sacramento River at Freeport. The benefit of this sort of transaction is that it would relieve pressure on the groundwater basin and preserve the groundwater supplies for dry periods when surface water assets are less available.

A second form of the in lieu banking alternative might include assigning the rights to the banked groundwater to another agency. For instance, if Golden State Water Company could deliver some of its surface water assets directly to the City in normal and wet years, the City could assign a portion of its banked groundwater assets to Golden State Water Company for use in dry years. The in lieu banking and exchange agreement can work where an entity shares surface water and groundwater resources in all portions of the Sacramento Area Groundwater Basin (North, Central and South).

Water Conservation Based Transfers

The City is experiencing significant per capita water savings by instituting water conservation activities. Under Water Code Section 1011, all water conserved by the City remains the property of the City for its intended uses and disposition. Thus, where conservation efforts result in reduced consumptive uses, the City is able to transfer those water assets to willing buyers. These buyers may be local water purveyors or those in far-away places – even south of the Delta. Accordingly, the City may develop conservation based water transfers and receive compensation.

Water Reclamation Based Transfers

As noted in **Section 3.3.6** above, the City has acquired and is using reclaimed water assets to meet specific demands in lieu of potable water deliveries.[33] Water Code Section 1010 protects the City's potable supplies for the City's uses. But in addition to that protection, Section 1010 indicates that the preserved water assets may be available for direct transfer because they are based on a reclaimed asset offset. This offset is similar to a conservation based transfer as water that is "reclaimed from an unusable source" is now made available for water usage.

Groundwater Substitution Transfers

The reclaimed water transfer described above may also be characterized as a groundwater substitution transfer. Under this characterization, the City is using water derived from

[33] The water code considers use of water that is "polluted by waste to a degree which unreasonably affects the water for other beneficial uses" as protecting water assets otherwise available under Water Code Section 1010.

groundwater sources to offset surface water that is normally delivered to Aerojet. Thus, the utilization of groundwater in lieu of surface water is one of the primary mechanisms for short-term water transfers in dry years. The City is well-positioned to demonstrate this type of water transfer.

Direct Water Transfer

Last, but probably most important, is the City's ability to directly transfer its surface water assets to other users. This form of transfer essentially allows the City to continue its full water usage but transfer surplus water to other legal users in the system. The City can manifest this type of transfer through its pre-1914 appropriative water rights as well as its CVP contract entitlement.

Under the City's pre-1914 appropriative water rights, the City has the ability to simply deliver the water to a new place of use without the approval of the SWRCB. In other words, the City can move this water asset without the express permission of a regulatory entity. The regulatory entity would need to challenge the delivery as causing injury. The City has engaged in this transfer by delivering its pre-1914 appropriative water rights water to GSWC in exchange for money. Although this did not expand the place of use of the pre-1914 right because of the co-tenancy agreement, it did set in motion the ability to deliver the asset to other legal users without express approval of other agencies.

The City could also deliver its CVP Contract Entitlement to other legal users in the American River Watershed. Under the Central Valley Project Improvement Act (CVPIA), in watershed water users that share contract rights for water supplies are allowed to transfer the entirety of their contract entitlement to other CVP users. This paper water transfer was one of the important regional requests in developing and implementing this law. The American River contractors have never implemented this rule. However, neighboring agencies on the Sacramento River – the City of West Sacramento – has engaged in lucrative water transfers through this narrow CVPIA provision.

3.6 Supply Reliability

The City's water supplies are stable and reliable. The City's surface water assets on the American River are well documented and well preserved. The City's groundwater assets manifesting from GET A and GET B are also well documented and protected for the City's uses. And the WFA curtailments are merely voluntarily implemented until the City has access to additional water resources provided by the other WFA participating water agencies.

3.6.1 Normal Year Water Supply Availability

The City's total available water supply will not vary in a normal year from what was discussed in **Section 3.2.5**. The City has 35,540 acre-feet of water to meets its service requirements in the City's Service Area. In addition, the City has nearly 3,250 acre-feet of GET A and B groundwater per year available. Although 2,731 acre-feet is used at Aerojet, the remaining 500 plus acre-feet could be used in other areas within the City.

3.6.2 Single Dry-Year Water Supply Availability

The City's total available water supply will diminish only slightly in a dry year as described in **Section 3.2.5**. The City has 33,790 acre-feet of water to meets its service requirements in the Folsom Area and Ashland Area. The baseline reduction is due to the CVP M&I Shortage Policy reducing the CVP Fazio supply by 25 percent from 7,000 acre-feet to 5,250 acre-feet. The City would continue to have nearly 3,250 acre-feet of GET A and B groundwater per year available.

3.6.3 Multiple Dry Year Water Supply Availability

In the second year of a multi-year drought, the City has 33,250 acre-feet of water available. This reduction represents a proportional cutback in water supplies available under the San Juan Water District Water Supply Agreement. Although this reduction of approximately 33 percent of the available supply may be drastic, we are using this figure out of an abundance of caution pursuant to the SJWD water supply shortage plan.

In the last year of a multi-year drought, the City has 32,000 acre-feet of water available. This number represents a 50 percent supply cutback in the City's Central Valley Project Fazio supply. Although the 2015 extreme drought cut this supply by 75 percent, this statewide situation was also accompanied with state-mandated end-user demand reductions. As such, in these extreme cases, the City is prepared to implement significant demand reductions in order to manage water supply. Otherwise the City's overall water supply portfolio remains the same.

CHAPTER 4. WATER DEMAND CONDITIONS

Understanding water demand characteristics is essential to enable the City of Folsom to reliably and cost-effectively manage its water supplies to continue to meet customer needs. This section characterizes the City's retail customer demands – current and forecast over the next few decades. Characteristics such as how demands vary among different land use classifications and under differing hydrologic conditions, all help with that understanding. This section is organized as follows:

- Review and refinement of the *2020 Urban Water Use Target* - This subsection presents the review and refinement of 2015 and 2020 water use targets as allowed under CWC §10608.20(g).[34]
- Compliance with *Interim 2015 Urban Water Use Target* – This subsection documents the derivation of the 2015 GPCD value and comparison to the 2015 interim target.
- Historic and Current Water Demands – This subsection presents data reflecting the historic and current water demand conditions for residential and non-residential customers in the City.
- Future Water Demands – This subsection presents the derivation of future demands for potable water within the City's service area, including land-use classifications, unit demand factors, and estimation of non-revenue water.
- Summary of Water Demands – This subsection presents a summary of the projected current and future water demands in five-year increments.

4.1 Review and Refinement of GPCD Targets

As detailed in the City's 2010 UWMP, population, residential connections, and water production data were used to generate a gallon per capita day (GPCD) baseline. From this GPCD baseline, the City assessed and determined a *2020 Urban Water Use Target* and an *Interim 2015 Urban Water Use Target*. These values were determined to be 343 and 386, respectively, as presented in the 2010 UWMP.[35]

According to the DWR Guidebook, a retail water purveyor who did not use actual 2010 Census data must re-calculate its baseline using the available 2010 Census data.[36] For the

[34] 10608.20(g): *An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).*
[35] City of Folsom 2010 UWMP, p. 3-32 (available at: http://www.water.ca.gov/urbanwatermanagement/2010uwmps/Folsom, percent20City percent20of/City percent20of percent20Folsom percent202010 percent20UWMP percent20Update percent20- percent20FIN.pdf).
[36] *"If an agency did not use 2010 U.S. Census data for its baseline population calculations in the 2010 UWMP (the full census data set was not available until 2012) the agency must re-calculate its baseline population for the 2015 UWMPs using 2000 and 2010 Census data. This may affect the baseline and target GPCD values calculated in the 2010 UWMP, which must be modified accordingly in the*

City's 2010 UWMP, the 2010 Census data was not fully available, causing the City to use other methods to estimate 2010 population.[37] Thus, the City must recalculate its baseline GPCD and re-establish its target and interim-target values with the available 2010 Census data.[38] The City cannot use the revised DOF tables for calculation of the 2015 UWMP population because three separate Water Service Boundaries make up the City Administrative Boundary.

To recalculate the annual GPCD values using the 2010 Census data, the City utilized the available population tool from DWR. Use of this tool requires uploading of specific files that define the City's service areas for 1990, 2000, and 2010 – as each of those periods potentially have varied service area boundaries. The result of the boundary analysis provided a new population value for the 2000 and 2010 census years and, based upon the prior connection data, new population estimates for the entire baseline period. New population values divided into the previously determined gross water values (as documented in the 2010 UWMP) provided revised GPCD values for this period. **Table 4-1** provides a comparison of the yearly population and GPCD estimates from the 2010 UMWP and as revised using 2010 Census data and the DWR population tool.

Using the revised annual GPCDs, new values were calculated for four of the six 10-year time periods ending no earlier than December 31, 2004 and no later than December 31, 2009 where quality data was available. The comparative results are shown in **Table 4-2**. As expected, the use of 2010 Census data and the new DWR population tool did result in changes to the estimated baseline values, and the resulting 2015 Interim GPCD Target and 2020 GPCD Target.

2015 UWMP." (2015 Urban Water Management Plans: Guidebook for Urban Suppliers, DWR, January 2016, p. 5-8).

[37] The City did both a block level analysis for the 2000 census and DOF tables. For the 2010 UWMP the City used DOF population numbers subtracting the section of the City which is not served or billed by the City water system.

[38] According to CWC Section 10608.20(g), the District may also re-assess the methodology chosen to determine its 2015 and 2020 GPCD targets and update these targets, even if the 2010 population data was appropriate.

Table 4-1 – Revised Annual GPCD using 2010 Census Data

	From 2010 UWMP			For 2015 UWMP		
Year	Gross Water Use	Service Area Population	GPCD	Revised Gross Water Use*	Revised Population	Revised GPCD
1996	14,761	31,515	418	14,761	31,022	425
1997	17,603	33,764	465	17,603	32,614	482
1998	17,376	35,290	440	17,376	34,124	455
1999	20,196	40,160	449	20,196	37,288	484
2000	20,278	45,021	402	20,278	41,677	434
2001	25,354	47,540	476	25,354	47,324	478
2002	23,414	50,760	412	23,415	49,583	422
2003	23,913	52,566	406	23,913	52,661	405
2004	25,547	54,046	422	25,547	54,456	419
2005	24,974	55,547	401	24,974	56,253	396
2006	26,519	56,779	417	26,519	57,658	411
2007	27,304	58,434	417	27,304	58,811	414
2008	26,644	59,084	403	26,644	60,449	393

* Values Include Aerojet Raw

Pursuant to CWC 10608.20(g) the City may choose to select a different method for calculating its 2020 GPCD target. Upon review of the analysis in the 2010 UMWP that resulted in the choice of Method 1, the City finds no reason to vary from the prior method choice. Thus, the City is officially using Method 1 to establish its 2020 GPCD target. However, to accurately reflect the use of the 2010 Census data and the DWR population tool, the City will modify its 2020 GPCD Target to be 352 gallons per capita per day (see **Table 4-2**).

Table 4-2 – Comparison of baseline and target values

Baseline Period*	Baseline Values		2015 Target		2020 Target	
	Original	Revised	Original	Revised	Original	Revised
1996-2005	**429**	440	386	396	343	352
1997-2006	429	439	386	395	343	351
1998-2007	424	432	382	389	339	345
1999-2008	421	426	378	383	336	341

*Values Include Aerojet Raw

4.2 Compliance with 2015 Interim Target

Pursuant to CWC Section 10608.40, the City is to report to DWR on its progress in meeting its urban water use targets as part of its 2015 UWMP. As part of the progress reports, the City should include its "compliance daily per capita water use" (Compliance Value), which is the gross water use during the final year of the reporting period, reported in gallons per capita per day.[39] Documentation of the Compliance Value must include the basis for determining the estimates, including references to supporting data.

[39] CWC § 10608.12(e).

Furthermore, pursuant to CWC Section 10608.24(a), the City must demonstrate that it has met its 2015 Interim GPCD Target as of December 31, 2015 through its calculation of its 2015 Compliance Value.

Extending the population analysis that was revised during the reassessment of the baseline GPCD, the City is able to calculate its 2015 Compliance Value. **Table 4-3** presents the extended population calculation for 2011 through 2015, the associated gross water use in each year, and the resulting annual GPCD. As demonstrated, the City's 2015 Compliance Value is 239 gallons per capita per day, which is significantly below the 2015 Interim GPCD value of 396.

Though the 2015 Compliance Value seems impressive, the City does not believe it represents the actual progress toward its 2020 GPCD Target conditions due to two factors: (1) weather conditions in 2015, and (2) mandatory conservation requirements imposed by the State Water Resources Control Board. While normalizing for weather is recognized and suggested in statute, with a tool available from DWR to perform the calculation, the State mandated conservation likely had a greater downward affect on the 2015 Compliance Value.[40]

Table 4-3 – Annual GPCD for 2011 through 2015

Year	Population	Gross Water Use (af/yr)	GPCD
2010	61,187	22,861	334
2011	61,351	23,170	337
2012	61,600	22,221	322
2013	62,145	22,895	329
2014	62,756	19,319	275
2015	63,536	15,907	224

* Includes Aerojet Raw

Although adjustments for weather are allowed, they are not required.[41] Because the City's 2015 Compliance Value demonstrates that the City is in compliance with the statutes, it has elected to not adjust the 2015 Compliance Value for weather. However, it has chosen to adjust the value to understand what 2015 GPCD conditions may have been absent the State conservation mandate so that it can appropriately assess progress toward its 2020 Target GPCD.

One option for the City to understand its progress toward the 2020 Target GPCD is to look at the most recent "average" year, which would be 2013. In 2013, there were no mandatory conservation measures, weather was not significantly different than average

[40] CWC Section 10608.24(d)(1)(A)
[41] CWC Section 10608.24(d)(2)

conditions (though it was the beginning of the current drought cycle), and the City had yet to complete its customer meter installation. Even without these factors the GPCD in 2013 was 390 gpcd, just below the revised 2015 Target GPCD value of 396 (see **Table 4-2**).

From this information, the City concludes that it is on track to achieve its 2020 GPCD Target when it reports the 2020 Compliance Value in its next UWMP update. The City recognizes that a primary factor in this early success was the growth in modern housing numbers in the 2000s and an extensive water loss program which, respectively, brought the average household water use down and brought City water loss inline with industry standards.

4.3 Current and Forecast Water Demands

Based on available records for water production, water sales and deliveries, the City's water demands for the past five years were previously presented in **Table 4-3**. As demonstrated by the presented gross water use values, the City has not experienced much growth since the 2010 UWMP. And, as described in **Chapter 2**, the City only anticipates limited growth in the existing service areas, but does anticipate significant short-term growth in the planned communities south of Highway 50. These two categories of growth are detailed in the next section. Water demands for uses within the City that are met by other sources, such as private well use at Intel and Empire Golf Course, are not included in this analysis.

Forecasting future demand requires several considerations: assessing the future water use habits of existing customers that will lower per capita water use, analyzing the land use plans that indicate locations and types of anticipated growth, and examining the various laws and regulations that determine future water demand factors.

4.3.1 Existing Customers

As described in **Chapter 2**, the City currently serves a mostly built-out area of Sacramento County with a variety of residential and non-residential customers with varying uses. With recent completion of the meter program, the City is able to begin better understanding the characteristics of its customers' use. To assist with this understanding, the City maintains a database of meter use information, categorized by land-use classification. Exiting customers are categorized into a number of land-use classifications in the meter database including but not limited to: single family residential, multi-family residential, commercial, industrial, schools, parks, and municipal.

With account numbers and meter data, the existing unit demand factors for each can be determined. This information provides a baseline for estimating the future demands of existing customers. **Table 4-4** provides the baseline demand factors for each land use

category using 2013 account and meter data. The City believes 2013 is the best available data to represent average conditions at this time. Using data from the drought years of 2014 and 2015 are less likely to represent average use conditions because of state-mandated use reductions. Using these years would likely skew baseline conditions.[42] This approach is congruent with the GPCD values depicted in **Table 4-3**.

As discussed in **Chapter 2**, the City of Folsom is split into a number of sub-areas. The American River Canyon area is not served by the City and is not included in the demand forecasts for this 2015 UWMP. The Ashland Service Area, located north of the American River, was near build-out before the beginning of the GPCD baseline period. The City's West Service Area and the East Service Area saw significant growth in the 1990's through 2000's and are also nearly built-out. As a result, these areas predominantly see future demand forecasts resulting from changes to existing customers.

Existing customers' future unit demand factors are assumed to change mostly from drivers such as general homeowner fixture replacements and upgrades, the City's conservation awareness and incentive programs, and other factors affecting a general increased awareness of water conservation. The future unit demand factors reflect a reduction from the current value in all categories resulting from conservation rates indicated in the far right column of the table. This reduction is reasonable as it reflects expected benefits of on-going City and customer conservation efforts, coupled with the use of 2013 for baseline conditions.

A reflection of the impact of these drivers is presented as the unit demand factors for existing customers as demonstrated in **Table 4-4**. The future demand factors for existing residential customers reflect a 5 to 10 percent reduction from the current value to conservatively reflect anticipated conservation efforts. This reduction is reasonable as it reflects expected benefits of on-going customer conservation efforts, coupled with the use of 2013 for baseline conditions.

[42] 2013 was the first year that the City was fully metered and billing on volumetric use. Accordingly, this data is the best available to assess average demand conditions at the writing of this UWMP.

Table 4-4 – Existing Customer Characteristics

		Existing Customers		
Land-class	Current DUs/ACs	Current Demand Factors (af/account)	Future Demand Factors (af/account)	Notes
Multi-Family	5,384	0.32	0.30	Demand factors represent DUs, which may have many units per account
Single Family	17,068	0.60	0.56	
Commercial/Industrial	2,051	2.50	1.97	
Schools	293	1.85	1.85	Calculated from current GIS acreage and metered demands
Parks	187	3.73	3.73	Derived from regional meter study results
Municipal	560	1.35	1.30	Calculated from current GIS acreage and metered demands

4.3.2 Future Customers

As discussed in **Section 2.1.2**, City of Folsom service area is substantially built out in the Current Water Service Areas, having little remaining undeveloped land, so limited growth is expected. The expected growth will occur as a result of isolated infill, lot split development projects, and the significant planned communities located south of highway 50. Based on the WSA information available and revised Specific Plans, this growth will amount to around 16,000 new dwelling units or increasing the current City size by over 70 percent.[43] There are several factors that affect the development of future unit water demand, which in turn affect the forecasted water demand for future customers. These range from state mandates to changes in the types of housing products being offered. These are incorporated into the determination of future unit water demand factors, discussed later in this chapter. Characteristics of the most important factors are described below.

4.3.2.1 Factors Affecting Future Water Demands

These following factors are generally recognized to result in lower per unit demand factors for future residential and non-residential customers. A brief discussion of each item is described in the sections below.

Water Conservation Objectives:

On November 10, 2009, Governor Arnold Schwarzenegger signed SBX7 7, which required each urban water supplier to reduce their per-capita water use by 2020, with a

[43] Approximately 11,000 new DU as part of the SPA projects and a further 5,000 new DU as part of the Glenborough Easton projects.

statewide goal of achieving a 20-percent reduction by 2020.[44] As discussed previously, the City has established a 2020 Target GPCD in response to this requirement.

Achieving the City's 2020 conservation target will require the City to continue its on-going conservation efforts. As illustrated by the compliance analysis previously discussed, the City has already achieved its 2015 goal and is on track to achieve it's 2020 goal. New customers will likely further reduce the City's annual GPCD since the factors below were designed to lower use.

Indoor Infrastructure Requirements

In January 2010, the California Building Standards Commission adopted the statewide mandatory Green Building Standards Code (hereafter the "CAL Green Code") that requires the installation of water-efficient indoor infrastructure for all new projects beginning after January 1, 2011. The Cal Green Code was revised in 2013 with the revisions taking effect on January 1, 2014; however these revisions do not have substantial implications to the water use already contemplated by the 2010 Cal Green Code.[45] The CAL Green Code applies to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure.

All new developments must satisfy the indoor water use standards directed by the CAL Green Code, which essentially require new buildings and structures reduce overall potable water use by 20 percent. Expected future customers will satisfy the standards through the use of appliances and fixtures such as high-efficiency toilets, faucet aerators, on-demand water heaters, or other fixtures as well as Energy Star and California Energy Commission-approved appliances.

California Model Water Efficient Landscape Ordinance

The Water Conservation in Landscaping Act was enacted in 2006, requiring the Department of Water Resources to update the Model Water Efficient Landscape Ordinance (MWELO).[46] In 2009, the Office of Administrative Law (OAL) approved the updated MWELO, which required a retail water supplier or a county to adopt the

[44] California Water Code § 10608.20

[45] "The 2010 CAL Green Code was evaluated for updates during the 2012 Triennial Code Adoption Cycle . HCD evaluated stakeholder input, changes in technology, implementation of sustainable building goals in California, and changes in statutory requirements. As such, the scope of the CAL Green Code was increased to include both low-rise and high-residential structures, additions and alterations." *Guide to the 2013 California Green Building Standards Code (Residential)*, California Department of Housing and Community Development, 2013.

[46] Gov. Code §§ 65591-65599

provisions of the MWELO by January 1, 2010, or enact its own provisions equal to or more restrictive than the MWELO provisions.[47]

In response to the Governor's executive order dated April 1, 2015, (EO B-29-15), DWR updated the MWELO and the California Water Commission approved the revised MWELO on July 15, 2015. The changes include a reduction to 55 percent for the maximum amount of water that may be applied to a landscape for residential projects, which reduces the landscape area that can be planted with high water use plants, such a turf. The MWELO applies to new construction with a landscape area greater than 500 square feet (the prior MWELO applied to landscapes greater than 2,500 sf).[48] For residential projects, the coverage of high water use plants is reduced to 25 percent of the landscaped area (down from 33 percent).

It is difficult to predict the ultimate impact of the MWELO requirements on future water demand. While the requirement is for development of a landscape design plan that uses plants and features that are estimated to use no more than 55 percent of ETo, some provision must be made for the inherent tendency to overwater even with irrigation controllers installed, piecemeal changes in landscape design, reductions in irrigation efficiency through product use, and limited resources for enforcement in the absence of dedicated irrigation meters.

California Urban Water Conservation Council BMPs

The City is a signatory to the California Urban Water Conservation Council (CUWCC) Best Management Practices (BMP) Memorandum of Understanding (MOU). Due to this affiliation, the City has implemented the CUWCC BMPs. These practices further reduce the City's demands. Further details on the City's conservation efforts can be found in **Chapter 5**.

4.3.2.2 Future Unit Demand Factors

When considering the various factors discussed above, coupled with a review of current customer use characteristics, the City has established the demand factors presented in **Table 4-5** for estimating future customer demand. **Table 4-5** also presents the anticipated growth rate for new dwelling units or non-residential acreage over the 2015 UMWP planning horizon.

[47] California Code of Regulations (CCR), Tit. 23, Div. 2, Ch. 27, Sec. 492.4. The MWELO provides the local agency discretion to calculate the landscape water budget assuming a portion of landscape demand is met by precipitation, which would further reduce the outdoor water budget.
[48] CCR Tit. 23, Div. 2, Ch. 27, Sec. 490.1.

Table 4-5 – Future Customer Accounts and Demand Factors

Land-class	New DUs/ACs (cumulative)					Future Demand Factors
	2020	2025	2030	2035	2040	
Multi-Family	500	1,000	1,750	2,750	4,250	0.23
Single Family	1,500	3,000	4,500	6,000	7,500	0.42
Commercial/Industrial	344	717	767	818	818	1.97
Schools	0	133	179	179	179	2.58
Parks	124	248	280	311	311	3.73
Municipal	5	10	10	10	10	1.30

4.3.3 Large Industrial Demands

Large Industrial Users represent a unique demand on the City. Subject to economic conditions, state and federal regulations, and leadership located outside of the City, projected use cannot be analyzed in a meaningful way using industry standard assumptions. **Table 4-6** provides the projections in demands for each 5-year planning horizon as used in the 2015 UWMP.[49]

Table 4-6 – Large Industrial Demands

Land-class	Treated Industrial Users*					
	Current	2020	2025	2030	2035	2040
Intel	499	383	383	383	383	383
Aerojet	530	451	451	451	451	451
Kikkoman	110	158	158	158	158	158
Gekkeikan	82	67	67	67	67	67
Subtotal	1,221	1,059	1,059	1,059	1,059	1,059

*Intel is technically commercial but due to it's size uses water on an industrial scale

Land-class	Raw Industrial Users					
	Current	2020	2025	2030	2035	2040
Aerojet	2,278	2,731	2,731	2,731	2,731	2,731

4.3.4 Demand Forecast Summary

Water demand projections within the City's service area reflect the combination of continued conservation by existing customers and the addition of new customers over the 2015 UWMP planning horizon. For purposes of this 2015 UWMP, **Table 4-7** provides the summation of this analysis and the resulting expected demands for each 5-year planning horizon to 2040. The City's build-out demand is expected to be approximately 32,000 acre-feet per year.

[49] The projected demands for these high water using customers is kept consistent with estimates from the 2010 UWMP. The actual demands have varied as represented by the "current" (2013) reported values.

Table 4-7 – Projected Water Demands

Land-class		Forecast Demand (af/yr)				
		2020	2025	2030	2035	2040
Multi-Family	Existing	1,707	1,691	1,675	1,660	1,645
	Future	115	230	403	633	978
	Subtotal	1,822	1,921	2,078	2,292	2,623
Single Family	Existing	10,113	9,985	9,863	9,742	9,626
	Future	630	1,260	1,890	2,520	3,150
	Subtotal	10,743	11,245	11,753	12,262	12,776
Commercial/ Industrial	Existing	5,128	5,128	5,128	5,128	5,128
	Future	677	1,412	1,512	1,611	1,611
	Subtotal	5,805	6,540	6,639	6,739	6,739
Schools	Existing	542	542	542	542	542
	Future	0	343	462	462	462
	Subtotal	542	885	1,004	1,004	1,004
Parks	Existing	696	696	696	696	696
	Future	463	925	1,043	1,160	1,160
	Subtotal	1,158	1,621	1,738	1,856	1,856
Municipal	Existing	756	756	756	756	756
	Future	7	13	13	13	13
	Subtotal	763	769	769	769	769
Subtotal		**20,832**	**22,979**	**23,981**	**24,921**	**25,766**
Unaccounted water		1,875	1,838	1,679	1,495	1,288
Aerojet Raw		2,731	2,731	2,731	2,731	2,731
Unaccounted raw water (at 5%)		137	137	137	137	137
	Total	**25,575**	**27,685**	**28,527**	**29,283**	**29,921**

4.3.5 Distribution System Water Losses

The demand factors presented earlier in this chapter represent the demand for water at each customer location. To fully represent the demand, distribution system losses must also be included. Often, these losses represent water that is lost due to system leaks, fire protection, construction water, unauthorized connections and inaccurate meters. Essentially, this is the water that is produced at the City's treatment plant or diverted into delivery pipes that does not make it to the customer – either as a real loss or an apparent loss (e.g. such as may result when a customer meter under reports actual use).

In most instances, the predominant source of distribution system losses is from leaks that inevitably exist throughout the many miles of pipes and fitting that bring water to the City's customers. For the City of Folsom, an extensive 2-year leak detection and recovery project was completed since adoption of the 2010 UWMP. As a result, the measured losses on the potable system have been significantly reduced. For purposes of forecasting future demands, the system loss is established on a declining loss factor from 9 percent to 5 percent of the treatment plant production through 2040. The raw water delivery pipeline which feeds the Aerojet Industrial demands historically lost approximately 35 percent but is currently being replaced. Future raw water losses are assumed to be 5 percent starting in 2020.

Pursuant to CWC 10631(e)(3)(B), the City must quantify and report the distribution system loss for 2015 using methodology developed by the American Water Works Association (AWWA) and provided as a worksheet through DWR. Using the available worksheet, the City calculated a loss equal to 18 percent of the water supplied into the distribution system. Specifically, the non-revenue water or the water losses plus the unbilled usages amount to 21.2 percent. The total losses amounted to 3,403 acre-feet and the real losses, after accounting for meter inaccuracies and data issues, was closer to 3,616 acre-feet per the AWWA spreadsheets. The AWWA spreadsheets are included as **Appendix A-4**.

For purposes of estimating future demand from new connections, the distribution system loss is assumed to be 9 percent by 2020 to reflect on-going City programs to address meter inaccuracies, and find and fix identified system leaks. This 9 percent will then ramp down to 5 percent by 2040 through ongoing management programs.

4.3.6 Low Income Water Demands

CWC Section 10631.1 requires water suppliers to include a projection of water use by lower income households as defined by Health and Safety Code Section 50097.5. The housing element of the City of Folsom General Plan provides the income distribution used for this analysis.[50] This housing element, adopted in October 2013, uses data from the 2010 U.S. Census and provides household income groups. The income limits for "lower income" come from U.S. Department of Housing and Urban Development's 2009 income guidelines.[51] The percentage of low income was derived from the same housing element table showing income groups. The housing element indicated 8,836 of the 22,659 households were below about 80 percent of median income level, which approximates to 39 percent of all households. For lack of more detailed income distributions, this 39 percent is assumed to remain constant into the future. Using 39 percent of the projected population, a demand factor from the multi-family housing units of approximately 0.3 acre-foot per year, and 2.61 people per housing unit, the current and future demand from "lower income" customers is estimated (see **Table 4-8)**.

The City of Folsom does track low income units that are built and they are designated a different billing rate in the water meter system. In 2013 the City served 482 acre-feet to low income households as labeled in the meter billing system. This is well below the near 2,800 acre-feet necessary to serve the projected 39 percent of "low income" residents but nearly 150 acre-feet more than was projected for 2015 in the 2010 UWMP.

[50] City of Folsom General Plan 2013-2021 Housing Element, pg 3-15, Table 3-8.
[51] The income guidelines place households who make less than 80 percent of the median family income for an area as "low income". This is in line with the CWC 10631.1 income threshold.

Further, the median income for Folsom is $94,462, with a "low income" qualifying as a family of four making $60,900, which is more than $4,000 than the median income household in Sacramento County as a whole.[52]

Table 4-8 – Lower Income Demands

AFY	Current Projected*	Current Actual*	2020	2025	2030	2035	2040
Total Retail Treated Before Loss	19,420	19,420	20,832	22,979	23,981	24,921	25,766
Projected Lower Income Housing Demands	2,848	482	3,082	3,316	3,579	3,872	4,223
Percent of Treated Retail	15%	2%	15%	14%	15%	16%	16%

*Current retail treated deliveries uses 2013 data to better represent a normal year

[52] City of Folsom General Plan 2013-2021 Housing Element, pg 3-35, Table 3-19. and Sacramento County General Plan- 2013-2021 Housing Element, pg 5-8, Table 5-9.

CHAPTER 5. WATER DEMAND MANAGEMENT MEASURES

5.1 City Participation

CWC § 10631 requires that an UWMP include a description of the urban water supplier's water demand management measures. CWC § 10631 also provides that members of the California Urban Water Conservation Council (CUWCC) shall be deemed in compliance with the UWMPA demand management measure requirements by complying with all the provisions of the CUWCC MOU and by submitting the annual reports.[53]

The CUWCC MOU for Best Management Practices (BMP) is organized into five categories. Two categories, utility operations and education, are "Foundational BMPs" because they are considered to be essential water conservation activities by any utility and are adopted for implementation by all signatories to the MOU as ongoing practices with no time limits. The remaining BMPs are "Programmatic BMPs" and are organized into residential indoor and landscape, commercial/industrial/institutional (CII) indoor and landscape, and CII dedicated large landscape categories.[54] All the categories are outlined in **Table 5-1**.

The City is a current member of CUWCC and has submitted annual reports to the Council, complying with CWC § 10631. A copy of the most recent report from 2013-2014 is available in **Appendix C-1**. As a signatory to the CUWCC MOU, the City is committed to implementing best management practices (BMP) designed to achieve water conservation across existing and future demand sectors. The CUWCC MOU requires that a water utility implement only the BMPs that are economically feasible. The City's continued implementation of the CUWCC BMPs should reduce some of the unit demand factors for its existing connections and help maintain the unit demand factors for future connections.

[53] CWC §10631(j).
[54] https://www.cuwcc.org/Resources/BMP-Resources.

Table 5-1 – CUWCC BPM Requirements[55]

FOUNDATIONAL BMPS
1. Utility Operations Programs
1.1 Operations Practices
Staff and maintain the position of a trained conservation coordinator
Enact and enforce an ordinance designed to prevent water waste
Enact and enforce an ordinance designed to promote water efficient design in new development
Enact and enforce an ordinance designed to facilitate water shortage response measures
1.2 Water Loss Control
Compile a standard water audit and balance annually
Improve data accuracy and completeness of water audit during first four years
During 5th through 10th year, demonstrate progress in water loss control
1.3 Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections
Initiate volumetric billing for all metered customers within one year after signing MOU
Complete meter installations for all connections no later than July 1, 2012
Assess feasibility of moving mixed-use metered landscape uses to dedicated landscape meters
Develop a written plan, policy or program to test, repair or replace meters
1.4 Retail Conservation Pricing
Develop water rates such that 70% of revenue is generated from volumetric billing
Develop conservation pricing for retail sewer service
2. Education Programs
2.1 Public Information Programs
Implement public information programs to promote water conservation and water-conservation benefits
2.2 School Education Programs
Educate students about water conservation and efficient water use
PROGRAMMATIC BMPS
3. Residential
Develop a Residential Assistance Program - including leak detection assistance, conservation surveys, and efficiency suggestions, as well as provision of high-efficiency appliances
Perform site-specific landscape water surveys
Provide financial incentives for, or institute ordinances requiring, purchase of efficient clothes washers
Provide incentives or ordinances for replacement of toilets using 3.5 or more gallons per flush
4. Commercial, Industrial and Institutional
Implement measures to achieve water savings for Commercial, Industrial and Institutional (CII) accounts of 10% compared to baseline water use (i.e., 2008 water use by CII accounts)
5. Landscape
Identify accounts with at least one dedicated irrigation meter and assign an ETo based budget of no more than an average of 70% of ETo for metered irrigation uses; "Recreational" areas may be so designated and may use up to 100% of ETo
Provide notices to irrigation meter customers comparing actual use to the water budget
Offer site-specific technical assistance to those accounts at least 20% over budget
Target and market landscape surveys to CII accounts with mixed-use meters, and those CII accounts with large landscapes and offer financial incentives to both

[55] https://www.cuwcc.org/Resources/BMP-Resources

CHAPTER 6. WATER SHORTAGE CONTINGENCY PLAN

As an urban water purveyor, the City of Folsom must meet the minimum health and safety requirements of a drinking water purveyor at all times. The City has created a water shortage contingency plan to help meet this goal during water shortages. The full version of this plan can be found in **Appendix C-2**.

The strategy for allocating water during shortages for the City is complex. Detailed discussion of water supply, water shortage actions, catastrophic failure, financial impacts, and prohibitions during shortages is also provided in the City's Water Shortage Contingency Plan (WSCP) (included in **Appendix C-2**). The ordinance provides for emergency water supply management related to general supply shortages due to severe droughts, infrastructure failure, or any other cause.

6.1 Water Shortage Contingency Resolution

The City's current ordinance allows for declaration of water shortages by the City Manager when deemed appropriate after considering factors such as availability of nonpotable water, agreements for deliveries or additional water supply and any variations in the reliability of the water supplies available to the City. When a shortage occurs, the City Manager assesses which of the stages of action discussed in **Section 6.2** should be implemented.

6.2 Stages of Action and Reduction Goals

The City has developed a five-stage shortage contingency plan as shown in **Table 6-1**. Each stage corresponds to an increased demand reduction target to align with anticipated supply availability. The shortage contingency plan includes voluntary and mandatory actions that expand under each stage, depending on the cause, severity, and anticipated duration of the water supply shortage. The Plan also prioritizes essential health and safety water uses over economic and discretionary uses. The details of these stages are provided in the Plan in the City of Folsom Municipal Code.

Table 6-1 – Drought Stages Contingency Plan

Stage	Water Supply Conditions	Response Actions
1 – Voluntary	Normal Supply Conditions	Voluntary Conservation
2 – Water Alert	Slightly restricted water supplies	Voluntary conservation and up to a 12% water use reduction
3 – Water Warning	Moderately Restricted Water Supplies	Moderate conservation with some mandatory conservation for up to 20% water use reduction
4 – Water Crisis	Severely Restricted Water Supplies	Mandatory water conservation and some use prohibition with up to 35% water use reduction
5 – Water Emergency	Extremely restricted water supplies	Mandatory prohibitions and conservation for up to 50% water use reduction

6.3 Mandatory Prohibitions on Water Waste

The City instituted a water shortage contingency plan under the Folsom Municipal Code 13.26. The code prohibits intentional or unintentional water waste and encourages beneficial water use.[56] Allowing cooling fixtures to leak, maintaining waterways without recirculation devices and irrigation of landscaping during rainfall are a few examples of actions that would qualify as water waste under the regulation. Details on the prohibited types of water use for each stage of action are also outlined below in **Section 6.5**.

6.4 Penalties

The City of Folsom Municipal Code section 13.26.170 provides the stages of penalties for violators of the water waste regulation as seen in **Table 6-2**. For the first violation, the City shall issue a personal or written notice of the violation. For a subsequent violation within the 3 months of the first violation, the City shall issue a notice of intent to correct. If a third violation occurs within six months of the first violation an administrative penalty, mandatory water meter or discontinuation of service may occur. For every violation up to a $100 fee may be imposed. Additionally, any violations that occur during Stages 2, 3, 4 or 5 and are not corrected within 5 days can have further penalties imposed. These include applying established meter rates to any flat rate service or billing a customer who is already metered at twice the established rate while the violation continues.

[56] City of Folsom, Municipal Code 13.26.050

Table 6-2 – Stages of Penalties

Violation	Penalty
First	Personal or written notification of the violation
Second (within three months of the first violation)	Written notification and issuance of a notice to correct
Third (Within six months of the first violation)	Issuance of an administrative penalty, mandatory installation of a water meter, discontinued water service and/or other penalties as provided in the notice of violation and as determined by the utilities director

6.5 Consumption Reduction Methods

CWC 10632 (a)(1) requires that all water purveyors establish stages of action to be undertaken in the event of a water shortage. The Water Code section also specifies that a 50 percent reduction in supply must be considered and addressed. This specific supply reduction is addressed at Stage Five in **Section 6.5.5**. It should be noted that the following sections on each stage of action are a summary of the key points established by the City in its WSCP. The City provides water users notice about water restrictions through direct mail, newspaper advertising and information posted on their website. For the full body of text and all the details of each stage please refer to these documents in **Appendix C-2.**

6.5.1 Stage One – Voluntary Conservation

Stage One involves the City's request that customers voluntarily limit their water use and attempt to conserve water. It also outlines that the general waste of water is prohibited and all water should be for beneficial use. The words "general waste" include allowing water to run off into an unused ditch, failing to repair a leak, irrigating during rain events, and other negligent uses of water under certain conditions.

6.5.2 Stage Two– Water Alert

If water supplies become slightly restricted, the Plan calls for Stage 2 drought response, during which customers are informed of possible shortages and asked to voluntarily conserve 12 percent. Additionally some mandatory restrictions including limiting landscape and pasture irrigation to three days a week, the service of water at restaurant only upon request and no washing of hardscapes except as required for health and safety.

6.5.3 Stage Three – Water Warning

In the event Stage Three is implemented, the City will continue to encourage community-oriented voluntary conservation measures, enforce some conservation measures and implement mandatory water use reduction measures to decrease "normal" demand by up to 20 percent. Stage Three activities include a continuation of activities described under Stage 1 and 2, as well as greater conservation and water use restrictions. Stage 3 also restricts landscape watering to two days a week with no irrigation permitted on Mondays, Thursdays and Fridays.

6.5.4 Stage Four – Water Crisis

Stage Four's primary purpose is to reduce water use by 35 percent. In addition to all the voluntary and mandatory restrictions previously implemented under the earlier stages, landscape and pasture irrigation is further restricted to only one day a week. No water features, including swimming pools, can be refilled with City water and no new permits for pools will be permitted.

6.5.5 Stage Five – Water Emergency

Stage Five's purpose is to ensure the protection of the water supply for all public health and safety purposes. This Stage will require reductions in water demand by up to 50 percent. At this stage, all previous conservation restriction will apply and all ornamental ponds and fountains are prohibited, no new lawn or landscaping can be installed, and the flushing of sewer of fire protection systems is prohibited, except as required for essential maintenance.

6.6 Revenue and Expenditure Impacts

When a drought or water shortage occurs, the City's costs will increase due to the additional activities and duties of instituting a stage of action. Not only will there be costs for materials, and time from permanent staff, but additional staff may need to be hired to assist in implementing the WSCP. As conservation measures and requirements increase and the water supply decreases, the City will likely realize a decrease in revenue. To combat this and help pay for the expenses discussed above, revenue will be provided by the penalties incurred by excessive water users as discussed in **Section 6.4**.[57]

6.7 Reduction Measuring Mechanism

In order to determine the City's success in achieving its conservation goals, the actual water savings will be determined by comparing the water used in the current year to the water used in the same month of the previous year.

[57] It is important to note that the fines in no way offset reduced revenue expenses.

6.8 Catastrophic Supply Interruption

In addition to climate, other factors that can cause water supply shortages are earthquakes, chemical spills, dam failures, canal breaks, waterline ruptures, and energy outages at treatment and pumping facilities. The City has an emergency operation plan that provides procedures and guidance to the City personnel in responding to emergency situations including catastrophic events, both natural and manmade. The plan provides procedures for preparing, mobilizing and employing city resources and coordinating outside resources during an emergency.

6.9 Minimum Supply Next Three Years

Pursuant to CWC Section 10632(a)(2), the City is required to estimate the water supplies available for the next three years, specifically 2016, 2017 and 2018. Because of diligent planning efforts, the City believes it has ample water supplies available to meet its demand during this time frame as detailed in **Chapter 3**. Any potential shortfall in supply that may occur will be addressed through combinations of demand reductions as detailed in the WSCP and the use of interties with neighboring purveyors (once constructed), and supplemental sources (including the potential for spot market water transfers).

However, to specifically address the statutory language, which requires water purveyors to assume a period of three dry years, the City has prepared **Table 6-3**. The values in this table represent the supply reliability for multiple dry years as detailed in **Table 3-4**, with the exception of remediated water. The City anticipates remediated water supplies available by 2020, but not in the next three years.

Table 6-3 – Minimum Water Supply Available

Year	AFY
2016	33,790
2017	33,250
2018	31,500

6.10 Current Drought

The current drought has impacted the City's drought and water shortage plans through Executive Orders and new statewide conservation goals. Executive Order B-29-15 required the City to achieve 25 percent water use reduction by June 2015. The SWRCB subsequently increased the required water use reduction for the City of Folsom to 32 percent. In light of this 32 percent reduction goal, the City has sent out flyers, issued press releases and direct mailers to inform the public of this conservation goal and that the City is currently in Stage 3 of the WSCP. The City plans to continue promoting water

conservation and water use efficiency among its customers to ensure water use reductions continue.

CHAPTER 7. SUPPLY & DEMAND INTEGRATION

The purpose of this chapter is to compare the total water supply sources available to the City with the total projected water use over the next 25 years, in five-year increments, for a normal water year, a single-dry water year, and multiple dry water years.[58] Water supply and demand data presented in this section is presented in prior sections of this UWMP.

7.1 Normal Water Year Conditions

Under this water supply scenario, the City would anticipate full availability of its surface supplies as well as raw water and non-potable water as available. The City's pre-1914 appropriative water rights as well as its CVP contract rights are not subject to any curtailment in normal years. Therefore, in assessing long-term supply reliability in normal years over the 25 year planning horizon, the City's total supplies exceed its total demands. The resulting total supplies from **Chapter 3** and the forecasted demands from **Chapter 4** are shown in **Table 7-1**. As demonstrated, the City projects adequate water supplies through 2040.

Table 7-1 – Supply and Demand Comparison (Normal Year)

(acre-feet/yr)	Current	2020	2025	2030	2035	2040
Supplies	17,042	38,790	38,790	38,790	38,790	38,790
Demands	17,042	25,575	27,685	28,527	29,283	29,921
Difference	--	13,215	11,105	10,263	9,507	8,869

7.2 Single Dry Year Conditions

In a single dry year condition, the City anticipates slight increases in its water supply deliveries consistent with the increased demand projections in **Chapter 4**. As described in more detail in **Chapter 4**, this demand increase represents the generalized expansion of the landscape irrigation season due to limited rainfall – meaning customers begin demanding landscape irrigation supplies from the City earlier in the spring than during a normal year when rainfall would otherwise satisfy landscape water needs. Though the increase is dependent on actual conditions, it is represented by adjusting the normal year annual forecast demand value upward by 5 percent for each 5-year increment to 2040. This adjustment reflects rudimentary relationships between, historic use variances and

[58] This is consistent with CWC Section 10635, but extends the period an additional 5 years to provide "20 year" analysis coverage for the intervening years between UWMP updates.

other conditions and is meant only to highlight the anticipated increase in demands for purposes of City planning.

As shown in **Table 7-2**, the City anticipates adequate water supplies in single dry years through 2040. It is important to note, however, that the demand associated with industrial facilities remain constant through the dry year conditions. This elevated demand is used out of an abundance of caution in order to provide a conservative estimate of the impacts of industrial demands on the City's water supply system.

Table 7-2 – Supply and Demand Comparison (Single Driest-Year)

(acre-feet/yr)	Current	2020	2025	2030	2035	2040
Supplies	--	37,040	37,040	37,040	37,040	37,040
Demands	--	26,853	29,070	29,668	30,162	30,819
Difference	--	10,187	7,970	7,372	6,878	6,221

7.3 Multiple Dry Year Conditions

For purposes of this UMWP, the City has assessed a three-year series of dry conditions. As detailed in **Chapter 3**, the City anticipates reductions in available water supplies during these multiple dry years, consistent with its water supply forecasting.

Demand, however, will vary across this planning scenario. This variance is represented by setting the forecast demands for the first of three years equal to the demand used in the single dry year scenario. In the second year, the City would anticipate that its water shortage contingency plan would be triggered, resulting in a demand reduction for that year. The rationale for triggering the WSCP is that water assets from the wholesale agencies may be reduced per those agencies water supply shortage provisions under their rights and assets as well as PG&E contracts. Thus, the City's WSCP Stage 2 reduction target is assumed as implemented (see **Chapter 6**). Similarly, in the third year, the City would expect further reductions resulting from implementing further WSCP actions. For this third year, the City's Stage 3 reduction target is assumed. However, as described in **Section 7.2**, the City has assumed full deliveries to its industrial facilities.

This resulting analysis has been represented in **Table 7-3**. During each multiple dry year period projected in **Table 7-3**, the City anticipates adequate water supplies being available.

Table 7-3 – Supply and Demand Comparison (Multiple Dry Years)

(acre-feet/yr)	Current	2020	2025	2030	2035	2040
Supplies	--	37,040	37,040	37,040	37,040	37,040
Demands	--	26,853	29,070	29,668	30,162	30,819
Difference	--	10,187	7,970	7,372	6,878	6,221

(acre-feet/yr)	Current	2020	2025	2030	2035	2040
Supplies	--	36,500	36,500	36,500	36,500	36,500
Demands	--	24,168	26,163	26,701	27,146	27,737
Difference	--	12,332	10,338	9,799	9,355	8,763

(acre-feet/yr)	Current	2020	2025	2030	2035	2040
Supplies	--	34,750	34,750	34,750	34,750	34,750
Demands	--	21,483	23,256	23,734	24,130	24,655
Difference	--	13,268	11,495	11,016	10,621	10,095

7.4 Build-out Conditions

For the purposes of this 2015 UWMP, **Table 7-4** is provided to demonstrate water supply availability at estimated build-out conditions.

Table 7-4 – Supply and Demand Comparison at Build-out

(acre-feet/yr)	Normal	Single Dry	Multi-Dry 1	Multi-Dry 2	Multi-Dry 3
Supplies	38,790	37,040	37,040	36,500	34,750
Demands	31,852	32,808	32,808	28,667	25,482
Difference	6,938	4,232	4,232	7,833	9,269

APPENDICES

Appendix A

This appendix section shall contain all compliance and reporting related documents

Appendix A-1	**DWR Recommended Tables**
Appendix A-2	**DWR Checklist**
Appendix A-3	**SBX7-7 Compliance Form**
Appendix A-4	**AWWA Water Audit Form**

Appendix B

This appendix section shall contain all agency related documents

Appendix B-1	**Resolution Adopting the 2015 UWMP**
Appendix B-2	**Copies of General Notice Publications**
Appendix B-3	**Copies of Notification Letters**

Appendix C

This appendix section shall contain demand conservation related documents

Appendix C-1	**CUWCC Report**
Appendix C-2	**Water Shortage Contingency Plan**

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Appendix A-1: DWR Recommended Tables

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NOTES FOR REGIONAL URBAN WATER MANAGEMENT PLANS (RUWMPs)
RUWMPs will report data for each agency in the RUWMP, requiring duplicates of the standardized tables. The supplier will copy the needed tables and notate each of the copies with the name of the agency, or some other designation, identifying the table with the corresponding agency.
WUEdata upload tool for RUWMPs
RUWMPs will submit data to the WUEdata upload tool on an individual agency basis.
If the RUWMP contains a Regional Alliance, the Regional Alliance information will be uploaded separately from the individual agency information.

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
CA3410014	City of Folsom Main	19,565	14,945
CA3410030	City of Folsom Ashland	1,032	962
	TOTAL	20,597	15,907

NOTES:

Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* *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:			

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
☐	Agency is a wholesaler
☒	Agency is a retailer
Fiscal or Calendar Year (select one)	
☒	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)	
Units of Measure Used in UWMP (select from Drop down)	
Unit	AF
NOTES:	

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 CWC 10631.
Wholesale Water Supplier Name *(Add additional rows as needed)*
San Juan Water District
NOTES: See Chapter 1 and Appendix A-3

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040*(opt)*
	63,536	69,196	74,855	81,223	88,552	96,787
NOTES: See Chapter 2						

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type *(Add additional rows as needed)*	2015 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
Single Family		Drinking Water	9,217
Multi-Family		Drinking Water	1,551
Commercial	and industrial	Drinking Water	4,615
Other	schools and parks	Drinking Water	1,114
Institutional/Governmental		Drinking Water	680
Losses		Drinking Water	1,909
Other	aerojet	Raw Water	2,278
		TOTAL	21,363
NOTES: Due to mandated conservation, the actual 2015 demand was 15,900 AF. Values included in this table are representative of 2013 conditions. See Chapter 4.			

Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type *(Add additional rows as needed)*	Additional Description *(as needed)*	Projected Water Use *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*		2020	2025	2030	2035	2040-opt
Single Family		10,743	11,245	11,753	12,262	12,776
Multi-Family		1,822	1,921	2,078	2,292	2,623
Commercial	and industrial	5,805	6,540	6,639	6,739	6,739
Other	schools and parks	1,700	2,506	2,742	2,860	2,860
Institutional/Governmental		763	769	769	769	769
Losses		2,011	1,975	1,815	1,632	1,425
Other	aerojet	2,731	2,731	2,731	2,731	2,731
	TOTAL	25,575	27,685	28,527	29,283	29,921
NOTES: See Chapter 4						

Table 4-3 Retail: Total Water Demands						
	2015	2020	2025	2030	2035	2040 *(opt)*
Potable and Raw Water *From Tables 4-1 and 4-2*	21,363	25,575	27,685	28,527	29,283	29,921
Recycled Water Demand* *From Table 6-4*	0	0	0	0	0	0
TOTAL WATER DEMAND	21,363	25,575	27,685	28,527	29,283	29,921
**Recycled water demand fields will be blank until Table 6-4 is complete.*						
NOTES: Due to mandated conservation, the actual 2015 demand was 15,900 AF. Values included in this table are representative of 2013 conditions. See Chapter 4.						

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2016	3402
** Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.*	
NOTES: See Appendix A-4	

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc… utilized in demand projections are found.	Chapter 4
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES: See Chapter 2 and Chapter 4	

Table 5-1 Baselines and Targets Summary

Retail Agency or Regional Alliance Only

Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	*1996*	*2005*	*440*	*396*	*352*
5 Year	*2004*	*2008*	*407*		

*All values are in Gallons per Capita per Day (GPCD)

NOTES: See Appendix A-3

Table 5-2: 2015 Compliance

Retail Agency or Regional Alliance Only

Actual 2015 GPCD*	2015 Interim Target GPCD*	**Optional Adjustments to 2015 GPCD** Enter "0" if no adjustment is made *From Methodology 8*					2015 GPCD* *(Adjusted if applicable)*	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2015 GPCD*		
224	396	0	0	0	0	224	224	Yes

**All values are in Gallons per Capita per Day (GPCD)*

NOTES: See Chapter 4 and Appendix A-3

Table 6-1 Retail: Groundwater Volume Pumped						
☒	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2011	2012	2013	2014	2015
Add additional rows as needed						
Alluvial Basin	North American Subbasin	0	0	0	0	0
	TOTAL	0	0	0	0	0
NOTES: The City intends to use remediated groundwater for future non-potable uses. See Chapter 3.						

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015						
☒	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2015 service area covered by wastewater collection system *(optional)*					
	Percentage of 2015 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 2015	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*
Add additional rows as needed						
Total Wastewater Collected from Service Area in 2015:		0				

NOTES: See Chapter 3. Wastewater is collected by Sacramento Regional County Sanitation District.

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015

☒ 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)*	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level *Drop down list*	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Add additional rows as needed										
						Total	0	0	0	0

NOTES: See Chapter 3. Wastewater is collected by Sacramento Regional County Sanitation District.

Table 6-4 Retail: Current and Projected 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 Agency Producing (Treating) the Recycled Water:	
Name of Agency Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2015	
Source of 2015 Supplemental Water	

Beneficial Use Type	General Description of 2015 Uses	Level of Treatment *Drop down list*	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (excludes 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)*								
Surface water augmentation (IPR)*								
Direct potable reuse								
Other *(Provide General Description)*								
		Total:	0	0	0	0	0	0

**IPR - Indirect Potable Reuse*

NOTES: See Chapter 3. Wastewater is collected by Sacramento Regional County Sanitation District.

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual			
☒	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.		
Use Type		**2010 Projection for 2015**	**2015 Actual Use**
Agricultural irrigation			
Landscape irrigation (excludes 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)			
Surface water augmentation (IPR)			
Direct potable reuse			
Other	*Type of Use*		
Total		0	0
NOTES: See Chapter 3. Wastewater is collected by Sacramento Regional County Sanitation District.			

Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
X	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: See Chapter 3. Wastewater is collected by Sacramento Regional County Sanitation District.

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.					
Chapter 3	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Agency *This may be a range*
	Drop Down List (y/n)	*If Yes, Agency Name*				
Add additional rows as needed						
NOTES: See Chapter 3.						

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
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				
Surface water	Pre-1914 Appropriative Right	22,000	Drinking Water	
Surface water	GSWC Contract	5,000	Drinking Water	
Purchased or Imported Water	CVP Fazio Contract	7,000	Drinking Water	
Purchased or Imported Water	Ashland Area Contract	1,540	Drinking Water	
Groundwater	GET A and GET B	3,250	Raw Water	
	Total	38,790		0
NOTES:				

Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on 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*		**2020**		**2025**		**2030**		**2035**		**2040** *(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											
Surface water	Pre-1914 Appropriative Right	22,000		22,000		22,000		22,000		22,000	
Surface water	GSWC Contract	5,000		5,000		5,000		5,000		5,000	
Purchased or Imported Water	CVP Fazio Contract	7,000		7,000		7,000		7,000		7,000	
Purchased or Imported Water	Ashland Area Contract	1,540		1,540		1,540		1,540		1,540	
Groundwater	GET A and GET B	3,250		3,250		3,250		3,250		3,250	
Total		38,790	0	38,790	0	38,790	0	38,790	0	38,790	0
NOTES: See Chapter 3											

Table 7-1 Retail: Basis of Water Year Data			
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 1999-2000, use 2000*	**Available Supplies if Year Type Repeats**	
		☒ Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____Section 3.2_____	
		☐ Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available	**% of Average Supply**
Average Year			100%
Single-Dry Year			
Multiple-Dry Years 1st Year			
Multiple-Dry Years 2nd Year			
Multiple-Dry Years 3rd Year			
Multiple-Dry Years 4th Year *Optional*			
Multiple-Dry Years 5th Year *Optional*			
Multiple-Dry Years 6th Year *Optional*			
Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.			
NOTES:			

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 *(Opt)*
Supply totals (*autofill from Table 6-9)*	38,790	38,790	38,790	38,790	38,790
Demand totals *(autofill from Table 4-3)*	25,575	27,685	28,527	29,283	29,921
Difference	13,215	11,105	10,263	9,507	8,869
NOTES: See chapter 7					

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	37,040	37,040	37,040	37,040	37,040
Demand totals	26,853	29069.564	29,668	30,162	30,819
Difference	10,187	7,970	7,372	6,878	6,221
NOTES: See Chapter 7.					

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	37,040	37,040	37,040	37,040	37,040
	Demand totals	26,853	29,070	29,668	30,162	30,819
	Difference	10,187	7,970	7,372	6,878	6,221
Second year	Supply totals	36,500	36,500	36,500	36,500	36,500
	Demand totals	24,168	26,163	26,701	27,146	27,737
	Difference	12,332	10,337	9,799	9,354	8,763
Third year	Supply totals	34,750	34,750	34,750	34,750	34,750
	Demand totals	21,483	23,256	23,734	24,130	24,655
	Difference	13,267	11,494	11,016	10,620	10,095
NOTES: See Chapter 7						

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction[1] *Numerical value as a percent*	Water Supply Condition (*Narrative description)*
Add additional rows as needed		
Stage1	Normal	Voluntary Conservation
Stage2	12%	Voluntary conservation with water use reduction
Stage 3	20%	Moderate conservation with some mandatory conservation
Stage 4	35%	Mandatory water conservation with some prohbitions
Stage 5	50%	Mandatroy prohibitions and conservation
[1] One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES: See. Section 6.2, 6.5		

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? *Drop Down List*
Add additional rows as needed			
Stage 1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
Stage 1	Landscape - Other landscape restriction or prohibition	No irrigation during rain	Yes
Stage 2	Landscape - Limit landscape irrigation to specific days	3 days per week	Yes
Stage 2	CII - Restaurants may only serve water upon request		Yes
Stage 2	Other - Prohibit use of potable water for washing hard surfaces		Yes
Stage 3	Landscape - Limit landscape irrigation to specific days	2 days a week	Yes
Stage 4	Water Features - Restrict water use for decorative water features, such as fountains		Yes
Stage 4	Other water feature or swimming pool restriction	No new pool permits	Yes
Stage 5	Landscape - Prohibit certain types of landscape irrigation		Yes
Stage 5	Other	No flushing of sewer or fire systems, unless required by health and safety	Yes
NOTES: See Section 6.5, Appendix D-2			

Table 8-3 Retail Only: **Stages of Water Shortage Contingency Plan - Consumption Reduction Methods**		
Stage	Consumption Reduction Methods by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*
Add additional rows as needed		
Stage 2	Expand Public Information Campaign	
Stage 4	Implement or Modify Drought Rate Structure or Surcharge	
Stage 5	Decrease Line Flushing	
NOTES: See Chapter 6 and Appendix D-2		

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	37,540	37,000	35,250
NOTES: See Section 6.9			

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Roseville	☒	☒
	☐	☐
	☐	☐
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Sacramento County	☐	☐
	☐	☐
See Chapter 1 and Appendix B-3. Many notices were sent to entities that are not cities or counties		

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Appendix A-2: DWR Checklist

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2015 UWMP Checklist

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location *(Optional Column for Agency Use)*
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	1.1
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	1.2, App B-3
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.	Plan Preparation	Section 2.5.2	1.2, App B-3
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	2.1
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	2.1.1
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	2.1.2
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	2.1.3
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	2.1.2
10631€(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	4.3,App A-1
10631€(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	App A-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	4.3
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	4.1, App A-3
10608.20€	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and	Baselines and Targets	Chapter 5 and App E	4.1, 4.2, App A-3

	compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.			
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	4.1, 4.2, App A-3
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	4.2, App A-3
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 5.8.2	4.2, App A-3
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	n/a
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	App A-3
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	3.2.5
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	3.2, 3.3
10631(b)(1)	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	3.3, App C-2, C-3
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	2.1
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	3.3
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	3.3
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water	System Supplies	Section 6.2.4	3.3

	supplier for the past five years			
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	3.3
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	3.5
10631(g)	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 multiple-dry years.	System Supplies	Section 6.8	3.6,3.2
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	3.4
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any – with water use projections from that source.	System Supplies	Section 2.5.1	Chapter 1 Chapter. 3
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	n/a
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	3.3, 3.4
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	2.2.1
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	2.2
10633©	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	2.2.2
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	2.2.2
10633€	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	3.4

10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	3.4
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	3.4
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 7.4	3.5,3.6
10631©(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	Chapter 3 Chapter 7
10631©(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	3.6
10631©(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	3.6, 3.7
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	3.6
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	Chapter 7
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	6.5, App D-2
10632(a)(2)	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	6.9
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	6.8
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	6.3
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	6.5
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency	Section 8.3	6.4

		Planning		
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	6.6
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	D-2
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	6.7, D-2
10631(f)(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	Sections 9.2 and 9.3	5.1, D-1
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	n/a
10631(i)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	5.1, D-1
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	1.3
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	1.3, App B-3
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	1.3
10635(b)	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 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	D-2
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the	Plan Adoption, Submittal, and	Sections 10.2.2, 10.3,	1.3, App B-2

	public hearing, and held a public hearing about the plan.	Implementation	and 10.5	
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	Sections 10.2.1	1.3, B-2
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	1.3
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	1.3
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	1.3
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	1.3
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	1.3

Appendix A-3: SBX7-7 Compliance Forms

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SB X7-7 Verification Form Version FINAL.1

Table 4-C.4 has been modified from the FINAL version.

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	26,644	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	1996	
	Year ending baseline period range[3]	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	
	Year ending baseline period range[4]	2008	

[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: See Chapter 4

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: See Chapter 2	

SB X7-7 Table 3: Service Area Population		
Year		**Population**
10 to 15 Year Baseline Population		
Year 1	1996	31,022
Year 2	1997	32,614
Year 3	1998	34,124
Year 4	1999	37,288
Year 5	2000	41,677
Year 6	2001	47,324
Year 7	2002	49,583
Year 8	2003	52,661
Year 9	2004	54,456
Year 10	2005	56,253
5 Year Baseline Population		
Year 1	2004	54,456
Year 2	2005	56,253
Year 3	2006	57,658
Year 4	2007	58,811
Year 5	2008	60,449
2015 Compliance Year Population		
2015		63,536
NOTES: See Chapter 4		

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	1996	14,761			-		-	14,761
Year 2	1997	17,603			-		-	17,603
Year 3	1998	17,376			-		-	17,376
Year 4	1999	20,196			-		-	20,196
Year 5	2000	20,278			-		-	20,278
Year 6	2001	25,354			-		-	25,354
Year 7	2002	23,415			-		-	23,415
Year 8	2003	23,913			-		-	23,913
Year 9	2004	25,547			-		-	25,547
Year 10	2005	24,974			-		-	24,974
10 - 15 year baseline average gross water use								**21,342**
5 Year Baseline - Gross Water Use								
Year 1	2004	25,547			-		-	25,547
Year 2	2005	24,974			-		-	24,974
Year 3	2006	26,519			-		-	26,519
Year 4	2007	27,304			-		-	27,304
Year 5	2008	26,644			-		-	26,644
5 year baseline average gross water use								**26,198**
2015 Compliance Year - Gross Water Use								
2015		15,907	-		-		-	**15,907**

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

NOTES: See Chapter 4

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)
Complete one table for each source.

Name of Source	All Supplies
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	1996	14,761		14,761
Year 2	1997	17,603		17,603
Year 3	1998	17,376		17,376
Year 4	1999	20,196		20,196
Year 5	2000	20,278		20,278
Year 6	2001	25,354		25,354
Year 7	2002	23,415		23,415
Year 8	2003	23,913		23,913
Year 9	2004	25,547		25,547
Year 10	2005	24,974		24,974
5 Year Baseline - Water into Distribution System				
Year 1	2004	25,547		25,547
Year 2	2005	24,974		24,974
Year 3	2006	26,519		26,519
Year 4	2007	27,304		27,304
Year 5	2008	26,644		26,644
2015 Compliance Year - Water into Distribution System				
2015		15,907		15,907

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

NOTES: See Chapters 3 and 4.

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	1996	31,022	14,761	425
Year 2	1997	32,614	17,603	482
Year 3	1998	34,124	17,376	455
Year 4	1999	37,288	20,196	484
Year 5	2000	41,677	20,278	434
Year 6	2001	47,324	25,354	478
Year 7	2002	49,583	23,415	422
Year 8	2003	52,661	23,913	405
Year 9	2004	54,456	25,547	419
Year 10	2005	56,253	24,974	396
10-15 Year Average Baseline GPCD				**440**
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	2004	54,456	25,547	419
Year 2	2005	56,253	24,974	396
Year 3	2006	57,658	26,519	411
Year 4	2007	58,811	27,304	414
Year 5	2008	60,449	26,644	393
5 Year Average Baseline GPCD				**407**
2015 Compliance Year GPCD				
2015		63,536	15,907	**224**
NOTES: See Chapter 4				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	440
5 Year Baseline GPCD	407
2015 Compliance Year GPCD	224
NOTES: See Chapter 4	

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: See Chapter 4		

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
440	**352**
NOTES: See Chapter 4	

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**
407	386	352	**352**

[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: See Chapter 4

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**
352	440	**396**
NOTES: See Chapter 4		

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?**
224	396	-	-	-	-	224	224	**YES**

NOTES: See Chapter 4

Appendix A-4: AWWA Water Audit Form

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AWWA WLCC Free Water Audit Software: Reporting Worksheet

WAS v4.1

Back to Instructions

? Click to access definition

Water Audit Report for: City of Folsom
Reporting Year: 2015 1/2015 - 12/2015

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 (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

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	9	15,771.000	acre-ft/yr	
Master meter error adjustment (enter positive value):	8	346.960	under-registered	acre-ft/yr
Water imported:	8	962.820	acre-ft/yr	
Water exported:	n/a	0.000	acre-ft/yr	
WATER SUPPLIED:		17,080.780	acre-ft/yr	

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:
Billed metered:	10	13,464.310	acre-ft/yr		
Billed unmetered:	10	0.000	acre-ft/yr		
Unbilled metered:	9	0.090	acre-ft/yr		
Unbilled unmetered:		213.510	acre-ft/yr	1.25%	

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

AUTHORIZED CONSUMPTION:		13,677.910	acre-ft/yr

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

WATER LOSSES (Water Supplied - Authorized Consumption)

3,402.870 acre-ft/yr

Apparent Losses

				Pcnt:	Value:
Unauthorized consumption:		42.702	acre-ft/yr	0.25%	

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

Customer metering inaccuracies:	9	101.746	acre-ft/yr	0.75%	
Systematic data handling errors:	8	182.340	acre-ft/yr		
Apparent Losses:		326.788			

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:		3,076.082	acre-ft/yr
WATER LOSSES:		3,402.870	acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER:		3,616.470	acre-ft/yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	10	343.0	miles	
Number of active AND inactive service connections:	9	20,383		
Connection density:		59	conn./mile main	
Average length of customer service line:	5	20.0	ft	(pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	7	67.5	psi	

COST DATA

Total annual cost of operating water system:	9	$15,804,992	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$2.30	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	8	$205.64	$/acre-ft/yr	

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	21.2%
Non-revenue water as percent by cost of operating system:	6.4%
Annual cost of Apparent Losses:	$327,402
Annual cost of Real Losses:	$632,566

Operational Efficiency Indicators

Apparent Losses per service connection per day:	14.31	gallons/connection/day
Real Losses per service connection per day*:	134.73	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	2.00	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	135.31	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	3,076.08	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	7.41	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 85 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: Unauthorized consumption
3: Master meter error adjustment

For more information, click here to see the Grading Matrix worksheet

AWWA WLCC Free Water Audit Software: Water Balance

WAS v4.1

Water Audit Report For:	Report Yr:
City of Folsom	2015

Own Sources (Adjusted for known errors) 16,117.960	Water Exported 0.000	Billed Water Exported			
	Water Supplied 17,080.780	Authorized Consumption 13,677.910	Billed Authorized Consumption 13,464.310	Billed Metered Consumption (inc. water exported) 13,464.310	Revenue Water 13,464.310
				Billed Unmetered Consumption 0.000	
			Unbilled Authorized Consumption 213.600	Unbilled Metered Consumption 0.090	Non-Revenue Water (NRW) 3,616.470
				Unbilled Unmetered Consumption 213.510	
		Water Losses 3,402.870	Apparent Losses 326.788	Unauthorized Consumption 42.702	
				Customer Metering Inaccuracies 101.746	
				Systematic Data Handling Errors 182.340	
Water Imported 962.820			Real Losses 3,076.082	Leakage on Transmission and/or Distribution Mains Not broken down	
				Leakage and Overflows at Utility's Storage Tanks Not broken down	
				Leakage on Service Connections Not broken down	

Appendix B-1: Resolution Adopting the 2015 UWMP

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RESOLUTION NO. 9774

A RESOLUTION ADOPTING THE 2015 URBAN WATER MANAGEMENT PLAN AND AUTHORIZING THE CITY MANAGER TO SUBMIT THE PLAN TO THE CALIFORNIA DEPARTMENT OF WATER RESOURCES

WHEREAS, the Urban Water Management Planning Act requires every urban water supplier providing water for municipal purposes to more than 3,000 customers to adopt and submit a Urban Water Management Plan to the California Department of Water Resources every five years; and

WHEREAS, the City of Folsom wishes to comply with California Water Code Section 10610 regarding the preparation of an Urban Water Management Plan; and

WHEREAS, the City of Folsom wishes to comply with Senate Bill X7-7, also known as the Water Conservation Bill of 2009, to target and track progress towards the State's 20% reduction by 2020; and

WHEREAS, an adopted Urban Water Management Plan is required for an urban water supplier to be eligible for grants administered by the Department of Water Resources; and

WHEREAS, the City of Folsom has prepared the required plan, published a Notice of Public Hearing pursuant to California Government Code 6066, published June 1, 2016, and held the appropriate Public Hearing:

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Folsom that the 2015 Urban Water Management Plan is hereby adopted, subject to minor and typographic edits as deemed necessary by the City Manager.

BE IT FURTHER RESOLVED that the City Manager is hereby authorized to submit the Plan to the California Department of Water Resources.

PASSED AND ADOPTED on this 14th day of June 2016, by the following roll-call vote:

AYES:	Council Member(s):	Howell, Morin, Sheldon, Starsky, Miklos
NOES:	Council Member(s):	None
ABSENT:	Council Member(s):	None
ABSTAIN:	Council Member(s):	None

Stephen E. Miklos, MAYOR

ATTEST:

Christa Saunders, CITY CLERK

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Appendix B-2: Copies of General Notice Publications

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16621097

CITY OF FOLSOM PUBLIC HEARING NOTICE

16621097

CITY OF FOLSOM
PUBLIC HEARING NOTICE

Notice is given herewith that the City of Folsom City Council, at its regular council meeting on Tuesday, June 14, 2016, at 6:30 pm, in the City Council Chambers, 50 Natoma Street, Folsom, California, will hold a public hearing in accordance with Section 6066 of the California Government Code to consider adoption of the City of Folsom's 2015 Urban Water Management Plan (UWMP).

The purpose of this UWMP is to document the City's water supply planning strategies for the existing municipal jurisdiction. The Urban Water Management Plan, as required by Urban Water Management Act and the Water Conservation Bill of 2009, contains an assessment of current and projected supplies, an evaluation of the reliability of these supplies given a range of hydrologic conditions, an assessment of demands by customer type, and an explanation of water management strategies designed to integrate supply and demand conditions.

Copies of the Draft Urban Water Management Plan are on file and available for public review at the Environmental and Water Resources Department on the first floor of City Hall at 50 Natoma Street and at the City Clerk's office. Interested persons are invited to express their opinion. If you challenge the action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice or written correspondence delivered to the City Council at, or prior to, the public hearing.

Christa Saunders, Folsom City Clerk
Posted at Folsom City Hall on or before 6/1/16.
PUBLISHED IN FOLSOM TELEGRAPH: JUNE 1, 2016

The above space is reserved for Court/County Filed Date Stamp

PROOF OF PUBLICATION (2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Sacramento

I am a citizen of the United States and employed by a publication in the County aforesaid. I am over the age of eighteen years, and not a party to the mentioned matter. I am the principal clerk of **The Folsom Telegraph**, a newspaper of general circulation, in the **City of Folsom**, which is printed and published in the **County of Placer.** This newspaper has been judged a newspaper of general circulation by the Superior Court of the State of California, in and for the **County of Sacramento**, on the date of April 1, 1952, (Case Number 89429). The notice, of which the attached is a printed copy (set in type not smaller than nonpareil) has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

JUNE 1

I certify, under penalty of perjury, that the foregoing is true and correct.

Terry Clark

Dated in Folsom, California

JUNE 1, 2016

PROOF OF PUBLICATION
THE FOLSOM TELEGRAPH
921 Sutter Street
Folsom, CA 95630

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Appendix B-3: Copies of Notification Letters

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CITY OF FOLSOM
DISTINCTIVE BY NATURE

Marcus Yasutake, Director

ENVIRONMENTAL & WATER RESOURCES DEPARTMENT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630
916.351.3500

April 7, 2016

John Woodling, Executive Director
Regional Water Authority
5620 Birdcage Street, Suite 180
Citrus Heights, CA 95610

Dear Mr. Woodling,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2016. Pursuant to CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 14, 2016 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow: (1) community input regarding the City's implementation plan for included water conservation provisions, (2) consideration of the economic impacts of complying with CWC statutes governing the UWMP and (3) the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target. The City will make the adopted UWMP available for review prior to the public hearing.

If you have any questions regarding this notification or the City's UWMP update process, please contact me at (916) 351-3528 or myasutake@folsom.ca.us.

Sincerely,

Marcus Yasutake, P.E.
Director of Environmental and Water Resources

CITY OF
FOLSOM
DISTINCTIVE BY NATURE

Marcus Yasutake, Director

ENVIRONMENTAL & WATER RESOURCES DEPARTMENT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630
916.351.3500

April 7, 2016

Darrell Eck, Senior Civil Engineer
Sacramento Central Groundwater Authority
827 7th Street, Room 301
Sacramento, CA 95814

Dear Mr. Eck,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2016. Pursuant to CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

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If you have any questions regarding this notification or the City's UWMP update process, please contact me at (916) 351-3528 or myasutake@folsom.ca.us.

Sincerely,

Marcus Yasutake, P.E.
Director of Environmental and Water Resources

CITY OF FOLSOM
DISTINCTIVE BY NATURE

Marcus Yasutake, Director

ENVIRONMENTAL & WATER RESOURCES DEPARTMENT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630
916.351.3500

April 7, 2016

Sharon Wilcox, General Manager
Orangevale Water District
Post Office Box 620800
9301 Central Avenue
Orangevale, CA 95662

Dear Ms. Wilcox,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2016. Pursuant to CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

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If you have any questions regarding this notification or the City's UWMP update process, please contact me at (916) 351-3528 or myasutake@folsom.ca.us.

Sincerely,

Marcus Yasutake, P.E.
Director of Environmental and Water Resources

CITY OF
FOLSOM
DISTINCTIVE BY NATURE

Marcus Yasutake, Director

ENVIRONMENTAL & WATER RESOURCES DEPARTMENT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630
916.351.3500

April 12, 2016

Paul Schubert, General Manager
Golden State Water Company
Arden Cordova CSA
3005 Gold Canal Drive
Rancho Cordova, CA 95670

Dear Mr. Schubert,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2016. Pursuant to CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 14, 2016 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow: (1) community input regarding the City's implementation plan for included water conservation provisions, (2) consideration of the economic impacts of complying with CWC statutes governing the UWMP and (3) the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target. The City will make the adopted UWMP available for review prior to the public hearing.

If you have any questions regarding this notification or the City's UWMP update process, please contact me at (916) 351-3528 or myasutake@folsom.ca.us.

Sincerely,

Marcus Yasutake, P.E.
Environmental and Water Resources Director

CITY OF FOLSOM
DISTINCTIVE BY NATURE

Marcus Yasutake, Director

ENVIRONMENTAL & WATER RESOURCES DEPARTMENT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630
916.351.3500

April 7, 2016

Tom R. Gray, General Manager
Fair Oaks Water District
10326 Fair Oaks Boulevard
Fair Oaks, CA 95628

Dear Mr. Gray,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2016. Pursuant to CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 14, 2016 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow: (1) community input regarding the City's implementation plan for included water conservation provisions, (2) consideration of the economic impacts of complying with CWC statutes governing the UWMP and (3) the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target. The City will make the adopted UWMP available for review prior to the public hearing.

If you have any questions regarding this notification or the City's UWMP update process, please contact me at (916) 351-3528 or myasutake@folsom.ca.us.

Sincerely,

Marcus Yasutake, P.E.
Director of Environmental and Water Resources

CITY OF FOLSOM
DISTINCTIVE BY NATURE

Marcus Yasutake, Director

ENVIRONMENTAL & WATER RESOURCES DEPARTMENT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630
916.351.3500

April 7, 2016

Jim Abercrombie, General Manager
El Dorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667

Dear Mr. Abercrombie,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2016. Pursuant to CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 14, 2016 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow: (1) community input regarding the City's implementation plan for included water conservation provisions, (2) consideration of the economic impacts of complying with CWC statutes governing the UWMP and (3) the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target. The City will make the adopted UWMP available for review prior to the public hearing.

If you have any questions regarding this notification or the City's UWMP update process, please contact me at (916) 351-3528 or myasutake@folsom.ca.us.

Sincerely,

Marcus Yasutake, P.E.
Director of Environmental and Water Resources

CITY OF
FOLSOM
DISTINCTIVE BY NATURE

Marcus Yasutake, Director

ENVIRONMENTAL & WATER RESOURCES DEPARTMENT
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630
916.351.3500

April 7, 2016

Robert A. Churchill, General Manager
Citrus Heights Water District
P.O. Box 286
Citrus Heights, CA 95611-0286

Dear Mr. Churchill,

The City of Folsom is reviewing and updating its Urban Water Management Plan (UWMP) as required by the California Water Code (CWC). This effort must be completed by July 1, 2016. Pursuant to CWC§10621(b), the City must notify any city or county within which it delivers water at least 60 days prior to a public hearing on the updated UWMP. This letter provides that notification.

The public hearing is tentatively scheduled for June 14, 2016 at Folsom City Hall, 50 Natoma Street, Folsom, CA 95630. The public hearing will allow: (1) community input regarding the City's implementation plan for included water conservation provisions, (2) consideration of the economic impacts of complying with CWC statutes governing the UWMP and (3) the City to adopt a method, pursuant to subdivision (b) of Section 10608.26, for determining its urban water use target. The City will make the adopted UWMP available for review prior to the public hearing.

If you have any questions regarding this notification or the City's UWMP update process, please contact me at (916) 351-3528 or myasutake@folsom.ca.us.

Sincerely,

Marcus Yasutake, P.E.
Director of Environmental and Water Resources

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Appendix C-1: CUWCC Report

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CUWCC BMP Coverage Report 2013

6978 City of Folsom

GPCD in 2006 402.4

GPCD in 2013 295.3

GPCD Target for 2018: 330.00

Biennial GPCD Compliance Table

ON TRACK

		Target		Highest Acceptable Bound	
Year	Report	% Base	GPCD	% Base	GPCD
2010	1	96.4%	**387.90**	100%	**402.40**
2012	2	92.8%	**373.40**	96.4%	**387.90**
2014	3	89.2%	**358.90**	92.8%	**373.40**
2016	4	85.6%	**344.40**	89.2%	**358.90**
2018	5	82.0%	**330.00**	82.0%	**330.00**

CUWCC BMP Retail Coverage Report 2013

Foundational Best Managemant Practices for Urban Water Efficiency

BMP 1.1 Operation Practices

ON TRACK

6978 City of Folsom

1. Conservation Coordinator provided with necessary resources to implement BMPs?

Name:	Don Smith
Title:	Water Management Coordinator
Email:	dsmith@folsom.ca.us

2. Water Waste Prevention Documents

WW Document Name	WWP File Name	WW Prevention URL	WW Prevention Ordinance Terms Description
Option A Describe the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP.	Copy_of_Folsom_Municipal_Code.website		The City of Folsom has adopted and actively enforces Folsom Municipal Code 13.26, including prohibitions against the wasteful use of water. The City of Folsom has coordinated with other agencies to standardize language for drought stages
Option B Describe any water waste prevention ordinances or requirements adopted by your local jurisdiction or regulatory agencies within your service area.			
Option C Describe any documentation of support for legislation or regulations that prohibit water waste.			
Option D Describe your agency efforts to cooperate with other entities in the adoption or enforcement of local requirements consistent with this BMP.			
Option E Describe your agency support positions with respect to adoption of legislation or regulations that are consistent with this BMP.			
Option F Describe your agency efforts to support local ordinances that establish permits requirements for water efficient design in new development.			

At Least As effective As No

CUWCC BMP Retail Coverage Report 2013

Foundational Best Managemant Practices for Urban Water Efficiency

BMP 1.1 Operation Practices **ON TRACK**

Exemption No

Comments:

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.2 Water Loss Control **ON TRACK**

6978 City of Folsom

Completed Standard Water Audit Using AWWA Software?	Yes
AWWA File provided to CUWCC?	Yes
Folsom_2013_AWWA_Audit_Final.xls	
AWWA Water Audit Validity Score?	83
Complete Training in AWWA Audit Method	Yes
Complete Training in Component Analysis Process?	Yes
Component Analysis?	Yes
Repaired all leaks and breaks to the extent cost effective?	Yes
Locate and Repar unreported leaks to the extent cost effective?	Yes
Maintain a record keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.	Yes

Provided 7 Types of Water Loss Control Info

Leaks Repairs	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost Of Interventions	Water Saved (AF)
91	1461331	739283.63	343			773.12

At Least As effective As No

Exemption No

Comments:

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.3 Metering With Commodity

NOT ON TRACK

6978 City of Folsom

Numbered Unmetered Accounts	No
Metered Accounts billed by volume of use	Yes
Number of CII Accounts with Mixed Use Meters	
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	No
Feasibility Study provided to CUWCC?	No

Date: 1/1/0001

Uploaded file name:

Completed a written plan, policy or program to test, repair and replace meters	Yes

At Least As effective As No

Exemption No

Comments:

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.4 Retail Consrvation Pricing

On Track

6978 City of Folsom

Implementation (Water Rate Structure)

Customer Class	Water Rate Type	Conserving Rate?	(V) Total Revenue Comodity Charges	(M) Total Revenue Fixed Carges
Single-Family	Increasing Block	Yes	5440180.61	2869335.84
Multi-Family	Uniform	Yes	635407.34	292148.31
Commercial	Uniform	Yes	1427548.34	658051.67
Industrial	Uniform	Yes	350617.57	140043.42
Institutional	Uniform	Yes	269726.08	126193.89
Dedicated Irrigation	Uniform	Yes	1505796.54	436409.83
			9629276.48	**4522182.96**

Calculate: V / (V + M) **68 %**

Implementation Option: Use Annual Revenue As Reported

☐ Use 3 years average instead of most recent year

Canadian Water and Wastewater Association

Upload file:

Agency Provide Sewer Service: Yes

Customer Class	Rate Type	Conserving Rate?
Single-Family	Non-Volumetric Flat Rate	No
Multi-Family	Non-Volumetric Flat Rate	No
Commercial	Non-Volumetric Flat Rate	No
Industrial	Non-Volumetric Flat Rate	No
Institutional	Non-Volumetric Flat Rate	No

At Least As effective As No

Exemption No

Comments:

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.1 Public Outreach

ON TRACK

6978 **City of Folsom** **Retail**

Does your agency perform Public Outreach programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

Regional Water Authority
Amy Talbot, atalbot@rwah2o.org
5620 Birdcage St, Suite 180
Citrus Heights, CA, 95610

The name of agency, contact name and email address if not CUWCC Group 1 members

Green Acres Nursery

Did at least one contact take place during each quater of the reporting year? No

Public Outreach Program List	Number
General water conservation information	14
Email Messages	3
Total	**17**

Did at least one contact take place during each quater of the reporting year? Yes

Number Media Contacts	Number
Television contacts	5
Radio contacts	6
News releases	13
Articles or stories resulting from outreach	8
Total	**32**

Did at least one website update take place during each quater of the reporting year? No

Public Information Program Annual Budget

Annual Budget Category	Annual Budget Amount
Regional	188500
City of Folsom	15890
Total Amount:	**204390**

Description of all other Public Outreach programs

Public education programsEcolandscape California - supports the Green Gardener for professional landscapers

Comments:

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.1 Public Outreach

ON TRACK

At Least As effective As	No	
Exemption	No	0

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.2 School Education Programs

ON TRACK

6978 City of Folsom **Retail**

Does your agency implement School Education programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

Regional Water Authority Amy Talbot 5620 Birdcage St, Suite 180 Citrus Heights, CA, 95610

Materials meet state education framework requirements? Yes

• A student newspaper supplement called Be Water Smart News, Water, the Never Ending Cycle is geared towards K-8th grades.
• An updated Be Water Smart News teacher's guideis based on the California Content Standards.

Materials distributed to K-6? Yes

The student newspaper supplement , Water, the Never Ending Cycle is distributed by the Sacramento Bee to all (K-12). A colorful "California Waterways Map" provided by the California Department of Water Resources to grades 4-8

Materials distributed to 7-12 students? Yes (Info Only)

The colorful student newspaper supplement called Living Rivers of the Sacramento Valley is distributed by the Sacramento Bee to all (9-12) teachers that have subscribed for this particular water supplement

Annual budget for school education program: 3100.00

Description of all other water supplier education programs

The City of Folsom staff has been trained as "Get WET" training facilitators and offers the training to the local school district

Comments:

At Least As effective As No

Exemption No 0

CUWCC BMP Retail Coverage Report 2014

Foundational Best Managemant Practices for Urban Water Efficiency

BMP 1.1 Operation Practices

ON TRACK

6978 City of Folsom

1. Conservation Coordinator provided with necessary resources to implement BMPs?

Name: Don Smith

Title: Water Management Coordinator

Email: dsmith@folsom.ca.us

2. Water Waste Prevention Documents

WW Document Name	WWP File Name	WW Prevention URL	WW Prevention Ordinance Terms Description
Option A Describe the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP.	Copy1_of_13.26_Water_Conservation_Ordinance_020409.DOC	http://www.codepublishing.com/CA/Folsom/#!/folsom13/Folsom1326.html#13.26	The City of Folsom has adopted and actively enforces Folsom Municipal Code 13.26, including prohibitions against the wasteful use of water. The City of Folsom has coordinated with other agencies to standardize language for drought stages
Option B Describe any water waste prevention ordinances or requirements adopted by your local jurisdiction or regulatory agencies within your service area.			
Option C Describe any documentation of support for legislation or regulations that prohibit water waste.			
Option D Describe your agency efforts to cooperate with other entities in the adoption or enforcement of local requirements consistent with this BMP.			
Option E Describe your agency support positions with respect to adoption of legislation or regulations that are consistent with this BMP.			
Option F Describe your agency efforts to support local ordinances that establish permits requirements for water efficient design in new development.			

At Least As effective As No

CUWCC BMP Retail Coverage Report 2014

Foundational Best Managemant Practices for Urban Water Efficiency

BMP 1.1 Operation Practices **ON TRACK**

Exemption No

Comments:

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.2 Water Loss Control **ON TRACK**

6978 City of Folsom

Completed Standard Water Audit Using AWWA Software?	Yes
AWWA File provided to CUWCC?	Yes
2014 AWWA Water Audit Final .xls	
AWWA Water Audit Validity Score?	85
Complete Training in AWWA Audit Method	Yes
Complete Training in Component Analysis Process?	Yes
Component Analysis?	Yes
Repaired all leaks and breaks to the extent cost effective?	Yes
Locate and Repar unreported leaks to the extent cost effective?	Yes
Maintain a record keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.	Yes

Provided 7 Types of Water Loss Control Info

Leaks Repairs	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost Of Interventions	Water Saved (AF)
110	1229361	615611	343	False		1566.52

At Least As effective As No

Exemption No

Comments:

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.3 Metering With Commodity

ON TRACK

6978 City of Folsom

Numbered Unmetered Accounts	No
Metered Accounts billed by volume of use	Yes
Number of CII Accounts with Mixed Use Meters	75
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	Yes
Feasibility Study provided to CUWCC?	Yes

Date: 12/1/2015

Uploaded file name: Folsom BMP 1.3 Feasibility Analysis_12-1-15v1_FINAL.PDF

Completed a written plan, policy or program to test, repair and replace meters	Yes

At Least As effective As No

Exemption No

Comments:

The column for "# of meter readings per year" copies the column "# estimated bills/year" and will not save the corrections after editing. The meter maintenance document was emailed to the council separately.

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.4 Retail Conservation Pricing

ON TRACK

6978 City of Folsom

Implementation (Water Rate Structure)

Customer Class	Water Rate Type	Conserving Rate?	(V) Total Revenue Comodity Charges	(M) Total Revenue Fixed Carges
Single-Family	Increasing Block	Yes	4151897.09	3196239.27
Multi-Family	Uniform	Yes	523142.69	292956.12
Commercial	Uniform	Yes	1238567.96	669561.68
Industrial	Uniform	Yes	397409.92	128657.61
Institutional	Uniform	Yes	342541.6	125031.29
Dedicated Irrigation	Uniform	Yes	1159319.23	463194.64
			7812878.49	**4875640.61**

Calculate: V / (V + M) **62 %**

Implementation Option: Use Canadian Water Wastewater Association Rate Design Model

☐ Use 3 years average instead of most recent year

Canadian Water and Wastewater Association

Upload file:

Agency Provide Sewer Service: No

Customer Class	Rate Type	Conserving Rate?
Single-Family	Non-Volumetric Flat Rate	No
Multi-Family	Non-Volumetric Flat Rate	No
Commercial	Non-Volumetric Flat Rate	No
Industrial	Non-Volumetric Flat Rate	No
Institutional	Non-Volumetric Flat Rate	No

At Least As effective As Yes

The City of Folsom has chosen to use option 3. Folsom's score is 43, a passing score is 26.

Exemption No

Comments:

Folsom does not own or operate a treatment facility, does not have a regulatory permit to treat wastewater, and does not provide retail sewer service. Wastewater from the City is conveyed to Regional San for retail sewer service.

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.1 Public Outreach

ON TRACK

6978 **City of Folsom** **Retail**

Does your agency perform Public Outreach programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

Regional Water Authority
Amy Talbot, atalbot@rwah2o.org
5620 Birdcage St, Suite 180
Citrus Heights, CA, 95610

The name of agency, contact name and email address if not CUWCC Group 1 members

Green Acres Nursery

Did at least one contact take place during each quater of the reporting year? No

Public Outreach Program List	Number
General water conservation information	43
Email Messages	3
Newsletter articles on conservation	14
Total	**60**

Did at least one contact take place during each quater of the reporting year? Yes

Number Media Contacts	Number
Television contacts	40
Radio contacts	24
News releases	13
Articles or stories resulting from outreach	114
Newspaper contacts	41
Total	**232**

Did at least one website update take place during each quater of the reporting year? No

Public Information Program Annual Budget

Annual Budget Category	Annual Budget Amount
Regional	113000
City of Folsom	21090
Total Amount:	**134090**

Description of all other Public Outreach programs

Public education programsEcolandscape California - supports the Green Gardener for professional landscapers

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.1 Public Outreach

ON TRACK

Comments:

At Least As effective As	No	
Exemption	No	0

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.2 School Education Programs

ON TRACK

6978 City of Folsom **Retail**

Does your agency implement School Education programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

Regional Water Authority Amy Talbot 5620 Birdcage St, Suite 180 Citrus Heights, CA, 95610

Materials meet state education framework requirements? Yes

• A student newspaper supplement called Be Water Smart News, Water, the Never Ending Cycle is geared towards K-8th grades.
• An updated Be Water Smart News teacher's guideis based on the California Content Standards.

Materials distributed to K-6? Yes

The student newspaper supplement , Water, the Never Ending Cycle is distributed by the Sacramento Bee to all (K-12). A colorful "California Waterways Map" provided by the California Department of Water Resources to grades 4-8

Materials distributed to 7-12 students? Yes (Info Only)

The colorful student newspaper supplement called Living Rivers of the Sacramento Valley is distributed by the Sacramento Bee to all (9-12) teachers that have subscribed for this particular water supplement

Annual budget for school education program: 31000.00

Description of all other water supplier education programs

The City of Folsom staff has been trained as "Get WET" training facilitators and offers the training to the local school district

Comments:

At Least As effective As No

Exemption No 0

CUWCC BMP Coverage Report 2014

6978 City of Folsom

Baseline GPCD: 390.92

GPCD in 2014 273.43

GPCD Target for 2018: 330.00

Biennial GPCD Compliance Table

ON TRACK

		Target		Highest Acceptable Bound	
Year	Report	% Base	GPCD	% Base	GPCD
2010	1	96.4%	**387.90**	100%	**402.40**
2012	2	92.8%	**373.40**	96.4%	**387.90**
2014	3	89.2%	**358.90**	92.8%	**373.40**
2016	4	85.6%	**344.40**	89.2%	**358.90**
2018	5	82.0%	**330.00**	82.0%	**330.00**

C-2: Water Shortage Contingency Plan

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Chapter 13.26
WATER CONSERVATION

Sections:

13.26.005 Definitions.

A. “Base allocation” means the amount of water allocated to each customer class for both interior and exterior use on a monthly or billing cycle basis.

B. “Best management practice (BMP)” means a policy, program, practice, rule, regulation ordinance or the use of devices, equipment or facilities that result in more efficient use or conservation of water.

C. “Certified landscape irrigation auditor” means a person certified to perform landscape irrigation audits by a professional trade organization or other educational organization.

D. “CDPH” means the California Department of Public Health.

E. “City” means the city of Folsom.

F. “City manager” means the city manager of the city of Folsom or his or her designee unless otherwise stated or indicated by context.

G. “City water system” means those facilities within and without the city of Folsom that the city uses to deliver water as the water purveyor recognized by the California Department of Public Health.

H. “Customer” means any person or entity using water supplied by the city water system. “Customer” includes tenants of single-family dwellings or duplexes, owners of real property and management companies responsible for property management of real property.

I. “CUWCC” means the California Urban Water Conservation Council.

J. “Department” means the city of Folsom utilities department.

K. “Director” means the city of Folsom director of utilities or his or her designee unless otherwise stated or indicated by context.

L. “Discontinued service” means having the water service turned off by the department.

M. “Fire chief” means the fire chief of the city of Folsom or designee unless otherwise stated or indicated by context.

N. “Irrigation service” means a water service that is exclusively for landscape irrigation purposes.

O. “Nonresidential customer” means a customer of the city water system on whose property a residence is not situated.

P. “Person” means any person, business, firm, partnership, association, corporation, company or organization of any kind.

Q. “Private fire service” means a private fire service main and appurtenances installed in accordance with NFPA 24 on private property and maintained by the property owner for the explicit intent of providing fire flows

either through fire hydrants, fire sprinkler systems, or other water-based fire protection systems.

R. "Residential customer" means a customer of the city water system on whose property, whether owned or rented, at least one person resides.

S. "Sustainable landscaping practice" means the use of best management practices in the planning and maintenance of water efficient landscaping, as discussed in Section 13.26.100, Sustainable landscaping.

T. "Water conservation" means the best management practices for the reasonable and efficient use of water for both indoor and outdoor water demands.

U. "Water conservation program guidelines" means the program guidelines developed, maintained, and managed by the director pursuant to this chapter.

V. "Water management coordinator" means the water management coordinator in the utilities department.

W. "Wasteful use of water" is as defined in Section 13.26.050. (Ord. 1118 § 2 (part), 2009)

13.26.010 Application.
The provisions of this chapter shall apply to all customers of the city water system. (Ord. 1118 § 2 (part), 2009)

13.26.020 City responsibility.
The city, and its duly authorized agents, servants and employees, shall have the exclusive right to deliver water within the city's water service area. The city shall also have the right to manage water demand within the city's water service area. (Ord. 1118 § 2 (part), 2009)

13.26.030 Water conservation program and landscape guidelines.
A. The director is authorized to develop sustainable landscape practices consistent with the water conservation intent of this chapter, CUWCC best management practices and any applicable laws. The sustainable landscape practices shall be included as a condition of approval for any development project with new or rehabilitated landscaping for which the city has discretionary approval authority where such landscape area is greater than two thousand five hundred square feet or as otherwise determined by the director to achieve the city's water conservation goals.

B. The director shall oversee this chapter's implementation, compliance with the CUWCC best management practices and any laws mandating water conservation. The director shall, from time to time, but at least annually, review the sustainable landscape practices and determine if such practices are reasonable and achieve the level of conservation required under this chapter for the declared water conservation stage, taking into account the burden imposed on property owners. (Ord. 1118 § 2 (part), 2009)

13.26.040 Base allocation of water.
The director may develop a base allocation for each class of customer account taking into account the needs and characteristics of each customer class. This base allocation may be used to evaluate compliance with the

conservation stage in effect and to encourage the reasonable and efficient use of water. (Ord. 1118 § 2 (part), 2009)

13.26.050 Wasteful use of water.

Any of the following acts or omissions, whether intentional, unintentional, willful or negligent, shall constitute the wasteful use of water:

A. Water flowing away from a property caused by excessive application(s) of water beyond reasonable or practical irrigation rates, duration of application, or other than incidental applications to impervious surfaces.

B. Causing or permitting an amount of water to discharge, flow, run to waste into or flood any gutter, sanitary sewer, water course or storm drain, or to any adjacent lot, from any tap, hose, faucet, pipe, sprinkler, or nozzle. In the case of irrigation, “discharge,” “flow” or “run to waste” means that water is applied to the point that the earth intended to be irrigated has been saturated with water so that additional applied water then flows over the earth. In the case of washing, “discharge,” “flow” or “run to waste” means that water in excess of that necessary is applied to wash, wet or clean the dirty or dusty object, such as an automobile, sidewalk, or parking area.

C. Allowing water fixtures or heating or cooling devices to leak or discharge water.

D. Maintaining ponds, waterways, decorative basins or swimming pools without water recirculation devices or with known leaks, both seen and unseen.

E. Discharging water from, and refilling, swimming pools, decorative basins or ponds in excess of the frequency reasonably necessary to maintain the health, maintenance or structural considerations of the pool, basin or pond, as determined by the director.

F. Continued operation of an irrigation system that applies water to an impervious surface or that is in disrepair.

G. Use of a water hose not equipped with a control nozzle capable of completely shutting off the flow of water except when positive pressure is applied.

H. Irrigation of lawns or landscaping when it is raining.

I. Overfilling of any pond, pool or fountain which results in water discharging from the pond, pool or fountain.

J. Failure to repair customer pipes, faulty sprinklers or other water-related fixtures that leak water within five working days, unless the director informs the customer that the leak must be repaired more quickly, in which case the customer shall repair the leak in the time specified by the director.

K. Irrigating lawns or landscaping between the hours of 10:00 a.m. and 10:00 p.m., with the exception of drip irrigation as otherwise authorized pursuant to this chapter, unless a variance is granted by the director.

L. Using potable water from the city water system for compaction, dust control or other construction purposes without first obtaining approval from the director as provided in Section 13.26.090 and a meter from the city.

M. Installing a single-pass cooling system, such as water cooled air compressor, in any property that is newly connected to the city water system. This does not apply to evaporative cooling systems.

N. Installing a nonrecirculating system in any new automatic car wash or new commercial laundry system or failure to utilize current best management practices for water conservation that are industry standards. (Ord. 1118 § 2 (part), 2009)

13.26.060 Determination of water conservation stages.

In determining the city water system's water conservation stage, the city manager shall determine whether that system's water supplies available for potable use are sufficient to meet the current customer demands on that system and shall consider, unless otherwise excluded by this section, all relevant factors. The city manager shall consider, among other things: (A) any variations in the reliability of the water supplies available to the city water system; (B) any declarations by the Bureau of Reclamation concerning its ability to deliver water under Central Valley Project water-service contracts; (C) availability of nonpotable water to meet nonpotable demands on the city water system; (D) the success, or lack thereof, of previous declarations of a less stringent water conservation stage in causing the water-use reductions sought by the city; and (E) any agreements between the city and local water purveyors for deliveries of additional water supplies to the city. The city manager will select the necessary stage for conservation under Section 13.26.070. (Ord. 1118 § 2 (part), 2009)

13.26.070 Water conservation stages.

The city manager is authorized to implement and enforce whatever conservation measures are deemed necessary to achieve the water reduction requirements of the declared conservation stage. For each stage, the water use reduction for customers shall be as follows:

A. Stage one (basic stage) shall be in effect at all times unless the city manager determines that a more restrictive conservation stage is appropriate. Base allocation of water may be used to determine allowable water use for each customer in this stage and compliance with the following conservation stages.

B. Stage two (water alert) shall achieve a reduction of up to twelve percent relative to the base allocation of water.

C. Stage three (water warning) shall achieve a reduction of up to twenty percent relative to the base allocation of water.

D. Stage four (water crisis) shall achieve a reduction of up to thirty-five percent relative to the base allocation of water.

E. Stage five (water emergency) shall achieve a reduction of up to fifty percent relative to the base

allocation of water, or any other reduction the city manager determines, in writing, is necessary to protect public health and safety in the city during the actual situation presented by a stage five water emergency. (Ord. 1118 § 2 (part), 2009)

13.26.080 Water use restrictions.

Water use restrictions during the various conservation stages shall, at a minimum, be as listed below and may be augmented by other restrictions as determined necessary by the city manager.

A. During the stage one (basic stage) conservation stage, the following restrictions shall be enforced:

1. Water will be used for beneficial uses; all wasteful use of water is prohibited.

2. Water shall be confined to the customer's property and shall not be allowed to run off to adjoining property or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.

3. Free flowing hoses are prohibited for all uses including landscape watering, vehicle and equipment washing, ponds, evaporative coolers and livestock watering troughs. Automatic shut-off devices shall be installed on any hose or filling apparatus in use.

4. All pools, spas and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak proof. Pool draining and refilling shall be allowed only to the extent required for health, maintenance, or structural considerations, and must otherwise comply with all applicable federal, state and local stormwater management requirements, including but not limited to Chapter 8.70, Stormwater Management and Discharge Control.

B. During the stage two (water alert) conservation stage, the following restrictions shall be enforced:

1. All stage one (basic stage) restrictions shall continue to be enforced, except to the extent they are replaced by more restrictive requirements imposed by this section.

2. Landscape and pasture irrigation shall be limited to a maximum of three days per week based on the following odd-even schedule, with the exception of drip irrigation, which may be conducted on any day.

a. Customers with street addresses that end with an odd number may irrigate only on Tuesdays, Thursdays and Saturdays.

b. Customers with street addresses that end with an even number may irrigate only on Wednesdays, Fridays and Sundays.

c. No irrigation is permitted on Mondays.

3. Hand and manual watering follows the same odd/even day schedule and may be done anytime during the day.

4. Washing of streets, parking lots, driveways, sidewalks, buildings or other hardscape surfaces is

prohibited, except as necessary for health, sanitation or fire protection purposes.

5. Restaurants shall serve water only upon specific request.

6. Public and private streetscape landscaping (medians and frontage) may be watered only on the same schedule as customers with street addresses that end with an even number.

C. During the stage three (water warning) conservation stage, the following restrictions shall be enforced:

1. All stage two restrictions shall continue to be enforced, except to the extent they are replaced by more restrictive requirements imposed by this section.

2. Landscape and pasture irrigation shall be limited to a maximum of two days per week based on the following odd-even schedule, with the exception of drip irrigation, which may be conducted on any day.

a. Customers with street addresses that end with an odd number may irrigate only on Tuesdays and Saturdays.

b. Customers with street addresses that end with an even number may irrigate only on Wednesdays and Sundays.

c. No irrigation is permitted on Mondays, Thursdays and Fridays.

d. Irrigation for public parks and other public grounds, including landscaping and lighting district property, shall only be allowed with an irrigation plan and irrigation system audit that has been approved by the director in accordance with Section 13.26.110, irrespective of size.

3. No water from the city water system shall be used for construction purposes such as dust control, compaction, or trench jetting, unless the use is approved by the director consistent with the provisions of Section 13.26.090.

D. During the stage four (water crisis) conservation stage, the following restrictions shall be enforced:

1. All stage three restrictions shall continue to be enforced, except to the extent they are replaced by more restrictive requirements imposed by this section.

2. Landscape and pasture irrigation, including drip irrigation, shall be limited to a maximum of one day per week based on the following odd-even schedule.

a. Customers with street addresses that end with an odd number may irrigate only on Tuesdays.

b. Customers with street addresses that end with an even number may irrigate only on Wednesdays.

c. No irrigation is permitted on Mondays, Thursdays, Fridays, Saturdays and Sundays.

3. Public and private streetscape landscaping (medians and frontage) may be watered only on the same schedule as customers with street addresses that end with an even number.

4. No water from the city water system shall be used to drain and refill swimming pools, artificial lakes, ponds or streams and no new permits for swimming pools, artificial lakes, ponds or streams shall be issued until the water conservation stage has been declared to be stage one.

5. Water use for ornamental ponds and fountains is prohibited unless required to maintain existing vegetation or to sustain existing fish/animal life.

6. New or expanded landscaping on properties is limited to drought-tolerant trees, shrubs, and ground cover and no new turf or grass shall be planted, hydro-seeded or laid.

7. Washing of automobiles or equipment shall be done on the lawn or at a commercial establishment that uses recycled or reclaimed water.

8. All water leaks shall be repaired within twenty-four hours of notification by the utilities department or service may be discontinued.

E. During the stage five (water emergency) conservation stage, the following restrictions shall be enforced:

1. All stage four restrictions shall continue to be enforced, except to the extent they are replaced by more restrictive requirements imposed by this section.

2. No landscape and/or pasture irrigation shall be allowed.

3. Flushing of sewers or fire hydrants is prohibited, except in case of an emergency and for essential operations.

4. Flushing of fire protection systems is prohibited, except during required maintenance or servicing of the system.

5. Water use for ornamental ponds and fountains is prohibited.

6. Washing of automobiles or equipment shall be done at a commercial establishment that uses recycled or reclaimed water.

7. Installation of any new lawns or landscaping is prohibited.

8. No water from the city water system shall be used for construction purposes such as dust control, compaction, or trench jetting, unless the use is necessary for fire protection system testing, maintenance, or acceptance by the fire chief. (Ord. 1118 § 2 (part), 2009)

13.26.090 Construction water.

Water for construction purposes obtained from the city's water supply may only be used in the city's water

service area. Water for dust control, compaction and other construction activities shall be subject to the following conditions:

A. Use of water from the city water system for construction purposes shall require a city-issued construction water meter and a refundable security deposit that includes a monthly meter rental fee as established by the department. Prior to such water use, the construction water customer must obtain approval from the director to use the water for construction and agree to comply with all of the requirements of this chapter. The director may impose such additional conditions on the use of such water, including, but limited to, conditions regulating the purpose for the use of the water, rate of use, location, frequency and quantity of use, and such other conditions as deemed reasonably necessary by the director to effectuate the purposes of this chapter. The construction meter shall be located by the department and shall only be relocated or removed by the department. Unauthorized relocation or removal of a construction meter shall be deemed theft and the offender shall be subject to the penalties set forth in Section 13.26.170.

B. Construction water shall only be drawn through a construction water meter. Construction water drawn through an unmetered connection shall be deemed theft of water and shall be grounds for the deposit on the construction meter to be forfeited. The offender shall also be subject to the penalties specified in Section 13.26.170. In the event the person identified as drawing water without a metered connection does not have a meter, the action shall be deemed theft and the offender shall be subject to the penalties specified in Section 13.26.170.

C. These requirements for construction water use may be modified or supplemented by other conservation measures as determined appropriate by the director for the declared conservation stage. The director may terminate the approval granted to use the construction water based on water use restriction stages, violation of the terms and conditions of use, and/or for conduct that amounts to wasteful use of water. (Ord. 1118 § 2 (part), 2009)

13.26.100 Sustainable landscaping.

Where this chapter permits or prohibits acts based upon whether or not a planting, tree, shrub, or groundcover is “drought-tolerant” or “sustainable” the determination shall be made based upon: (A) Sunset’s The Western Garden Book (February 2007), Sunset Books Publishing; (B) Robert Perry, Trees and Shrubs for Dry California Landscapes; (C) EBMUD, Water Wise Gardening; (D) UC Davis Arboretum’s All Stars plant database (www.arboretum.ucdavis.edu) or as determined by the director. (Ord. 1118 § 2 (part), 2009)

13.26.110 Irrigation system inspections.

All customers, public and private, with a parcel over five acres and with a separate irrigation service shall conduct an annual irrigation system inspection prior to the start of the irrigation season on April 1st. This inspection shall be performed by certified landscape irrigation auditor or licensed landscape or irrigation contractor and the results forwarded to the department in accordance with the procedure outlined in the water conservation program guidelines. This requirement will be waived for one full year if a full landscape water audit has been performed in the previous year by the department’s water management staff, who are available on a limited basis. Single-family residences are exempt unless the director determines there has been

wasteful use of water on a customer's premises and the conditions have not been corrected within five days after the city provides written notification to discontinue such practice.

Customers that have a current irrigation system check-up on file with the department will be allowed one courtesy water waste warning before being deemed in violation of this chapter. (Ord. 1118 § 2 (part), 2009)

13.26.120 Discontinuance of water service.

The director may discontinue service to a customer's connection to the city water system at the time that the director issues to the customer: (A) a notice of a third violation of this chapter during the stage one (basic stage), or stage two (water alert) within two months; (B) a notice of a second violation of this chapter during a stage three (water warning) or a stage four (water crisis) within one month; or (C) a notice of a second violation during a stage five (water emergency), irrespective of time. If the customer's water service is discontinued due to violations of this chapter, the customer shall be subject to the penalties specified in Section 13.26.170. Upon seeking renewed service from the city, the customer shall pay the city's water turn off/on service fee as set by ordinance or resolution of the city council. (Ord. 1118 § 2 (part), 2009)

13.26.130 Unauthorized water use.

A. An illegal connection to the city water system shall either be metered by the property owner within the time specified by the department or disconnected at the discretion and direction of the director, and the offender shall be subject to the penalties specified in Section 13.26.170.

B. Unauthorized use of a fire hydrant, public or private, for anything other than fire flows or permitted and metered construction water shall subject the offender to the penalties specified in Section 13.26.170 and Chapter 8.36, Folsom Fire Code.

C. Private fire services with an observed demand that is deemed not to be fire flow by the department shall have a meter and appropriate cross-connection control device installed by the property owner, upon approval by the director and the fire chief. Prior to making any modifications or alteration to the on-site fire service, a permit shall be obtained from the fire department in accordance with Chapter 8.36. Upon written notification of the requirement to install a meter and cross-connection control device, the property owner shall have thirty calendar days to submit a plan of correction to the director. Failure to comply with this section shall subject the property owner to the penalties specified in Section 13.26.170, Penalties, and the service may be disconnected at the discretion of the director and the fire chief. (Ord. 1118 § 2 (part), 2009)

13.26.140 Cross-connection control devices.

All connections to the city's water system shall have the appropriate cross-connection control device as required by CDPH regulations and enforced by the department in accordance with Chapter 13.22, Water System Cross-Connection Control. These devices shall be from the approved and published list maintained by the University of Southern California (USC) or other list as approved by the director and shall be tested annually in accordance with the department's policies and procedures. Devices used on private fire services shall be listed for fire service use and maintained in accordance with State Fire Marshall regulations. (Ord. 1118 § 2 (part), 2009)

13.26.150 Violation declared a nuisance.

Any activity in violation of this chapter will adversely and seriously affect the public health, safety and welfare, is hereby declared to be a public nuisance and may be remedied as provided in this chapter, any other applicable portion of the Folsom Municipal Code or applicable state law. (Ord. 1118 § 2 (part), 2009)

13.26.160 Enforcement.

A. This chapter shall be enforced pursuant to the provisions of Chapter 1.08 to 1.10, inclusive, of Title 1 of the Folsom Municipal Code and any other enforcement mechanism available to the city under the Folsom Municipal Code and/or applicable law.

B. Unless otherwise expressly provided in this chapter, the director shall enforce the provisions of this chapter. (Ord. 1118 § 2 (part), 2009)

13.26.170 Penalties.

A. The goal of the provisions of this chapter are to achieve voluntary compliance from the customer, and the city will take reasonable measures to assure the customer has information available to promptly and efficiently address water use issues. Where voluntary compliance cannot be achieved through initial contacts and warnings, then appropriate administrative penalties and further action are required. Except as otherwise provided herein, violations of any provision of this chapter shall be addressed as follows:

Violation	Penalty
First	Personal or written notification of the violation.
Second (Within three months of first violation)	Written notification and issuance of a notice to correct.
Third (Within six months of first violation)	Issuance of an administrative penalty, mandatory installation of a water meter, discontinued water service and/or other penalties as provided in the notice of violation and as determined by the utilities director.

B. Penalties.

1. A violation of this chapter shall also be an administrative violation as defined in Section 1.08.020.

2. Each of the sanctions for administrative violations identified in Section 1.09.013 shall be available for enforcement of the provisions of this chapter. Based on the criteria for imposition of administrative sanctions set forth in Section 1.09.014, each day a violation of this chapter continues it shall be deemed a Level A violation as that term is described in Section 1.09.012 with an initial penalty of up to one hundred dollars.

3. In addition to any other penalties provided by this chapter, if a customer of the city water system violates any of the water use restrictions during a stage two, three, four, or five water conservation stage as set forth in Section 13.26.080, and such conditions are not corrected within five days after the customer is given written notice, the city is authorized to do any or all of the following:

a. Meter any flat rate service connection and apply the regularly established metered rates. If the parcel has over two thousand five hundred square feet of landscaping a separate landscape meter may be installed. Costs for the water meters and installation shall be paid by the property owner.

b. If the service is metered, the customer shall be billed at twice the metered rate during the time that the violation continues. If more than two thousand five hundred square feet are irrigated and the parcel does not have a separate irrigation meter, then an irrigation meter may be installed. The customer shall be billed at twice the metered rate during the time the violation continues. Costs for the water meter, and for any required cross-connection controls and installation, shall be paid by the property owner.

C. Appeal. There shall be no appeal of the water use restriction identified in Section 13.26.080 and any appeal of administrative penalties shall follow the request for hearing procedures provided in Chapter 1.09. Any order to install a mandatory water meter, discontinue water service or any other orders or decisions of the director shall be appealable to the city manager pursuant to Section 2.08.060; provided, however, that the city manager's decision shall be final and there shall be no right of appeal to the city council. (Ord. 1118 § 2 (part), 2009)

13.26.180 Remedies cumulative.

The remedies set forth in this chapter are cumulative to any other remedy available to the city. Pursuit of one remedy shall not preclude any other remedy, and nothing contained in this chapter shall limit or be deemed to prevent the city from pursuing any other remedy available to the city under the Folsom Municipal Code or other applicable law. (Ord. 1118 § 2 (part), 2009)

13.26.190 Variances.

In unusual circumstances, application of this chapter may cause unnecessary hardships or results inconsistent with this chapter's purposes and intent. Therefore, variances to some of the requirements of this chapter may be appropriate as delineated below.

A. Authority to Grant Variances. The director may grant variances from this chapter's provisions during a

stage one, two, or three conservation stage as specified in Section 13.26.080, Water use restrictions. During stage four or five conservation stage as specified in that section, any previously granted variances shall be suspended without notice, unless they are based on a critical health need as determined by a licensed medical professional, with such determination being provided to the director.

B. Landscape Variances. Applications for landscape variances shall be obtained from, and filed with, the utilities department. The director may grant any such applications in his or her discretion in light of the condition of the water supply for the city water system. Any such variance shall be subject to the conditions presented in the water conservation program and landscape guidelines.

C. Other Variances. Customers who seek a variance from this chapter for any reason other than the needs of new landscaping shall submit to the utilities department a written request for variance, setting forth, in detail, the extraordinary circumstances that support the application. The director may approve the application in his or her discretion; provided, that the variance allows the applicant to use only the minimum amount of water in addition to that allowed by this chapter that the director reasonably believes is necessary to satisfy the circumstances that support the application. Any such variance shall terminate one year after its issuance, subject to an application for its renewal. (Ord. 1118 § 2 (part), 2009)

13.26.200 Fire and other emergencies.

Nothing in this chapter limits, or may be construed as limiting the availability of water for extinguishing fires, meeting the demands of any other similar emergency, or routine inspection and maintenance of fire hydrants. (Ord. 1118 § 2 (part), 2009)

Chapter 13.30
WATER IMPACT FEE

Sections:

13.30.010 Findings and purpose.

A. On October 31, 1988, the city council of the city of Folsom approved and adopted its General Plan (the "General Plan") identifying proposed growth within the city limits and further identifying the impacts of such growth upon public facilities within the city including the impacts on water supply and the water supply system.

B. City of Folsom General Plan, Urban Development Policy No. 11.6, Policy on Municipal Services and Facilities states in part that:

> [i]t is the policy of the City of Folsom to require new development to bear the cost of its increased demand/effect on municipal services and facilities so as [to] not create a greater burden on existing residents. . . .[i]t is the policy of the City of Folsom to require certain necessary improvements as a part of the development and/or the payment of municipal services and facilities fees consistent with the proportional effect of the development on such services. The City will periodically update its fees to reflect the cost of providing municipal services and facilities.

C. General Plan Policies 40.1, 40.2, 40.5 further provide that it is the city's policy to require new development to pay its fair share of the cost to expand public facilities and services that will be necessary to serve residential, industrial and commercial development.

D. The city of Folsom water master plan dated December 1998 (Water Plan) was adopted by the city council on May 25, 1999 by Resolution No. 6028. The water plan analyzed the city's present and projected water supply and facilities demands, and the costs of water conservation efforts within developed areas of the city.

E. In order to further determine the need for water supplies and facilities created by new residents and businesses and to spread the cost of such facilities among those who create the need for them, the city prepared the water impact fee study dated November 1, 1999. This study, utilizing information contained in the water plan, estimated the amount and type of water supplies and facilities needed to meet the needs created by new development and the cost of such supplies and facilities.

F. Existing water supplies will be inadequate to accommodate the needs generated by projected new residential, industrial and commercial growth in the city and, additional water supplies are needed to protect and promote the health, safety and welfare of Folsom residents and businesses. This finding is based on the water plan, the water impact fee study and on such other information provided to the city council at the public hearing concerning the adoption of the ordinance codified in this chapter. The water plan further provides that an additional supplemental water supply is needed to meet demands in dry years when surface water is limited and/or unavailable.

G. The city intends to enter into a subcontract with the Sacramento County water agency for an additional water supply needed to meet the demands of new residential, industrial and commercial growth (Fazio Water). The Fazio Water is part of the Central Valley Project (CVP) water and has been obtained under Public Law 101- 514 (Section 206). The primary contract and the subcontract further require that the city install water meters throughout the city.

H. Specific mitigation measures in the Final Environmental Impact Statement/Environmental Impact Report for the CVP Water Supply Contracts Under Public Law 101-514 (Section 206) dated November 1998 (CVP FEIS/EIR) mandate that the city of Folsom and the Sacramento County water agency shall only execute the

subcontract for the Fazio Water after the city notifies the agency that funding has been provided for the acquisition of alternative dry-year water supplies and for 10 years of water conservation implementation in the form of water meter retrofitting.

I. The city further desires to participate in the regional effort to protect the lower American River, which requires that in critically dry years, the city limit the amount of surface water obtained from the American River and fill the balance of city needs with alternate water supplies.

J. Analysis of the land use expected at buildout of the city pursuant to the General Plan makes it possible to estimate the number of dwelling units to be constructed, the population generated by those dwelling units and the number of persons to be employed by commercial and industrial land users. It is therefore possible to arrive at a fee, based on population and jobs created which equitably spreads the burden of financing water supplies and facilities to those who create the need for such facilities. It is the intent of this chapter to create such a fee, spreading costs of water supplies and facilities to those who create the need for such supplies and facilities, without generating any surplus to the general fund. The purpose of this chapter is to implement the requirements of the General Plan requirements and, under the authority of Article XI, Section 7, of the California Constitution and the authority of Title 7 of the Government Code, to establish the appropriate method of ensuring that sufficient funding for water supply facilities is available to serve residential, industrial and commercial growth in the city.

K. The water impact fee will create a financing mechanism for the acquisition of alternative dry-year water supplies and for 10 years of water conservation implementation in the form of water meter retrofitting, thereby allowing the city to fulfill the purposes set forth above. In particular, the fee established by this chapter is further necessary in order to assure compliance with the applicable General Plan requirements that new development bear the cost for water supplies and related facilities which is needed to serve such development.

L. The failure to impose the conditions and regulations of this chapter relating to payment of the fee on building permits would jeopardize residents of the community, in that it would permit construction and development to proceed without adequate water supplies and related facilities or means of financing such facilities.

M. The cost estimates set forth in the water impact fee study are reasonable cost estimates for constructing the facilities and providing the water supplies specified therein, and the fees which may be generated by new development will not exceed the total of these construction costs made necessary by such new development. The fee established by this chapter has been calculated in the manner called for in this study in order that the impact upon supplies and facilities is borne by the type of development causing the same.

N. Based upon all evidence and testimony presented, including the water impact fee study, the city council finds that there is a clear and demonstrated relationship between the use of the fee provided for herein, namely the acquisition of alternative dry-year water supplies and for 10 years of water conservation implementation in the form of water meter retrofitting, and the types of projects upon which the fee is to be

imposed, namely new residential, industrial and commercial development. New residential, industrial and commercial development will generate a need for additional water supplies and infrastructure as described in the water impact fee study.

O. Based upon all evidence and testimony presented, including the water impact fee study, the city council finds that there is a reasonable relationship between the need for the acquisition of alternative dry-year water supplies and for 10 years of water conservation implementation in the form of water meter retrofitting, and the type of development projects upon which the fee is to be imposed, namely new residential, industrial and commercial construction. From careful consideration of the matter, the city council finds that: (1) new development will adversely impact existing water supplies and facilities; (2) will create a need for additional water supplies and related facilities for new development; and (3) the acquisition of water supplies and construction of related facilities set forth in the water impact fee study are appropriate to serve such new development in light of these impacts.

P. Based upon all evidence and testimony presented, including the water impact fee study, the city council finds that there is a reasonable relationship between the amount of the fee as provided for in this chapter and the cost of the acquisition of alternative dry-year water supplies and for 10 years of water conservation implementation in the form of water meter retrofitting, made necessary by new development. Further, the city council finds that the manner in which the fee is allocated upon each unit of new development is fair and does not exceed the cost of providing facilities generated by the construction of each unit of new development.

Q. The establishment of this water impact fee is exempt from the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines Sections 15061(b)(3) and 15273, in that there is no possibility that the establishment of this fee may have a significant effect on the environment, and further because the purpose of establishing this fee is to assist the city in maintaining services within its jurisdictional boundaries. This exemption is specifically based upon the following facts:

1. The environmental impacts of the facilities described in the water impact fee study, including cumulative and growth-inducing impacts, have been identified in the final environmental impact report (the "EIR") prepared for the 1988 General Plan and certified by the city council in Resolution No. 2522, and in the final Environmental Impact Statement/Environmental Impact Report for the CVP Water Supply Contracts Under Public Law 101-514 (Section 206) dated November 1998 and certified by the city council in Resolution No. 5854.

2. The establishment of this fee will not create a need for additional water supplies and infrastructure, nor is the construction of water supply facilities entirely dependent upon the establishment of this fee.

3. Prior to action on site-specific projects, subsequent environmental review will be undertaken as necessary pursuant to the California Environmental Quality Act.

4. Development already is taking place in the jurisdictional boundaries of the city and additional water supplies will have to be acquired and infrastructure will have to be constructed to accommodate the new

population and businesses regardless of whether this fee is established.

5. The establishment of this fee does not commit the city to any definite course of action and does not dictate how funds will be spent, or in any way narrow the field of options and alternatives available to the city.

R. The city council has considered the effect of the fee imposed by this chapter with respect to the housing needs of the city as a whole and of the region, particularly as required by the housing element of the General Plan, and the city council finds that this chapter does not unduly adversely affect the city's ability to provide for such needs.

S. The fee established by this chapter is in addition to any other fees or charges or taxes, required by law or city code or as a condition of development. (Ord. 912 § 1 (part), 1999)

13.30.020 Definitions.

The following words are defined for purposes of this chapter as follows:

"Building permit" means the permit issued or required by the city for the construction of any structure pursuant to Title 14 of the Folsom Municipal Code.

"Director" means the public works director.

"Dwelling unit" means a building or part of a building designed for occupancy as a residence by a family.

"Facilities" means the water supplies, improvements, or infrastructure generally identified in the water plan and the water impact fee study, and more specifically determined from time to time by the city council.

"Fee" or "water impact fee" means the fee(s) established by this chapter.

"General Plan" refers to the city of Folsom General Plan adopted by the Folsom city council in 1988, including all subsequent updates and amendments.

"Improvement funds" means these special funds established pursuant to Section 17.92.030.

"Studies" mean the following plans and studies:

1. City of Folsom General Plan of 1988; and

2. City of Folsom water master plan dated December 1998; and

3. City of Folsom water impact fee study dated November 1, 1999. (Ord. 912 § 1 (part), 1999)

13.30.030 Water impact fee.

There is established a water impact fee which shall be imposed on the construction of all new commercial, industrial and residential buildings that are to be served with water supplies owned and treated by the city. This fee shall be imposed on all new construction within the city, unless such property is otherwise exempt as

provided for in Section 13.30.070 of this chapter. The fee established by this chapter is in addition to any other fees or charges or taxes that are required by law or city code as a condition of development. (Ord. 912 § 1 (part), 1999)

13.30.040 Administration of water impact fund.

The finance director is directed to establish a special fund entitled the water supply fund. All fees collected pursuant to this chapter shall be deposited in this fund and shall be expended solely to finance the planning, construction, development and acquisition of alternative dry-year water supplies and related facilities, and to finance 10 years of water conservation implementation in the form of water meter retrofitting. (Ord. 912 § 1 (part), 1999)

13.30.050 Payment of water impact fee.

Except as otherwise provided by this chapter the fee imposed pursuant to this chapter shall be paid at or prior to the issuance of any building permit for a building subject to this chapter. (Ord. 912 § 1 (part), 1999)

13.30.060 Amount of water impact fee.

The water impact fee is established in the rate and amount set forth below for each specified type of construction:

A. Single-family residential (rate per unit):	$831.00
B. Multi-family residential (rate per unit):	447.00
C. Commercial (rate per acre):	1,119.00
D. Industrial/office (rate per acre):	1,119.00

(Ord. 912 § 1 (part), 1999)

13.30.070 Exemptions.

A. No fee shall be charged for the construction of the following buildings:

1. Buildings under construction for which a valid building permit is in force upon the effective date of the ordinance codified in this chapter unless such building permit contains an express condition requiring the payment of this fee;

2. Construction of buildings within a subdivision subject to a development agreement entered into between the developer and the city under Government Code Section 65864 et seq., which agreement is in full force and effect and expressly prohibits the imposition of additional fees pertaining to water supply costs and facilities, unless amended;

3. Construction of buildings within a subdivision subject to a vested tentative subdivision map under Government Code Section 66498.1 which prohibits the imposition of the fee imposed by this chapter;

4. Additions or modifications to residential buildings;

5. Buildings that will receive water treated by an entity other than the city of Folsom.

B. If any building in existence at the time of the adoption of the ordinance codified in this chapter is destroyed by fire, explosion, act of God or act of public enemy to the extent of more than 1/2 the value thereof, any rebuilding after the date of such destruction shall not be subject to the fee imposed by the chapter provided the area of such building is not increased by more than 10 percent. For the purposes of this chapter, the value shall be determined by the city building inspector based upon the cost of replacement.

C. Additions to existing commercial or industrial buildings shall be subject to the fee established by the chapter. (Ord. 912 § 1 (part), 1999)

13.30.080 Annual fee review.

A. On or about January 1 of each year, commencing in 2001, the city council shall review the estimated cost of and the continued need for additional water supplies and facilities as set forth in the water impact fee study, and the relationship between such need and the impacts of the various types of development pending or anticipated for which this fee is charged. Such review shall consider input from city staff and any other public input before determining whether an adjustment in the current water impact fee is appropriate for the subsequent calendar year. The city may also consider the recommendation of a committee composed of representatives of the city and developers in the community.

B. The city council recognizes that the city may receive additional funding for the acquisition of alternative dry-year water supplies and for 10 years of water conservation implementation in the form of water meter retrofitting, identified in the water impact fee study. To the extent the city receives such additional funding, staff shall present a report to the city council within 60 days of the receipt of such funding identifying: (1) the amount of such funding; and (2) whether such funding has resulted in a net increase in the available funds for the acquisition of alternative dry-year water supplies and for 10 years of water conservation implementation in the form of water meter retrofitting, identified in the water impact fee study. In the event that there is a net increase, the city council shall thereafter determine an appropriate credit against the water impact fee for new development and the fee shall be adjusted in that amount. (Ord. 912 § 1 (part), 1999)

13.30.090 Inflationary adjustments.

The fee established by this chapter shall automatically be adjusted on July 1st of each year by a percentage equal to the change in construction costs since the prior fiscal year as determined by the director based upon Engineering News Record (or similar publication) construction cost index. The determination shall be reported in writing to the city council by the director on or about June 30th of each year or as soon as the information is available. (Ord. 912 § 1 (part), 1999)

13.30.100 Adoption in compliance with improvement plan.

When the monies in the water impact fund are disbursed for use, the fees shall be used only to finance the planning, construction, development and acquisition of alternative dry-year water supplies and related facilities, and to finance 10 years of water conservation implementation in the form of water meter retrofitting. (Ord. 912 § 1 (part), 1999)

13.30.110 Authorization of credits.

Whenever a person constructs facilities authorized by this chapter, in accordance with improvement plans approved by the Director, then such person may be entitled to a credit against any fees or charges due pursuant to Chapter 13.30 of this code, subject to the provisions of this chapter. (Ord. 912 § 1 (part), 1999)

13.30.120 Amount of credits.

Unless otherwise set forth in this chapter, the amount of credits authorized for the construction of facilities shall be determined by the Director based on recent competitive bids, but shall not exceed the actual cost of construction. (Ord. 912 § 1 (part), 1999)

13.30.130 Procedure for credits.

A. Any person desiring credits for the construction of facilities shall, prior to approval of improvement plans for the facilities, execute an agreement with the city authorizing credits. Agreements for credits in an amount of $25,000 or greater must be approved by the city council. Agreements for credits in an amount less than $25,000 may be approved by the city manager or his/her designee.

B. Tentative credits shall be allocated prior to the acceptance of facilities, so that they may be subtracted from fees at the time fees are paid. Credits shall be adjusted as necessary at the time the facilities are accepted by the city. The person receiving tentative credits shall agree that if the facilities are not accepted by the city, all tentative credits allocated shall be reimbursed to the city within 60 days of notice of non-acceptance of the facilities. The person receiving tentative credits shall further agree that if tentative credits allocated exceed the final credits, the excess amount shall be reimbursed to the city within 60 days of notice of such amount. (Ord. 912 § 1 (part), 1999)

13.30.140 Apportionment of credits.

A. Except as set forth in this section, credits shall only be applied against fees and charges due as a result of new construction within the subdivision for which the construction of facilities was required or authorized, and credits shall be equally apportioned to all lots within the subdivision. Credit agreements may not otherwise be assigned without the consent of the city council.

B. Credits may only be apportioned to parcels not within the subdivision if within 30 days from the date that credits are authorized the director determines:

1. The parcel or parcels on which credit is sought are contiguous holdings of an individual or firm at the time construction of facilities is begun;

2. Only credits in excess of the amount of the fees which would have been due on such subdivision or parcel and each subsequent unit thereof within such contiguous holding may be apportioned to other

contiguous parcels;

3. The parcel or parcels to which such credits are to be apportioned must be served by the facilities for which credits are authorized;

4. An agreement has been executed between the owner of the contiguous parcels and the city establishing the amount to be credited to each parcel prior to improvement plan approval for the initial parcel.

C. When credits are apportioned, the credit amounts shall be based on the rates in effect on the date improvement plans are approved for the parcel to which credits have been apportioned. (Ord. 912 § 1 (part), 1999)

13.30.150 Criteria for reimbursement.

Except where specifically excluded, whenever credits are authorized for the construction of facilities pursuant to Chapter 13.30, and the credit amount exceeds the amount of the fees due pursuant to Chapter 13.30, the city shall reimburse the person entitled to such credits in accordance with the provisions of this chapter. (Ord. 912 § 1 (part), 1999)

13.30.160 Procedure for reimbursement.

Excess credits shall only be reimbursed pursuant to the terms of a reimbursement agreement executed by the city and the person entitled to such credits. (Ord. 912 § 1 (part), 1999)

13.30.170 Reimbursement agreements.

A. The reimbursement agreement shall include the following terms and conditions:

1. The amount of excess credit to be reimbursed;

2. The schedule for such reimbursement. Such schedule shall not exceed 5 years from the date of acceptance of the facilities by the city, unless funds are not available, as determined by the finance director. If funds are not available when reimbursement is due, payment shall be postponed to the following year;

3. Reimbursement of excess credits of $10,000 or less shall be made within 45 days of the acceptance of the facilities by the city;

4. No prepayment penalties are allowed;

5. Interest on the unpaid balance shall be paid annually in December at the net city treasury pool rate for the prior fiscal year. Interest shall not begin to accrue, however, until 90 days after the facilities are accepted by the city;

6. The reimbursement agreement may only be assigned by a written amendment to the agreement executed by the finance director, the assignor(s) and the assignee(s);

7. Notwithstanding any provisions to the contrary, excess credit shall not be reimbursed unless and until the facilities are accepted by the city;

8. Notwithstanding any provisions to the contrary, excess credits shall not be reimbursed until all fees and charges required by Chapter 13.30 have been paid for all parcels on which credit is sought and for all contiguous lots, parcels or real property owned by or recorded as the property of the same person at the time construction of facilities is begun.

B. Except as authorized by this section, reimbursement agreements must be approved by the city council. If the city council has previously approved a credit agreement with a party, the city manager may approve a reimbursement agreement with the same party if the amount of the reimbursement does not vary from the amount of the credit agreement by more than 10 percent. Reimbursement agreements for amounts less than $25,000 may be approved by the city manager or his/her designee. (Ord. 912 § 1 (part), 1999)

13.30.180 Audit.

Whenever an audit is requested to determine whether a fee or charge levied by the city exceeds the amount reasonably necessary to cover the cost of any product or service provided, the city manager shall estimate the cost of the audit and require a deposit in the full amount estimated. If the actual cost is less than estimated, the difference shall be refunded to the person requesting the audit. If the actual amount is greater than the deposit, the person requesting the audit shall pay the full cost and the difference shall be due and payable upon notice to the person requesting the audit. This shall apply to any audit requested pursuant to Government Code sections 54985, 66023, and any other authority for an audit of the city's fee program. (Ord. 912 § 1 (part), 1999)

13.30.190 Refund.

A. If 5 years after collection any portion of a fee collected pursuant to this chapter is unexpended or uncommitted, the city shall review the fee and the purpose for which it was charged, and make a determination and finding as to the continued need for the fee and the reasonable relationship between the fee and the purpose for which it is intended. This review and findings shall be made once each fiscal year in any year that there are unexpended or uncommitted fees, beginning with the 5th year after the effective date of this chapter.

B. If the appropriate finding cannot be made, the city shall cause the fees to be refunded to the then current owner of record of the project on which the fee was imposed pursuant to Government Code Sections 66001(d) and 66001(e). (Ord. 912 § 1 (part), 1999)