

San Juan Water District

2010 Urban Water Management Plan

Adopted June 22, 2011





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1 Plan Preparation

This section includes specific information on how the Urban Water Management Plan (UWMP) was prepared, coordinated with other agencies and the public, and adopted.

1.1 Urban Water Management Planning Act

The Urban Water Management Planning Act (Act) requires urban water suppliers to describe and evaluate sources of water supply, efficient uses of water, demand management measures, implementation strategy and schedule, and other relevant information and programs. Urban water suppliers are required by the Act to update their UWMP and submit a complete plan to California Department of Water Resources (DWR) every five years. An UWMP is required in order for a water supplier to be eligible for DWR administered state grants and loans and for drought assistance.

The Act became part of the California Water Code with the passage of Assembly Bill 797 during the 1983–1984 regular session of the California legislature. Subsequently, assembly bills between 1990 and 2009 amended the Act to include additional data and reporting requirements. The Act describes the contents of the Plan as well as how urban water suppliers should adopt and implement the Plan and was updated most recently by SBx7-7.

San Juan Water District's (District) 2010 UWMP has been prepared in compliance with Water Code Sections 10608.36 and 10610 through 10656 of the Act, which were added by Statute 1983, Chapter 1009, and became effective on January 1, 1984. The Act requires that: "every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually prepare and adopt, in accordance with prescribed requirements, an urban water management plan."

As with the District's previous plans, the 2010 UWMP does not explicitly discuss specific activities undertaken by its retail member agencies unless it relates to one of the District's water demand, supply management, or conservation programs. Each retail member agency will discuss these activities in its UWMP. Information from the District's 2010 UWMP may be used by many of the local water suppliers in the preparation of their own plans, although it is not mandatory for local agencies to rely on the District's plan because participation in any regional planning activity is voluntary (pursuant to Water Code § 10620). The information included in the 2010 UWMP represents the most current available planning projections of supply capability and demand developed through a collaborative process with the member agencies.

The Act requires reporting agencies to describe its water reliability under a single dry-year, multiple dry-year, and average year conditions, with projected information in five-year increments for 20 years. One of the purposes of this UWMP is to ensure the efficient use of available water supplies, as required by the Act. The Act states that these urban water suppliers should make every effort to assure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Plan describes the availability of water and discusses water use, reclamation, and water conservation activities. The Plan

concludes that the water supplies available to the District's customers are adequate over the next 20-year planning period.

In addition to the Act and its amendments, there are several other regulations related to the content of this UWMP. In summary, the key relevant regulations are:

- Amendments Senate Bill (SB) 610 (Costa, 2001), and SB 221 (Daucher, 2001), which became effective beginning January 1, 2002, require counties and cities to consider information relating to the availability of water to supply new large developments by mandating the preparation of further water supply planning (Daucher) and Water Supply Assessments (Costa).
- AB 1420: Requires implementation of demand management measures (DMMs)/best management practices (BMPs) for state grant and loan eligibility.
- AB 1465: Requires water suppliers to describe opportunities related to recycled water use and stormwater recapture to offset potable water use.
- SB 1087: Requires water suppliers to report single family residential (SFR) and multifamily residential (MFR) projected water use for planned lower income units separately.
- Amendment SB 318 (Alpert, 2004) requires the UWMP to describe the opportunities for development of desalinated water, including but not limited to, ocean water, brackish water, and groundwater, as long-term supply.
- AB 105 (Wiggins, 2004) requires urban water suppliers to submit their UWMPs to the California State Library.
- SBx7-7: Requires development and use of new methodologies for reporting population growth estimates, base per capita use, and water conservation. This water bill also extended the 2010 UWMP adoption deadline for retail agencies to July 1, 2011.

1.2 UWMP Requirements in the Water Conservation Bill of 2009

The Water Conservation Bill of 2009 (SBx7-7) was enacted in November 2009. To increase urban water use efficiency, it requires reduction of the statewide urban average per capita daily water consumption by 20 percent by December 31, 2020, and requires "all water suppliers to increase the efficiency of this essential resource" (10608.4(a)). As a wholesale supplier, the District will provide an assessment of present and proposed measures, programs, and policies to achieve water use reduction required by SBX7 7. This information can be found in Section 6: Demand Management Measures of the UWMP. Progress toward meeting urban water use targets will also be discussed in Section 6.

1.3 Coordination

The Act requires the Water Suppliers to coordinate the preparation of its UWMP 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. To provide water use and supply information to each other during preparation of their respective UWMPs San Juan Water District (District) coordinated the preparation of its plan and provided the necessary shared information with its four retail member agencies: Citrus Heights Water District (CJWD), Fair Oaks Water District (FOWD), Orange Vale Water Company (OVWD), and the City of Folsom, the

Sacramento Regional County Sanitation District and the District’s customers. The District received the necessary shared information from the following retail agencies: Citrus Heights Water District (CJWD), Orange Vale Water Company (OVWD), and the City of Folsom. The District also sent a notice to the City of Folsom, Placer County, and Sacramento at least 60 days prior to the public hearing notifying the agencies of the District’s intent to update the UWMP. Copies of the 60-day notice are included in Appendix A.

The Water Conservation Bill of 2009 states that “all water suppliers increase efficiency,” thus supporting the UWMP efforts of both wholesale and retail urban water suppliers. A copy of the UWMP was also provided to the Department of Water Resources, the California State Library, Sacramento County, Placer County, City of Folsom, and the City of Citrus Heights within thirty days after adoption. Table 1 provides a summary of the plan coordination with the appropriate agencies.

Table 1-1. Coordination With Appropriate Agencies (DWR Table 1)

Agency	Participated in Developing Plan	Commented on Draft	Attended Public Hearing	Contacted for Assistance	Sent Copy of Draft	Sent Notice of Intention to Adopt
Citrus Heights Water District	X			X	X	X
City of Citrus Heights	X			X	X	X
City of Folsom	X			X	X	X
Fair Oaks Water District	X			X	X	X
Orange Vale Water Company	X			X	X	X
Placer County				X	X	X
Placer County Water Agency				X	X	X
Sacramento County				X	X	X
Sacramento Regional County Sanitation District				X	X	X
General Public	X		X			X

1.4 Plan Adoption, Submittal, and Implementation

Pursuant to the Act, the District previously prepared an UWMP in 2005, which was approved by the Department of Water Resources on November 7, 2006. The 2010 UWMP report serves as an update to the 2005 UWMP and draws extensively from that report, however this plan has been restructured due to the passage SB 1087 requiring retail water suppliers to address the lower income water supply projections; SBx7-7 the Water Conservation Bill of 2009; and the release of the Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan developed by the California Department of Water Resources (DWR).

The Act requires the encouragement of public participation and a public hearing as part of the UWMP approval process. News releases, District Board Agendas, and postings on the District’s Website and Facebook page encouraged the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Table 1 provides a summary of the plan coordination with the appropriate agencies, groups, and organizations.

As required by the Act, prior to adopting this UWMP, the District made the UWMP available for public inspection and held two public hearings. These hearings provided an opportunity for District's customers and all residents and employees in the service area to learn about the water supply situation and the plans for providing a reliable, safe, high-quality water supply for the future. A Notice of Public Hearing was published twice in the Roseville and Granite Bay Press Tribune and included the time and place of hearing, as included in Appendix B.

The public hearings were an opportunity for people to ask questions or make comments regarding the current situation and the viability of future plans. The District's Board of Directors adopted this UWMP on June 22, 2011. A copy of the adopted resolution is provided in Appendix C. The UWMP is also available for public review during normal business hours at the District's administration building at 9935 Auburn Folsom Road, Granite Bay, California, 95746, after August 1, 2011. The District will submit copies of the final 2010 UWMP to the State Library, the City of Folsom, Placer County, and Sacramento County within 30 days after adoption.

2 System Description

This section describes the District's water system with a description of both the wholesale and retail physical system including the treatment plant, groundwater wells, surface water supply facilities, booster pumping stations, reservoirs, and the piping system. To support the Water Conservation Act of 2009 requirements, changes to the water system, the District's organizational structure, and other issues that affect the water system are discussed. Population and demographic information is also included in this section and was obtained from the United States Census Bureau. The historical climate, soil, land use, terrain, geology, and vegetation information was obtained from the Western Regional Climate Center for Sacramento and the revised Placer County's General Plan and the Granite Bay Community Plan.

2.1 Wholesale and Retail Service Area Description

San Juan Water District is both a wholesale and retail agency. The District provides water service to customers in both the retail and wholesale service areas in northeastern Sacramento and southern Placer counties and is governed by an elected Board of Directors. The wholesale portion of the District is forty-five square miles and comprised of a group of retail water agencies. These agencies are the Citrus Heights Water District (CHWD), Fair Oaks Water District (FOWD), Orange Vale Water Company (OVWC), San Juan Water District (SJWD) retail service areas, and the City of Folsom.

This UWMP provides detailed customer information for the District's retail customers, and provides summary information for its wholesale service customers as it pertains to supply and demand requirements for the future. The District supplies treated surface water to the wholesale customers.

Figure 1 illustrates the location of the District's wholesale service area and neighboring water systems that comprise the retail customer agency service areas. Only a portion of the City of Folsom, the Ashland area, is served wholesale water by San Juan Water District. Two of the agencies, Citrus Heights Water District and Fair Oaks Water District, supplement their surface water supply from San Juan Water District with their own groundwater wells. Wholesale information does not include Sacramento Suburban Water District water treated by the District. Figure 2 illustrates the San Juan Water District Retail service area.

2.2 Climate

The District's retail service areas experiences cool and humid winters and hot and dry summers. Because of the District's proximity to the City of Sacramento, the weather is quite similar. The District's average monthly temperature ranges from 38 to 93 Fahrenheit (°F); but, the extreme low and high daily temperatures have been 18 and 115 °F, respectively. The historical annual average precipitation is approximately 25 inches and approximately 90 % of average annual rainfall occurs in the six-month period extending from November to April. Average monthly precipitation during the winter months is about 2 to 3 inches. Relative humidity in the region ranges from 29 percent to 90 percent. Low humidity usually occurs in the summer months, from May through September. The combination of hot and dry weather results in high water demands during the summer. The average evapotranspiration rate is 50.5 inches.

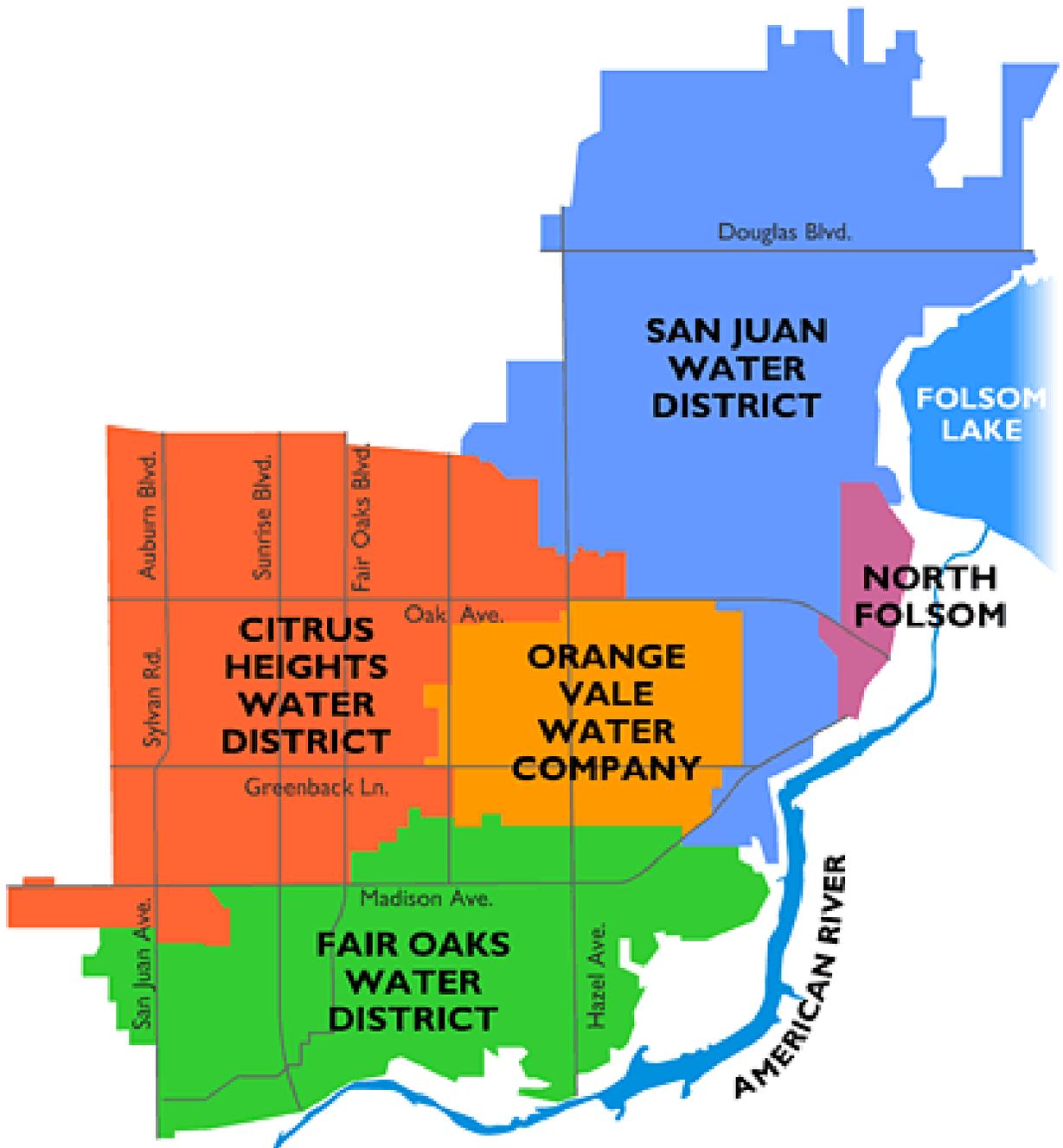


Figure 2-1. San Juan Water District Wholesale Service Area

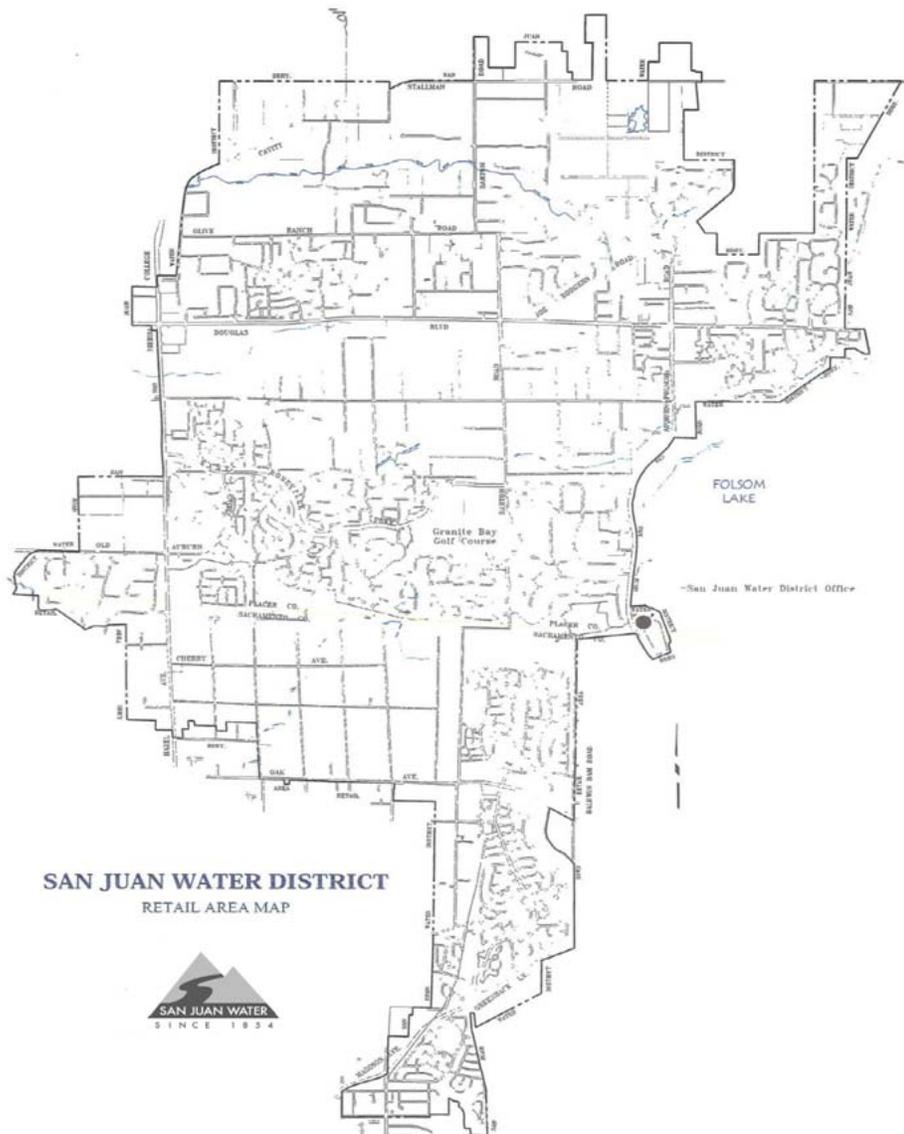


Figure 2-2. San Juan Water District Retail Service Area

Land Use – Retail Service Area

Present retail area land use is predominantly urban and suburban with a very small part remaining in irrigated agriculture and non-irrigated uses both irrigated and non-irrigated lands. The area has been developed into residential, municipal, and small commercial uses. Development has slowed dramatically due to current economic conditions. According to the District's 2005 Water System Master Plan fifty percent of the retail service area is comprised of "Rural Estate" parcels that are two

acres or larger. Many of these parcels cannot be split at the present time due to zoning or they are land locked.

2.3 Supply and Distribution Facilities

Water supply for the District is surface water from Folsom Lake, which is fed from the North and South Forks of the American River. Water is delivered from Folsom Lake to the Sidney N. Peterson Water Treatment Plant with a capacity of 120 million gallons per day (mgd). The treated water is sent to Hinkle Reservoir, which has a capacity of 62 million gallons (MG) (190-ac ft) and currently working at 53 MG. The reservoir has a surface area of some 12.5 acres, is hypalon-lined and covered, and provides capacity for peaking and emergencies in excess of treatment plant production

The water supplied to the District's retail service area and the City of Folsom is delivered by gravity and a pressure distribution system that includes storage, pump stations, and interconnections. The District's delivery system is on-demand and the conveyance system includes 206-piped miles. The District's facilities deliver wholesale water by gravity to Citrus Heights Water District, Fair Oaks Water District, and Orange Vale Water Company and the wholesale conveyance system includes 9.5 miles of pipe.

The outlet from Hinkle Reservoir is a short 84-inch diameter pipeline with a spur that feeds the Hinkle pump station. The pump station boosts water into an 18-inch pipeline south to the Folsom area and 14-inch pipeline north to a pressure zone serving the retail service area. A 72-inch gravity transmission pipeline continues 2,000 feet westerly from the Hinkle pump station where it divides into two 54-inch pipelines and has a spur that feeds the Bacon Pump Station. A portion of the water is boosted by the Bacon Pump Station through three pipelines to three separate retail pressure zones in the service area. The major share of water continues by gravity through the two 54-inch pipelines to a manifold approximately 5,000 feet to the south.

The manifold receives flow from the 54-inch pipelines and discharges into four smaller transmission mains, three of which deliver the water by gravity to the District's Retail Area, Orange Vale Water Company, Fair Oaks Water District, and Citrus Heights Water District. Each of the three agencies has distribution facilities to deliver water to users on a retail basis. A fourth pipeline, 24-inches in diameter, diverts water from the manifold westerly 1,000 feet to the North Folsom area.

In 1998, a 72-inch transmission pipeline was installed to improve water service to the wholesale agencies of Citrus Heights Water District, Fair Oaks Water District, Orange Vale Water Company, and Northridge Water District. The Northridge Water District, now the Sacramento Suburban Water District, purchases interruptible, surplus water from PCWA that is treated and wheeled through the District's facilities. The pipeline is also used to deliver other annual purchases through the District's treatment facilities to the purchasing agency.

The district's retail service area is separated into six pressure zones and a gravity zone. There are five existing pump stations in the retail service area. The Bacon Station provides water to three pressure zones, one of which supplies the Douglas and Granite Bay Pump Stations to further lift

the water to the upper and lower Granite Bay Pump Zones. Additionally, the District operates the Hinkle Booster Pump Station, which serves the Crown Point retail service area and a portion of the city of Folsom on a wholesale basis. The American River South Pump Station serves the American River Canyon South.

2.4 Wholesale and Retail Service Area Population and Demographics

The San Juan Water District's retail service area is seventeen square miles, mostly rural in character, and maintains the identity as a scenic, tranquil, family-oriented rural/residential community located just east of Roseville and west of Folsom Lake. According to the revised Placer County's 2006 Granite Bay Community Plan, population, and employment in the Granite Bay area will continue to grow at a moderate rate. The Placer County portion is approximately 75% of the District's retail service area.

Future population projections have been updated based on an analysis of the 2000 U.S. Census Tract information, 2009 Census estimates found in the 2005-2009 American Community Survey, and Sacramento Council of Governments (SACOG) projections. The District uses the SACOG data analysis results of on 2.9 people per single-family dwelling unit, 1.9 people per multi-family unit, and 4 units per multi-family connection. The multiplier methodology is used with compatible census tract population projections to establish both current future population data for the District's retail and wholesale service areas. Based on the method described above, the District's 2010 retail population was estimated to be approximately 30,618 and the wholesale population is 180,000. Projected retail connection data from the District's master plans are used to project future population. Population projections are summarized in Table 2-1.

Table 2-1. Population – Current and Projected (DWR Table 2)

	2010	2015	2020	2025	2030
Retail Service Area Population	30,618	31,390	32,990	34,674	36,442
Wholesale Area Population	180,000	182,714	187,327	192,058	192,058

The District's population in the retail service area is estimated at 30,570 in 2009. According to a 2009 Census estimate the racial makeup of the District was 83.7% White, 2.1% Black or African American, 0.7% Native American, 4.9% Asian, 0% Pacific Islander, and 1.9% from two or more races. 6.7% of the population was Hispanic or Latino of any race. There were 10,347 households, out of which 89.1% had children under the age of 18 living with them. The average household size was 2.99 and the average family size was 3.22. According to a 2009 Census estimate, the median income for a household in the District was \$125,096, and the median income for a family was \$129,200. About 2.7% of the population was below the poverty line, including 2.6% of those under age 18 2.7% over 18, and .8% of those ages 65 or over. The median price of a detached single family home was \$757,900 as of April 2009.

2.5 Low-Income Housing

The UWMPA requires that the UWMP project water demands for low-income housing needs. The state-mandated Regional Housing Needs Allocation (RHNA) process requires that cities and counties develop a methodology that determines the number of housing units that each jurisdiction must zone for when updating its housing element. The City of Folsom's requirement is 3,601 units, Placer County's is 5,854 units, and the County of Sacramento is required to provide 15,160 units. According to the Sacramento Council of Governments (SACOG) Regional Housing Needs Plan projections, the District estimates there is the potential for 12% affordable housing for low to moderate-income families to be developed in its retail service area by 2030. Water projections for those units are discussed in Section 3.

3 Water Demands

Water demand projections provided the basis for sizing and staging future District water facilities. Water use and production records, combined with projections of population, employment, and urban development, provided the basis for estimating future water requirements. In 2001, the District completed a Wholesale Master Plan and a Retail Master Plan in 2006, both of which analyze water use and projected demands up to 2030 and 2025, respectively. This section summarizes the water use and demand projections presented in both draft master plan documents and Census population projections. This chapter also identifies the District's baseline and target requirements as part of the Water Conservation Bill of 2009.

3.1 Past Demands

2005 and 2010 demands per customer classification are listed in Tables 3-1. All of the District's customers are metered. Total wholesale water production in 2009 and 2010 was 51,353 and 56,540 acre-feet, respectively. The District's Retail area demand in 2009 and 2010 averaged twenty-six and twenty-two percent respectively of total District surface water production. The last two years have trended lower than the average. This could be a result of a combination of the District's water conservation and efficiency programs, the depressed economy, rate increases, cooler weather, and the Governor's 2009 request for reduced water use.

Table 3-1. 2005 Demands (DWR Table 3)

Customer Category	Metered		Not Metered		Total
	No. Accts	Volume, AFY	No. Accts	Volume, AFY	Volume, AFY
Single family	9,746	11,222			11,222
Multi-family	118	207			207
Commercial	195	361			361
Industrial	0	0			0
Institutional/governmental	12	223			223
Landscape	213	946			946
Agriculture	4	14			14
Other					0
Total	10,288	12,973	0	0	12,973

Table 3-2. 2010 Demands (DWR Table 4)

Customer Category	Metered		Not Metered		Total
	No. Accts	Volume, AFY	No. Accts	Volume, AFY	Volume, AFY
Single family	9,774	9,878			9,878
Multi-family	119	191			191
Commercial	245	457			457
Industrial	0	0			0
Institutional/governmental	11	156			156
Landscape	212	799			799
Agriculture	4	19			19
Other					0
Total	10,365	11,500	0	0	11,500

3.2 20x2020 Baselines and Targets

Senate Bill 7x7, also known as the Water Conservation Act of 2009 (SBx7-7), is the new law governing water conservation in California that was enacted November 2009. This law requires that all urban water suppliers increase water use efficiency with the overall goal to decrease urban per-capita consumption within the state by 20 percent. The bill requires that the Department of Water Resources (DWR) develop certain criteria and standard reporting forms through a public process that can be used by water suppliers to establish their baseline water use and determine their water conservation goals. The bill allows the demand reduction goal to be met by four alternatives:

- Method 1 – Baseline Reduction Method. The 2020 water conservation target of this method is defined as a 20 percent reduction of average per-capita demand during a 10-year continuous baseline period ending between 2004 and 2010, with a 10 percent demand reduction by 2015.
- Method 2 – Efficiency Standard Method. The 2020 water conservation target of this method is based on calculating water budgets for indoor use separately from outdoor use for residential sectors and an overall reduction of 10 percent for commercial, industrial, and institutional (CII) sectors. The aggregated total of the water budgets in each area is then used to create a demand target.
- Method 3 – Hydrologic Region Method. This method uses the ten regional urban water use targets for the state developed on the 20x2020 Task Force Report. Based on the water supplier's location within one of these regions, a static water use conservation target for both 2015 and 2020 is assigned.
- Method 4 – Savings by Water Sector. This method identifies water savings obtained through identified practices and subtracts them from the base daily per capita water use value identified for the water supplier.

Based on a thorough evaluation of each method as described above, including the regional approach, the District decided to use Baseline Reduction Method 1 to determine the District's individual Retail Service Area 2010 UWMP baseline and target development. Method 1 offered the District the most reasonable compliance reduction target and therefore was used to establish baseline water per-capita consumption based on historical population and historical demands.

Although recycled water can be a factor in these calculations, the District does not have access to recycled water, therefore it was not incorporated.

The District selected the 10-year consecutive period between 1995 and 2004 to establish the baseline per-capita demand using the average per-capita consumption from that 10-year period. The data used to establish the base period and gallons per capita per day (gpcd) values and targets is presented in Table 3-3. The baseline daily per capita water use for the District's Retail Area was 508 gpcd. The interim urban water use target for 2015 is 458 gpcd and the 2020 compliance target is 407 gpcd.

The District's retail service area covers approximately 10,700 acres. During the 10-year consecutive period between 1995 and 2004, the average annual use in acre-feet was 14,944 or 1.4 acre-feet of water used per acre of land.

10-Year Consecutive Period 1995 and 2004 Annual Average (AF)	Total Acres in District Land Mass	Acre-feet of Water Use Per Acre of Land
14,944	10,700	1.4 acre-feet

According to the requirements, the 2020 goal cannot be larger than the five-year gpcd average ending no earlier than 2007. Table 3-4 presents the five-year baseline calculations. As the table indicates, the 2020 goal of 407 gpcd is less than the five-year average of 501 gpcd. Additionally, the baseline calculations can be modified if the agency used recycled water for at least 10 percent of its water supply in 2008. Table 3-5 summarizes the 2020 calculation base period requirements.

Table 3-3. Base Daily Per Capita Use (DWR Table 14)

Year	Population Served	Water Supplied, AFY	Annual gpcd
1995	22,101	13,525	546
1996	23,199	12,668	487
1997	24,282	14,214	522
1998	25,275	11,970	423
1999	26,161	14,182	484
2000	26,890	14,287	474
2001	27,959	16,192	517
2002	28,439	17,361	544
2003	28,694	17,102	532
2004	28,984	17,941	552
		10-year average base	508

Table 3-4. 5-Year Range Base GPCD (DWR Table 15)

Year	Population Served	Water Supplied, AFY	Annual gpcd
2003	28,694	17,102	532
2004	28,984	17,941	552
2005	29,160	16,125	494
2006	30,526	15,133	443
2007	30,548	16,659	487
		5-year average base	501

Table 3-5. Base Period Ranges (DWR Table 13)

Base	Parameter	Value
10-15-Year Base Period	2008 total water deliveries	17,063 AF
	2008 total volume recycled water delivered	0 AF
	2008 recycled water as percent of total	0 percent
	Years in base period	10 years
	Year beginning base period	1995
	Year ending base period	2004
5-Year Base Period	Years in base period	5 years
	Year beginning base period	2003
	Year ending base period	2007

3.3 Water Use Reduction Plan

The District's Retail Service Area continues to develop and refine an implementation plan to comply with the Water Conservation Bill of 2009. The plan currently provides a general description of how the District intends to reduce per capita water use to meet its urban water use target to achieve the conservation goals established by legislation. Reducing water demand across all customer sectors will be essential.

The District's Retail Service Area's Water Use Reduction Plan was developed to increase the level of water conservation to achieve the State's goal of a 20% reduction in per-capita water use by 2020. The District implements all of the water conservation components identified in the California Urban Water Conservation Council's Memorandum of Understanding (MOU) for Best Management Practices (BMPs). In addition to the programs described below, the District will also continue to implement its conservation program as presented in Section 6 and plans to meet its gpcd targets through these programs.

3.3.1 Reducing Residential Demand

By utilizing funding made possible by the U.S. Bureau of Reclamation, the South Placer Wastewater Authority, and the Department of Water Resources and Sacramento Regional County Sanitation District (through a partnership with the Regional Water Authority), the District provides successful rebate programs that include the following:

- Irrigation Improvements - The District matches up to \$500 for residential and \$1,500 for non-residential improvements. Qualifying improvements may include the following: upgrading irrigation controllers to ET controller or adding a rain sensor; replacing spray irrigation systems with drip irrigation; replacing leaky irrigation pipes, or other system modifications that enhance irrigation efficiency. Reimbursement excludes labor fees.
- Hot Water Demand System - Customers can receive \$100 cash back for purchasing and installing a qualifying hot water demand system.
- High Efficiency Washing Machine – Customers may qualify for up to \$100 cash back for purchasing and installing a high-efficiency washing machine.
- High-Efficiency Toilet – Customers can replace older, two-gallon (or greater) per flush (GPF) toilets that were installed before 1994 with a high-efficiency toilet (1.28 GPF or less) and receive up to \$175 for residential and \$200 for non-residential customers.

3.3.2 Reducing Commercial and Institutional Water Demand

Through a grant from the Department of Water Resources, the District is ramping up its school Irrigation Improvement Program by offering grants up to \$25,000 annually. Qualifying improvements may include the following: upgrading irrigation controllers to ET controller or adding a rain sensor; replacing spray irrigation systems with drip irrigation; replacing leaky irrigation pipes, or other system modifications that enhance irrigation efficiency. Funding excludes labor fees.

The State adopted revisions to the Water Conservation in Landscaping Ordinance in 2009. These revisions require planned developments with a landscaped area greater than or equal to 2,500 square feet to submit a landscape plan that indicates the water budget, plant type and estimated water use. The landscape irrigation system must meet or better an average landscape irrigation efficiency of 0.71. Though it is impossible to determine water savings through the provisions in this ordinance from future commercial projects, the installation and proper maintenance of low water use plant material and efficient irrigation systems, coupled with a water meter dedicated to irrigation use, will make it possible to monitor water use and ensure the compliance with the Landscape Ordinance water conservation measures.

3.4 Projected Retail Water Demands

Normal-year water demands through the year 2030 are estimated using varying growth rates from the 2010 actual values. Growth is estimated to increase from zero in 2011 up to two percent in 2030. Unaccounted-for water is reported separately. The demand projections provided are consistent with water use targets. Demand projections are presented in Tables 3.6, 3.7, and 3.8.

Table 3.6. Projected 2015 Customer Water Demands (DWR Table 5).

Customer Category	Metered		Not Metered		Total
	No. Accts	Volume, AFY	No. Accts	Volume, AFY	Volume, AFY
Single family	10,020	10127			10,127
Multi-family	122	196			196
Commercial	251	469			469
Industrial	0	0			0
Institutional/governmental	11	160			160
Landscape	217	819			819
Agriculture	4	19			19
Other	0	0			0
Total	10,626	11,790	0	0	11,790

Table 3.7. Projected 2020 Customer Water Demands (DWR Table 6).

Customer Category	Metered		Not Metered		Total
	No. Accts	Volume, AFY	No. Accts	Volume, AFY	Volume, AFY
Single family	10,531	10,644			10,644
Multi-family	128	206			206
Commercial	264	492			492
Industrial	0	0			0
Institutional/governmental	12	168			168
Landscape	228	861			861
Agriculture	4	20			20
Other					0
Total	11,168	12,391	0	0	12,391

Table 3.8. Projected 2025, 2030 Customer Water Demands (DWR Table 7).

Customer Category	2025 Metered		2030 Metered	
	No. Accts	Volume, AFY	No. Accts	Volume, AFY
Single family	11,628	11,751	12,838	12,974
Multi-family	142	227	156	251
Commercial	291	544	322	600
Industrial	0	0	0	0
Institutional/governmental	13	186	14	205
Landscape	252	951	278	1049
Agriculture	5	23	5	25
Other				
Total	12,331	13,681	13,614	15,105

Section 10631.1(a) of the California Water Code states that projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier must be included in the UWMP. The number of low-income household is projected in Section 2. The projected water demand for these households is based on the percent of low-income households for single-family and multifamily customers. Projected water demands are shown in Table 3-9. These projected demands are also included in the total demand projections in the tables above.

Table 3-9. Low-Income Projected Water Demands (DWR Table 8)

	Low –Income Projected Water Demands, acre-feet per year			
	2015	2020	2025	2030
Single-Family	1,215	1,277	1,395	1,557
Multifamily	24	25	17	30

3.5 Additional Water Uses and Losses

Table 3-10 lists additional water use and losses for both the retail and wholesale systems. System loss is un-metered water use, such as for fire protection and training, system and street flushing, sewer cleaning, construction, system leaks, and unauthorized connections. Unaccounted-for water can also result from meter inaccuracies. Based on past District records, the unaccounted-for water is estimated at 10 percent for the retail area and the wholesale distribution system. System loss within each wholesale customer's retail system is reported separately in their respective UWMPs.

The District is developing a conjunctive use program within the region. The intent is to use excess surface water supply to offset groundwater pumping of other agencies in the region, which will in turn maximize groundwater storage. Then, during dry years and extended droughts, agencies with groundwater supply capability will increase groundwater pumping, leaving additional surface supply for those that rely solely on surface water. This program is still in its developmental stages. At this time, the District assumes all surface water not used by its retail area or its wholesale customers will be used in the conjunctive use program. The District assumes the program will begin in 2020 and reach full potential in 2030.

The raw water in Table 3-10 is supplied directly to a golf course for irrigation purposes. At this time, the District does not anticipate a future water use for saline barriers, groundwater recharge, or recycled water.

Table 3-10. Additional Water Uses and Losses (DWR Table 10)

	Water Use, acre-feet per year					
	2005 (actual)	2010 (actual)	2015	2020	2025	2030
Saline Barriers	0	0	0	0	0	0
Groundwater Recharge	0	0	0	0	0	0
Conjunctive Use (wholesale)	0	0	0	12,864	25,728	38,591
Raw Water (wholesale)	225	258	450	450	450	450
Recycled Water	0	0	0	0	0	0
System Losses	1,297	1,150	1,179	1,239	1,368	1,511
Total:	1,522	1,408	1,629	14,553	27,546	40,552

Note: System losses shown are for retail area and wholesale distribution system.

Conjunctive Use represents the proposed conjunctive use program and will be implemented at the wholesale level.

3.6 Sales to Other Agencies

SJWD Wholesale maintains contracts with its four wholesale agency customers. The District's wholesale retail agencies provided their separate demand projections for the District for inclusion in this Plan. Fair Oaks Water District had not completed their UWMP, and therefore the District is using their population and demand projections from the District's rate study until the updated projections are provided. The District sells 4,000 acre-feet of water to the City of Roseville. The District also sells additional water to the Sacramento Suburban Water District on an as-available basis, but this is not listed, as future sales cannot be projected. The District discovered that its wholesale meters were inaccurate for 2005 and therefore cannot provide actual data for 2005. The meters have since been replaced. All sales to other agencies are presented in Table 3-11.

Table 3-11. Sales to Other Water Agencies (DWR Table 9)

	Sales to Other Water Agencies					
	2005 (actual)	2010 (actual)	2015	2020	2025	2030
SJWD Retail	--	12,651	12,969	13,630	15,049	16,615
CHWD	--	12,165	18,904	17,893	18,329	18,765
FOWD	--	10,606	12,853	13,509	14,184	14,894
OVWC	--	4,324	5,400	4,800	4,900	5,000
City of Folsom	--	1,331	1,540	1,540	1,540	1,540
City of Roseville	--	4,000	4,000	4,000	4,000	4,000
Total	--	32,426	42,697	41,742	42,953	44,199

Note: 2005 data not shown as wholesale meters were inaccurate and have since been replaced.

3.7 Total Water Demands

Total water demands for the retail and wholesale entities are presented in Tables 3-12 and 3-13, respectively.

Table 3-12. Retail Total Water Demands (DWR Table 11)

	Total Water Use, acre-feet per year					
	2005 (actual)	2010 (actual)	2015	2020	2025	2030
Water Deliveries to Customers	12,973	11,500	11,790	12,391	13,681	15,105
Sales to Other Agencies	0	0	0	0	0	0
Additional Use and Losses	1,297	1,150	1,179	1,239	1,368	1,511
Total:	14,270	12,650	12,969	13,630	15,049	16,616

Table 3-13. Wholesale Total Water Demands (DWR Table 11)

	Total Water Use, acre-feet per year					
	2005 (actual)	2010 (actual)	2015	2020	2025	2030
Water Deliveries to Customers	0	0	0	0	0	0
Sales to Other Agencies	0	32,426	42,657	41,702	42,913	44,159
Additional Use and Losses	225	258	450	13,314	26,178	39,041
Total:	225	32,684	43,107	55,016	69,091	83,200

4 System Supplies

This section describes those activities that San Juan Water District (SJWD), as a wholesale water purveyor, has taken to provide for a reliable water supply for its wholesale and retail customers during seasonal, climatic, or other unforeseen shortages of surface water. Working with its wholesale customers, San Juan Water District (SJWD), Citrus Heights Water District (CHWD), Fair Oaks Water District (FOWD), Orange Vale Water Company (OVWC), and City of Folsom (Folsom), San Juan Water District's Surface Water Supply and Water Shortage Plan (Plan) was developed and implemented by all agencies. This plan, adopted in 2008, was based on a conjunctive use program with groundwater being used to supplement any reduction in surface water to supply the appropriate level of service during a shortage condition. Key to the implementation of this Plan is the fact that San Juan manages its water supplies for the wholesale customers at a total supply level; therefore, this Plan together with the water supply contracts with the wholesale agencies provides the basis for San Juan to administer and implement this Plan during shortage conditions, using groundwater and surface water to provide the agreed upon level of service to each agency.

Another activity undertaken by the various retail agencies and SJWD was the development of an integrated distribution system model that enabled the agencies to identify constraints to moving water from agency to agency and the potential for importing water from other retail agencies within the groundwater basin. As a result of these activities approximately 16,000 gpm (25,000 AF) of groundwater has been identified that can be used to supplement surface water availability in the event of severe drought or driest years (also known as Conference years according to the Water Forum Agreement) when surface water availability is extremely impaired.

4.1 Surface Water

SJWD acquired 33,000 acre-feet of pre-1914 rights water as part of the purchase of the North Fork Ditch Company in 1954. SJWD negotiated with the United States Bureau of Reclamation (USBR) for an additional 40,000 acre-feet of contract water to provide for immediate and future needs in 1962. In the late 1960's, the USBR worked out a mathematical formula for the District's future needs and reduced the contract amount from 40,000 acre-feet to 11,200 acre-feet per year. Immediately following the cutback, the District Board of Directors requested USBR reinstate the original 40,000 acre-feet. To date, the District has not had the original 40,000 acre-feet reinstated.

The District contracted with Reclamation for 13,000 acre-feet of American River water for delivery from Folsom Lake as authorized by PL 101-514 (often referred to as "Fazio Water", named after congressman Vic Fazio), which can only be used in the Sacramento County portion of the wholesale service area. In 2006, the 11,200 AF and 13,000 AF USBR contracts were combined, with restrictions including a 25% reduction during drought. The combined entitlement falls under contract number is 06-07-20-W1373. The previous 11,200 AF USBR contract 14-02-200-152I was dissolved.

In 1972, the District Board of Directors successfully negotiated a contract with Placer County District (PCWA) for additional water supply. This contract extends through 2021 and is renewable for 20-year periods. It provides for water to be supplied to the District in increasing amounts from 5,000 acre-feet that began in 1977 to 25,000 acre-feet in the year 1992 and every year thereafter. The

PCWA contract places a first priority on use in Placer County, but allows use of any water not needed in Placer County to be used in Sacramento County. The District's surface water supplies are summarized in Table 4-1.

Based on current Update Reports to the Watershed Sanitary Surveys, the American River is an excellent supply for drinking water in the Sacramento Metropolitan Area. The source water can be treated to meet all Title 22 drinking water standards using conventional and direct filtration processes, as well as membranes. There are no persistent constituents in the raw water that require additional treatment processes.

Table 4-1. SJWD Supply Summary

Source	Annual Amount, AF	Notes
USBR CVP Folsom Lake	11,200	Subject to 25 percent reduction in dry years.
USBR CVP Folsom Lake Fazio Water	13,000	Use only in Sacramento County, subject to 25 percent reduction in dry years.
Pre-1914 Right	33,000	Use only for SJWD wholesale area.
Placer County Water Agency	25,000	Placer County use is prioritized over Sacramento County use.
Total:	82,200	

4.2 Groundwater

The District does not have access to groundwater in its retail service area, nor does it supply groundwater. Three of the District's wholesale customers (Fair Oaks Water District, Orange Vale Water Company, and Citrus Heights Water District) currently use groundwater to supplement surface water from the District. Each wholesale customer is completing an UWMP that will provide more in-depth discussion of each agency's groundwater supplies and operations independent of this document.

The groundwater basin underlying the region is located in the North American Sub-basin, which is part of the larger Sacramento Valley Groundwater Basin. According to California's Groundwater Resources Bulletin 118 (DWR, 2001), the North American Sub-basin Basin Number is 5-21.64. The Sacramento Valley Groundwater Basin is not adjudicated.

The water-bearing deposits underlying the District and its wholesale customer agencies include the Fair Oaks and Mehrten Formations. The Mehrten Formation is the most productive fresh water-bearing unit in the eastern Sacramento Valley, though some of the permeable layers of the Fair Oaks Formation produce moderate amounts of water. The February 27, 2004 draft version of Bulletin 118's groundwater basin description of the North American sub-basin identifies the sub-basin as being in overdraft.

The Sacramento Groundwater Authority (SGA) adopted its groundwater management plan in December 2003. The District is a participating agency in SGA. The authority to prepare a plan is granted to SGA through the Joint Powers Agreement (JPA) executed between the County of Sacramento and the cities of Citrus Heights, Folsom, and the City of Sacramento. The plan was prepared in compliance with Water Code Section 10753.7 resulting from the passage of SB 1938 in 2002. A CD of the most recent SGA Groundwater Management Plan is provided in Appendix D.

The estimated average annual sustainable yield recommendation for the North sub-area of the County of Sacramento, as defined by the Water Forum, is 131,000 ac-ft/yr (EDAW/SWRI, October 1999), but the basin is not adjudicated. For this report, it is assumed that each San Juan Water District wholesale agency's groundwater supply is adequate to meet their respective needs of dry year or emergency demands.

Groundwater elevation levels have been generally declining in Sacramento County for the last 40 years, ending in 1996. Since 1996, increased conjunctive use efforts in the Sacramento area have slowed or eliminated the groundwater elevation decrease, with some wells even showing an increase in water levels. (SGA Groundwater Management Plan, 2008). Generally, the wells located further west from the San Juan Wholesale service area have demonstrated greater water level decreases. Wells located within the San Juan Wholesale service area have generally demonstrated small changes in water levels throughout the last 50 years, with some wells showing increased water levels in the last 10 years.

4.3 Wastewater and Recycled Water Opportunities

The following section describes the estimated wastewater generated in the District's service area. The wastewater is collected and conveyed out of the District's service area to either the City of Roseville wastewater treatment plant or Sacramento Regional County Sanitation District's (SRCSD's) wastewater treatment plant. This section provides a description of both treatment processes and current reuse in the regional area.

4.3.1 Wastewater Generation

Municipal wastewater is generated in the District's retail service area from a combination of residential and commercial sources. The quantities of wastewater generated are proportional to the population and the water use in the service area. Estimates of the wastewater flows generated within the District's retail service for the present and future conditions are presented in Table 4-2. Projected wastewater flows are based on a per capita unit flow of 138 gallons per day (gpd) including commercial use as reported in the Sacramento Regional Wastewater Treatment Plant (SRWTP) 2020 Master Plan (Carollo Engineers, 2001), and is applied to both Sacramento and Placer County customers. No wastewater is treated in the District's service area, and therefore there is no recycled water available in the District's service area, as indicated in Table 4-2. Table 4-3 indicates there is also no wastewater disposal in the District's service area.

Table 4-2. Wastewater Collection and Treatment (DWR Table 21)

	Annual Volume, acre-feet per year					
	2005	2010	2015	2020	2025	2030
Wastewater Collected in Retail Service Area	4,733	4,852	5,100	5,360	5,633	4,733
Wastewater Collected in Wholesale Service Area	27,824	28,244	28,957	29,688	30,438	27,824
Volume Treated to Recycle Water Standard	0	0	0	0	0	0

Note: None of the recycled water produced by SRCSD or City of Roseville is produced in or near the SJWD retail service area.

Table 4-3. Projected Wastewater Disposal (DWR Table 22)

Disposal Method	Treatment Level	Annual Volume, acre-feet per year				
		2010 (actual)	2015	2020	2025	2030
none	N/A	0	0	0	0	0

4.3.2 Wastewater Collection and Treatment

The wastewater generated in Sacramento County is collected by gravity in a series of main, trunk, and interceptor sewers owned and operated by SRCSD. Collected wastewater is transported to the Sacramento Regional Water Treatment Plant (SRWTP) in Elk Grove. The regional plant serves the entire Sacramento metropolitan area including the unincorporated county area adjacent to the City of Sacramento, the City of Citrus Heights, and the City of Folsom. The treatment plant receives and treats approximately 156 mgd of dry weather flow on average. The current capacity of the plant to treat dry weather flows is approximately 181 mgd.

The treatment plant produces a disinfected secondary effluent that is discharged into the Sacramento River below Freeport. The principal treatment processes are primary sedimentation, pure-oxygen activated sludge, secondary sedimentation, and chlorination/de-chlorination. SRCSD does currently produce 1,000-1,700 acre-feet per year of Title 22 recycled water. The recycled water is mostly used for irrigation demand adjacent at a newer development community near the treatment plant in Elk Grove. There are no recycled water facilities within the District's retail service area.

The City of Roseville owns and operates two treatment plants, although all the wastewater generated within the District's service area in Placer County is treated at the Dry Creek Waste Water Treatment Plant. The Dry Creek plant has a current capacity of 18 mgd dry weather flow and produces disinfected tertiary treated water.

4.3.3 Water Recycling Current Uses

SRCSD is the agency responsible for collecting treating, and discharging treated wastewater in the greater Sacramento region. Most of the local water agencies are in coordination with SRCSD regarding various issues such as conservation methodologies and rebates, recycled water use potential, and other issues. The District has no authority or control over municipal wastewater generated in the District's wholesale or retail service areas. The District also currently has no authority for recycled water use in its area, and there is currently no reuse water available in its service area. However, the local water purveyors understand that recycled water use will become an important element of integrated regional water supply planning, and support the development of a reuse supply component.

The SRCSD completed a Water Recycling Opportunities Study (WROS) (SRCSD, 2007) in 2007 to evaluate the feasibility of implementing a large-scale water recycled program. The WROS did the following:

- Studied areas through the Sacramento region and SRCSD study area to identify potential water recycling opportunities,
- Engaged potential water recycling partners and stakeholders,
- Developed, assessed, and prioritized potential water recycling projects, and
- Provided a strategy to further develop and implement the projects initially selected to move forward in achieving the stated goals of the large-scale water-recycling program.

The WROS identified a potential project including a satellite scalping plant in the north Sacramento County area; however, this area does not include the District's service area. The SRCSD's reuse planning effort involves coordination, updates, and input from individual local water districts, and from the regional water agencies, the Regional Water Authority (RWA), and the SGA. Table 4-4 indicates that the District did not project any recycled water use in its 2005 UWMP.

Table 4-4. 2005 to 2010 Recycled Water Use Comparison (DWR Table 24)

User Type	2010 Actual Use	2005 UWMP Projection for 2010
Agricultural	0	0
Landscape	0	0
Commercial Irrigation	0	0
Golf Course	0	0
Wildlife Habitat	0	0
Wetlands	0	0
Industrial	0	0
Groundwater Recharge	0	0
Seawater Barrier	0	0
Geothermal/Energy	0	0
Indirect Potable Reuse	0	0
Other	0	0
Total:	0	0

The City of Roseville's water recycling program currently relies on landscape irrigation for its customers. None of its reuse customers is in the District's retail service area. Roseville's major customers are the Del Webb community and the Woodcreek Oaks Golf Club, with some smaller uses that include streetscape landscaping, parks, and irrigation at the Dry Creek WWTP. The City of Roseville projects that future customers will be further west of the City where new development can be equipped with dual piping to allow reuse.

4.3.4 Projected Future Use of Reclaimed Water

The District projects no potential future uses in its service area, as a reuse supply is not financially feasible at this time, as summarized in Table 4-5.

Table 4-5. Potential Future Recycled Water Uses (DWR Table 23)

User Type	Feasibility	2015	2020	2025	2030	2035
Agricultural	0	0	0	0	0	0
Landscape	0	0	0	0	0	0
Wildlife Habitat	0	0	0	0	0	0
Wetlands	0	0	0	0	0	0
Industrial	0	0	0	0	0	0
Groundwater Recharge	0	0	0	0	0	0
Indirect Potable Reuse	0	0	0	0	0	0
Total:	0	0	0	0	0	0

4.3.5 Optimizing the Use of Reclaimed Water

The District does not have the authority or control to optimize the use of reclaimed water; therefore, the District does not have an optimization Reuse Plan. The SRCSD has taken steps to promote and expand the use of reclaimed water, but these steps are focused on areas adjacent to the regional plant. The City of Roseville has implemented many methods and policies to encourage recycling use. However, none of these methods is applicable within the District's service area because reuse supply is not available at this time. As the District does not plan to have a reuse supply, it has not implemented any methods to encourage reuse.

4.4 Transfer Opportunities

The District has an agreement with the City of Roseville to supply 4,000 ac-ft of water during normal hydrologic years. During dry years when supplies are reduced, the City of Roseville has agreed not to take this water. The source of the 4,000 acre-feet is the 25,000 acre-foot contract with PCWA. The agreement with Roseville is listed in Section 3-2 as a sale to other water agency. Table 4-6 illustrates the District has no current planned transfer opportunities.

Table 4-6. Transfers and Exchange Opportunities (DWR Table 20)

Transfer Agency	Transfer or Exchange	Short Term or Long Term	Proposed Volume, acre-feet per year
None	--	--	0

4.5 Desalinated Water Opportunities

The District has no sources of ocean water, brackish water, or groundwater that provide opportunities for development of desalinated water as a long-term supply. There are no opportunities at this time for the development of desalinated water within the District's wholesale or retail service areas as future supply source.

4.6 Future Water Supply Projects

The District does not currently have any water supply projects planned for the retail area. The District is studying a conjunctive use program that would improve the regional supply reliability, but does not increase supply volumes. Table 4-7 illustrates there are currently no planned water supply projects.

Table 4-7. Future Water Supply Projects (DWR Table 26)

Project	Start-Online Date	Supply Volume, acre-feet per year				
		Normal Year Supply	Single Dry Year Supply	Multiple Dry Year - Year 1 Supply	Multiple Dry Year - Year 2 Supply	Multiple Dry Year - Year 3 Supply
None	n/a	n/a	n/a	n/a	n/a	n/a

4.7 Water Supply Summary

The District has projected retail and wholesale supplies are summarized in Table 4-8 and 4-9, respectively. It is assumed the retail supply is equal to the projected retail demands.

Table 4-8. Retail Area Current and Projected Supplies (DWR Table 16)

Source	Annual Volume, acre-feet				
	2010 (Actual)	2015	2020	2025	2030
SJWD	12,650	12,969	13,630	15,049	16,616
Supplier Produced Groundwater	0	0	0	0	0
Supplier Produced Surface Water	0	0	0	0	0
Transfers In	0	0	0	0	0
Exchanges In	0	0	0	0	0
Recycled Water	0	0	0	0	0
Desalinated Water	0	0	0	0	0
Total:	12,650	12,969	13,630	15,049	16,616

Table 4-9. Wholesale Area Current and Projected Supplies (DWR Table 16)

Source	Annual Volume, acre-feet				
	2010 (Actual)	2015	2020	2025	2030
SJWD – Water Rights	33,000	33,000	33,000	33,000	33,000
SJWD – USBR CVP	24,200	24,200	24,200	24,200	24,200
SJWD – PCWA contract	25,000	25,000	25,000	25,000	25,000
Supplier Produced Groundwater	0	0	0	0	0
Supplier Produced Surface Water	0	0	0	0	0
Transfers In	0	0	0	0	0
Exchanges In	0	0	0	0	0
Recycled Water	0	0	0	0	0
Desalinated Water	0	0	0	0	0
Total:	82,200	82,200	82,200	82,200	82,200

5 Water Supply Reliability and Water Shortage Contingency Planning

San Juan Water District's supply and reliability are discussed in this section. SJWD relies solely on surface water to supply its retail customers and wholesale customers. However, some of the wholesale customers use groundwater to supplement their surface water supply from SJWD. This section provides an overview of potential groundwater reliability issues with respect to impacts to overall SJWD supply requirements. This section also presents SJWD's water shortage contingency plan and provides an overview of water shortage stages and actions implemented for each stage.

5.1 Surface Water

The District's annual water supply of 82,200 ac-ft is comprised entirely of surface water diverted from Folsom Lake. The only legal constraints on the current surface water entitlements are contract stipulations. The Water Forum does include voluntary limitations to surface water use in dry years, but is not a legal supply contract constraint.

Contract stipulations are placed on each of the four contracts. The two USBR Central Valley Project (CVP) contracts are subject to 25 percent reductions during drought as determined by the USBR. The 13,000 ac-ft/yr "Fazio Water" contract is also constrained to provide water only to the Sacramento County portion of the District's retail service area. The pre-1914 water right of 33,000 ac-ft/yr is constrained to provide water only to the District's wholesale service area. The PCWA contract is constrained to provide water to the Placer County portion of the District's wholesale service area first, with any excess available for Sacramento County.

The Water Forum Agreement was developed in an attempt to preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River and in an effort to provide a reliable and safe water supply for the region. The District is a member of the Water Forum and a signatory of the Water Forum Agreement. Although the Water Forum is not a legal contract stipulation, the District intends to implement the supply restrictions as a signatory of the Agreement. The Water Forum Agreement diversion restrictions are dependent upon the March through November projected flow into the Folsom Reservoir. When the projected March through November unimpaired inflow into Folsom Reservoir is greater than 950,000 ac-ft/yr, the District can divert its full 82,200 ac-ft/yr. Years during which the March through November unimpaired inflow into the Folsom Reservoir is between 950,000 ac-ft/yr and 400,000 ac-ft/yr are considered drier years by the Water Forum. During drier years, the District must decrease diversion amounts from 82,200 ac-ft/yr down to 54,200 ac-ft/yr in proportion of the decreasing unimpaired inflow to Folsom Reservoir. Driest years (also known as Conference Years) are defined as years when projected March through November unimpaired inflow into Folsom Reservoir is less than 400,000 ac-ft/yr. During driest years, the Water Forum signatories have agreed to meet and confer to develop a plan for water use.

There are no physical constraints on the current surface water supplies that limit the ability to meet current demands. The capacities of the Folsom Dam diversion, Peterson Water Treatment Plant, and wholesale distribution systems are sufficient to divert, treat, and convey the current surface water entitlements if improvements are implemented at the Peterson Water Treatment Plant.

The quality of existing surface water over the next 25 years is expected to be adequate. Surface water will continue to be treated to drinking water standards, and no water quality issues are foreseen to impact supply over the next 25 years.

5.2 Groundwater

The District does not use groundwater as part of its supply. However, some of the wholesale customer agencies do use groundwater, and might require more surface water from the District if their groundwater supplies were reduced. The physical constraints on the current groundwater supply are the pumping capacities of existing wells. As wells are owned and operated by the wholesale customer agencies, and not the District, capacities and/or constraints are included in each respective agency's Plan. The District has not evaluated the wholesale customer agency groundwater delivery systems for constraints.

There are no legal constraints that limit groundwater pumping. The SGA, formerly the Sacramento North Area Groundwater Management Authority, was formed in 1999 to manage the groundwater basin north of the American River. SGA's goal is to protect the health of the groundwater basin within Sacramento County north of the American River. The SGA JPA has been delegated the powers necessary to protect and regulate the local groundwater basin to the overlying water purveyors. One objective of SGA is to maintain the long-term sustainable yield of the groundwater basin north of the American River through conjunctive use practices. SGA's goal is to limit the long-term average Sacramento area groundwater pumping to approximately 131,000 ac-ft/yr, which was approximately the amount of groundwater pumped within the SGA boundaries in 1990. Any fees or other mechanisms to limit or control groundwater pumping would directly affect the wholesale customer agencies that rely on groundwater, specifically, during drought and emergency conditions.

All groundwater supplies in the wholesale customer agencies' service areas meet or exceed all current drinking water standards, including secondary standards regulated for aesthetic qualities. Iron and manganese are two metals that occur naturally within the geological formations from which the groundwater is extracted, and are known to be at elevated levels in wells of surrounding water systems. Water quality issues are not anticipated to have significant impact on groundwater supply reliability. Of the wholesale customer agencies that use groundwater, it is assumed that only Fair Oaks Water District is impacted by groundwater quality issues, i.e. the Aerojet plume, at this time. The Fair Oaks Water District is implementing an alternative supply strategy and it is assumed their supply will not be further impacted by the Aerojet plume.

Table 5-1 summarizes the potential factors resulting in supply inconsistency. Groundwater is included in the table, but it is not supplied by SJWD. Climatic impacts are noted in the table, but are further discussed in Section 5.3.

Table 5-1. Factors Resulting in Inconsistency of Supply (DWR Table 29)

Source	Limitation Quantification	Legal	Environmental	Water Quality	Climatic
Surface	Varies, see Section 5.1	X	X	--	X
Groundwater	--	--	--	X	X

5.3 Water Quality

The quality of existing surface water and groundwater supply sources over the next 20 years is expected to be adequate. Surface water will continue to be treated to drinking water standards, and no water quality deficiencies are foreseen to occur in the next 20 years. There are no expected significant changes in the water quality of the wholesale customer agencies groundwater sources over the next 20 years. A portion of the Fair Oaks Water District's (FOWD) groundwater wells has been contaminated by the Aerojet groundwater contamination plume. The Fair Oaks Water District is implementing an alternative supply strategy and it is assumed their supply will not be further impacted by the Aerojet plume. Additional information on the impact to FOWD operations and planning should be provided in their UWMP.

All groundwater supplies in the wholesale customer agencies' service areas meet or exceed all current drinking water standards, including secondary standards regulated for aesthetic qualities. Iron and manganese are two metals that occur naturally within the geological formations from which the groundwater is extracted, and are known to be at elevated levels in wells of surrounding water systems.

Water quality affects the District's water management strategies through the District's efforts to comply with Federal and State regulations. These regulations require rigorous water quality testing, source assessments, and treatment compliance. No other special water management strategies due to water quality effects are necessary.

A summary of the current and projected water supply changes due to water quality is provided in Table 4-3.

Table 5-2. Current and Projected Water Quality Supply Impacts (DWR Table 30)

Source	Quality Issue	Potential Impact to Supply Total, acre-feet					
		2010 (actual)	2015	2020	2025	2030	2035
Surface	None	0	0	0	0	0	0
Groundwater	iron, manganese	0	0	0	0	0	0

5.4 Drought Planning

This section describes the reliability of the water supply and vulnerability to seasonal or climatic shortage. The DWR 2010 UWMP Guidelines list three hydrologic year types to consider -- normal year, single-dry year, and multiple-dry year. However, in the Sacramento Region, the Water Forum Agreement is the overriding factor in supply restrictions. Therefore, in evaluating the water supply reliability, it is assumed that the single dry year and multiple dry years in this Plan have the same definition as drier and driest years in the Water Forum Agreement. The basis of the water year data is provided in Table 4-6.

Table 5-4 lists the historic supply reliability. Table 5-5 lists the projected supply availability for years 2011 through 2013. The CVP contract water is listed at "varies" because can be reduced based on 75 percent of historical three-year unconstrained use, including supplies used in lieu of CVP water, and any reductions from the Water Forum Agreement.

Table 5-3. Basis of Water Year Data (DWR Table 27)

Water Year Type	Base Year(s)
Singly Dry-Water Year	1977
Multiple Dry-Water Years	1990-1992

Note: The Water Forum Agreement, enacted after the historic dry year events listed in the table, is now the overriding factor in supply restriction determination.

Table 5-4. Wholesale Supply Reliability – Historic Conditions (DWR Table 28)

Source	Average Water Year, acre-feet	Single Dry-Water Year, acre-feet	Multiple Dry-Water Years, acre-feet			
			Year 1	Year 2	Year 3	Year 4
Surface	82,200		82,200	64,025	64,025	82,200
Percent of Average Water Year:	100		100	75	75	100

Allocation of CVP water based on 3 years historical unconstrained usage.

Table 5-5. Wholesale Supply Reliability (DWR Table 31)

Source	Average Water Year, acre-feet	Multiple Dry-Water Years, acre-feet		
		2011	2012	2013
CVP	24,200	Varies	Varies	Varies
Water Rights	33,000	33,000	33,000	33,000
PCWA	25,000	25,000	25,000	25,000
Additional wholesale customer agency provided groundwater	0	As needed to meet demands	As needed to meet demands	As needed to meet demands
Percent of Average Water Year:	100	100	100	100

Note: see text for description of variable CVP reduction methodology.

Table 5-6 projects water supply reliability considering three water supply scenarios: average/normal-water year; single-dry water year; and multiple-dry water years. Restrictions listed in the table are due to contract and Water Forum restrictions. The contract restrictions on both CVP water contracts are enforced by the USBR during drought years. It is assumed that the maximum CVP restriction will be 75 percent of contract for each water supply scenario.

Although the District retail service area does not use groundwater, some of its wholesale customer agencies do. It is planned that surface water demand will decrease during dry years and wholesale customer agencies will increase groundwater pumping to meet demand. It is assumed that groundwater quantity is generally unaffected by short-term drought conditions and is managed through coordination with SGA and the groundwater management plan. More detailed analysis of groundwater pumping during dry year conditions is included in each wholesale customer agency's respective Plan. The conjunctive use strategy is indicated in the supply and demand tables throughout this Plan.

Table 5-6. Projected Wholesale Water Supply Reliability, acre-feet/year

Water supply sources	Normal water year	Single dry water year	Multiple dry water years		
			Year 1	Year 2	Year 3
Surface Water					
USBR CVP	11,200	8,400	8,400	8,400	8,400
USBR CVP (Fazio Water)	13,000	9,750	9,750	9,750	9,750
PCWA	25,000	25,000	25,000	25,000	25,000
Pre-1914 Right	33,000	33,000	33,000	33,000	33,000
Total Contract Supply	82,200	67,728	67,728	67,728	67,728
Water Forum Restrictions	none	54,200-82,200	54,200-82,200	54,200-82,200	54,200-82,200
Wholesale customer agency additional groundwater	0	0 – 6,614	0 – 6,614	0 – 6,614	0 – 6,614

Notes:

Dry-year supply based on full use of CVP contracts.

Groundwater supply from Wholesale Customer Agencies used to replace surface water supply reductions per the Surface Water Supply and Water Shortage Plan.

The Wholesale customer agency groundwater supply is estimated as the difference between 2030 total demand and the minimum Water Forum restriction of 54,200 AF.

Tables 5-7 through 5-9 compare retail projected demands to projected supplies for each of the hydrologic year types from 2015 through 2030 and Tables 5-10 through 5-12 provide the same information for the wholesale projections.

Table 5-7. Retail Normal Year Supply and Demand Comparison (DWR Table 32)

	2015	2020	2025	2030
Supply totals	12,969	13,630	15,0749	16,615
Demand totals	12,969	13,630	15,0749	16,615
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Wholesale supply provided to match all retail demands.

Table 5-8. Retail Single Dry-Year Supply and Demand Comparison (DWR Table 33)

	2015	2020	2025	2030
Supply totals	12,969	13,630	15,0749	16,615
Demand totals	12,969	13,630	15,0749	16,615
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Wholesale supply provided to match all retail demands.

Table 5-9. Retail Multiple Dry-Year Supply and Demand Comparison (DWR Table 34)

		2015	2020	2025	2030
Multi-Dry Year First Year	Supply totals	12,969	13,630	15,0749	16,615
	Demand totals	12,969	13,630	15,0749	16,615
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multi-Dry Year Second Year	Supply totals	12,969	13,630	15,0749	16,615
	Demand totals	12,969	13,630	15,0749	16,615
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multi-Dry Year Third Year	Supply totals	12,969	13,630	15,0749	16,615
	Demand totals	12,969	13,630	15,0749	16,615
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%

Wholesale supply provided to match all retail demands.

Table 5-10. Wholesale Normal Year Supply and Demand Comparison (DWR Table 32)

	2015	2020	2025	2030
Supply totals	55,666	55,372	58,002	60,814
Demand totals	55,666	55,372	58,002	60,814
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Wholesale supply provided to match all retail demands.

Table 5-11. Wholesale Single Dry-Year Supply and Demand Comparison (DWR Table 33)

	2015	2020	2025	2030
Supply totals	55,666	55,372	58,002	60,814
Demand totals	55,666	55,372	58,002	60,814
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Some wholesale customer agencies will provide additional groundwater supply to replace surface supply reductions per the Water Supply and Water Shortage Plan.

**Table 5-12. Wholesale Multiple Dry-Year Supply and Demand Comparison
(DWR Table 34)**

		2015	2020	2025	2030
Multi-Dry Year First Year	Supply totals	55,666	55,372	58,002	60,814
	Demand totals	55,666	55,372	58,002	60,814
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multi-Dry Year Second Year	Supply totals	55,666	55,372	58,002	60,814
	Demand totals	55,666	55,372	58,002	60,814
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multi-Dry Year Third Year	Supply totals	55,666	55,372	58,002	60,814
	Demand totals	55,666	55,372	58,002	60,814
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%

Some wholesale customer agencies will provide additional groundwater supply to replace surface supply reductions per the Water Supply and Water Shortage Plan.

5.5 Water Shortage Contingency Planning

The Water Forum Agreement describes supply scenarios for normal, dry, and conference years. However, the Water Forum Agreement acknowledges that there may be years where surface water supply is less than even the stipulated decreased demands. The District may also experience short-term water shortages due to mechanical failures or other circumstances. For these instances, the District has developed two water shortage contingency plans. The first plan is the District's long-standing water shortage contingency plan and addresses long-term and short-term emergency shortage conditions and accompanying wholesale customer requirements. The second plan, the San Juan Water District Water Supply and Water Shortage Plan solely addresses the water shortage strategy where some wholesale customer agencies increase groundwater pumping during shortage conditions. Both plans are included in Appendix E. The District has also enacted a wasteful use of water law in its ordinances, which is included in Appendix E.

Tables 5-13 through 5-16 summarize the water shortage contingency plans presented in the Appendix.

Table 5-13. Water Shortage Stages

Stage	Water supply conditions	Percent shortage
Stage 1 – Normal Water Supply	Supplies available to meet all demands	0-5%
Stage 2 – Water Alert	Probability that supplies will not meet demands	6-10%
Stage 3 – Water Warning	Supplies will not be able to meet expected demands	11-25%
Stage 4 – Water Crisis	Supplies not meeting current demands	26-50%
Stage 5 – Water Emergency	Major failure of a supply, storage, or distribution system	50% and greater

Table 5-14. Water Shortage Mandatory Prohibitions

Prohibitions	Stage when prohibition is voluntarily requested	Stage when prohibition becomes mandatory
Street/sidewalk cleaning	1	1
Washing cars		4
Watering lawns/landscapes		5
Uncorrected plumbing leaks	1	1
Gutter flooding	1	1
No refilling or filling of pools	1	4
No new connections		5

Table 5-15. Consumption Reduction Methods

Examples of consumption reduction methods	Stage when method takes effect	Projected reduction (%)
Education Program	1	0-5%
Use prohibitions	1	0-5%
Demand reduction program	2	6-10%
Mandatory rationing	2	6-10%
Percentage reduction by customer type	2	6-10%
Limited landscape and pasture irrigation	2	6-10%
Irrigation allowed only during off-peak hours	2	6-10%
Restrict building permits (long-term only)	5	>50%
Restrict for only priority uses	5	>50%

Table 5-16. Penalties and Charges

Examples of Penalties and Charges	Stage when penalty takes effect
Penalties for not reducing consumption	2
Termination of service and reconnect fee	1
Continued and repeated water waste	1

The District has prepared a security vulnerability assessment and maintains an emergency response plan to address responding to catastrophic supply interruptions as well as other emergencies. Table 5-17 summarizes the responses to major catastrophes. In addition, the District has the following resources in place to militate against the impact of catastrophic emergencies and inconvenience to its wholesale and retail customers:

- An existing emergency response procedure for immediate action.
- Participation in a regional mutual aid agreement with the city of Sacramento and local agencies to increase recovery capabilities.
- Membership with “California Utilities Emergency Association” (CUEA) to augment the District’s preparedness through comprehensive training, education and emergency planning.
- Membership with the Inland Region “Water Agency Response Network” (WARN) IV Mutual Aid Network to secure resources in the geographic area if necessary.
- San Juan Water is a member of the WARN IV steering committee created to expand the network and improve participation within Region IV.

Table 5-17. Catastrophic Situation Actions

Possible catastrophe	Summary of actions
Regional Power Outage	Command chain is defined that dispatches crews to operate generators and monitor operations. Criteria and procedures provided to return system to normal operation. A plan contains contact information for responsible parties and support services. Water shortage contingency plan stages will be implemented as required by the situation.
Earthquake	Command chain is defined that dispatches crews to inspect infrastructure and critical operations. Operations response crews assigned to monitor system operations and modify as necessary. Communication command chain is defined to coordinate with other local water agencies and emergency response officials as necessary. Criteria and procedures provided to return system to normal operation. A plan contains contact information for responsible parties and support services. Water shortage contingency plan stages will be implemented as required by the situation.

The District's rate structure is set to reflect actual production costs of water plus fixed overhead costs. Therefore, if sales are reduced, the District does not anticipate a long-term impact to District finances during a water shortage. The District maintains a contingency fund for short-term revenue fluctuations for use during such water shortages. The District will measure treatment plant production, customer demands, wholesale purchases, and its finances to monitor the success of its water reduction programs and maintain awareness of any financial impacts.

6 Demand Management Measures

The ever-increasing demand on California's complex water resources coupled with an unpredictable water supply resulted in the development of a DWR list of urban water demand management measures (DMMs) for conserving water. These traditional DMMs are listed in Water Code section 10631(f) and are outlined in the DWR Guidebook and presented in this Plan as Table 6-1. This section provides a comprehensive description of the District's water conservation programs being implemented and those being planned as well as provides general information on the measures the District plans to implement to meet its urban water use targets.

Table 6-1. Water Conservation Demand Management Measures

No.	DMM Name
A.	Water survey programs for single-family residential and multi-family residential connections.
B.	Residential plumbing retrofit.
C.	System water audits, leak detection and repair.
D.	Metering with commodity rates for all new connections and retrofit of existing connections.
E.	Large landscape conservation programs and incentives.
F.	High-efficiency washing machine rebate programs.
G.	Public information programs.
H.	School education programs.
I.	Conservation programs for commercial, industrial, and institutional accounts.
J.	Wholesale agency programs.
K.	Conservation pricing.
L.	Conservation coordinator.
M.	Water waste prohibition.
N.	Residential ULFT replacement programs.

The California Urban Water Conservation Council (CUWCC) was created to assist in increasing water conservation statewide and in 1991; CUWCC members generated and signed a Memorandum of Understanding (MOU). Two primary purposes of the MOU are:

- to expedite implementation of reasonable water conservation measures in urban areas, and
- to establish assumptions for use in calculating estimates of reliable future water conservation savings resulting from proven and reasonable conservation measures.

The CUWCC MOU formalized DWR's DMMs into urban water conservation best management practices (BMPs) that were created to reduce urban water use throughout California. San Juan Water District is a CUWCC member, MOU signatory, and firmly committed to the implementation of BMPs/DMMs. The District is also a United States Bureau of Reclamation (USBR) contractor and as such is required to develop and maintain a water conservation plan consistent with the requirements of the Central Valley Project Act of 1992. In addition, the District is a member and signatory to the Water Forum agreement that also includes requirements for urban water conservation programs. USBR and the Water Forum allow the CUWCC MOU methods of compliance to satisfy the requirements of their agreements.

The District has utilized both wholesale and retail water conservation BMPs to reduce water demands, thereby reducing the water supply needed to supply its customers. The following section presents historical and estimated projected activity by BMP. Projected activity by BMP is based on

the District's Water Conservation Master Plan technical analysis of BMP intervention requirements to comply with the CUWCC MOU. Also presented in this section is the projected activity for the enhanced residential irrigation efficiency program for the District's retail service area. The District's conservation program and the various nomenclatures for the CUWCC BMPs and DWR DMMs are summarized in Table 6-2.

AB 1420 conditions eligibility for a water management grant or loan on implementing the DMMs listed in Water Code section 10631(f). These DMMs correspond to the BMPs listed and described in the CUWCC MOU. Based on this, DWR consulted with the CUWCC and appropriate funding agencies, and determined that it will equate the DMMs with the BMPs described in the CUWCC MOU for loan and grant funding eligibility purposes. Included is a letter from DWR determining that the District's implementation of the BMPs is consistent with Assembly Bill 1420.

Table 6-2. SJWD Conservation Program Summary

Category	BMP No.	Former CUWCC BMP Name	DWR DMM	BMP Name	San Juan Water District Retail BMPs	San Juan Water District Wholesale BMPs
Foundational BMPs	BMP 1	Utility Operations				
	BMP 1.1	Operations Practices				
	BMP 1.1.1	Conservation Coordinator	L	Conservation Coordinator	✓	✓
	BMP 1.1.2	Water Waste Prevention	M	Water Waste Prohibition	✓	NA
	BMP 1.1.3	Wholesale Agency Assistance	J	Wholesale Agency Assistance Programs	NA	✓
	BMP 1.2	Water Loss Control	C	System Water Audits, Leak Detection, and Repair	✓	✓
	BMP 1.3	Metering with Commodity Rates	D	Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections	✓	NA
	BMP 1.4	Retail Conservation Pricing	K	Conservation Pricing	✓	✓
	BMP 2	Educational				
	BMP 2.1	Public Information	G	Public Education Programs	✓	✓
	BMP 2.2	School Education	H	School Education Programs	✓	✓
Programmatic BMPs	BMP 3	Residential				
	BMP 3.1	Residential Assistance	A,B	Water Survey Programs for Single-Family and Multi-Family Residential Customer (Indoor) and Residential Plumbing Retrofit	✓	NA
	BMP 3.2	Landscape Water Survey	A	Water Survey Programs for Single-Family and Multi-Family Residential Customer (Outdoor)	✓	NA
	BMP 3.3	High-Efficiency Clothes Washers	F	High-Efficiency Washing Machine Rebate Programs	✓	NA
	BMP 3.4	Water Sense Standard (WSS) Toilets	N	Residential ULFT Replacement Programs	✓	NA
	BMP 3.5	Water Sense Standard (WSS) for New Residential Development	(new)		✓	NA
	BMP 4	Commercial Industrial Institutional (CII)	I	Conservation Programs for Commercial, Industrial, and Institutional Accounts	✓	NA
	BMP 5	Landscape	E	Large Landscape Conservation Programs and Incentives	✓	NA

6.1 DMM A – Residential Water Audits

The District met the initial CUWCC BMP coverage requirements, but will continue to implement water surveys for single-family and multi-family residential customers to include the following:

- Develop and distribute water efficiency and conservation marketing strategies and outreach materials with the focus on water surveys
- Promote water surveys to all existing customers at least twice per year through newsletters and notes on customers' bills.
- Provide inspections of irrigation system and timers by appointment.
- Review or develop irrigation schedules per customers' request.
- Provide customer information packets that include water survey results as well as efficiency and conservation recommendations.

Complete water survey results are provided to customers along with an explanation as well as kept on file. Water survey results include watering schedules and recommendations to improve both water use efficiency and customer satisfaction. All residential customers receive a bimonthly newsletter and most issues advertise the residential water audit service.

With funding from USBR, the District developed and implemented programs to increase the number of audits (surveys) performed. A water audit is required for customers to participate in the District's high efficiency washing machine rebate program and a reimbursement program for irrigation efficiency improvements.

The District monitors annual results for meeting CUWCC program coverage goals. The District also tracks customer water usage in a customer database and provides usage information on bills. The District will continue to offer this program to its customers.

6.2 DMM B – Residential Plumbing Retrofits

The District offers residential plumbing retrofit kits to its customers. Customers are notified of retrofit programs through the District newsletter, notes on bills, bill stuffers, and community events. The District does not maintain an ordinance to enforce retrofits and instead relies on our marketing strategy to inform and provide customers of our available retrofit services.

The District targets homes built prior to 1992. Marketing efforts include announcements in new residential welcome packets, messages on bill statements, and bi-monthly newsletters. Although the CUWCC saturation requirement has been met, the District continues to offer kits to customers with high use fixtures.

The District tracks customer water usage in a customer database and provides usage information on bills. The District will continue to offer this program to its customers.

6.3 DMM C – Water Loss Control

Leak detection methods include monitoring of zone usage, zone pressure, and surface conditions. Repairs are made on an as-needed basis. The District has a Capital Improvement Program (CIP) that extends to 2030 and includes an annual main line replacement program and a leak detection survey program. Additionally, the District conducts distribution system water audits per the AWWA methodology.

The San Juan Water District has an active leak detection program. The District has contracts with an electronic leak detection service to survey large sections of the service area. In 2010, the program identified eight leaks, varying in flow from 0.68 gpm to 48 gpm. This small number of leaks is a typical finding. Leaks are also detected by our field crews, customers, other utilities and public works departments, and our meter reader. All leaks are repaired immediately. In 2010, a total of 72 leaks were identified and repaired for an estimated savings of approximately 23 million gallons.

Additionally, in 2009, new magnetic flow meters were installed throughout the wholesale system at a cost of \$4.7 million. The system is now in place to conduct a complete water loss audit for both the retail and wholesale systems. Audit results will help determine the cost/benefit ratio and justify the level of further leak detection efforts. The District monitors and maintains data per the BMP requirements to track annual number of leaks, estimated losses, percent of water loss, length of pipeline tested for leaks, costs, and other parameters.

6.4 DMM D – Metering and Commodity Rates

The District began installing meters in 1986, is currently 100% metered, and bills on a metered basis for all commercial, institutional, and landscape irrigation customers, as well as some single- and multi-family customers. The District is working on the formal development of a meter testing and replacement program.

6.5 DMM E – Large Landscape Programs

The District offers irrigation audits and notifications by well trained technicians to large landscape accounts through District newsletters, bills, and community events. Information includes audit availability, controllers, and services available, over-watering evaluations, specific drought watering instructions, drought resistant landscapes, irrigation strategies, and other efficiency methods. Information also includes schedules for irrigation seasons and lists recommended system checks and schedule changes prior to start and just after end of irrigation season. Landscape irrigation training and financial incentives are also offered to customers.

Accounts with Dedicated Irrigation Meters. Accounts with dedicated irrigation meters have not been assigned ETO-based water budgets, but are given ETO-based watering schedules when water surveys are performed. All of the District's accounts with dedicated irrigation meters are billed on a volumetric basis.

CII Accounts with Mixed-Use. All CII mixed-use accounts are offered the same survey provided under BMP 1. Surveys include the following:

- Irrigation system check.
- Distribution uniformity analysis.
- Review/Develop irrigation schedules.
- Provide customer report/information.
- Tracking survey offers and results.
- Provide irrigation and water efficiency information per BMP 01.

The District also maintains an Irrigation Efficiency Program that is offered to all customers. The program provides customers up to 50 percent reimbursement of total material costs for qualifying irrigation system upgrades. Eligible irrigation equipment includes equipment that improves irrigation efficiencies as determined by District conservation staff. Efficiencies may include:

- The removal of an old irrigation timer and replacement with an ET controller or one that has a rain sensor, multiple program start times, and/or soil moisture sensor.
- Conversion of spray systems to drip irrigation.
- Retrofit existing non-efficient spray heads with matching precipitation heads.
- Removal of leaking or broken equipment and replacement with new equipment.
- Materials associated with system design improvements that will increase watering efficiencies.
- Other system modifications that enhance irrigation efficiency.

To qualify for reimbursement, customers must agree to a free indoor water audit and/or free landscape irrigation review by a certified San Juan Water District staff member before any improvements are made. Rebates are limited and available on a first-come, first-served basis.

To receive a rebate a customer will contact the District to schedule an inspection of current irrigation system. Staff will inspect the customer's current system and make recommendations to improve the efficiency of the customer's irrigation system. The customer provides a landscape design plan to improve irrigation efficiency to the District. After approval, the customer may purchase and install equipment. A follow-up landscape irrigation review is schedule with the District. If the District approves the improvements and all proper paperwork is submitted and approved, the customer receives the rebate in the form of a credit on the water bill.

The District will monitor annual results for each landscape program and compare the costs of the program with customer results. Customers are provided water usage comparisons on their bills to allow the customer to evaluate their own usage and results. The District monitors customer usage data and will modify the program based on water demand results.

6.6 DMM F – High Efficiency Washing Machine Rebate

The local power utility, Sacramento Municipal Utilities District (SMUD), offers graduated rebates for electric water heating users up to \$125 and the Pacific Gas and Electric Company (PG&E) offers rebates to natural gas water heating customers up to \$75 on clothes washers (and other hot water using appliances). Information on this program is provided to District customers through SMUD is marketing activities and their website as they administer the program on behalf of participating water districts. SJWD also supplement's SMUD's efforts in the District newsletters, website, and community events; RWA also markets these rebate programs to customers throughout the region

Implementation Monitoring. The District will monitor performance of this BMP and report annually in the BMP report.

6.7 DMM G – Public Information Program

The District will continue to implement a public information water conservation and water efficiency program through active participation in the RWA Regional Water Efficiency Program and through the following District managed methods:

- Generate newspaper articles on water saving techniques as well as water efficiency and conservation information.
- Maintain an extensive literature collection and video library providing landscape and water-related resources available to students, teachers, and our customers.
- Provide public information booth with water efficiency and conservation information at related fairs and events.
- Participate in special events and media events to promote water efficiency and conservation.
- Provide landscape irrigation, composting, and tree-pruning classes to our customers, emphasizing water efficiency and conservation.
- Mail out new resident welcome packets with a variety of water efficiency and conservation materials.
- Provide an annual water awareness calendar to our customers.
- Distribute water efficiency and water conservation information via bill inserts/newsletters/brochures.
- Staff the CIMIS hotline.
- Provide discount coupons for our customers from cooperating plant nurseries.
- Support paid water efficiency and conservation advertising through RWA membership.
- Provide water efficiency and conservation public service announcements through RWA membership.
- Maintain and promote our demonstration Water Efficiency Landscape (WEL) garden and provide tours for individuals and groups.
- Participate in the regional water efficiency and conservation speaker's bureau.
- Participate in coordinated water efficiency and conservation programs with other government agencies, industry, and public interest groups, and the media.

- Provide free customer services, water surveys and irrigation troubleshooting, from our Master Gardener and conservation staff, all certified by the Irrigation Association and Cal Poly's Irrigation Training and Research Center
- Provide comparisons of flat rate to metered rate as well as telephone contact with customers regarding ways to reduce their bill.
- Provide timely and comprehensive water efficiency, conservation, and rebate information as well as drought updates on our website

The District annually monitors a number of events for each category and report in the annual CUWCC BMP reports.

6.8 DMM H – School Education Program

The District maintains a school education program that covers urban and environmental water issues and conditions in the local watershed that includes classroom presentations and instructional assistance. All materials provided meet the State education framework requirements. The District participates with other water agencies in a water awareness poster contest each year and invites students from grades 4-6 to participate. District staff makes class presentations each year to teach water efficiency and conservation as well as provide information about our water treatment plant operations.

In addition to the classroom presentations, the District and RWA support the Sacramento Bee's Media in Education (MIE) program. Funded and managed by RWA, the MIE offers state framework water efficiency materials to over 700 classrooms and more than 24,000 students in the greater Sacramento area including the San Juan Water District students. The District annually monitors the number of events for each category and report in the annual CUWCC BMP reports.

6.9 DMM I – Commercial, Industrial, and Institutional Conservation Programs

The District has identified and ranked CII accounts for water usage between commercial and institutional accounts. The District does not have any industrial accounts. All non-residential accounts are metered and are billed on a volume basis. The District budgets money for toilet retrofits and large landscape and irrigation efficiency reimbursements, though very few customers have taken advantage of the program. In addition to the program described below, CII customers are also offered the irrigation efficiency program under DMM E. The District offers surveys that include the following:

- Site visit
- Report identifying recommended efficiency measures, paybacks, and agency incentives.

In addition to surveys, the District "Water Bucks" program targets schools as the largest commercial/institutional water user in the retail area. The Water Bucks program instructs students and teachers how to conduct site audits, report findings to the principal, and check for achieved maintenance. The schools are rewarded with rebates in the amount of the school's water bill paid by the school district office. The schools use these funds for physical plant and infrastructure improvements.

The District will annually monitor type, number, and water use for each CII account type, surveys offered, and survey results and report them in the annual CUWCC BMP reports.

6.10 DMM J – Wholesale Agency Programs

The District is a wholesale water district as well as a retail water district. The District provides technical support through workshops on CUWCC BMP procedures as well as residential and large turf irrigation, serves as a technical resource for BMP compliance, provides program management support for DMMs E, G, H, J, and L and maintains and promotes a water-efficient demonstration garden that is open to the public. In addition, the District has an extensive video library, provides speakers for school presentations, and coordinates the annual water-awareness poster contest.

The District's wholesale agencies are all members of the Regional Water Authority (RWA). The RWA is a joint powers authority formed in 2001 to promote collaboration on water management and water supply reliability programs in the greater Sacramento, Placer, and El Dorado County region. RWA applies for and receives regional grants and administers water conservation and efficiency public outreach and school education campaigns that satisfy the requirements of the respective BMPs. RWA also holds technical sessions where new technologies and program implementation methods and practices are shared, reviewed, and discussed. District staff attends CUWCC workshops and meetings on behalf of its retail agencies.

6.11 DMM K – Conservation Pricing

All of the District's retail customers are metered, billed bi-monthly, and, based on their meter size, pay a daily base charge with tiered rate structure for volumetric use. The District's current tiered structure is unique in that it incorporates an inclining and declining block. This tiered rate structure was developed where, during normal water supply years when there is adequate water supply, the third tier (and highest consumption) is actually billed a lower rate than the second tier. During drought years, the third tier can be increased to further encourage water conservation.

Residential

Base Charge	1"	\$1.15/day
	1 1/2"	\$3.07/day
	2"	\$4.90/day
Tier 1 Baseline Rate	0 – 20 units	\$0.44/unit
Tier 2 Standardized Residential Rate	21 – 200 units	\$0.74/unit
Tier 3 Landscape Efficiency Rate	200+ units	\$0.52/unit

Approximately 40% of our revenue is derived from volumetric charges.

Average residential use in 2010 was 43 units per month based on one (1) unit = 100 cubic feet = 748 gallons.

Non-Residential

Base Charge (varies depending on meter size)	1"	\$1.15/day
	1 1/2"	\$3.07/day
	2"	\$4.90/day
	3"	\$9.75/day
	4"	\$15.19/day
Standardized Non-Residential	1+ units	\$0.63/unit

6.12 DMM L – Conservation Coordinator

The District has a full-time water conservation coordinator, three water conservation specialists, and one part time temporary administrative clerk. The District’s conservation coordinator duties and responsibilities include the following:

- Coordination and oversight of conservation program and water efficiency measures
- Tracking, planning, and reporting CUWCC BMP implementation
- Coordination of water conservation and efficiency efforts and programs with District executive team, other staff, and other agencies
- Preparation of annual BMP budgets
- Participation in CUWCC plenary and committee meetings
- Preparation of conservation elements in the District’ Urban Water Management Plan

Contact Name: Vicki Sacksteder

Title: Water Resources Analyst

Telephone: 916- 791-6933 E-mail: vsacksteder@sjwd.org

6.13 DMM M – Water Waste Prohibition

The District has a water waste prohibition that prohibits gutter flooding, non-recirculating systems in decorative fountains, and evaporative coolers, and unnecessary/wasteful uses of water. District conservation staff responds to all water waste complaints and requests for assistance from customers. They show customers how to improve system performance and water efficiency. In some cases, staff repair minor leaks for customers, which is a no-cost service included in the conservation budget. The water waste prohibition is part of the San Juan Water District’s Code of Ordinance attached in Appendix E.

6.14 DMM N – Residential Ultra Low Flow Flush Toilet Program

The rebate program for single-family and multi-family customers is the same. The District advertises the toilet replacement program in our newsletter, welcome packets to new residents, and on our website. The Regional Water Efficiency Program and Sacramento Area Sewer District also does regional promotion of the toilet replacement program for SJWD. Customers may receive a rebate of up to \$75 per toilet to replace existing 3.5 gallons per flush (gpf) or higher toilets with 1.6 gpf or better and a \$125 per toilet rebate to replace high flush toilets with an HET. The Sacramento Area Sewer District advertises and offers an additional \$50 rebate to our customers who reside in Sacramento County. The South Placer Wastewater Authority offers an additional \$50 for customers using their wastewater services. The District conducts an inspection on all rebate recipients, to provide verification of installation. The District will continue to offer this program and track the number of toilets replaced on an annual basis.

Appendix A – 60-day notification

Appendix A – 60-day notification



San Juan Water District

P.O. Box 2157 • Granite Bay, California 95746 • 916.791.0115
9935 Auburn Folsom Road • Granite Bay, California 95746
Fax: 916.791.7361 • www.sjwd.org

Directors
Edward J. "Ted" Costa
Kenneth H. Miller
Dave Peterson
Pamela Tobin
Robert Walters
▲
General Manager
Shauna Lorance

March 1, 2011

Organization
Attention: Addressee
Address

Re: San Juan Water District 2010 Urban Water Management Plan Update

Dear Addressee:

San Juan Water District is currently preparing the District's 2010 Urban Water Management Plan (UWMP) Update. Senate Bill 1478 was passed giving a 6 month extension to wholesalers to permit coordination between urban wholesale water suppliers and retailers. San Juan Water District's 2010 Urban Water Management Plan (UWMP) Update is scheduled to be submitted by August 1, 2011.

Sincerely,

Vicki Sacksteder | Water Resources Analyst
San Juan Water District | sjwd.org
9935 Auburn Folsom Road | Granite Bay | CA
Direct: 916-791-6933 | Fax: 916-791-6983



Appendix A – 60-day notification

San Juan Water District sent letters to the following agencies:

Sacramento Regional County
Sanitation District
Attention: Stan Dean, District Engineer
10060 Goethe Road
Sacramento, CA 95827

Placer County Water Agency
Attention: Dave Breninger,
General Manager
Post Office Box 6570
144 Ferguson Road
Auburn, CA 95604

Citrus Heights Water District
Attention: Robert Churchill,
General Manager
6230 Sylvan Road
Citrus Heights, CA 95610

Orange Vale Water Company
Attention: Sharon Wilcox, General Manager
Post Office Box 620800
9031 Central Ave
Orangevale, CA 95662-0800

Fair Oaks Water District
Attention: Tom Gray, General Manager
10317 Fair Oaks Blvd
Fair Oaks, CA 95628-5723

City of Folsom
Attention: Kerry Miller, City Manager
50 Natoma Street
Folsom, CA 95630-2696

City of Citrus Heights
Attention: Henry Tingle, City Manager
6237 Fountain Square Drive
Citrus Heights, CA 95621

County of Sacramento
Sacramento County
Department of Water Resources
Attention: Kerry Schmitz,
Water Supply Principal Civil Engineer
827 7th Street, #301
Sacramento, CA 95814

County of Placer
Public Information Office
Attention: Robert Miller,
Assistant Public Information Officer
175 Fulweiler Ave
Auburn, CA 95603

Placer County Planning Department
Planning Services Division
Attention: Paul Thompson,
Deputy Planning Director
3091 County Center Drive
Auburn CA 95603

County of Sacramento
Department of Planning
& Community Development
Attention: Steve Pedretti, Director of County
Engineering and Interim Planning
827 7th Street, Room 230
Sacramento 95814

Appendix B – Public Hearing notification

Appendix B – Public Hearing notification

16400575

NOTICE OF PUBLIC HEARING

16400575
Notice of Public Hearing - San Juan Water District
2010 Urban Water Management Plan Update (UWMP) and
Water Conservation Bill of 2009

San Juan Water District will hold a public hearing to consider and receive input regarding the proposed revisions and updates to the UWMP for 2010-2035. The hearing will be held on Tuesday, June 8, 2011, at 7:00 p.m. in the San Juan Water District Board Room at the following address:
Public Hearing Location: San Juan Water District
 9835 Auburn Folsom Road
 Granite Bay, CA 95746

The proposed updates to the Draft UWMP Plan will be available for public review at San Juan Water District offices and on the District's website, www.sjwd.org prior to the Public Hearing. Comments can be provided up until the date of the Public Hearing to the contact listed below.
Contact Information: Vicki Sacksteder
 9835 Auburn Folsom Road
 Granite Bay, CA 95746
 Phone: 916-791-6933
 Fax: 916-791-6983
vsacksteder@sjwd.org

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

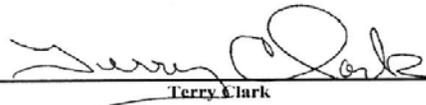
PROOF OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Placer

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 **Roseville Press Tribune**, a newspaper of general circulation, in the **City of Roseville**, 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 Placer**, on the date of November 13, 1951 (Case Number 16996). 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:

MAY 18, 25

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



Terry Clark

Dated in Roseville, California

MAY 25, 2011

PROOF OF PUBLICATION
ROSEVILLE PRESS TRIBUNE
188 Cirby Way
Roseville, CA 95678

Appendix B – Public Hearing notification

P.O. Box 2157 | 9935 Auburn Folsom Road | Granite Bay, CA 95746 | 916-791-0115 | sjwd.org



Directors
Edward J. "Ted" Costa
Kenneth H. Miller
Dave Peterson
Pamela Tobin
Bob Walters
General Manager
Shauna Lorance

April 8, 2011

Organization
Attention: Addressee
Address

Re: San Juan Water District 2010 Urban Water Management Plan Update

Dear Addressee:

San Juan Water District is in the process of revising its Urban Water Management Plan for 2010 plans to take a final draft of the 2010 Plan to its Board of Directors in June 2011 for submittal to the Department of Water Resources on August 1, 2011.

If you would like to provide input on the plan's development you may contact Vicki Sacksteder at 916-791-6933 or via email at vsacksteder@sjwd.org

Thank you,

Vicki Sacksteder | Water Resources Analyst
San Juan Water District | sjwd.org
9935 Auburn Folsom Road | Granite Bay | CA
Direct: 916-791-6933 | Fax: 916-791-6983



Appendix B – Public Hearing notification

San Juan Water District sent letters to the following agencies:

Sacramento Regional County
Sanitation District
Attention: Stan Dean, District Engineer
10060 Goethe Road
Sacramento, CA 95827

Placer County Water Agency
Attention: Dave Breninger,
General Manager
Post Office Box 6570
144 Ferguson Road
Auburn, CA 95604

Citrus Heights Water District
Attention: Robert Churchill,
General Manager
6230 Sylvan Road
Citrus Heights, CA 95610

Orange Vale Water Company
Attention: Sharon Wilcox, General Manager
Post Office Box 620800
9031 Central Ave
Orangevale, CA 95662-0800

Fair Oaks Water District
Attention: Tom Gray, General Manager
10317 Fair Oaks Blvd
Fair Oaks, CA 95628-5723

City of Folsom
Attention: Kerry Miller, City Manager
50 Natoma Street
Folsom, CA 95630-2696

City of Citrus Heights
Attention: Henry Tingle, City Manager
6237 Fountain Square Drive
Citrus Heights, CA 95621

County of Sacramento
Sacramento County
Department of Water Resources
Attention: Kerry Schmitz,
Water Supply Principal Civil Engineer
827 7th Street, #301
Sacramento, CA 95814

County of Placer
Public Information Office
Attention: Robert Miller,
Assistant Public Information Officer
175 Fulweiler Ave
Auburn, CA 95603

Placer County Planning Department
Planning Services Division
Attention: Paul Thompson,
Deputy Planning Director
3091 County Center Drive
Auburn CA 95603

County of Sacramento
Department of Planning
& Community Development
Attention: Steve Pedretti, Director of
County Engineering and Interim Planning
827 7th Street, Room 230
Sacramento 95814

Appendix C – Adoption Resolution

RESOLUTION NO. 11-11

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE
SAN JUAN WATER DISTRICT
ADOPTING AN URBAN WATER MANAGEMENT PLAN**

WHEREAS, the Urban Water Management Planning Act, Water Code sections 10610 through 10657 (the “Act”), mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually is an urban water supplier obligated to prepare an Urban Water Management Plan (“Plan”), the primary objectives of which are to plan for the conservation and efficient use of water;

WHEREAS, the District is an urban water supplier under Water Code section 10617 because as a wholesaler it provides approximately 30,000 acre-feet of water (five-year average) to approximately 180,000 people and as a retailer it provides approximately 13,000 acre-feet of water (five-year average) to approximately 31,000 people through approximately 10,400 connections.

WHEREAS, the District is required by the Act to adopt a final updated Plan by no later than July 1, 2011, after staff and consultants have reviewed and amended the previous Plan and after the Board holds a public review and hearing on the draft updated Plan;

WHEREAS, as shown in Section 1 and Appendix A and B of the Plan, the District has prepared a draft Plan and made it available for public review and review by the County of Sacramento, Placer County and other interested agencies, and properly noticed a public hearing concerning the Plan, including publication of notice two times in The Press Tribune as required by Government Code section 6066;

WHEREAS, the Board of Directors held the required public hearing on the plan during its regular Board meeting on June 8, 2011, and no written or oral comments concerning the Plan were received from the public or any interested agency;

WHEREAS, in accordance with Water Code section 10652 the preparation of the Plan is deemed not to be a project for purposes of the California Environmental Quality Act (“CEQA”) and therefore, no CEQA review of the Plan was required or conducted; and

WHEREAS, after the public review period, District staff and consultants have prepared a final Plan in accordance with comments and direction received from the Board of Directors at the June 8, 2011 public hearing, and with any additional comments and direction from the Board of Directors and any public comments on the final draft Plan at a properly noticed public meeting held on June 22, 2011.

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

1. The Board finds that the District’s updated Urban Water Management Plan dated June 22, 2011 contains all elements required by the Act and hereby adopts the Plan. The General Manager or her designee is authorized and directed to make any final, non-substantive changes to the Urban Water Management Plan and to file the District’s 2010 Urban Water Management Plan with the California Department of Water Resources, the California State Library, Placer County and the

Appendix C – Adoption Resolution

County of Sacramento by no later than August 1, 2011, and to file any plan amendments with those agencies within 30 days of adoption of any such amendment.

2. The General Manager is authorized and directed to implement the water conservation programs and other actions described in the Plan, which include the water shortage contingency analysis and recommendations to the Board of Directors regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs.
3. The General Manager and staff are authorized to update elements of the Plan as necessary, and to file all such updates in the manner provided in Section 1 of this Resolution.
4. The General Manager shall recommend to the Board of Directors additional regulations to carry out the effective and equitable allocation of water resources.
5. The General Manager or her designee will make a copy of the District's adopted 2010 Urban Water Management Plan available for public review during normal business hours within 30 days of its adoption.

PASSED AND ADOPTED by the Board of Directors of San Juan Water District at its regular meeting on June 22, 2011 by the following vote:

AYES:
NOES:
ABSENT:

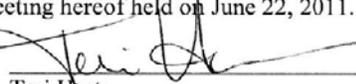
By:



Edward J. "Ted" Costa
President, Board of Directors
San Juan Water District

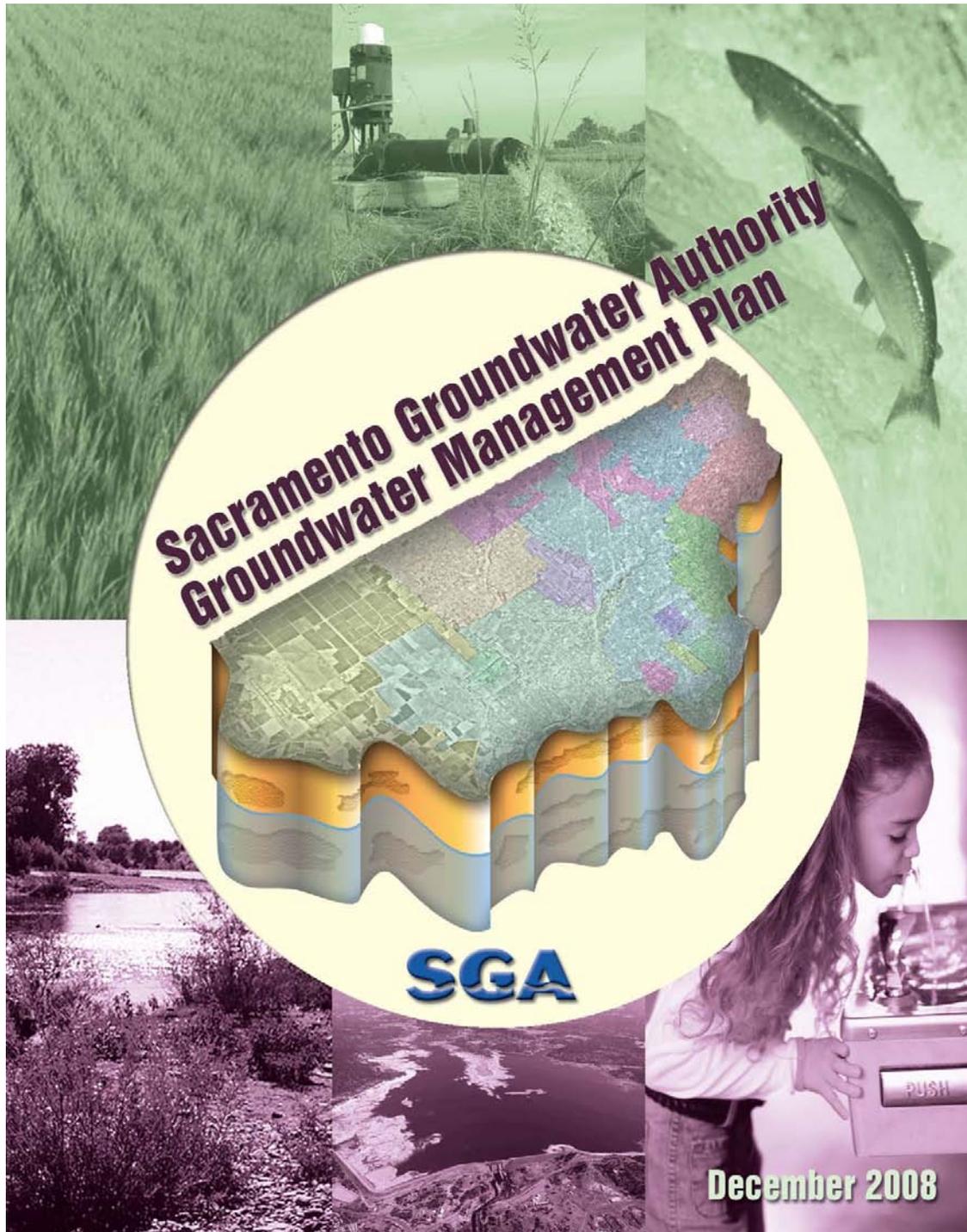
I hereby certify that the foregoing resolution was duly and regularly adopted and passed by the Board of Directors of San Juan Water District at a regular meeting hereof held on June 22, 2011.

By:



Teri Hart
Secretary, Board of Directors
San Juan Water District

Appendix D – SGA Groundwater Management Plan



Available at http://www.sgab2o.org/sga/files/2008-SGA-GMP-FINAL-20090206-print_ready.pdf and on CD included with San Juan Water District's Urban Water Management Plan.

**Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and
San Juan Water District Water Shortage Contingency Plan**

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

San Juan Shortage Agreement

San Juan Surface Water Supply & Shortage Plan

I. Recitals

- A. San Juan is the owner of certain surface water rights and contractual water entitlements, and facilities and entitlements for the diversion, treatment and conveyance of water from Folsom Reservoir, to make available treated water supplies within its wholesale and retail service area that benefit all members of the San Juan Family of Agencies (Member Agencies).
- B. All San Juan Member Agencies are bound by the Water Forum Agreement to specified reductions in the amount of surface water that can be diverted from the American River during specified hydrologic events.
- C. To manage water demands in excess of available surface water supplies, for any reason, it is the intent of the Member Agencies that these shortage conditions be addressed by using groundwater.
- D. Citrus Heights Water District, Fair Oaks Water District, and Orange Vale Water Company are the owners of groundwater production facilities.
- E. Solutions to address reductions in surface water diversions by using groundwater have been developed to the mutual benefit and interest of all Member Agencies.
- F. Water supply shortage solutions will be consistent with the terms of each Agency's Water Forum purveyor-specific agreement, and will not adversely impact implementation of the Water Forum's lower American River flow management plan.
- G. The water supply shortage solutions will be implemented in a manner that protects the water supply and financial interests of affected ratepayers, including their investment in existing facilities.
- H. Those Member Agencies that are beneficiaries of a solution will pay for the full benefit received.
- I. San Juan will be the manager of the Shortage program and in that role will contract for groundwater and be the accountant for groundwater usage and costs.
- J. The Family members agree as follows:
 1. Definitions. When used in this Plan:
 - A. "Benefitting Agencies" means those Member Agencies that receive additional allotments of surface water during a shortage year by virtue of other Member Agencies using groundwater.
 - B. "Capital Costs" are defined as those costs for new groundwater production facilities.
 - C. "Commodity Costs" are those costs directly associated with the operation of groundwater facilities for the production of groundwater during a water shortage.
 - D. "Groundwater Suppliers" means those Member Agencies that have available groundwater in excess of their own needs under all but emergency shortage conditions.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

San Juan Shortage Agreement

- E. “Emergency Shortages,” means those shortages in surface water deliveries resulting from actions other than a Water Forum based cutback in diversions, and could include no surface water deliveries.
- F. “Groundwater Production Facilities” means wells, pumps, piping, electrical controls and other physical components that are necessary for the production and distribution of groundwater.
- G. “Level of Service” means the amount of water available to retail customers when compared to historical demands during normal water years.
- H. “Member Agencies” means the following retail water service providers receiving wholesale water service from San Juan, and the retail water service customers of San Juan: (1) Citrus Heights Water District; (2) Fair Oaks Water District; (3) Orange Vale Water Company; (4) San Juan in its capacity as a retail water service provider; and (5) the City of Folsom.
- I. “Operational and Maintenance Costs” are defined as costs (labor, parts, supplies, etc.) for routine maintenance of the groundwater production facilities necessary to insure that when groundwater is needed, the production capacity will be there.
- J. “Period of Shortage” means the years, or periods of time, when surface water availability to the Member Agencies is reduced, and groundwater is used to supplement the available surface water supply to meet the desired level of service.
- K. “San Juan” means the San Juan Water District.
- L. “San Juan’s Water Treatment and Conveyance Facilities” means the water diversion, pumping, treatment and conveyance facilities that are used by San Juan to make surface water available to the Member Agencies.
- M. “Water Forum Agreement” refers to the Memorandum of Understanding dated January 2000, among the various signatories that has seven complimentary actions, one of which is the Groundwater Management Element.
- N. “Water Forum Shortages” shall mean those reductions in surface water as specified in the Water Forum Agreement.

II. Surface Water Supply Shortage

- A. San Juan will be responsible for monitoring the Unimpaired Inflow into Folsom Reservoir as provided for in the Water Forum Agreement, and will keep the Member Agencies apprised of the projected water availability for the water year.
- B. Surface water availability will be in accordance with the conditions of the Water Forum Agreement or USBR reductions of contract water supplies, shortage will be declared by San Juan in consultation with the Member Agencies.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

San Juan Shortage Agreement

- C. Reductions in surface water deliveries in accordance with the Water Forum Agreement or USBR reductions of contract water supplies will only be made after other remedies for additional surface water have been exhausted.
- D. San Juan in consultation with other Member Agencies will determine the amount of groundwater that must be supplied to achieve the agreed upon level of service for each Member Agency.
- E. Operation of Groundwater facilities and surface water system shall be coordinated by San Juan. San Juan shall be responsible for notifying the Groundwater Suppliers of their obligations for the water year.
- F. Groundwater facilities are the property of the appropriate Member Agencies and will only be operated by that Family member.
- G. Member Agencies that do not have access to groundwater will receive surface water in an amount necessary to meet the service level determined by the Member Agencies.
- H. Non-emergency or shortage condition reductions in surface water deliveries by San Juan or U.S. Bureau of Reclamation for maintenance shall only be made subsequent to an announcement by either of planned maintenance activities.

IV. Availability of Groundwater Facilities

- A. Citrus Heights Water District, Fair Oaks Water District and Orange Vale Water Company shall independently determine how much groundwater they have available for sale to other family members assuming Dry Year conditions under the Water Forum.
- B. San Juan shall contract with each Member Agency for the amount of groundwater they have determined that is surplus to their Water Forum needs and is needed by San Juan for its wholesale obligations.
- C. In consultation with all Member Agencies, after a shortage is declared, San Juan shall determine how much groundwater is needed to meet its wholesale obligations under Dry Year conditions and will designate how much Groundwater each Groundwater Provider must provide.

III. Operation & Maintenance of Groundwater Facilities

- A. Each Groundwater supplier shall maintain their facilities in accordance with the agreed upon maintenance schedule presented in Appendix A.
- B. Annually, each Groundwater supplier shall submit a summary of Operation and Maintenance work performed to San Juan. In addition, the Groundwater supplier shall submit an updated 5 year CIP list for Groundwater facilities that have been contracted for by San Juan.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

San Juan Shortage Agreement

IV. Wholesale Rates and Charges

- A. Rates and charges shall consist of three components: (1) capital costs for new or replacement elements; (2) operation and maintenance costs; and, (3) commodity costs. *Groundwater suppliers shall develop and submit cost estimates for each component to the Member Agencies for review and concurrence. San Juan shall include these costs in the next Wholesale Water Rate Study. **This element needs some thought with regard to how it is developed and how is it updated. Having the rate consultant review the costs would provide for a defensible position on making sure that no one benefits at the expense of another party. The costs should not include capital costs. See C below.***
- B. Each Groundwater Supplier will submit San Juan a bill for operation and maintenance, and commodity costs on a quarterly basis. San Juan will prorate the billing and bill the appropriate Member Agencies for their fair share. ***Do we want to follow the same format as Wholesale charges, ie bill in the future and correct?***
- C. Capital costs for new or replacement groundwater infrastructure shall be developed by the Groundwater supplier and submitted to the benefitting groundwater users for *review, evaluation, and agreement*. Payment by each benefitting party for their share of capital costs shall be made to the Member Agency responsible for the project. ***Thought here is that how the benefitting party pays for the improvement is an internal affair.***

V. General Provisions

- A. **Periodic Review; Amendment.** San Juan and the Member Agencies will meet not less than once every year to review the maintenance plan, and maintenance activities performed to date. Amendments to this Shortage Plan must be approved by all Member Agencies.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

WATER CONSERVATION STAGE DECLARATION

Upon declaration or amendment by the Board of Directors of a specific Stage in effect as defined in Section I, the following mandatory water conservation requirements shall be in effect.

The declaration of Short-Term Stage 4 or Stage 5 water conservation requirements may be declared by the agency's General Manager or his/her designee and subject to ratification by the agency's Board of Directors in a regular or special session. A short-term declaration is for water shortage conditions expected for a duration of 45 days or less.

STAGE 1 – NORMAL WATER SUPPLY

- 1 Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.
- 2 Water shall be confined to the customer's property and shall not be allowed to run-off to adjoining properties or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.
- 3 Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
- 4 Leaking customer pipes or faulty sprinklers shall be repaired within five (5) working days or less if warranted by the severity of the problem.
- 5 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 for health, maintenance, or structural considerations.
- 6 Washing streets, parking lots, driveways, sidewalks, or buildings, except as necessary for health, esthetic or sanitary purposes, is prohibited.
- 7 Customers are encouraged to take advantage of the water agency's conservation programs and rebates.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

STAGE 2 – WATER ALERT

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.
2. Water shall be confined to the customer's property and shall not be allowed to run-off to adjoining properties or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.
3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
4. Leaking customer pipes or faulty sprinklers shall be repaired within five (5) working days or less if warranted by the severity of the problem.
5. 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 for health, maintenance, or structural considerations.
6. Washing streets, parking lots, driveways, sidewalks, or buildings, except as necessary for health, esthetic or sanitary purposes, is prohibited.
7. Customers are encouraged to take advantage of the water agency's conservation programs and rebates.
8. Reduce landscape and pasture irrigation by 5 – 10%. Customers with "smart" irrigation timers or controllers are asked to set their controllers to achieve 90 to 95% of the evapotranspiration (ET) rate. Drip irrigation systems are excluded from this requirement.
9. Reduce indoor water use by 5 – 10%. Contact your water provider for tips and techniques to reduce indoor water use.
10. Users of construction meters and fire hydrant meters will be monitored for efficient water use.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

3 – WATER WARNING

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.
2. Water shall be confined to the customer's property and shall not be allowed to run-off to adjoining properties or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.
3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
4. Leaking customer pipes or faulty sprinklers shall be repaired within two (2) working days or less if warranted by the severity of the problem.
5. 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 for health, maintenance, or structural considerations.
6. Washing streets, parking lots, driveways, sidewalks, or buildings, except as necessary for health, esthetic or sanitary purposes, is prohibited.
7. Customers are encouraged to take advantage of the water agency's conservation programs and rebates.
8. Reduce landscape and pasture irrigation by 11 – 25%. Customers with "smart" irrigation timers or controllers are asked to set their controllers to achieve 75 to 89% of the evapotranspiration (ET) rate. Drip irrigation systems are excluded from this requirement.
9. Reduce indoor water use by 11 – 25%. Contact your water provider for tips and techniques to reduce indoor water use.
10. Restaurants shall serve water only upon request.
11. Users of construction meters and fire hydrant meters will be monitored for efficient water use.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

STAGE 4 – WATER CRISIS: SHORT-TERM

The declaration of Short-Term Stage 4 water conservation requirements may be declared by the agency's General Manager or his/her designee and subject to ratification by the agency's Board of Directors in a regular or special session. A short-term declaration is for water shortage conditions expected for a duration of 45 days or less.

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.
2. Water shall be confined to the customer's property and shall not be allowed to run-off to adjoining properties or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.
3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
4. Leaking customer pipes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem.
5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill swimming pools, artificial lakes, ponds or streams. Water use for ornamental ponds and fountains is prohibited.
6. Washing streets, parking lots, driveways, sidewalks, or buildings, except as necessary for health or sanitary purposes, is prohibited.
7. Customers are encouraged to take advantage of the water agency's conservation programs and rebates.
8. Reduce landscape and pasture irrigation by 26 – 50%. Customers with "smart" irrigation timers or controllers are asked to set their controllers to achieve 50 to 74% of the evapotranspiration (ET) rate. Drip irrigation systems are NOT excluded from this requirement.
9. Reduce indoor water use by 26 -50%. Contact your water provider for tips and techniques to reduce indoor water use.
10. Restaurants shall serve water only upon request.
11. Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations.
12. Users of construction meters and fire hydrant meters will be monitored for efficient water use. Use of reclaimed water for construction purposes is encouraged.
13. Installation of new turf or landscaping is prohibited.
14. Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

STAGE 4 – WATER CRISIS: LONG-TERM

The declaration of Long-Term Stage 4 water conservation requirements will be by the agency's Board of Directors in a regular or special session. A long-term declaration is for water shortage conditions expected for a duration of more than 45 days.

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.
2. Water shall be confined to the customer's property and shall not be allowed to run-off to adjoining properties or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.
3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
4. Leaking customer pipes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem.
5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill swimming pools, artificial lakes, ponds or streams. Water use for ornamental ponds and fountains is prohibited.
6. Washing streets, parking lots, driveways, sidewalks, or buildings, except as necessary for health or sanitary purposes, is prohibited.
7. Customers are encouraged to take advantage of the water agency's conservation programs and rebates.
8. Reduce landscape and pasture irrigation by 26 – 50%. Customers with "smart" irrigation timers or controllers are asked to set their controllers to achieve 50 to 74% of the evapotranspiration (ET) rate. Drip irrigation systems are NOT excluded from this requirement.
9. Reduce indoor water use by 26 -50%. Contact your water provider for tips and techniques to reduce indoor water use.
10. Restaurants shall serve water only upon request.
11. Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations.
12. Water for flow testing and construction purposes from water agency fire hydrants and blow-offs is prohibited. Use of reclaimed water for construction purposes is encouraged.
13. Installation of new turf or landscaping is prohibited.
14. Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.
15. Water Crisis/Emergency tiered pricing will be implemented.
16. No commitments will be made to provide service for new water service connections.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

STAGE 5 – WATER EMERGENCY: SHORT-TERM

The declaration of Short-Term Stage 5 water conservation requirements may be declared by the agency's General Manager or his/her designee and subject to ratification by the agency's Board of Directors in a regular or special session. A short-term declaration is for water shortage conditions expected for a duration of 45 days or less.

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.
2. Landscape and pasture irrigation is prohibited.
3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
4. Leaking customer pipes or faulty sprinklers shall be repaired immediately. Water service will be suspended until repairs are made.
5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill swimming pools, artificial lakes, ponds or streams. Water use for ornamental ponds and fountains is prohibited.
6. Washing streets, parking lots, driveways, sidewalks, or buildings, except as necessary for health or sanitary purposes, is prohibited.
7. Customers are encouraged to take advantage of the water agency's conservation programs and rebates.
8. Reduce indoor water use by more than 50%. Contact your water provider for tips and techniques to reduce indoor water use.
9. Restaurants shall serve water only upon request.
10. Water for flow testing and construction purposes from water agency fire hydrants and blow-offs is prohibited. No potable water from the District's system shall be used for construction purposes including but not limited to dust control, compaction, or trench jetting. Use of reclaimed water for construction purposes is encouraged.
11. Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations.
12. Installation of new turf or landscaping is prohibited.
13. Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.

Appendix E – San Juan Water Districts Surface Water Supply and Water Shortage Plan and San Juan Water District Water Shortage Contingency Plan

STAGE 5 – WATER EMERGENCY: LONG-TERM

The declaration of Long-Term Stage 5 water conservation requirements will be by the agency's Board of Directors in a regular or special session. A long-term declaration is for water shortage conditions expected for a duration of more than 45 days.

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.
2. Landscape and pasture irrigation is prohibited.
3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.
4. Leaking customer pipes shall be repaired immediately. Water service will be suspended until repairs are made.
5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill swimming pools, artificial lakes, ponds or streams. Water use for commercial and multi-family residential ornamental ponds and fountains is prohibited.
6. Washing streets, parking lots, driveways, sidewalks, or buildings, except as necessary for health or sanitary purposes, is prohibited.
7. Customers are encouraged to take advantage of the water agency's conservation programs and rebates.
8. Reduce indoor water use by more than 50%.
9. Restaurants shall serve water only upon request.
10. Water for flow testing and construction purposes from water agency fire hydrants and blow-offs is prohibited. No potable water from the District's system shall be used for construction purposes including but not limited to dust control, compaction, or trench jetting. Use of reclaimed water for construction purposes is encouraged.
11. Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations.
12. Installation of new turf or landscaping is prohibited.
13. Automobiles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.
14. New connections to the District water distribution system will not be allowed.
15. Water Crisis/Emergency tiered pricing will be implemented.
16. No commitments will be made to provide service for new water service connections.

Appendix F – Urban Water Management Plan Check List

San Juan Water District 2010 Urban Water Management Plan checklist, organized by subject

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	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.	10620(d)(2)		Section 1.3
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, 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. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Section 1.3
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)	Not applicable	--
54	Provide supporting documentation that the urban water management 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 this urban water management plan.	10635(b)		Section 1.4
55	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.	10642		Section 1.3
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Section 1.4
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Section 1.4 Appendix C
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 1.4 Section 6

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		Section 1.4
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Section 1.4
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Section 2.1
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Section 2
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Section 2.5
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 2.5
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 2.3 Section 2.5 Section 2.6
SYSTEM DEMANDS				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Section 3.2
2	<i>Wholesalers:</i> Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. <i>Retailers:</i> Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Section 3.3.1 Section 6

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	Not applicable	--
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 3.1 Section 3.4 Section 3.5 Section 3.6 Section 3.7
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Section 3.6
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Section 3.4
SYSTEM SUPPLIES				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Section 4.7
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Section 4.2 Section 4.7
15	Indicate whether a groundwater management plan 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.	10631(b)(1)		Appendix D
16	Describe the groundwater basin.	10631(b)(2)		Section 4.2

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 4.2
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)	Not applicable	--
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Section 4.2
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)	Not applicable	--
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Not applicable	--
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4.4
30	Include a detailed description of all 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, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Section 4.6
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 4.5
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Section 4.3

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Section 4.3.1 Section 4.3.2
46	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.	10633(b)		Section 4.3.1 Section 4.3.2
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Section 4.3.3
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Section 4.3.4
49	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.	10633(e)		Section 4.3.3 Section 4.3.4
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		Section 4.3.5
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		Section 4.3.5
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING ^b				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Section 3 Section 5 Section 6
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Section 5.4

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Section 5.1 Section 5.2 Section 5.3
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Section 5.5 Appendix E
36	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's water supply.	10632(b)		Section 5.4
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Section 5.5 Appendix E
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Section 5.5 Appendix E
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Section 5.5 Appendix E
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 5.5 Appendix E
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Section 5.5 Appendix E
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Section 5.5 Appendix E
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 5.5 Appendix E

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Section 5.1 Section 5.2 Section 5.3
53	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, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Section 5.4
DEMAND MANAGEMENT MEASURES				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 6
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Section 6
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Section 6
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	Not applicable	--
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Not applicable	--