

**Appendix S**  
**Water Shortage Response Plan**

This page intentionally left blank.

**SAMMAMISH PLATEAU WATER & SEWER DISTRICT  
KING COUNTY, WASHINGTON**

**RESOLUTION NO. 4663**

RESOLUTION OF THE BOARD OF COMMISSIONERS OF SAMMAMISH PLATEAU WATER AND SEWER DISTRICT, KING COUNTY, WASHINGTON, ADOPTING AND UPDATING A WATER SHORTAGE RESPONSE PLAN.

**WHEREAS**, the Sammamish Plateau Water and Sewer District ("District") is a municipal corporation providing water and sewer utility services pursuant to RCW Chapter 57; and

**WHEREAS**, the District has a responsibility to supply and maintain water service to provide for public health and safety; and

**WHEREAS**, situations may occur where the District encounters a water supply shortage due to emergency, drought or operational situations; and

**WHEREAS**, a water shortage response plan provides systematic responses and methods to reduce customer demands to respond to a water supply shortage, and to allow the District to maintain essential public health and safety, and minimize adverse impacts to residents and businesses; and

**WHEREAS**, RCW 57.08.005(3) provides the District full authority to regulate and control the use, content, distribution, and price of water supplied in such a manner as is not in conflict with general law; and

**WHEREAS**, RCW 57.08.170 authorizes the District to adopt a water shortage response plan and emergency water use restrictions and to enforce such a plan and emergency water use restrictions by, among other things, imposing a fine as provided by resolution for failure to comply with any such Plan or restrictions; and to enforce the collection of such fines as provided in such RCW; and

**WHEREAS**, by Resolution No. 2725 on February 5, 2001 the District previously adopted a Water Shortage Response Plan ("2001 WSRP"); and

**WHEREAS**, the District has completed an update of the 2001 WSRP; and

**WHEREAS**, the District Board of Commissioners have reviewed and considered the proposed update to the 2001 WSRP, a copy of which is attached hereto and incorporated herein by this reference ("2017 Water Shortage Response Plan") which was prepared by District staff; now, therefore,

**BE IT RESOLVED**, by the Board of Commissioners of Sammamish Plateau Water & Sewer District, King County, Washington, as follows:

1. The 2017 Water Shortage Response Plan is hereby approved and adopted and shall be effective the date set forth below.





# Sammamish Plateau Water

**WATER SHORTAGE RESPONSE PLAN  
FOR DEMAND REDUCTION DURING  
EMERGENCY, OPERATIONAL, AND DROUGHT SITUATIONS**

**REVISED APRIL 2017**

**ADOPTED BY SAMMAMISH PLATEAU WATER AND SEWER DISTRICT  
RESOLUTION NO. 4663**

This page intentionally left blank.

**Revisions and Additions**

Revisions to the Water Shortage Response Plan shall be made as follows:

**Major** revisions include major changes to the core essence of the document policies or procedures. All major revisions must be approved by resolution of the Board of Commissioners.

**Minor** revisions include minor features that require revision or modification. Minor revisions do not alter the substance or intended outcome of the program element. They may include typographical or grammatical errors. This type of revision does not require approval by resolution from the Board of Commissioners.

This page intentionally left blank

## Contents

PLAN OBJECTIVES .....	7
PLAN DEVELOPMENT .....	7
PLAN DESCRIPTION .....	8
PLAN IMPLEMENTATION CONSIDERATIONS .....	9
PLAN IMPLEMENTATION FACTORS .....	9
Water Supply Factors.....	9
Water Demand Factors .....	10
Other Factors .....	10
WATER SUPPLY SHORTAGE DESCRIPTIONS.....	10
Emergencies .....	10
Droughts.....	11
Operational Situations.....	11
WSRP Water Use Curtailment versus Conservation .....	12
WATER SHORTAGE RESPONSE PLAN STAGES .....	13
STAGE ONE: ADVISORY STAGE .....	13
Objectives .....	13
Triggers .....	13
Public Message.....	13
Internal Operating Actions.....	13
Communication Actions .....	14
STAGE TWO: VOLUNTARY STAGE .....	16
Objectives .....	16
Triggers .....	16
Public Message.....	16
Internal Operating Actions.....	16
Communication Actions .....	17
CUSTOMER WATER USE REDUCTION ACTIONS.....	18
Examples of Residential Indoor Actions.....	18
Residential Outdoors.....	18
Commercial and Residential Landscape.....	19
Commercial.....	19
STAGE THREE: MANDATORY STAGE.....	22
Objectives .....	22
Triggers .....	22
Public Message.....	22

Internal Operating Actions..... 22  
Communication Actions ..... 23  
MANDATORY CUSTOMER WATER USE RESTRICTIONS MENU..... 24  
Exemptions ..... 24  
MANDATORY RESTRICTIONS ENFORCEMENT CHECKLIST ..... 25  
STAGE FOUR: RATIONING STAGE..... 27  
Objectives ..... 27  
Triggers ..... 27  
Public Message..... 27  
Internal Operating Actions..... 27  
Communication Actions ..... 28  
RATIONING CUSTOMER WATER USE CURTAILMENT MENU ..... 29  
Exemptions ..... 29  
MONITORING AND EVALUATION ..... 30

**SAMMAMISH PLATEAU WATER AND SEWER DISTRICT**

**WATER SHORTAGE RESPONSE PLAN**  
**FOR DEMAND REDUCTION DURING**  
**EMERGENCY, OPERATIONAL, AND DROUGHT SITUATIONS**

**PLAN OBJECTIVES**

The Water Shortage Response Plan (WSRP) provides systematic responses and methods to reduce customer water demand due to a water supply shortage from an emergency, drought event, or operational situation.

The objective of the WSRP is to establish actions and procedures for evaluating supply options and managing water demand during a water supply shortage. Staff will use this plan during infrequent and unusual events, and it is not a substitute for the development of water supply projects and conservation programs. The WSRP establishes strategies in advance of actual conditions. The District is prepared to maintain essential public health and safety, and minimize adverse impacts to residents and businesses should a water shortage event occur.

**PLAN DEVELOPMENT**

The District adopted a Water Shortage Response Plan in February 2001 in response to an anticipated drought that occurred later that year. Development of this WSRP drew from information contained in other area water shortage contingency plans. Staff also utilized information from the Washington Department of Health's "Guidelines for the Preparation of Water Shortage Response Plans."

In 2001, the District also created a Water Conservation Task Force. This group of essential staff and managers activates as necessary to examine water supply and demand issues, develop criteria for implementation of the WSRP, develop water use reduction goals, and apply water use reduction methods.

When the District identifies that a water shortage situation is imminent, the Board of Commissioners will direct the Task Force to implement the WSRP. Plan activations have occurred as follows:

- 2001 – District wide, elevated to Stage 3, Mandatory Restrictions
- 2003 – Cascade View Zone only, elevated to Stage 2, Voluntary Conservation
- 2004 – Cascade View Zone only, elevated to Stage 3, Mandatory Restrictions
- 2005 – District wide, elevated to Stage 1, Advisory Stage
- 2015 – District wide, elevated to Stage 2, Voluntary Conservation in conjunction with Cascade Water Alliance.

The District has its own unique supply served by groundwater from 12 wells. The system is different from the regional system but is highly redundant. In some instances, water shortages affecting regional supplies may not affect the District's groundwater supply resources. The District receives between 10% - 20% of its water through the regional surface water supply managed by the Cascade Water Alliance.

Cascade has a Shortage Management Plan (SMP) that it activates on behalf of its members when regional water supplies reach trigger points indicating a potential or actual water shortage. Cascade describes member obligations in Section 3.4 of its plan:

### 3.4 Applicability to Cascade Members

Consistent with the Section 7.3 of the Joint Agreement, activation of the SMP applies to Cascade Members as follows:

- **Members receiving all of their water supply from Cascade:** Required to comply with Cascade's SMP.
- **Members receiving partial supply from Cascade:** Required to comply in portions of their service areas that receive regional supply; *or* to discontinue use of Cascade supply during the water shortage.
- **Members not receiving Cascade supply.** Not required to comply with Cascade's SMP.
- **Members with interruptible supply.** *None at this time.*

The District's WSRP was revised in April 2017 to reflect changes in the District's water supply situation, including the addition of water shortage plan information from the Cascade Water Alliance. Cascade manages a contract with Seattle Public Utilities on behalf of its members to use water from the regional supply system. Cascade will eventually utilize Lake Tapps for water supply for its members.

### PLAN DESCRIPTION

The WSRP provides approaches that can be tailored to specific water shortages. The responses become more assertive as conditions become progressively more serious. These responses are presented in four stages, Advisory, Voluntary, Mandatory and Rationing.

- **Advisory Stage:** In the first stage, customers are informed as early as meaningful data is available that water supply and demand conditions may result in a less than normal supply of water.
- **Voluntary Stage:** If the supply and demand situation at the Advisory stage then deteriorates, the next step in the WSRP is the Stage Two, the "Voluntary" stage, which relies on the voluntary cooperation and support of customers to meet water use reduction goals. Water users are given the opportunity to contribute their "share" of water savings to achieve a District-wide goal of reduced consumption.
- **Mandatory Stage:** If the Voluntary measures have not or are not able to provide the necessary reduction in water use, the WSRP moves to Stage Three, the "Mandatory" stage. The District provides a mandatory water use reduction goal and may utilize techniques such as written warnings and ticketing to reach the required goal.
- **Rationing Stage:** Stage Four, the "Rationing" stage is used when extraordinary levels of reduction are required to ensure demand does not exceed supply and that public health and safety are not compromised.

A menu of water use reduction measures have been developed for each WSRP Stage. Actions to respond to the specific water shortage situation can be tailored through choices within the menus. More severe stages build on previous stages. Objectives and actions from less severe stages should all be considered for implementation with a more severe stage. During a water shortage situation, the Task Force will provide a recommendation for specific implementation of the WSRP to the General Manager and Board of Commissioners.

## **PLAN IMPLEMENTATION CONSIDERATIONS**

There are issues associated with implementing the WSRP that are relevant to all four Stages. These matters should be considered prior to implementation of the WSRP and when changing WSRP Stages:

- Each water shortage situation will be unique. The WSRP cannot anticipate every possible scenario and predict all supply and demand management actions that may be necessary. The WSRP establishes a range of supply and demand management actions in advance of the situation and defines the mechanisms by which District staff can choose strategies and tactics and make decisions during the event.
- Communication is the key to providing customers with the information necessary to implement and achieve water use reductions during a water shortage situation. The District prioritizes providing a clear and consistent message throughout each situation requiring implementation of the WSRP. Contact through social media, signage and direct mail should be considered in addition to radio, TV and print media.
- The media can play an important role during such an event by communicating the nature and significance of such an event and subsequent actions to manage the situation. During water shortage emergency events, the District General Manager or Public Information Officer (PIO) will distribute information to the media, with trained backup personnel to assist as necessary. The General Manager or Incident Commander must approve all media releases prior to distribution. The scope and severity of an event may also affect the role the media is willing to take in broadcasting information.
- Customers have stated that they want an opportunity to meet water use reduction goals through voluntary compliance measures. The decision to enact mandatory restrictions is less controversial if it is evident to the public that a voluntary approach has not sufficiently reduced the demand.
- During each WSRP Stage, customers are asked to curtail certain water uses in order to reduce demand. This may result in hardships for some customers. Cooperation with the curtailment actions is more likely if the public perceives the actions to be fairly distributed.

## **PLAN IMPLEMENTATION FACTORS**

When District staff identify a water shortage situation, the Task Force will convene to consider initiating the WSRP, and at what stage implementation should start. A variety of factors would form the basis of these decisions, including the following:

### **Water Supply Factors**

- Groundwater rights status for that particular year.
- Available groundwater supply and operational condition of District wells.
- Current aquifer levels.
- The rate of decline in aquifer levels, compared with the normal operating levels.
- Surface water situations in proximity to District wells.
- Available surface water supply in the regional water system.

- Cascade Water Alliance has entered into its own water shortage plan (SMP). If Seattle Public Utilities enters its water shortage plan, Cascade Water Alliance generally follows suit and requires its members to initiate their plans as well.
- Water supply situation of adjacent purveyors and the availability of water through emergency interties if necessary.
- Amount of time required to implement a supply enhancement measure.
- Weather conditions as derived from short and long-term weather forecasts and modeling by the National Weather Service and the U.S. Drought Monitor.

### **Water Demand Factors**

- Trends and seasonal forecasts for the system's daily water demands.
- The estimated margin of safety provided by the demand reduction compared with the level of risk assumed if no action is taken.
- Amount of time required to implement a water use reduction measure.
- Media availability.
- Ease of customer understanding of water use reduction measure.
- Customer response.
- Magnitude of expected savings provided by a water use reduction measure.

### **Other Factors**

- The value of lost water sales revenue compared with the increased margin of reliability.
- Consultation with the District's Board of Commissioners and elected officials and staff of other local and regional government entities.
- The length of time a WSRP stage would be in place. (This determination should avoid implementation followed quickly by termination, and then potential re-implementation of the WSRP. This is to avoid confusion and may enhance the customer's confidence in the Board's decision.)
- Required time lags to shift administrative-gears and institute measures.
- Ultimate cost to the District customers, both residential and commercial.
- Equity in demand reduction between customer classes.
- Current events.

## **WATER SUPPLY SHORTAGE DESCRIPTIONS**

### **Emergencies**

Water shortage emergencies could potentially occur when there is damage to major infrastructure that in turn affects water supply, storage or distribution to customers' homes and businesses. Response to this type of emergency includes reestablishing water for basic domestic uses as well as for fire protection. The District initiates its *Emergency Response Plan* during any water supply shortage emergency. The Emergency Response Plan directs staff to initiate the Incident Command System and includes procedures to follow during an emergency incident to reestablish normal systems operation.

Emergencies are characterized by urgency and may initially require quick and immediate responses. Staff may have a lack of preparation time to implement meaningful water use reduction strategies during the initial response. Once District staff assesses the length of time necessary to restore normal service, the response strategy may change. Emergencies may require major curtailment actions by customers in a short time period. Emergencies may be also be localized, requiring water use reductions in a small geographic area. Flexibility is the key to designing any emergency strategy.

## **Droughts**

Droughts are naturally occurring but unpredictable weather events of varying frequency, duration and severity. Available regional data indicate that a low probability of a multiple year drought exists in our region. This data includes weather records collected for the past century, tree ring analysis, and soil sampling.

The District is primarily served by a groundwater system. The District's distribution system is divided into two hydraulically distinct zones: the Plateau Zone, located south of the Redmond/Fall City Road, and the Cascade View Zone, located north of the Redmond/Fall City Road. The Plateau Zone is supplied by ten wells. The Cascade View Zone is supplied by two wells. For management of water system operations, the District assumes normal annual recharge of the aquifers tapped by District wells. Because the District wells tap multiple aquifers at varying depths, it is unlikely that all District wells will be equally affected by a drought event.

The District's management of the groundwater resource includes the potential use of aquifer storage and recovery (ASR), where water is pumped into the aquifers and stored during the winter months to better prepare for the summer peak season. The District has had a permit with the Washington Department of Ecology to develop the ASR program and is attempting to acquire a recovery permit. Unusual weather events such as a dry winter season could potentially affect this recharge cycle and cause shortages.

Development on the Sammamish Plateau has led to increase in both the amount of impervious surfaces throughout the areas served by the District and the demand for water service. Impervious surfaces may direct surface water to storm drains, and eventually into streams, rivers and lakes, instead of percolating through the soil and recharging aquifers. As development and impervious areas increase, the impacts of reduced rainfall during a drought event will be accentuated. During summer peak season demand, particularly in a dry year, demands increase more leading to increased pumping of the supply wells and lower aquifer levels.

A summer of sustained higher than normal temperatures and following a winter of lower than normal precipitation can contribute to considerable aquifer drawdown, which affects both water quantity and quality. Although drawdown around the wells can become a problem, the District's groundwater aquifers generally act as storage reservoirs. Drought events lasting one or two years usually impact the District less than other purveyors that rely on solely a surface water supply.

The District is a member of the Cascade Water Alliance, which consists of eight member utilities that serve over 300,000 customers. The District currently receives water from the regional supply system operated by Seattle Public Utilities. As such, both Cascade and the District are subject to any water shortage events that affect the Seattle utility. In addition, Cascade is limited to a block of water supply, which, if exceeded, can lead to substantial monetary penalties. Cascade manages the Seattle contract and is looking to Lake Tapps as a future source of supply.

## **Operational Situations**

An operational situation requiring implementation of the WSRP can occur when a critical link in the District's system is not available for service. The inability to operate a portion of the water system at full capacity may result in a situation where there is a need to achieve a significant

water use reduction, but over a limited period of time. The affected critical link could be a storage tank, well, booster pump, treatment system, telemetry system or transmission facility.

As demand within the District increases, the flexibility of the system decreases. The ability to shift operations between wells decreases, as all wells become required to operate at or near their capacity. The storage needed within each pressure zone also gets closer to the systems design capacity making it more difficult to schedule necessary maintenance. In other words, as the District grows, the wells, booster pumps, transmission mains and storage tanks will be operating at or near their capacity. In this situation, it will become more difficult to adjust operations for maintenance and required replacements. Although connection of the regional water supply provides some flexibility, managing the District's water supply system can still be challenging at times.

However, by comparing operation and maintenance schedules for each year with anticipated demands, these water shortages can often be identified in advance. This advance notice can be used to implement the WSRP in a controlled, systematic manner.

### **WSRP Water Use Curtailment versus Conservation**

There are important differences between long-term conservation programs and curtailment, or reducing water use during a water supply emergency incident. During a WSRP emergency, the District may take actions that quickly reduce water use, are relatively short-lived, and usually involve some tradeoffs or hardships for customers. Conservation programs, on the other hand, are long-term programs structured to encourage customers to reduce water waste and increase water efficiency in a sustainable manner. Some programs offer financial incentives for implementing water conservation, such as the District's commercial irrigation audit program. The focus of the public message and information strategy is different for each program. The long-term conservation message of encouraging an environmental ethic of conservation shifts during water supply shortage situations to a more personal message of using water efficiently to ensure adequate supply is available for everyone. However, conservation methods included in the District's conservation programs may be promoted as part of the strategies employed during a water supply shortage situation.

## WATER SHORTAGE RESPONSE PLAN STAGES

### STAGE ONE: ADVISORY STAGE

#### **Objectives**

- To prepare the District and water customers of a potential water shortage, thereby allowing all parties adequate time for planning and coordination.
- To undertake supply and demand management actions that forestall or minimize the need later for more stringent actions.

#### **Triggers**

Many conditions may cause concern about water availability and signal a potential water shortage. Conditions that would trigger the Advisory Stage include:

- Total aquifer supply storage is not projected to be at standard operating capacity as of June 1, due to low aquifer levels.
- Total aquifer supply storage is significantly below historical normal levels for the current time of year, and data indicates that expected demands may not be met if this trend worsens or continues.
- Total regional supply is significantly below historical normal levels, and regional water purveyors have indicated an intention to implement the advisory stage of their plans.
- Weather conditions over the previous winter(s) have been particularly dry with lower than normal rainfall quantities.
- Operational situations are predicted that may affect the District's ability to provide water service at a level necessary to meet projected demands.

The Advisory may be withdrawn when water supply conditions return to a normal situation.

#### **Public Message**

"The potential exists for lower than normal water supply. Customers **may** be asked to reduce consumption unless conditions return to normal. We will keep you informed."

OR

"The potential exists for operational situations that would make it difficult for the demand to be met at all times. Customers **may** be asked to reduce consumption until the situation is corrected. We'll keep you informed."

#### **Internal Operating Actions**

1. The District will form the Water Conservation Task Force of essential staff to meet to evaluate conditions, determine actions and make task assignments.
2. Intensify communication with all staff members, particularly water team members.
3. Intensify data collection actions for well pumping records, tank level records, monitoring aquifer levels, regional water supply levels and weather conditions.

4. Monitor Automated Metering Infrastructure (AMI) data to develop a baseline of customer use to compare to their consumption during varying stages of the plan.
5. Assess current water main flushing activities to determine whether they should be accelerated to be completed prior to the peak season, or reduced to conserve supply.
6. Assess water quality in aquifers and distribution system to target areas that may experience severe degradation with reduced consumption.
7. Develop a list of critical water uses and users.
8. Initiate planning and preparation for Voluntary stage actions. Evaluate the ability, resources, and plans to move into the Voluntary stage and begin preparatory measures.

### **Communication Actions**

1. Brief the Board of Commissioners and all District staff members.
2. Send an initial message to the public through website postings, newsletters, and social media outlets to inform them of the potential situation.
3. Intensify the ongoing local print media education effort regarding the water system, particularly the relationship between supply and demand. Provide current data to local newspapers. Media lists can be found in the District's *Emergency Response Plan*.
4. Provide status report to entities with special interests, public agencies, including the Cities of Sammamish and Issaquah, Northeast Sammamish Sewer and Water District, Eastside Fire and Rescue, the Lake Washington and Issaquah School Districts, King County Parks Department, King County Department of Development and Environmental Services (DDES), Cascade Water Alliance and large commercial customers.
5. Prepare and distribute public information materials explaining the WSRP Stages and expected ranges of actions. Depending on the time available to disseminate information, this may include newsletters or other bill inserts or direct mail.
6. Prepare "Frequently Asked Questions and Answers" for customers, including developers, that may be planning new landscaping. This information should include time of day and seasonal considerations.
7. Post updated status reports on the District's website.
8. Develop and monitor a "Water Use Reduction Hotline" for customers to receive information about WSRP stages and tips for water conservation.
9. Change the water advisory signs posted on major streets entering the District to indicate that the District has implemented the Advisory Stage. Signs change during each activation stage and red flags are fixed to the signs indicating the change in stages.

## **STAGE TWO: VOLUNTARY STAGE**

### **Objectives**

- To inform the District water customers of a water shortage and the need for them to voluntarily reduce water use and eliminate water waste.
- To reduce water use to meet consumption goals through voluntary customer actions.
- To forestall or minimize the need for more stringent demand or supply management actions.
- To minimize the disruption to customers while meeting consumption goals.
- To maintain the highest water quality standards throughout the shortage.

### **Triggers**

The Voluntary Stage is implemented when one or more of the following factors apply:

- The limited water supply conditions identified in the Advisory Stage have developed or worsened.
- Operational situations exist that will limit the District's ability to provide water supply.
- Water use demand projections indicate a systematic response to reducing the demand is required.

### **Public Message**

"We are relying on the support and cooperation of **all** water users to reduce consumption and stretch the water available. Customers should reduce their water use by \_\_\_\_\_ percent, or by \_\_\_\_\_gallons per household per day. [Fill in blanks based on each particular situation.] Customers are responsible for determining how they will meet that goal. Water waste is not acceptable. If everyone cooperates, more stringent restrictions may be avoided."

### **Internal Operating Actions**

1. Continue all actions listed in Advisory Stage.
2. Water Team to prepare weekly reports for the Task Force on supply conditions and consumption levels.
3. Task Force will consider the current and projected supply conditions and the seasonal demand and set consumption goals, which may be revised as necessary.
4. Eliminate all operating system water uses, such as pipeline flushing, where determined to be non-essential to maintain water quality.
5. Restrict hydrant permits to essential purposes, including recall of hydrant permits previously issued. This should include contacting each registered hydrant user.
6. Eliminate washing of District fleet vehicles except by recycling car washes.
7. Limit nondiscretionary water use such as hosing of sidewalks, driveways, parking lots, etc. at District facilities to situations where it is necessary for public health and safety.
8. Limit landscape watering around District office and water established plants only when necessary. Water early in the morning to reduce evapotranspiration rate.

9. Activate any regional interties as necessary to increase emergency supply availability, if regional supplies are available during the water emergency.
10. Activate any existing emergency interties with adjacent purveyors to increase emergency supply availability.
11. Increase water quality monitoring actions.
12. Task Force and District managers will evaluate whether target consumption levels and supply conditions warrant a rate surcharge to reinforce voluntary actions and/or to recover revenue losses. District staff will work through the General Manager to make a recommendation to the Board of Commissioners.
13. Initiate remaining planning and preparation for the Mandatory Stage.

### **Communication Actions**

1. Water Conservation Task Force will establish systematic communications with Board of Commissioners, including the suggested nature and scope of the voluntary measures and strategies.
2. Prepare and distribute an initial detailed message to the public through website postings, newsletters, and social media outlets to alert them of an escalating situation and that more information will be forthcoming.
3. Provide status reports to entities with special interests, public agencies including the Cities of Issaquah and Sammamish, Northeast Sammamish Sewer and Water District, Eastside Fire and Rescue, the Lake Washington and Issaquah School Districts, King County Parks Department, King County DDES, Cascade Water Alliance and large commercial customers.
4. Coordinate with affected agencies regarding demand management actions, especially in the reduction of irrigation for parks and athletic fields.
5. Customer service personnel will notify customers of obvious water waste, such as hoses without shutoff nozzles, irrigating during the heat of the day, excessive water running into storm drains, etc., with "Water Conservation Notice" door hangers. The door hangers inform the customer about water waste and the need to conserve.
6. Communications and Outreach Coordinator, acting as Public Information Officer, will initiate a detailed public information, media and advertising campaign:
  - Issue press releases to local newspapers, television and radio stations.
  - Publish a list of recommended actions for customers to take to reduce their water consumption in local newspapers, the District newsletter, and the District website.
  - Send out a direct mailing to all District customers with a list of the recommended actions.
  - Promote consumption goals for typical households, and a percentage reduction goal for commercial customers.
  - Develop a marketing plan that serves to keep customers informed about supply and demand conditions, recommends customer actions to reduce demand significantly; reinforces desired customer actions, and reminds customers that if goals are not achieved, mandatory restrictions may be necessary.

- Identify what potential next steps will be to reduce demand including timing, type of restrictions, and if surcharges should be imposed.
  - Provide water quality information in public information, so that if flushing is necessary, the public understands that it is essential for water quality maintenance.
7. Post updated status reports on District website.
  8. Set up and promote the "Water Use Reduction Hotline" for customers to receive information about WSRP Stages and tips for water conservation.
  9. Post Voluntary stage signs at entrances to areas served by the District.
  10. Identify customers with large irrigation accounts and promote the use of daily weather information, such as rainfall and evapotranspiration (ET) rates to minimize irrigation use.
  11. Contact largest water users to request a specific percentage reduction.
  12. Request Eastside Fire and Rescue to limit training exercises that use water.

### **CUSTOMER WATER USE REDUCTION ACTIONS**

#### **Examples of Residential Indoor Actions**

- Put food coloring in your toilet tank. If it seeps into the bowl without flushing, you have a leak. Fixing it could save up to 1,000 gallons per month.
- Run your clothes washer and dishwasher only when they are full and save 1,000 gallons per month.
- Keep a pitcher of cold drinking water in the refrigerator, rather than running the faucet until the water gets cold.
- Shorten your showers by a minute or two and save 150 gallons per month. Try to limit showering time to five minutes.
- Avoid letting the faucet run while shaving, brushing teeth, or washing vegetables and save up to 25 gallons per month.
- While waiting for hot water, use a container to catch tap water that would normally be wasted for use on indoor or outdoor plants.

#### **Residential Outdoors**

- Wash cars less often. Instead of using the hose, consider a commercial car wash that recycles water.
- Do not use water to clean sidewalks, driveways, and decks. Use a broom or a power blower instead.
- Always use a shut-off nozzle when using the hose. Be sure there are no leaks in any hose fittings.

- Eliminate outdoor water play, such as running through a sprinkler, plastic water slides, and wading/swimming pools that require frequent re-filling.
- Cover pools and hot tubs when not in use to minimize evaporative losses.

### **Commercial and Residential Landscape**

- Water lawns and gardens only early in the morning or late in the evening to reduce water loss from evaporation. 30% or more of your water is lost to evaporation when watering in the heat of the day.
- Consider letting established lawns go dormant until the shortage is over. Homes that normally water lawns will save from 25% to 50% by not watering lawns. Water your lawn deeply at least once a month to help it survive the drought.
- Do not water lawns when it is raining! Learn how to change the program that controls your system in order to cut back on irrigation time. Turn off automated irrigation system clocks during rainy spells. Consider installing a rain sensor on automatic irrigation systems that will override the system during rainfall. Consider having an irrigation audit done to ensure that your system is using water efficiently.
- Water established plants only when necessary, testing the soil moisture levels in the root zone with your fingers. Two to four inches of mulch (such as compost or wood chips) in your planting beds will help retain moisture.
- Use a rain barrel to capture water from rooftops. Water from rain barrels can be used to water plants or for car washing.
- Create tree wells around trees to minimize runoff when watering.

### **Commercial**

- Set goals for reduced water use and inform managers and employees. Give businesses ideas for limiting water use and ask them for theirs.
- Repair all leaks and dripping faucets. Ensure that constantly running toilets are repaired. Urge employees to report leaks. Encourage the installation of 1.6 gallon per flush toilets in older commercial buildings.
- Reduce or eliminate routine vehicle cleaning during the shortage. Use a local commercial car wash facility that recycles water.
- Ensure that all hoses are fitted with shut-off nozzles.
- Eliminate hosing as a means of disposing of used ice.
- Eliminate all hosing of walkways, parking lots and loading docks. If washing paved areas is necessary for public health and safety, pressure washers use substantially less water.
- Postpone routine building washing until after the shortage.

- Post flyers informing customers of the nature of the water shortage and ask for cooperation in reducing water use.
- Turn off all non-recirculating fountains. On windy days, when there is significant water loss, turn off **all** fountains.
- Ask restaurants to deliver water only on request.
- Accelerate restrooms upgrades by replacing older toilets with 1.6 gallon-per-flush models.

This page intentionally left blank.

### **STAGE THREE: MANDATORY STAGE**

#### **Objectives**

- To ensure that throughout the remaining duration of the water shortage, an adequate water supply exists to protect public health and safety.
- To restrict certain defined water uses in order to meet consumption goals that have not been met through voluntary customer actions.

#### **Triggers**

This stage is implemented when the Task Force determines that:

- Measures to reduce water use implemented in the Voluntary Stage are not adequately reducing demand.
- The time available to implement measures to reduce water use is not sufficient to allow education of customers required for voluntary compliance.
- It is evident the level of water use reduction required would not be achieved through voluntary compliance.

#### **Public Message**

"The District finds it necessary to impose mandatory restrictions to reduce demand because the voluntary approach is not resulting in the necessary water use reductions. Customers must reduce their water use by \_\_\_\_\_ percent, or by \_\_\_gallons per household per day. [Fill in blanks based on each particular situation.] The District is continuing to rely on the support and cooperation of the public, but needs to restrict certain water uses in order to ensure that throughout the duration of this shortage, an adequate supply of water is available for public health and safety. The District will be conducting enforcement actions to ensure that our customers adhere to these restrictions. You may receive a written warning or fines for restriction violations."

#### **Internal Operating Actions**

1. Continue all actions from Advisory and Voluntary Stages, as appropriate.
2. Task Force will develop a list of recommended water use restrictions and exemptions from restrictions.
3. Task Force to set up a process for receiving, recording and responding to reported violations of restrictions.
4. Finalize and implement procedures to provide to the Board of Commissioners to adopt water use restrictions and assess fines where mandatory restrictions are not followed. See Mandatory Restrictions Enforcement Checklist.
5. Initiate planning and preparation for the Rationing Stage.

### **Communication Actions**

1. Water Conservation Task Force will provide periodic reports to the Board of Commissioners, including the suggested nature and scope of the mandatory restrictions, implementation strategies, and customer response data.
2. Prepare and distribute an initial detailed message to the public through website postings, newsletters, and social media outlets to alert them of an escalating situation and that more information about this stage will be forthcoming.
3. Provide status reports to entities with special interests, public agencies including the Cities of Issaquah and Sammamish, Northeast Sammamish Sewer and Water District, Eastside Fire and Rescue, the Lake Washington and Issaquah School Districts, King County Parks Department, King County DDES, Cascade Water Alliance and large commercial customers.
4. Through an intensive media campaign and direct mailing, announce to District customers the:
  - Scope and nature of mandatory restrictions
  - Reasons for imposing the restrictions
  - Consumption goals
  - Additional restrictions that may be imposed if water use reduction goals are not achieved
  - Enforcement mechanisms and fines
  - Projections for how long restrictions will be in place
  - Rate surcharges
5. Clearly distinguish between lawn/turf watering and watering gardens and ornamentals.
6. Clearly identify any exemptions from water use restrictions.
7. Clearly state that no exemptions from lawn watering restrictions will be provided for new lawn installations.
8. Work with King County, City of Sammamish and City of Issaquah Parks Departments to restrict irrigation levels in park areas to levels that meet or exceed the irrigation restrictions, while maintaining public safety.
9. Work with King County, City of Sammamish, and City of Issaquah Planning Departments to defer landscape installation requirements until the shortage is over. Exemptions will not be permitted for watering new lawn installations.
10. If some irrigation is allowed under the water use restrictions, contact large irrigation customers, including Klahanie Homeowner's Association and Providence Point and inform them that the District may have to shut down their irrigation meters as an emergency action in the event of an immediate water shortage supply situation.
11. Provide area landscape firms with water use restriction information.
12. To promote understanding between neighbors, the District urges customers that irrigate with water from private wells or Lake Sammamish, with legal water rights, to inform the District and neighbors of the water source.

13. Post updated status reports on the District website and social media sites.
14. Update the "Water Use Reduction Hotline" for customers to receive information about WSRP Stages, water restrictions, and tips for water conservation.
15. Post mandatory restrictions signs at entrances to areas served by the District.
16. Continue and enhance communication actions from the Advisory and Voluntary Stages.
17. Advise that Eastside Fire and Rescue must discontinue the use of water in training exercises until the emergency is over.
18. Evaluate resources and plans for moving into the Rationing Stage. As appropriate, begin preparatory measures.

#### **MANDATORY CUSTOMER WATER USE RESTRICTIONS MENU**

1. Limit all lawn/turf watering to match the District's Lawn Watering Calendar, or less frequently to one day per week as necessary.
2. Prohibit all daytime irrigation of lawn, turf **and** garden watering between 10:00 AM and 7:00 PM.
3. Prohibit all lawn/turf watering, including new lawn/turf installations.
4. Prohibit use of any ornamental fountain using drinking water for operation or make-up water.
5. Prohibit car washing except at commercial car wash facilities that recycle water.
6. Rescind all hydrant permits.
7. Prohibit washing of sidewalks, streets, decks or driveways, except as necessary for public health and safety.
8. Limit pressure washing of buildings to situations that require it as part of a scheduled building rehabilitation project (e.g. painting.).
9. Prohibit water waste, including untended hoses without shut-off nozzles, obvious leaks, and allowing water running to waste (such as gutter flooding and irrigation systems with spray patterns that are directed at paved areas).

#### **Exemptions**

1. For purposes of dust control, water may be applied to construction areas or other areas needing to comply with air quality requirements at the minimum rate necessary to achieve the desired result. Reclaimed water must be used for dust control where available.
2. Ballfields and playfields must be watered at the **minimum rate necessary** to control dust and to ensure that the fields are soft enough to minimize safety or liability concerns.

3. Customers with special medical needs, such as home dialysis, will be exempted from any emergency surcharge or restrictions, provided these customers notify the District of such a need. Their exemptions will not apply to outdoor water use.

**MANDATORY RESTRICTIONS ENFORCEMENT CHECKLIST**

- \_\_\_\_\_ Determine fines and/or surcharges to be imposed for mandatory restriction infractions. Determine whether there will be "one fine for all infractions," or whether certain selected water use reduction actions would command a higher fine than others would.
- \_\_\_\_\_ Determine the number of warnings before fines or surcharges applied.
- \_\_\_\_\_ Establish a database for tracking violations.
- \_\_\_\_\_ Print self-duplicating "Notice of Violation" forms, one copy for location where violation occurred, one to record violation with billing. Print violations and fines on the Notice of Violation.
- \_\_\_\_\_ Assign and train field staff with customer service and communication experience to serve as "Water Watchers" who identify problems and report to the office.
- \_\_\_\_\_ Establish procedure for "Water Watchers" to record warnings and penalties on customer accounts.
- \_\_\_\_\_ Establish a "hotline" for customers to report violations. To help avoid frivolous complaints, recorded message should note that only complaints with name and address of complainant would be pursued. Also, establish a site on the website for reporting violations.
- \_\_\_\_\_ Provide all field and customer service staff members with fact sheets and question-and-answer sheets. Provide briefings on restrictions, enforcement procedures. Train field staff to tag obvious violations.

## **STAGE FOUR: RATIONING STAGE**

### **Objectives**

- To ensure that throughout the water shortage situation, an adequate water supply exists to protect public health and safety.
- To sharply reduce water demand.
- Restrict certain defined water uses in order to meet consumption goals.

### **Triggers**

This Stage is implemented when the Task Force determines that:

- It is necessary to reduce demand immediately, as a critical water supply situation exists.
- Significant water use reduction is required to maintain public health and safety.
- Measures to reduce water use implemented in the Voluntary and Mandatory Stages have not adequately reduced demand.
- The time available to implement measures to reduce water use is not sufficient to allow education of customers required for voluntary or mandatory compliance.
- It is evident the level of water use reduction required would not be achieved through voluntary or mandatory compliance.

### **Public Message**

"The District finds it necessary to impose water rationing to reduce demand so the public health and safety of District customers can be maintained. The District needs to restrict certain water uses and we rely on the cooperation of the public. You may receive a written warning or fines for restriction violations."

### **Internal Operating Actions**

1. Continue actions from Advisory, Voluntary and Mandatory Stages, as appropriate.
2. Define the problem as an emergency and follow procedures for the Board of Commissioners to formally declare an emergency, and initiate the Incident Command System and Emergency Response Plan.
3. Task Force to develop a list of recommended water use to be curtailed and exemptions from curtailment.
4. Water Conservation Task Force will establish water use reduction goals. Single family residential may be set as a standard per house allotment or as a percentage reduction from the previous year's consumption. Since the Rationing Stage is for critical situations, the reductions may be required below the customers normal winter month use. Commercial, multifamily and industrial users will be asked to reduce water use by a set percentage of their average consumption during the previous year.
5. Establish water rate surcharges based on consumption, and provide to the Board of Commissioners for adoption.
6. Establish penalties or excess use charges for customers that exceed the water allotment, and provide to the Board of Commissioners for adoption.

7. Modify billing system to implement any approved surcharges and penalties.
8. Increase enforcement actions, in accordance with the applicable resolution approved by the Board of Commissioners. Refer to Mandatory Stage for options.
9. Provide training for personnel and deploy additional water curtailment enforcement patrols.
10. Inform local law enforcement of curtailment actions and the potential need for assistance.
11. Further enhance aquifer level and water quality monitoring actions.
12. Task Force to increase meeting frequency to daily status briefings, to review the current situation and determine which actions are working and those that need to be improved. Focus on messages that are easy to communicate, implement and have the potential to sharply reduce demand.

### **Communication Actions**

1. Water Conservation Task Force will increase the frequency of reports to the Board of Commissioners. The initial report will include suggested nature and scope of proposed curtailments. Subsequent reports should provide detail on the implementation of the Rationing State and customer response data.
2. Prepare and distribute an initial detailed message to the public through website postings, newsletters, and social media outlets to alert them of an escalating situation and that more information about this stage will be forthcoming.
3. Provide status reports to entities with special interests, public agencies including the Cities of Issaquah and Sammamish, Northeast Sammamish Sewer and Water District, Eastside Fire and Rescue, the Lake Washington and Issaquah School Districts, King County Parks Department, King County DDES and large commercial customers.
4. Through a media campaign as well direct mail, announce to District customers the:
  - Scope and nature of rationing and curtailments
  - Reasons for imposing the curtailments
  - Explanation that water is being rationed for public health and safety use only
  - Water use reduction goals
  - Enforcement mechanisms and fines
  - Projections for how long curtailments will be in place
  - Rate surcharges
5. Clearly identify any exemptions from the water use curtailment.
6. Inform customers about possible pressure reductions and problems this may cause.
7. Provide area landscape firms with water use curtailment information.
8. Provide contractors and landscape firms with information on locations to obtain reclaimed water for street cleaning, construction projects, landscape irrigation, dust control, etc. such as from King County wastewater treatment plants.

9. Post updated status reports on the District website.
10. Update the "Water Use Reduction Hotline" for customers to receive information about WSRP Stages, water curtailments, and tips for water conservation.
11. Post water rationing signs at entrances to areas served by the District.
12. Continue and enhance communication actions from the Advisory, Voluntary and Mandatory Stages.
13. Keep Eastside Fire and Rescue informed about the water shortage emergency and require they discontinue the use of water in training exercises until the emergency is over.

#### **RATIONING CUSTOMER WATER USE CURTAILMENT MENU**

1. Prohibit all lawn/turf irrigation.
2. Prohibit all lawn/turf watering, including new lawn/turf installations.
3. Prohibit all irrigation of gardens and ornamental landscapes.
4. Prohibit use of any ornamental fountain using drinking water for operation or make-up water.
5. Prohibit car washing except at commercial car wash facilities that recycle water.
6. Rescind all hydrant permits.
7. If a source of reclaimed water is available, prohibit use of water for dust control at construction areas.
8. Prohibit use of water for dust control at construction areas.
9. Prohibit washing of sidewalks, streets, decks or driveways, except as necessary for public health and safety.
10. Prohibit pressure washing of buildings unless water is obtained from sources other than the District.
11. Prohibit filling or addition of water to swimming pools at public and private club facilities.
12. Consider limitation of issuance of new meter installations for irrigation and/or domestic uses.

#### **Exemptions**

1. If a source of reclaimed water is not available and dust control is required to comply with air quality requirements, water may be applied to construction areas or other areas at the minimum rate necessary to achieve the desired result. Reclaimed water must be used for dust control where available.

2. Customers with special medical needs, such as home dialysis, will be exempted from any emergency surcharge or restrictions, provided these customers notify the District of such a need. Their exemptions will not apply to outdoor water use.

### **MONITORING AND EVALUATION**

Throughout the duration of any activation, the District closely monitors consumption reduction by examining operational pump log records and tracking customer consumption through the District's AMI system. District staff compare this data to the selected reduction goals throughout the activation to evaluate how customers are responding to the water shortage situation. This monitoring helps staff evaluate the need to move into and out of varying stages and enforce more stringent restrictions if necessary.

The District's AMI system and software will be a valuable tool to help customers quickly identify any leaks or consumption and notify the customer to repair the leaks. AMI will also help staff track excessive water waste, monitor irrigation water use among high users, and

The District will also review lessons learned from each water shortage incident to develop an improvement plan to make adjustments before the next water shortage event occurs.

**SAMMAMISH PLATEAU WATER & SEWER DISTRICT  
KING COUNTY, WASHINGTON**

**RESOLUTION NO. 4664**

RESOLUTION OF THE BOARD OF COMMISSIONERS OF SAMMAMISH PLATEAU WATER AND SEWER DISTRICT, KING COUNTY, WASHINGTON, ESTABLISHING FINES FOR WATER USAGE IN VIOLATION OF MANDATORY WATER USE RESTRICTIONS; AND REPEALING RESOLUTION NO. 2781.

**WHEREAS**, the Sammamish Plateau Water and Sewer District ("District") adopted a Water Shortage Response Plan on February 5, 2001, by the adoption of Resolution No. 2725 ("2001 WSRP") to provide systematic responses and methods to reduce customer demand due to a water supply shortage from an emergency, drought event or operational situation; and

**WHEREAS**, the District adopted an update to the 2001 WSRP on April 3, 2017, by the adoption of Resolution No. 4663 ("2017 WSRP"); and

**WHEREAS**, the 2017 WSRP includes mandatory emergency water use restrictions in the Mandatory and Rationing Stages, and the District desires to establish policies and procedures for assessing fines for violation of these water use restrictions; and

**WHEREAS**, RCW 57.08.005(3) provides the District full authority to regulate and control the use, content, distribution, and price of water supplied in such a manner as is not in conflict with general law, and RCW 57.08.170 authorizes the District to adopt a water shortage response plan and emergency water use restrictions and to enforce such a plan and emergency water use restrictions by, among other things, imposing fines as provided by resolution for failure to comply with any such water shortage response plan or water use restrictions; and to enforce the collection of such fines as provided in such RCW; and

**WHEREAS**, the District Board of Commissioners now desires to adopt fines and penalties to enforce the 2017 WSRP and emergency water use restrictions; now, therefore,

**BE IT RESOLVED**, by the Board of Commissioners of Sammamish Plateau Water & Sewer District, King County, Washington, as follows:

1. Fine Structure: Fines for violation of mandatory water use restrictions set forth in the 2017 WSRP and implemented by the District are hereby approved and shall be assessed as follows:
  - a. First violation: A written notice of warning shall be given to the customer, with reference to the type of violation in accordance with the mandatory water use restrictions established by the District.

Resolution No. 4664

- b. Second violation: A fine of Fifty Dollars (\$50.00) shall be assessed to the customer's utility service amount for a second violation, and any customer being notified of such violation shall pay such fine, which will be included in the customer's next regular billing for water service by the District; in the event the fine for water use restriction violation is not paid within 30 days of the date of the District water service billing including such fine, the fine shall then be delinquent, and the District shall enforce the collection of such fine pursuant to RCW 57.08.170, including the filing of a lien against the real property receiving District water service where the violation occurred.
  - c. Third violation: A fine of Two Hundred Fifty Dollars (\$250.00) shall be assessed to the customer's account for a third violation; violations shall be collected pursuant to the procedure set forth in Section 1 (b) above.
  - d. Fourth violation: A fine of Five Hundred Dollars (\$500.00) shall be assessed to the customer's account for a fourth violation; violations shall be collected pursuant to the procedure set forth in Section 1 (b) above.
  - e. Fifth and subsequent violations: A fine of One Thousand Dollars (\$1,000.00) shall be assessed to the customer's account for a fifth and subsequent violations; violations shall be collected pursuant to the procedure set forth in Section 1 (b) above. In the case of a commercial irrigation system, the system shall be shut off and/or locked off. In the case of a hydrant permit, the permit shall be revoked.
2. Public Notice: The District shall notify customers through public announcements that mandatory water restrictions are in effect and that fines shall be imposed for any water usage in violation of mandatory water restrictions established at the time and the amount of such fine.
3. Appeal Procedure: In the event a customer against whom a fine for violation of mandatory water use restrictions has been imposed contests the amount of such fine or related District enforcement action, such customer may request a hearing before the Board of Commissioners. The customer must file his/her appeal in writing with the District, giving the name of the property owner, address of the property where the alleged violation occurred, the total amount of the violation fine, and a statement by the customer as to why the customer feels the fine(s) and/or enforcement action should not have been assessed and/or taken. Such appeal must be filed with the District within five (5) calendar days after receipt by the customer of (a) the District service billing which includes such fine(s) or (b) notice of any enforcement action taken by the District, such as service disconnection, whichever occurs first. The Board, upon such hearing being requested by the customer, shall set a time, place, and date for such a hearing after at least seven (7) days written notice of such hearing has been

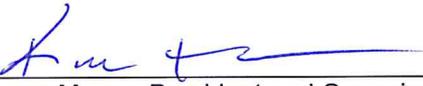
provided to such customer, and the Board will hear such appeal. At the conclusion of such hearing, the Board may confirm, correct, modify, or rescind such fine or enforcement action as appropriate as the Board in its discretion may determine. Such appeal procedure must be followed by any customer contesting such fine and/or enforcement action; and a hearing must be held and a determination made by the Board prior to such customer taking or filing any judicial action regarding any fine or enforcement action. A customer assessed a fine for violation of mandatory water use restrictions which is appealed as provided herein shall not be required to pay such fine to the District until the Board makes a final determination on such appeal and notifies the customer of such determination.

4. Effective date: This resolution shall be effective the date set forth below.
5. Amendment: This resolution and the policies and procedures set forth herein shall amend and supersede all prior District restrictions, surcharges, and/or penalties for violations thereof, including Resolution No. 2781, to be in accordance with this resolution.

**ADOPTED** by the Board of Commissioners of Sammamish Plateau Water and Sewer District, King County, Washington, at a regular open public meeting held on the 3rd day of April 2017.

**Individual Commissioner's  
Vote on this Resolution:**

Approved: ✓  
 Opposed: \_\_\_\_\_  
 Abstained: \_\_\_\_\_  
 Absent: \_\_\_\_\_

  
 Karen Moran, President and Commissioner

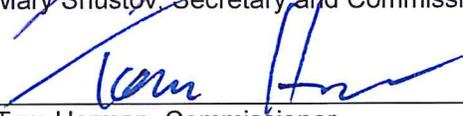
Approved: \_\_\_\_\_  
 Opposed: \_\_\_\_\_  
 Abstained: \_\_\_\_\_  
 Absent: \_\_\_\_\_

\_\_\_\_\_  
 Mahbulul Islam, Vice President and Commissioner

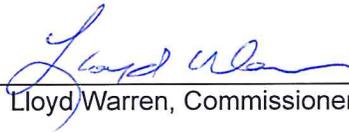
Approved:   
 Opposed: \_\_\_\_\_  
 Abstained: \_\_\_\_\_  
 Absent: \_\_\_\_\_

  
 Mary Shustov, Secretary and Commissioner

Approved:   
 Opposed: \_\_\_\_\_  
 Abstained: \_\_\_\_\_  
 Absent: \_\_\_\_\_

  
 Tom Harman, Commissioner

Approved: ✓  
 Opposed: \_\_\_\_\_  
 Abstained: \_\_\_\_\_  
 Absent: \_\_\_\_\_

  
 Lloyd Warren, Commissioner

This page intentionally left blank.



# **Cascade Water Alliance Shortage Management Plan**

Resolution 2016-18

Adopted October 26, 2016

## Table of Contents

1.0	Introduction and Purpose	3
2.0	Related Agreements and Water Rights	3
2.1	Cascade Joint Municipal Utilities Authority Agreement	3
2.2	Seattle Block Contract	5
2.3	Tacoma Public Utilities Water Supply Agreement	5
2.4	White River-Lake Tapps Water Rights	6
2.5	Member Water Audit Agreements	6
3.0	Plan Activation and Applicability to Cascade Members	6
3.1	Activation of SMP	6
3.2	Water Shortage Management Committee	7
3.3	Coordination with SPU and Members	7
3.4	Applicability to Cascade Members	8
3.5	Member Shortage Plans	8
3.6	Communications During Water Shortages	8
3.7	Relief of Conflicting Obligations During Water Shortages	8
4.0	Stages of Water Curtailment	9
4.1	Advisory Stage	10
4.2	Voluntary Stage	11
4.3	Mandatory Stage	13
4.4	Emergency Stage	15

### Tables

Table 1: Triggers for Plan Activation and of Curtailment Stages	17
Table 2: Four Stages of Curtailment	18

### List of Appendices

Appendix A: Actions that Can Reduce Water Usage by Distribution Systems and Customers

---

## 1.0 Introduction and Purpose

Municipal water suppliers must be prepared for water shortages in order to minimize effects on the communities they serve. This Shortage Management Plan (“SMP”) outlines how Cascade Water Alliance (“Cascade”) will respond to a water supply shortage affecting its regional water supply.

At the present time, Cascade purchases all of its water from Seattle Public Utilities (“SPU” or “Seattle”). Various events could cause a shortage in the SPU water supply system. These include reduced snowpack in the Cascade Range due to a dry winter or early spring melt; an earthquake or other event that damages reservoirs, treatment facilities or transmission lines; water quality problems; or intentional destructive acts. These different kinds of events may cause shortages with different characteristics in terms of advance warning, severity and duration. The SMP offers flexibility for a range of appropriate responses.

As required under Washington State Department of Health (“DOH”) regulations, SPU and each Member of Cascade has its own shortage management plan to guide water system operations and interaction with end-use customers in each community during a water shortage. Cascade’s SMP complements the SPU and Member SMPs.

Cascade’s primary role in the event of a water shortage is to coordinate responses among the Cascade Member water systems that receive water from the regional supply and SPU, as the source of the regional supply. Therefore, this SMP focuses on the communication and coordination activities to be carried out by Cascade staff during a water shortage.

## 2.0 Related Agreements and Water Rights

### 2.1 Cascade Joint Municipal Utilities Authority Agreement

*The Cascade Water Alliance Joint Municipal Utilities Authority Agreement (“Joint Agreement”, 2012)* established Cascade as a municipal corporation and provides the agreement of the Cascade Members on operations. Section 7.3 of the Joint Agreement provides (emphasis added):

#### **7.3 Shortages and emergency.**

A. Shortages. Members must respond to water shortages in a collective, shared fashion under a Cascade Shortage Management Plan adopted by the Board. Resources must be shared in a manner that reduces the risk of severe shortages to each Member. **Cascade’s Shortage Management Plan may include without limitation, a definition and classification of shortages, a shortage contingency**

**plan including mandatory programmatic actions among all Members in the event of shortages, allocation of authority for determining and responding to shortages, and a communications and outreach program for the public.** Members shall not be required to implement Cascade's Shortage Management Plan in areas not served by the Supply System.

In the event of shortages, Cascade shall reduce or halt Interruptible Supply before invoking the Shortage Management Plan with respect to all Members with a Full Supply Commitment. However, the Board may, by 65% Dual Majority Vote, continue service in the amounts it deems appropriate to one or more Members receiving Interruptible Supply.

**The Board may require that Members failing to comply with mandatory shortage management programs implemented under Cascade's Shortage Management Plan assume a disproportionate reduction in supply or pay penalty charges, or both.**

In the event of a Cascade-wide water shortage, Members with Independent Supply may, without penalty, decline to participate in the shortage management program for that shortage by foregoing all supply from Cascade for the duration of the emergency or shortage.

To avoid shortages resulting from emergencies or the inability to develop sufficient supplies, **the Board may, by 65% Dual Majority Vote, establish moratoria on connections or additional commitments for future water services by the Members.** A moratorium may be discontinued by a Dual Majority Vote of the Board.

B. Emergency. The Board shall include in Cascade's Shortage Management Plan policies and procedures for addressing short-term disruptions of water supply.

The Joint Agreement also provides Cascade with the authority to impose minimum demand charges on Members (which Cascade has implemented in certain instances) as follows:

A Member shall be assigned a Demand Share based on the Board's best estimate of capacity to be used by that Member. The Demand Share shall be established based on an audit of that Member's past three (3) years of water use. After three (3) years as a Member, the baseline demand and capacity obligation for that Member shall be fixed based on actual experience as a Member. **A specific Demand Share may be set by the Board to account for circumstances, such as (by way of example and not by limitation) costs of extending the Supply System to a Member, or when Independent Supplies affect regional demand patterns.**

Section 7.5 (in part and emphasis added).

## 2.2 Seattle Block Contract

*The 2013 2nd Amended and Restated Declining Block Water Supply Agreement Between the City of Seattle and Cascade Water Alliance* (“Block Contract”) provides for shortage management. Section 7.2 provides:

Cascade and Seattle shall coordinate the development, adoption and implementation of their respective Water Shortage Management Plans. Before invoking its Water Shortage Management Plan, the Parties shall communicate with each other concerning current and projected water supply conditions.

Section 12.1 of the Block Contract recognizes that unilateral actions by Seattle may be needed at times due to unforeseen and unavoidable events, including water shortages. It provides (emphasis added):

The Parties recognize that unforeseen and unavoidable events may occur which would require Seattle to act unilaterally for what it deems to be in the best interest of the general public served by the Seattle Water System; including water shortages resulting from drought circumstances and temporary reduction in water supply associated with turbidity events. **Upon the occurrence of an unforeseen or unavoidable event, Seattle shall, to the extent practicable, treat its wholesale and retail customers equally and any curtailment of supply shall be imposed proportionately among these customers.** This authority to act unilaterally carries with it a unilateral responsibility of Seattle to restore, expeditiously, the Seattle Water System to its pre-emergency capability to supply the region.

As a separate matter, Section 7.3 of the Block Contract provides that if water use restrictions are imposed on SPU by the terms of its agreements with Federal and State agencies and Tribes, such restrictions will be borne proportionally by SPU and its other wholesale customers, and Cascade with respect only to the size of the Cascade Block at the time curtailment is required. In this event, Cascade and its Members will need to review the restrictions and determine appropriate short-term or long-term actions.

## 2.3 Tacoma Public Utilities Water Supply Agreement

Cascade entered into an *Agreement for the Sale of Wholesale Water* (2005) with Tacoma Public Utilities (TPU). In 2012, Cascade and TPU amended the *Agreement* to require Cascade to make specified supply capacity reservation payments to TPU, in lieu of the minimum purchase payments provided for in the 2005 agreement. Through 2042, Cascade may request that TPU provide up to 8 MGD wholesale water supply, and TPU has sole discretion to determine the availability, disruption, interruption, suspension and curtailment of such supply. At this time, Cascade is not using this supply source. At such time as Cascade begins receiving regional water supply from Tacoma, the need to incorporate

shortage response actions in coordination with TPU will be reviewed.

## **2.4 White River-Lake Tapps Water Rights**

The Water Right Permit No. S2-29920(A), issued in 2010 to Cascade for the withdrawal or diversion of water from the White River into Lake Tapps for municipal purposes, is subject to conditions including the maintenance of minimum flows in the White River and the maintenance of specified lake levels during a specified recreational period. These conditions are not considered in the SMP at this time for the following reasons: Cascade is not currently using Lake Tapps for municipal supply and Cascade's current planning vision indicates that Cascade's use of Lake Tapps is at least 20 years away. Cascade will update the SMP to include lake level triggers at such time as Lake Tapps is brought on line for municipal supply purposes.

## **2.5 Member Water Audit Agreements**

Each Member has executed a water audit agreement with Cascade. For those Members with independent supply, that agreement defines and quantifies independent supplies, documents member utilization of those supplies, and establishes production requirements imposed on Members as related to those supplies.

# **3.0 Plan Activation and Applicability to Cascade Members**

## **3.1 Activation of SMP**

Cascade may activate its SMP under the following circumstances:

- 1) When SPU activates its Water Shortage Contingency Plan, the Cascade CEO may activate the SMP and determine the appropriate stage of curtailment and, at its next meeting, the Cascade Board will take action to end or continue activation at the appropriate stage of curtailment;
- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the SMP and determine the appropriate stage of curtailment and, at its next meeting, the Cascade Board will take action to end or continue activation at the appropriate stage of curtailment; or
- 3) For any other reason through action of the Cascade Board.

Unless otherwise directed by the Cascade Board, the Cascade CEO, in consultation with the Water Shortage Management Committee (Section 3.2 below), may elevate or diminish the stage of curtailment from one stage to another as appropriate.

## **3.2 Water Shortage Management Committee**

The Cascade CEO shall designate a Water Shortage Management Committee consisting of Cascade staff and Member staff to advise the Cascade CEO on implementation of the SMP. The Water Shortage Management Committee may be designated at any time, but no later than immediately following SMP activation and shall exist the duration of the water shortage. The existing Member staff committee may be designated as the Water Shortage Management Committee. The Cascade CEO may consult with the Water Shortage Management Committee by any means including in-person, by phone or by email.

## **3.3 Coordination with SPU and Members**

As provided in the Block Contract with SPU, Cascade will coordinate and communicate closely with SPU regarding activation of the SMP and a change in the stage of shortage as indicated in Section 4 below.

Cascade and its Members have a key role in the communications strategy during a regional water shortage. It is anticipated that SPU will communicate with its own retail customers, wholesale customers, large retail customers, regional stakeholders, state/federal resource agencies, and regional media. Cascade encourages its Members to communicate with retail customers, wholesale customers, local stakeholders, and local media. Cascade will help to coordinate and facilitate communications among the Members and between the regional level and the local level.

Cascade will strive to make its public messaging at each stage of curtailment consistent with SPU's messaging during the shortage event.

Cascade will maintain a current copy of SPU's Water Shortage Contingency Plan on file at Cascade offices, and encourages Members that receive water from Cascade's regional water supply system maintain a copy of both the Cascade SMP and SPU Water Shortage Contingency Plan readily available with their own Member SMP.

In addition, the Block Contract with SPU contains provisions related to SPU's supply commitment and Cascade's participation in shortages. These include financial provisions that, in the event of a voluntary or mandatory curtailment, require revision to the cost borne by Cascade. Whenever SPU moves a shortage to the voluntary, mandatory or emergency stage, Cascade will initiate discussion with SPU regarding adjustments to the supply commitment and payments due from Cascade. Cascade will inform the Members of any proposed financial treatment regarding SPU charges occurring as a result of the shortage and these discussions.

### 3.4 Applicability to Cascade Members

Consistent with the Section 7.3 of the Joint Agreement, activation of the SMP applies to Cascade Members as follows:

- **Members receiving all of their water supply from Cascade:** Required to comply with Cascade's SMP.
- **Members receiving partial supply from Cascade:** Required to comply, in portions of their service areas that receive regional supply; *or* to discontinue use of Cascade supply during the water shortage.
- **Members not receiving Cascade supply.** Not required to comply with Cascade's SMP.
- **Members with interruptible supply.** *None at this time.*

### 3.5 Member Shortage Plans

DOH regulations at WAC 246-290-100(4)(f) require water utilities to have their own water shortage response plan. These are typically submitted to DOH every six years with their comprehensive water system plan update. Cascade recommends that Members review and revise their water shortage response plans to ensure the Member plans use similar stages of curtailment as listed in the Cascade SMP, and that provisions in the Member SMPs support effective coordination with SPU and Cascade during a water shortage.

### 3.6 Communications During Water Shortages

In addition to the communication actions listed for each curtailment stage in Section 4, in the event of a water shortage that requires this SMP to be activated, Cascade will coordinate closely with its Members and SPU regarding public communications. It is anticipated that SPU will take the lead on communications involving regional media such as major radio, television and newspaper outlets. Members will have the primary responsibility for communicating directly with their own customers and local communities. Cascade will coordinate communications among Members and SPU and will assist its Members issue consistent and effective communications to the communities that they serve.

### 3.7 Relief of Conflicting Obligations During Water Shortages

When the SMP is activated, and with each stage of curtailment, Cascade will review and adjust production requirements and minimum demand shares to avoid potentially contradictory obligations of members. Since minimum production requirements may be inconsistent with desired or mandated demand reductions, and since minimum demand shares provide financial disincentives to demand reduction, Cascade will determine necessary and appropriate

adjustments to provide for consistent incentives and impacts among members. Specifically:

- The Cascade CEO, in consultation with the Water Shortage Management Committee and each affected Member, will recommend to the Board to amend or suspend production requirements so that demand reduction and supply production objectives are not in conflict, while recognizing that increased reliance on independent supplies is a desirable outcome when addressing a shortage from Cascade's regional sources.
- The Cascade CEO, in consultation with the Water Shortage Management Committee and each affected Member, will recommend to the Board to amend or suspend minimum demand shares in order to encourage reduced demand on impacted regional sources.
- In the event that a shortage is caused by a shortage in independent supply resulting in a shortage that Cascade chooses to share in, the Cascade CEO, in consultation with the Water Shortage Management Committee and each affected Member, will recommend to the Board to make adjustments specific to each Member to reflect the unique circumstance of the shortage.

The recommended adjustments will be taken to the Board for approval or adjustment.

## 4.0 Stages of Water Use Curtailment

Cascade's SMP has four stages of curtailment that coincide with the stages of curtailment in SPU's Water Shortage Contingency Plan:

- Advisory Stage
- Voluntary Stage
- Mandatory Stage
- Emergency Stage

These four stages are designed for progressive implementation during a drought or other long-range disruption of water supply. However, any of the four stages can be activated from the outset of the event as appropriate and the stage of curtailment maybe elevated or diminished from one stage to another as appropriate.

Sections 4.1 through 4.4 provide details in each of the four stages of curtailment. Table 1 provides a summary of the triggers of each stage. Table 2 provides a summary of actions to be taken in each stage.

## **4.1 Advisory Stage**

This stage is advisory only, and does not require curtailment actions by water users. The public is informed as early as meaningful data are available that a water shortage may occur.

### **4.1.1 Objectives of Advisory Stage**

- Prepare Cascade, its Members and water users for a potential water shortage, thereby allowing for adequate planning and coordination.
- Support distribution system management actions by Cascade Members that can help to forestall or minimize the need for more stringent demand or supply management actions.

### **4.1.2 Triggers of Advisory Stage**

- 1) Upon notice from SPU that it has activated the Advisory Stage of their Water Shortage Contingency Plan, the Cascade CEO may activate the SMP and the Advisory Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the SMP and the Advisory Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 3) The Cascade Board may act to authorize activation of Cascade's Advisory Stage.

### **4.1.3 Communication Actions During Advisory Stage**

Once the Advisory Stage has been activated by Cascade, Cascade will:

- Inform Cascade Members that they are required to activate their Advisory Stage (or equivalent actions per each Member's individual SMP). This will not apply to Cascade Members exempted per Section 3.4 of this SMP.
- Establish a regular communication mechanism to keep Cascade Members and the Cascade Board informed regarding stages of curtailment; water supply conditions; actions taken by Cascade Members and others in the region; and information that should be communicated to the public, local parks departments, large customers, landscape industry professionals and others.
- Request Cascade Members carry out supply-side management actions they will take during the Advisory Stage to reduce use of water for local water distribution system operations,

and compile information on the actions taken. For Members that have independent supply, this may include relying more heavily on these supplies where feasible, to reduce pressure on the Cascade regional supply.

- If requested by SPU, participate on SPU's Water Shortage Advisory Group to help develop public information messages and materials and to provide input on Cascade Member actions.
- Assist Cascade Members acquire and distribute public information materials as needed. This may include materials from SPU or other sources, as appropriate. Post information on Cascade's web site regarding the Advisory Stage.

#### **4.1.5 Operating Actions of Advisory Stage**

- Cascade will initiate planning and preparation for actions under an elevated stage of curtailment, including an assessment of potential staffing impacts, training needs and communications strategies.
- Cascade will assist Members plan specific actions under an elevated stage of curtailment, including distribution system actions by the Member and voluntary water use curtailment actions Members can suggest to their end-use customers if the elevated stage of curtailment is activated.

## **4.2 Voluntary Stage**

If supply conditions indicate the need for actions greater than those in the Advisory stage, the plan moves to the Voluntary Stage which relies on voluntary cooperation and support of customers to meet target consumption goals. During this stage, specific voluntary actions are suggested for residential and commercial customers.

### **4.2.1 Objectives of Voluntary Stage**

- Encourage Members to take distribution system management actions to further stretch available supply.
- Encourage customer voluntary actions to maintain or reduce demand to meet target consumption levels.
- Forestall or minimize need for later more stringent demand or supply management actions.
- Maintain drinking water quality at acceptable levels throughout the shortage.

#### **4.2.2 Triggers of Voluntary Stage**

- 1) Upon notice from SPU that it has activated the Voluntary Stage of their Water Shortage Contingency Plan, the Cascade CEO may activate the Voluntary Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the Voluntary Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 3) The Cascade Board may authorize activation of Cascade's Voluntary Stage.

#### **4.2.3 Communication Actions of Voluntary Stage**

Once the Voluntary Stage has been activated by Cascade, Cascade will:

- Inform Cascade Members that they are required to activate their Voluntary Stage (or equivalent actions per each Member's individual SMP). This will not apply to Cascade Members exempted per Section 3.4 of this SMP.
- Request Cascade Members report to Cascade regarding supply-side management actions they will take during the Voluntary Stage. For Members that have independent supply, this may include relying more heavily on these supplies where feasible, to reduce pressure on the Cascade regional supply.
- Request Cascade Members communicate with their largest customers to request percentage reductions.
- Communicate regularly with Cascade Members regarding information that should be communicated to the public, local parks departments, large customers, landscape industry professionals and others. At the Voluntary Stage, this will include specific recommendations on how customers can reduce water consumption, including links to the *savingwater.org* website or equivalent information resources.
- Communicate with the Washington State Department of Health regarding actions being taken by Cascade and its Members.
- If requested by SPU, participate on SPU's Water Shortage Advisory Group to help develop public information messages and materials and to provide input on Cascade Member actions.

- Assist Cascade Members acquire and distribute public information materials as needed. Review information from SPU, including materials in the Water Shortage Contingency Plan, regarding actions customers can take to reduce their water consumption. As appropriate, post information for Cascade Members and their customers on Cascade's web site regarding the Voluntary Stage. Appendix A provides examples of water saving actions customers can take.

#### **4.2.4 Operating Actions in Voluntary Stage**

- Cascade will assess revenue implications and potential remedies and report to the Cascade Board.
- Cascade will initiate planning and preparation for actions under an elevated stage of curtailment, including an assessment of potential staffing impacts, training needs and communications strategies. Assist Cascade Members to identify mandatory restrictions that may apply during the Mandatory Stage, if it is needed.

### **4.3 Mandatory Stage**

If supply conditions indicate a need for actions greater than those in the Voluntary stage, the Mandatory Stage would be implemented. This stage prohibits or limits certain water actions. Cascade will rely on its Members to enforce mandatory actions, using techniques as appropriate to each service area or jurisdiction.

#### **4.3.1 Objectives of Mandatory Stage**

- Achieve targeted goals for reducing consumption, by restricting certain water uses. Goals will be determined in consultation with SPU, based on the characteristics and severity of the water shortage.
- Ensure that adequate water supply will be available for the duration of the supply shortage.
- Minimize the disruption to customers' lives and businesses while meeting target consumption goals.
- Maintain drinking water quality at acceptable levels throughout the shortage.
- Promote equity among Cascade Members in responding to the supply shortage.

#### **4.3.2 Triggers of Mandatory Stage**

- 1) Upon notice from SPU that it has activated the Mandatory Stage of their Water Shortage

Contingency Plan, the Cascade Board will consider activation of the Mandatory Stage; or

- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the Mandatory Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 3) The Cascade Board may authorize activation of Cascade's Mandatory Stage.

#### **4.3.3 Communication Actions of Mandatory Stage**

Once the Mandatory Stage has been activated by Cascade, Cascade will:

- Inform Cascade Members that they are required to activate their Mandatory Stage (or equivalent actions per each Member's individual SMP). This will not apply to Cascade Members exempted per Section 3.4 of this SMP. Enforcement actions may be needed in the Mandatory Stage. Cascade expects each Member to enforce restrictions in a manner suitable to the local service area or to work with other local governments having enforcement powers to do so.
- Gather information from SPU regarding any water quality or water pressure problems, if any, that are identified or that may possibly occur at the mandatory stage, and communicate these to Cascade Members management, operations staff and public affairs staff.
- Continue communication actions from the Voluntary Stage, with modifications as appropriate for the Mandatory Stage (as determined in consultation with SPU and Cascade Members).

#### **4.3.4 Operating Actions of Mandatory Stage**

- Cascade will continue operating actions from the previous stages, and:
- Cascade will initiate planning and preparation for Emergency Stage actions, including an assessment of potential staffing impacts, training needs, communications strategies. Cascade will assist Members to plan specific actions that may be needed if the Emergency Stage is activated.
- If necessary the Board will consider enforcement actions against any Members who do not comply with Mandatory Stage actions, as allowed under the Cascade Joint Agreement.

## **4.4 Emergency Stage**

At this stage Cascade and its Members recognize that a critical water situation exists and that, without additional significant curtailment actions a shortage of water for public health and safety is imminent. This would be used as the last stage of a progressive drought or similar situation, or to address an immediate crisis such as a disruption to water sources, treatment or transmission facilities. This type of situation has never occurred in Cascade or SPU history, but could occur during a very severe drought or under emergency conditions such as a major earthquake that ruptures transmission pipelines.

### **4.4.1 Objectives of Emergency Stage**

- Strive to meet the water use goals established for this stage, recognizing that customers' lives and businesses may be significantly impacted in order to achieve necessary water savings. Goals will be determined in consultation with SPU, based on the characteristics and severity of the water shortage.
- Promote equity among Cascade Members in responding to the supply shortage.

### **4.4.2 Triggers of Emergency Stage**

- 1) Upon notice from SPU that it has activated the Emergency Stage of their Water Shortage Contingency Plan, the Cascade Board will consider activation of the Emergency Stage; or
- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the Emergency Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 3) The Cascade Board may authorize activation of Cascade's Emergency Stage.

If SPU activates its Emergency Stage, Cascade anticipates that Section 12.1 (Emergency Events) of the Block Contract would also be triggered. This section permits SPU to curtail supplies to Cascade, on a proportional basis with its retail customers and other wholesale customers. In the event of significant curtailment, Cascade and its Members would need to activate their SMPs in order to manage the situation effectively.

### **4.4.3 Communication Actions of Emergency Stage**

Once the Emergency Stage has been activated by Cascade, Cascade will:

- Inform Cascade Members that they are required to activate their Emergency Stage (or

equivalent actions per each Member's individual SMP). This will not apply to Cascade Members exempted per Section 3.4 of this SMP. Enforcement actions may be needed in the Emergency Stage. Cascade anticipates each Member will enforce restrictions in a manner suitable to the local service area or will work with other local governments having enforcement powers to do so.

- Continue and intensify communication actions from the previous stages, with modifications as appropriate for the Emergency Stage (as determined in consultation with SPU and Cascade Members). This includes, but is not limited to, Cascade's role in supporting effective communications between individual Cascade Members and SPU.
- For Members that have independent supply, request they rely as much as possible on these supplies, to reduce pressure on the Cascade regional supply.
- Alert Members of particular operational problems that may occur with system-wide reduced water consumption, and communicate these to Cascade Members management, operations staff and public affairs staff and on the Cascade website. These could include, for example, taste and odor problems; and reduced pressures in Member distribution systems.
- Assist Cascade Members to define and communicate exemptions for medical facilities and other facilities having key responsibilities for public health and safety.

#### **4.4.5 Operating Actions of Emergency Stage**

- Cascade will continue to monitor staffing impacts, training needs and communications strategies and make adjustments where feasible to enhance effectiveness of the regional water shortage response.
- If feasible and applicable, Cascade will make staff resources available to Cascade Members to assist them in the water shortage response. This may include temporary reassignment of Cascade staff; and/or outsourcing of specialized functions or additional staffing resources that could provide assistance to Cascade Members.
- If volunteer services are available and deemed valuable to the water shortage response, and if desired by the Members, Cascade will coordinate volunteers on behalf of its Members.
- If necessary the Board will consider enforcement actions against any Members who do not comply with Emergency Stage actions, as allowed under the Cascade Joint Agreement.

**TABLE 1: Triggers for Plan Activation and of Curtailment Stages**

TRIGGERS	CASCADE SMP/Stage	MEMBERS
<p>SPU activation <u>plus</u>                      CEO activation Cascade (Board confirmation); or                      CEO declaration of emergency (Board confirmation at next meeting); or                      Board Action</p>	<p>Activation to any of the 4 Stages</p>	
<p>SPU activates to Advisory Stage <u>plus</u>                      CEO activation (Board confirmation at next meeting); or                      CEO declaration of emergency (Board confirmation at next meeting); or                      Board Action</p>	<p>Advisory Stage</p>	<p>Cascade inform and advise Members</p>
<p>SPU activates to Voluntary Stage <u>plus</u>                      CEO activation (Board confirmation at next meeting); or                      CEO declaration of emergency (Board confirmation at next meeting); or                      Board Action</p>	<p>Voluntary Stage</p>	<p>Member compliance required</p>
<p>SPU activates to Mandatory Stage <u>plus</u>                      Board Action; or                      CEO declaration of emergency (Board confirmation at next meeting). or                      Board Action</p>	<p>Mandatory Stage</p>	<p>Member compliance required</p>
<p>SPU activates to Emergency Stage <u>plus</u>                      Board Action; or                      CEO declaration of emergency (Board confirmation at next meeting); or                      Board Action</p>	<p>Emergency Stage</p>	<p>Member compliance required</p>

**Table 2: Four Stages of Curtailment**

	<b>Advisory</b>	<b>Voluntary</b>	<b>Mandatory</b>	<b>Emergency</b>
<b>Theme of Public Messages from SPU</b>	A shortage may occur soon; get ready.	A shortage has occurred. We are requesting voluntary curtailment to reduce demand by x percent.	A severe shortage has occurred. Mandatory curtailment is necessary and specific uses of water are restricted.	An emergency shortage has occurred. Mandatory curtailment is necessary and public health and safety uses are the priority.
<b>Cascade Communication Actions</b>	<ul style="list-style-type: none"> <li>Inform Members they are required to activate their Advisory Stage (see exemptions).</li> <li>Establish a regular communication mechanism with Members.</li> <li>Request Cascade Members carry out supply-side management actions.</li> <li>Participate on SPU's Water Shortage Advisory Group.</li> <li>Assist Members to acquire and distribute public information materials.</li> </ul>	<ul style="list-style-type: none"> <li>Inform Members they are required to activate their Voluntary Stage.</li> <li>Request Cascade Members report to Cascade regarding supply-side management actions. For Members that have independent supply, this may include relying more heavily on these supplies.</li> <li>Request Cascade Members communicate with their largest customers.</li> <li>Communicate regularly with Cascade Members.</li> <li>Communicate with the Washington State Department of Health.</li> <li>Participate on SPU's Water Shortage Advisory Group.</li> <li>Assist Cascade Members to acquire and distribute public information materials.</li> </ul>	<ul style="list-style-type: none"> <li>Inform Cascade Members that they are required to activate their Mandatory Stage, including enforcement as appropriate.</li> <li>Gather information from SPU on water quality or pressure problems, and communicate these to Members.</li> <li>Continue communication actions from the Voluntary Stage, with modifications as appropriate for the Mandatory Stage.</li> </ul>	<ul style="list-style-type: none"> <li>Inform Cascade Members that they are required to activate their Emergency Stage, including enforcement as appropriate.</li> <li>Continue and intensify communication actions from the Mandatory Stage.</li> <li>For Members that have independent supply, request they rely as much as possible on these supplies.</li> <li>Alert Members of particular operational problems that may occur with system-wide reduced water consumption.</li> <li>Assist Cascade Members to define and communicate exemptions for public health and safety.</li> </ul>
<b>Cascade Operating Actions</b>	<ul style="list-style-type: none"> <li>Initiate preparation for Voluntary Stage.</li> </ul>	<ul style="list-style-type: none"> <li>Assess revenue implications remedies.</li> <li>Initiate preparation for Mandatory Stage.</li> </ul>	<ul style="list-style-type: none"> <li>Continue operating actions from the Voluntary Stage</li> <li>Initiate preparation for Emergency Stage.</li> <li>If necessary consider enforcement actions against any non-complying</li> </ul>	<ul style="list-style-type: none"> <li>Continue operating actions from Mandatory Stage.</li> <li>Make staff resources available to Cascade Members.</li> <li>Coordinate volunteers on behalf of Members.</li> </ul>

## APPENDIX A

### POSSIBLE ADVISORY STAGE WATER CONSERVATION TIPS FOR CUSTOMERS (Adapted from SPU 2006 WSCP)

#### ***Conserve Inside***

For most households, the vast majority of water is used indoors. Taking conservation actions and installing efficient fixtures help reduce your water use year-round. There are also ways to conserve water in outdoor uses and at work. Below are suggested actions:

- Fix leaking faucets and toilets.
- Wash only full loads in the dishwasher and clothes washer.
- Minimize faucet use when brushing your teeth, shaving and washing dishes.
- Don't pre-rinse dishes unless you need to. Most new dishwashers don't require pre-rinsing.
- Save lukewarm water for watering plants, etc. while you wait for hot water in kitchens and showers.
- If you are buying a new toilet, look for a WaterSense model.
- If you are buying a new washing machine, purchase a high-efficiency model. WashWise rebates may be available for qualified machines.

#### ***Conserve Outside***

Make the most of the water you will use in the spring and summer:

- Aerate lawns in the spring to better absorb water.
- Mulch planting beds to decrease evaporation.
- Select the right plants for the right place – contact SPU or see our website for information.
- Tune-up and improve your irrigation system-rebates may be available.
- Wash your cars at locations that recycle their water.

Note: For more information on home water conservation tips for inside and out, visit [www.savingwater.org](http://www.savingwater.org) or call 684-7283 (684-SAVE)

#### ***Conserve at Work***

Businesses and institutions can reduce water use and lower utility costs by adopting conservation practices and replacing inefficient equipment or operations.

- Check for leaks.
- Use a broom, instead of a hose, to routinely clean driveways and sidewalks
- Turn off water-using equipment when not in use, including dishwashers, garbage disposals, and food troughs.
- Upgrade equipment efficiency -rebates may be available.
- Increase employee awareness of water conservation.

**POSSIBLE VOLUNTARY STAGE CUSTOMER WATER  
SAVING ACTIONS  
(Adapted from SPU 2006 WSCP)**

The following voluntary actions are being requested of all customers:

***SET A GOAL: Such as use 10% less water***

Most customers can easily save 10% by choosing several items from the menu of water saving actions below. If you routinely do outdoor watering, select those actions first. Set a goal to reduce your water use by 10% from the amount you used during the same billing period last year. Most utility bills contain your water consumption for each billing period. Much of the 10% can probably be achieved through conservation actions that are wise to do all the time. If that is not sufficient, then the special curtailment actions listed here can be implemented during the duration of the supply problem.

***REDUCE OUTDOOR WATER USE***

Conservation Actions:

- **Avoid watering** between 10 AM and 7 PM to reduce evaporation.
- **Stop obvious water waste** such as gutter flooding, sidewalk and street watering, and fix leaks.
- **Never leave a hose running**, always use a shut-off nozzle.
- **Use a broom** rather than a hose or pressure washer to clean sidewalks and driveways.

Curtailment Actions:

- **Reduce lawn watering** (twice a week or less if possible).
- **Let your lawn go dormant.** Customers who choose to not water their lawns should water deeply once each rainless month to keep grass roots alive. To avoid runoff when you water, if the water puddles, cycle your sprinkler on and off until water is absorbed.
- **Refrain from filling** empty pools and hot tubs.
- **Turn off water features** and fountains.
- **Wash vehicles only at car washes that recycle their water.**

***REDUCE INDOOR WATER USE***

Conservation Actions:

- **Install a water efficient WaterSense toilet.** These toilets have proven to perform well and give long-term water savings. Replacing a frequently used old toilet with a new efficient toilet can save most households in utility bills. Check [www.savingwater.org](http://www.savingwater.org) for WaterSense toilet models.
- **Install a high-efficiency clothes washer.** New washers are typically one-third more water efficient than old washers.
- **Wash only full loads in the clothes washer and dishwasher,** or choose an appropriate load-size setting for the number of items in the washer.
- **Turn off the tap** while brushing your teeth, hand-washing dishes or shaving.
- **Fix leaky faucets and toilets.** Put several drops of food coloring in your toilet tank. After 20 minutes, if you have color in the bowl, you have a slow leak that over time can amount to a lot of water.
- **Install an efficient showerhead.** New showerheads work well and use much less water than old high-flow models.
- **Install an efficient faucet aerator.** Replace your older bathroom faucet nozzle (aerator) with one that uses one gallon per minute or less.

Curtailment Actions:

- **Spend one minute less in the shower.** Try to limit showers to five minutes or less.
- **Flush your toilet less often.** Toilet flushing is the largest water use inside the home. As the saying goes, "If it's yellow, let it mellow."

## **REDUCE WATER USE AT WORK**

There are a wide variety of opportunities for businesses and agencies to reduce their water use and operating expenses.

### Conservation Actions:

- **Check cooling towers.** Cooling towers - and the ways that they regulate water use –represent real opportunities for improving water efficiency.
- **Check for and fix leaks.** Toilet and urinal leaks are very common. Investigate obvious or suspected leaks.
- **Use a broom**, instead of a hose or pressure washer, to routinely clean driveways and sidewalks.
- Turn off water-using equipment when not in use, including open hoses, dishwashers, garbage disposals, and food troughs.
- **Check air conditioners, refrigerators, and ice machines.** If your company's air conditioners or refrigerators use water-cooled condensers, investigate air-cooled equipment for possible efficiencies. Rebates are available. Visit [www.savingwater.org](http://www.savingwater.org).
- **Install water-efficient toilets, urinals and faucets** in public and employee restrooms. Replacing old toilets, urinals, and faucet aerators with efficient ones can produce substantial savings. Rebates are available. Visit [www.savingwater.org](http://www.savingwater.org).
- **Reuse process water.** Water used in industrial and manufacturing processes should be reused as often as possible. Rebates are available. Visit [www.savingwater.org](http://www.savingwater.org).
- Hospitality businesses can offer guests the option of clean linens each day.
- **Increase employee awareness of water conservation** through management memos or newsletter messages. Install signs that encourage water conservation in restrooms or work areas where water is used. For additional work-related conservation tips, call (206) 343-8505.

### Curtailment Actions:

- **Reduce outdoor watering** (twice a week or less if possible). Rebates are available for smart irrigation technologies. Visit [www.savingwater.org](http://www.savingwater.org).
- **Minimize vehicle washing**, defer or use a water recycling car wash.
- **Turn off** decorative water fountains.
- **Serve water only on request** at restaurants. Avoid thawing with running water.

**For home water conservation tips, visit [www.savingwater.org](http://www.savingwater.org) or call (206) 684-7283 (684-SAVE)**

This page intentionally left blank.