

# Appendix A

## Wholesale System

### Water Shortage Contingency Plan

#### A.1 Wholesale System Water Shortage Contingency Plan

This Wholesale Water Shortage Contingency Plan (Wholesale WSCP) presents San Juan Water District’s (SJWD or District) plan and approach for identifying and mitigating various wholesale water shortage conditions should they arise. This Wholesale WSCP satisfies the requirements of California Water Code (CWC) §10632 and has been produced as part of SJWD’s 2020 Urban Water Management Plan (UWMP) update, although SJWD’s Wholesale WSCP and Retail WSCP can be amended, as needed, without the need to amend the UWMP. It is noted, the CWC does not exclude the District from taking actions not specifically contained in its WSCPs in response to supply shortage conditions.

The District maintains a companion Wholesale Surface Water Supply and Water Shortage Management Plan (WSMP) that provides additional detail specific to the District’s implementation of its responsibilities to allocate water supplies pursuant to the Wholesale Water Supply Agreement with the Wholesale Customer Agencies (WCAs) – City of Folsom, Citrus Heights Water District, Fair Oaks Water District and Orangevale Water Company. The WSMP is included for reference as Attachment A.

##### A.1.1 Legal Authorities

SJWD is organized under the Community Services District Law (California Government Code (CGC) §§61000-61250)<sup>1</sup> and is authorized to acquire and control waters for beneficial uses (CGC §61100 and CWC §71610). This authorization is, and has been, carried out consistent with Article X, Section 2, of the California Constitution, which declares and requires that water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use of water be prevented.

SJWD’s power to enact and enforce water shortage contingency plans is found in CWC §71640, which authorizes SJWD to restrict the use of water it supplies during any threatened or existing water shortage, and to prohibit wastage of water during such periods. SJWD is authorized to prescribe and define by ordinance such restrictions, prohibitions and exclusions as SJWD determines to be necessary (CWC §71641). SJWD’s findings as related to its adopted restrictions, prohibitions and exclusions

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<sup>1</sup> The Community Services District Law states at §61100, “Within its boundaries, a district may, ...Supply water for any beneficial uses, in the same manner as a municipal water district, formed pursuant to the Municipal Water District Law of 1911, Division 20 (commencing with Section 71000) of the Water Code.”

continue unchanged unless and until a contrary finding is made by the SJWD Board by resolution or ordinance (CWC §71642).

The aforementioned powers derived from SJWD’s organizing statutes are in addition to general powers granted to water distributors in CWC §§350-359 and §§375-378. CWC §350 authorizes the governing body of a distributor of a public water supply to declare a water shortage emergency whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent there would be insufficient water for human consumption, sanitation, and fire protection. Upon a finding of such an emergency condition, the distributor can adopt such regulations and restrictions on the delivery and consumption of water as will conserve the water supply for the greatest public benefit, with particular regard to domestic use, sanitation, and fire protection (CWC §353). The regulations and restrictions remain in force and effect until the supply of water available for distribution within such area has been replenished or augmented, and restrictions may include the right to deny new service connections and discontinue service for willful violations (CWC §355 and §356).

SJWD’s Board of Directors (Board) has also ratified other policies, rules, and plans to identify and manage supply-shortage conditions and initiate appropriate response actions. SJWD’s WSMP aims to address situations when available wholesale supplies are insufficient to meet all WCA wholesale demands, including those of SJWD’s Retail customers. The WSMP was originally developed in 2008, recently updated, and the revised WSMP was adopted by the District’s Board of Directors on April 28, 2021.

If conditions warrant, SJWD will coordinate with any city or county within which it provides water supply services for the possible proclamation of a “local emergency” pursuant to the California Emergency Services Act (see CGC §8558).

### A.1.2 Water Supply Reliability Analysis

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As part of SJWD’s UWMP, reliability planning was conducted to evaluate the SJWD’s ability to meet wholesale demands. Two separate efforts were conducted to characterize both long- and near-term reliability scenarios. A *Water Reliability Assessment* incorporating analyses of a normal water year, a single dry year, and a drought lasting five consecutive years, has been conducted to evaluate the District’s long-term supply/demand balance over the next 25 years, in five-year increments. A *Drought Risk Assessment* has also been conducted which assumes the occurrence of a drought over the next five years, and provides an assessment of the District’s near-term reliability.

Results of both *Assessments* identified above are presented in detail in the District’s 2020 UWMP and conclude SJWD has sufficient wholesale supplies through 2045 to meet demands under the normal, single dry year, and five-year drought conditions. Similarly, the District’s *Drought Risk Assessment* demonstrated SJWD would be able to access and deliver sufficient supplies to meet expected wholesale demands during a drought occurring over the next five consecutive years (2021-2025). It is noted that regulatory and/or State emergency declarations have in the past required the District to conserve significant amounts of water notwithstanding having sufficient supplies available to meet higher customer demands. This could occur again in the future, with SJWD having to make a supply shortage

stage declaration pursuant to this WSCP, triggered by external regulatory requirements rather than its actual water supply availability.

### A.1.3 Annual Wholesale Water Supply and Demand Assessment Procedures

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The District conducts an *Annual Wholesale Supply and Demand Assessment* to help inform water resources management decisions for the coming year. The analysis incorporates numerous data sources and evaluation criteria to project probable demands and supply availability, as well as coordination with the WCAs. The detailed procedures and data analysis are presented in the WSMP -- Attachment A to this Wholesale WSMP.

The *Annual Wholesale Water Supply and Demand Assessment* process is a collaborative effort conducted in consultation with the WCAs. The District may modify this process based on available data, significant events, process restrictions, or other external factors that may impact the process. Pursuant to the WSMP, and this WSCP, the Board maintains exclusive purview to make a shortage declaration.

The general procedure for developing the annual wholesale water supply/demand assessment is as follows:

1. Compile existing weather data and available forecasts.
2. The projected dry year supply availability is based on 2015 conditions, with a corresponding supply availability that totaled 54,200 AF<sup>2</sup>. SJWD may modify this supply availability based on conditions at the time of the assessment.
3. Receive and review unconstrained demand projections for SJWD Retail and the WCAs.
4. Assess available wholesale supply based on projections for current year and dry year scenarios.
5. Identify and incorporate any applicable constraints (infrastructure, regulatory, etc.) regarding accessibility of supply, as well as delivery thereof.
6. Compare projected wholesale supplies with anticipated wholesale demands.
7. Develop, analyze, and propose water resource management strategies to address the projected demand to supply comparison, including reference to the water shortage stages identified in the District's Retail WSCP as well as coordination with the WCA's respective WSCPs.
8. *Annual Wholesale Water Supply and Demand Assessment* (and proposed conservation stage declaration, if applicable) presented to the SJWD Board of Directors.

The general proposed timeline is as follows:

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<sup>2</sup> Based on the limitation of diversions defined for conference years in the District's Purveyor-Specific Agreement in the Water Forum Agreement. 2015 was a conference year.

- Begin assessment by District staff and WCAs – February
- Present assessment to Board of Directors – April
- Submit to State per CWC §10632.1 – No later than July 1

#### A.1.4 Water Shortage Stages

The District’s WSCP includes operational criteria for a “Normal Water Supply” condition as well as for four water shortage stages. Results from the *Annual Wholesale Water Supply and Demand Assessment* are presented to the Board to determine if a respective shortage stage needs to be declared. The WSMP provides procedures and process for SJWD actions and supply delivery reductions based on each respective WCA’s past supply deliveries and other factors. The percent reduction of supply deliveries will be determined for each respective WCA and under each respective declared shortage condition. The five supply stages are:

Normal Water Supply: no restrictions on supply availability

Stage 1 – Alert: up to 10 percent supply shortage

Stage 2 – Warning: up to 25 percent supply shortage

Stage 3 – Crisis: up to 50 percent supply shortage

Stage 4 – Emergency: over 50 percent supply shortage

The stages presented in this Wholesale WSCP differ from the State-identified shortage levels of 10, 20, 30, 40, 50, and greater than 50 percent shortage. Pursuant to CWC §10632(a)(3)(B), Table A-1 cross-references this Wholesale WSCP’s shortage levels to the State-identified levels. SJWD supply characteristics and reliability are better suited for the existing four drought stages identifying 10, 25, 50, and >50 percent supply shortages.

Table A-1. Corresponding Shortage Levels

State Mandated Shortage Levels	SJWD WSCP Stages	
Stage 1: 0 – 10%	Stage 1 – Alert	0 – 10%
Stage 2: 10 – 20%	Stage 2 – Warning	10 – 25%
Stage 3: 20 – 30%	Stage 2 – Warning	10 – 25%
	Stage 3 – Crisis	25 – 50%
Stage 4: 30 – 40%	Stage 3 – Crisis	25 – 50%
Stage 5: 40 – 50%	Stage 3 - Crisis	25 – 50%
Stage 6: >50%	Stage 4 - Emergency	>50%

### A.1.5 Communication Protocols

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Communication protocols for the Wholesale WSCP include outreach and notification to the WCAs and customers and entities within the District upon a change in stage declaration. Such communication will be delivered by direct-mail, electronic mail, District website, and media outlets. Other regional agencies, including the Regional Water Authority (RWA), will be notified of the initiation of the identified shortage stage and subsequent Wholesale WSCP stage declarations.

SJWD will coordinate with its WCAs, Placer County Water Agency (PCWA), Sacramento Suburban Water District (SSWD), the cities of Roseville and Folsom, as well as the counties of Placer and Sacramento, if anticipated water supplies and demands necessitate the declaration of a local emergency.

### A.1.6 Financial Consequences of WSCP

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Decreased revenues and increased costs are expected during water shortage conditions. Approximately 27 percent of the District's wholesale operating revenues are normally derived from volumetric charges. Assuming a reduction in sales commensurate with a particular WSCP stage declaration, a decrease in total revenues in the range of 2.7 to 11 percent may be expected.

Public outreach and regional coordination efforts are expected to increase total costs to the District when operating under a water shortage condition. These additional efforts become prioritized for current staff, and other normal work efforts and projects are likely to be delayed or reassigned. If conditions warrant, the District may need to hire additional staff or seek assistance through third-party service providers.

Although wholesale water deliveries fell more than 40 percent during the last drought (FY 2012-13 through FY 2015-16), various factors and actions resulted in water rate revenue only declining in FY 2014-2015.

First, water rates were increased significantly during the drought as follows:

FY 2014-15: Rates restructured – volumetric rate reduced, OM&R fixed rate increased and capital facility charges assessed on three of five wholesale customer agencies. Effective 15.3% increase.

FY 2015-16: 5% rate increase.

Second, the District used approximately \$132,700 of its wholesale capital reserves to fund wholesale operations in FY 2015-16.

Expenses affected by a drought include the cost of purchased water, power costs to pump water, and water efficiency program costs. Water purchase costs can fluctuate significantly depending on the year. Power costs will decrease with less pumping and treatment. Water efficiency program costs increase due to the need to amplify conservation messaging throughout the Wholesale system service area.

Historically, savings resulting from reduced costs of purchased water and energy have been greater than the costs associated with increasing the District’s conservation program efforts. For example, during the last drought the cost of purchased water fell 67% (due in large part to a restructuring of the take or pay agreement with PCWA), power costs fell 49%, chemical costs fell 22% and water efficiency program costs increased 68%. Taken together, reflecting the different scales of these four expense categories, the District experienced a net 48.7% decrease in their combined costs. Ultimately, these savings partially mitigated the impact of the rate revenue reduction over the same period.

Most of the District’s operating expenses are fixed, meaning the costs of maintaining and operating the system do not change much based upon more or less water flowing through the distribution system for delivery. Variable costs, which are closely related to the amount of water delivered, include power for the water treatment plan, chemicals for water treatment, as well as the actual cost of water. Operating expenses decreased approximately 3% from FY 2012-13 (pre-drought) to FY 2015-16 (end of drought), although not all of that decrease is solely attributable to the drought.

As a consequence of the District applying the last five rate increases to only the fixed component of the rate, future droughts should have less of an impact on revenues than that seen in the last drought.

SJWD maintains financial reserves that can be used to buffer potential revenue impacts of reduced wholesale and retail water sales during a WSCP stage declaration, should it be prudent to do so. These reserves are a tool that can be used by the District to maintain more stable rates during times of imbalanced revenues and expenses that may be caused by reduced water usage during dry periods. In addition to utilizing financial reserves, the District may enact a range of financial management actions depending on the specific situation that could include:

- Enact Drought Rate structure (Stage 2 and higher)
- Capital project deferment
- Operational and maintenance expense deferment

#### A.1.7 Plan Adoption, Submittal, and Availability

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The Wholesale and Retail WSCPs (including subsequent updates) shall be adopted in accordance with standard District procedures, including requirements for public participation (public hearing), and approval by the SJWD Board of Directors. Upon adoption, the WSCPs will be submitted to DWR within 30 days. The adopted WSCPs will be available on the District’s website, as well as at the District office.

## Attachment A – Surface Water Supply and Water Shortage Management Plan

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### **SAN JUAN WATER DISTRICT SURFACE WATER SUPPLY AND WATER SHORTAGE MANAGEMENT PLAN Adopted April 28, 2021**

#### **BACKGROUND**

The Wholesale Water Agreement(s) ("Agreement(s)") between San Juan Water District ("San Juan") and each of the Member Agencies, include the section "Water Shortages and Interruptions in Water Deliveries", which specifies shortages of surface water supplied by San Juan Wholesale to the Member Agencies will be allocated in accordance with a "Surface Water Supply and Water Shortage Management Plan" ("Plan").

This Plan provides the framework and guidance for managing and distributing San Juan's available surface water supplies during times of shortage arising from drought, regulatory mandates, or system outage.

Citrus Heights Water District ("CHWD") and Fair Oaks Water District ("FOWD") possess and regularly operate groundwater extraction facilities to supplement their purchase and delivery of surface water supplies from San Juan, and to support conjunctive use operations undertaken in collaboration with San Juan. Orange Vale Water Company ("OVWC") currently does not utilize groundwater resources, but this may change in the future.

San Juan's retail enterprise, the City of Folsom ("Folsom") and OVWC, in partnership with the Sacramento Suburban Water District (SSWD), funded the construction of a "Pump Back Project" to provide for the potential delivery of groundwater extracted by SSWD to San Juan, Folsom and OVWC.

#### **PRINCIPLES**

This Plan is based on the following principles:

1. All conditions and limitations related to the disposition of surface water delivered by San Juan to the Member Agencies, as delineated in their individual Agreements, remain in force and are in no way modified by this Plan.
2. This Plan is intended to provide a framework for the allocation of San Juan's surface water supplies when those supplies are determined to be insufficient to meet demands throughout its wholesale service area under regular operations.

3. San Juan and the Member Agencies are committed to the coequal objectives of the Water Forum Agreement to: (a) provide a reliable and safe water supply for the Sacramento region's economic health and planned

development through the year 2030; and (b) preserve the fishery, wildlife, recreational and aesthetic values of the Lower American River. San Juan's purveyor-specific Water Forum Agreement includes specified reductions in the amount of surface water that San Juan will divert from Folsom Reservoir during specified dry-year conditions. This Plan, and operations pursuant to it, will be consistent with the terms of the Water Forum Agreement.

4. San Juan will consult with the Member Agencies prior to making a surface water Shortage Year declaration initiating implementation of the Plan. The decision to make such a declaration, or not, however, is within the exclusive purview of the San Juan Board of Directors.

5. San Juan Retail and the Member Agencies will equitably share available surface supplies during times of shortage. A proportional allocation, based upon average surface water deliveries to San Juan Retail and each of the Member Agencies over the five (5) non-shortage years prior to the Shortage Year shall be used to determine the amount of surface water available to each entity during the Shortage Year. This calculation will incorporate necessary accounting for additional groundwater pumping undertaken in support of a groundwater substitution transfers should one or more have occurred during the prior five (5) non-shortage years, i.e. under such a circumstance an appropriate baseline of average pumping plus the associated surface water supply foregone will be applied in the proportional allocation calculation.

6. This Plan will be implemented in a manner that protects the water supplies and financial interests of affected ratepayers, including investments in existing facilities.

## DEFINED TERMS

In addition to the terms defined in the Agreement, the following terms are defined as set forth in this section:

7. **"Emergency Shortage"** means a situation in which water supplies are temporarily interrupted due to equipment failure, power outage, or other incident not related to dry hydrology.

8. **"Member Agencies"** means, collectively, CHWD, FOWD, Folsom and OVWC.

9. **"Shortage Year"** means a timeframe during which available



surface water supplies are inadequate to meet projected demands, due to dry hydrologic conditions.

10. **"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.

11. **"Water Forum Agreement"** means the Memorandum of Understanding dated January 2000 among various signatories that includes a purveyor-specific agreement for San Juan's wholesale service area.

## **SURFACE WATER SUPPLY SHORTAGE**

### **Surface Water Supplies Generally Available To San Juan**

12. San Juan delivers to the Member Agencies, pursuant to individual Agreements, and its retail enterprise, surface water from supplies that are available to San Juan from time to time, as described in the Agreements.

13. The total amounts of water delivered to San Juan by Reclamation under its pre-1914 water right and its appropriative water right permit is 33,000 acre-feet per year. San Juan's 1954 settlement agreement with Reclamation requires this water to be delivered to San Juan in perpetuity without diminution. These water rights are subject to potential curtailment by the State Water Resources Control Board (SWRCB).

14. The amount of water available annually under San Juan's Central Valley Project (CVP) Water Service and Facilities Repayment contract and San Juan's water supply agreement with Placer County Water Agency (PCWA) are subject to reduction during times of shortage in accordance with the terms of those agreements. In addition, under the Water Forum Agreement, San Juan is expected to reduce surface water diversions as specified during certain dry years.

15. San Juan's ability to deliver water supplies to meet Member Agency demands is subject to interruption as a result of damage to and/or maintenance of the water storage and conveyance facilities used by Reclamation to deliver San Juan's water supplies, or as a result of damage to and/or maintenance of San Juan's Water Treatment and Conveyance Facilities. Should this occur, an Emergency Shortage may be declared by San Juan and the Mutual Aid and Assistance Agreement entered into by San Juan and the Member Agencies on November 3, 2011 will be implemented.

## Process for Determining and Invoking a Shortage Year Declaration

16. San Juan will inform the Member Agencies of interim and final CVP allocations when received from Reclamation, as well as whether there is concern regarding potential SWRCB curtailment of either of San Juan's water rights and/or a shortage imposed by PCWA on San Juan's PCWA contract entitlement. San Juan will convene a meeting with the Member Agencies each February to discuss estimated wholesale surface supply availability, based on then current information regarding access to water rights, its CVP allocation, and availability of PCWA entitlement water, as well as data related to snowpack, reservoir levels, precipitation and weather forecasts: including, but not limited to; the Department of Water Resources' (DWR) California Snow Water Content, Percent of April 1 Average graph; DWR's North Sierra Precipitation 8 Station Index graph; the Water Forum's Unimpaired Inflow to Folsom Reservoir reports; and American River Group Monthly Folsom Storage Forecasts. San Juan and the Member Agencies will also review demand projections from each Member Agency and then jointly and collaboratively evaluate whether or not a Shortage Year declaration recommendation may be necessary.

17. Should a Shortage Year declaration appear to be necessary, or should conditions change subsequent to the February meeting, San Juan will timely convene subsequent meetings/conference calls with the Member Agencies to refine the analysis and consider potential response actions.

18. The decision to make a Shortage Year declaration, or not, resides within the exclusive purview of the San Juan Board of Directors.

19. If a Shortage Year is declared, San Juan Wholesale will deliver a percentage of the total surface water available to San Juan Retail and each of the Member Agencies equivalent to the average of each agency's total deliveries divided by the average of total surface water deliveries to San Juan Retail and the Member Agencies by San Juan Wholesale during the five (5) non-shortage years prior to that Shortage Year, taking into account additional groundwater pumping undertaken in support of groundwater substitution transfers as described in Article 5 above.

20. If a Shortage Year is declared, San Juan and the Member Agencies will work collaboratively to develop a monthly delivery schedule, whereby aggregate deliveries to San Juan Retail or any Member Agency in that water year will not exceed its proportional share of the total supply of surface water available to San Juan Wholesale.

## Annual Review

21. San Juan and the Member Agencies will have an opportunity to review and discuss potential amendments to this Plan annually as part of the

consultations described in Article 17 above. Any revisions, if adopted by the San Juan Board of Directors, will go into effect no later than the following July 1<sup>st</sup>