Exhibit A

Shortage Management Plan

[This page left blank intentionally.]

Cascade Water Alliance
Shortage Management Plan

Adopted by Resolution 2025-XX

November 19, 2025

Table of Contents

1.0 Introduction and Purpose 1

2.0 Related Agreements and Water Rights 1
- 2.1 Cascade Joint Municipal Utilities Authority Agreement 1
- 2.2 Seattle Block Contract 2
- 2.3 Tacoma Public Utilities Water Supply Agreements 3
- 2.4 White River – Lake Tapps Water Rights 3
- 2.5 Member Water Audit Agreements 4

3.0 Plan Activation and Applicability to Cascade Members 4
- 3.1 Activation of SMP 4
- 3.2 Water Shortage Management Committee 4
- 3.3 Coordination with SPU and Members 5
- 3.4 Applicability to Cascade Members 5
- 3.5 Member Shortage Plans 6
- 3.6 Communications During Water Shortages 6
- 3.7 Relief of Conflicting Obligations During Water Shortages 6

4.0 Stages of Water Curtailment 7
- 4.1 Advisory Stage 7
- 4.2 Voluntary Stage 8
- 4.3 Mandatory Stage 10
- 4.4 Emergency Stage 11

List of Appendices

A Possible Voluntary Stage Customer Water Saving Actions

B Customer Outreach Checklist

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 Tolt or Cedar River Watersheds 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 ("2012 Joint Agreement") established Cascade as a municipal corporation and provides the agreement of the Cascade Members on operations. Section 7.3 of the 2012 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 are not required to implement Cascade's Shortage Management Plan in areas not served by Cascade.

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.

Section 7.5 of the 2012 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.**

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 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 by 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 Agreements

In March 2025, Cascade entered into two separate and complementary agreements with Tacoma Public Utilities (TPU): the Agreement for Market-Priced Wholesale Water Supply (2025 Market-Priced Agreement) and the Wholesale Water Supply Agreement (2025 Wholesale Agreement. These agreements replaced the 2012 Agreement for the Sale of Wholesale Water in 2005 with TPU. Although TPU supply is available to Cascade starting in 2026, Cascade does not plan to take delivery of TPU water until 2041. Shortage management will be addressed in a future management agreement between Cascade and TPU.

2.4 White River – Lake Tapps Reservoir Water Rights

The Water Right Permit No. S2-29920(A), initially issued in 2010, and updated in 2022, to Cascade for the withdrawal or diversion of water from the White River into the Lake Tapps Reservoir 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 the Lake Tapps Reservoir for municipal supply, and Cascade's current planning anticipates the Lake Tapps Reservoir will not be in use until the early 2060s. Cascade will update the SMP to include reservoir-level triggers at such time as the Lake Tapps Reservoir is brought online 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, the 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 (WSCP), 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 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, video conferencing, 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.

Cascade and its Members have a key role in the communications strategy during a regional water shortage. It is anticipated 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, and local stakeholders. 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 WSCP on file and encourages Members that receive water from Cascade's regional water supply system maintain a copy of both the Cascade SMP and SPU WSCP 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 2012 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 with interruptible supply**. *None at this time*.

3.5 Member Shortage Response Plans

DOH regulations in WAC 246-290-100(4)(f) require utilities to have their own water shortage response plans. These are typically submitted to the DOH every ten years with their comprehensive water system plans. Cascade recommends Members review and revise their shortage response plans to ensure the Members use similar stages of curtailment as listed in the Cascade SMP and provisions in the Member plans 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. SPU will take the lead on communications involving regional media such as major radio, television, social media, 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 it will assist Members to issue consistent and effective communications to the communities 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 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 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 that are 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 WSCP:

1. Advisory Stage
2. Voluntary Stage
3. Mandatory Stage
4. 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 may be elevated or diminished from one stage to another as appropriate.

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

4.1 Advisory Stage

This stage is advisory only, internally focused, and does not require outreach to customers or curtailment actions by water users.

4.1.1 Objectives of Advisory Stage

- Prepare Cascade and Members for a potential water shortage, thereby allowing for adequate planning and coordination in the event there is a need to move to the Voluntary Stage.

- 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

SPU will enter the Advisory Stage of their WSCP if supply conditions and supply forecasts raise significant concerns about SPU’s ability to meet demand later in the year. Upon notice from SPU that it has activated the Advisory Stage, the Cascade CEO may activate the SMP and the Advisory Stage.

4.1.3 Communication Actions During Advisory Stage

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

- Advise Cascade Members to activate their Advisory Stage (or equivalent actions per each Member's individual SMP) in a manner that is consistent with Cascade’s 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; and actions taken by Cascade Members and others in the region.

- 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 identify potential customer demand reduction strategies and an outreach strategy and materials.

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 have not improved or have worsened, and/or demand levels need to be reduced, the SMP moves to the Voluntary Stage, which relies on voluntary cooperation and support of customers to meet demand reduction 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 demand reduction goals.

- Forestall or minimize need for later more stringent demand or supply management actions.

- Maintain drinking water quality at acceptable levels throughout the shortage.

- Promote equity among Cascade Members in responding to the supply shortage.

4.2.2 Triggers of Voluntary Stage

1) Upon notice from SPU that it has activated the Voluntary Stage of their WSCP, 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 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 they are required to activate their Voluntary Stage (or equivalent actions per each Member's individual SMP) in a manner that is consistent with Cascade's 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.

- 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 *cascadewater.org* website or equivalent information resources.

- If requested by SPU, participate on SPU's Water Shortage Advisory Group to provide input on implementation of customer demand reduction aspects of the Voluntary Stage, as well as input on planning for the customer demand reduction aspects of the Mandatory Stage.

- Assist Cascade Members to acquire and distribute public information materials. 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 website regarding the Voluntary Stage.

Appendix A provides examples of water saving actions customers can take during the Voluntary Stage.

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. Cascade will assist Cascade Members to identify mandatory restrictions that may apply during the Mandatory Stage, if this is needed.

4.3 Mandatory Stage

If supply conditions have not improved or have worsened, and/or demand levels need to be further reduced, 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 demand reduction goals by restricting certain water uses. Goals will be determined in consultation with SPU, based on the characteristics and severity of the water shortage.

- Ensure adequate water supply will be available for the duration of the supply shortage.

- Minimize the disruption to customers' lives and businesses while meeting demand reduction 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 WSCP, the Cascade Board will consider activation of the Mandatory Stage; or

2) In the event 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 they are required to activate their Mandatory Stage (or equivalent actions per each Member's individual SMP), in a manner that is consistent with Cascade's 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 may possibly occur at the mandatory stage, and communicate these to Cascade Members' management, operations staff, and communications 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.

- Cascade will initiate planning and preparation for Emergency Stage actions, including an assessment of potential staffing impacts, training needs, and 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 2012 Joint Agreement.

4.4 Emergency Stage

At this stage, Cascade and Members recognize a critical water situation exists and, without additional significant curtailment actions, a shortage of water for public health, safety, and fire protection 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's 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 demand reduction 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 WSCP, the Cascade Board will consider activation of the Emergency Stage; or

2) In the event 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 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.

4.4.3 Communication Actions of Emergency Stage

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

- Inform Cascade Members they are required to activate their Emergency Stage (or equivalent actions per each Member's individual SMP), in a manner that is consistent with Cascade's 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 among 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 communications 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 2012 Joint Agreement.

TABLE 1. Triggers for Plan Activation and of Curtailment Stages

TRIGGERS	CASCADE SMP/Stage	MEMBERS
SPU activates to Advisory Stage	Advisory Stage	Cascade will inform and advise Members
SPU activates to Voluntary Stage plus CEO activation (Board confirmation at next meeting); or CEO declaration of emergency (Board confirmation at next meeting); or Board Action	Voluntary Stage	Member compliance required
SPU activates to Mandatory Stage plus Board Action; or CEO declaration of emergency (Board confirmation at next meeting); or Board Action	Mandatory Stage	Member compliance required
SPU activates to Emergency Stage plus Board Action; or CEO declaration of emergency (Board confirmation at next meeting); or Board Action	Emergency Stage	Member compliance required

Table 2. Four Stages of Curtailment

	Advisory	Voluntary	Mandatory	Emergency
Theme of Public Messages from SPU		A shortage has occurred. We are requesting voluntary curtailment to reduce demand.	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.
Cascade Communication Actions	• Advise Cascade Members to activate their Advisory Stage. • Establish a regular communication mechanism with Members. • Request Cascade Members carry out supply-side management actions. • Participate on SPU's Water Shortage Advisory Group.	• Inform Cascade Members they are required to activate their Voluntary Stage. • 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. .• Communicate regularly with Cascade Members. •. Participate on SPU's Water Shortage Advisory Group. • Assist Cascade Members to acquire and distribute public information materials.	• Inform Cascade Members they are required to activate their Mandatory Stage, including enforcement as appropriate. • Gather information from SPU on water quality or pressure problems and communicate these to Members. • Continue communication actions from the Voluntary Stage, with modifications as appropriate for the Mandatory Stage.	• Inform Cascade Members they are required to activate their Emergency Stage, including enforcement as appropriate. • Continue and intensify communication actions from the Mandatory Stage. • For Members that have independent supply, request they rely as much as possible on these supplies. • Alert Members of particular operational problems that may occur with system-wide reduced water consumption. • Assist Cascade Members to define and communicate exemptions for public health and safety.
Cascade Operating Actions	• Initiate preparation for Voluntary Stage.	• Assess revenue implications remedies. • Initiate preparation for Mandatory Stage.	• Continue operating actions from the Voluntary Stage • Initiate preparation for Emergency Stage. • If necessary, consider enforcement actions against any non-complying Member.	• Continue operating actions from Mandatory Stage. • Make staff resources available to Cascade Members. • Coordinate volunteers on behalf of Members.

APPENDIX A

POSSIBLE VOLUNTARY STAGE CUSTOMER WATER SAVING ACTIONS
(Adapted from SPU's 2019 Water Shortage Contingency Plan)

Potential Customer Demand Reduction Actions[1] (See the footnotes to understand how to use this list)									
#	End Use[2]	Behavior vs Hardware[3]	SMP Stage[4]	Indoor vs Outdoor[5]	Season[6]	Sector[7]	Demand Reduction Action[8]	Enforce[9]	Potential Exemption[10]
1	Clothes Washing	Behavior	N/A - Conservation	Indoor	Year Round	NR	**Towels On Request:** Provide new towels only on request.	No	
2	Clothes Washing	Hardware	N/A - Conservation	Indoor	Year Round	SF & MF	**Efficient Clotheswashers:** If buying a new clotheswasher, select a water-efficient model. Clotheswashers are the second largest water users in homes.	No	
3	Clothes Washing & Dish Washing	Behavior	N/A - Conservation	Indoor	Year Round	All	**Wash Full Loads:** Wash only full loads of laundry and dishes.	No	
4	Cooling Towers	Behavior	N/A - Conservation	Indoor	Year Round	NR	**Check Cooling Towers:** Check cooling towers for overflow and excessive blowdown.	No	
5	Dish Washing	Behavior	N/A - Conservation	Indoor	Year Round	SF & MF	**Don't Pre-Rinse Dishes:** Don't pre-rinse dishes unless heavily soiled. Most new dishwashers don't require pre-rinsing.	No	
6	Faucets	Behavior	N/A - Conservation	Indoor	Year Round	SF & MF	**Turn Off Tap:** Turn off the tap while brushing your teeth or shaving.	No	
7	Faucets	Behavior	N/A - Conservation	Indoor	Year Round	All	**Minimize Garbage Disposal:** Put food waste in your compost bin, rather than using your garbage	No	
8	Faucets	Behavior	N/A - Conservation	Indoor	Year Round	NR	**Thaw in Fridge:** Thaw frozen food in the refrigerator, rather than under running water.	No	
9	Faucets	Hardware	N/A - Conservation	Indoor	Year Round	SF & MF	**Efficient Faucets:** Replace older bathroom faucet aerators with WaterSense models, which use far less water. (Note: There are different flow rates for residential vs non-residential. This is the residential version.)	No	

Potential Customer Demand Reduction Actions[1]									
(See the footnotes to understand how to use this list)									
#	End Use[2]	Behavior vs Hardware[3]	SMP Stage[4]	Indoor vs Outdoor[5]	Season[6]	Sector[7]	Demand Reduction Action[8]	Enforce[9]	Potential Exemption[10]
10	Faucets	Hardware	N/A - Conservation	Indoor	Year Round	NR	**Efficient Faucets:** Replace older bathroom faucet aerators with newer, more-efficient models that use 0.5/1.0 gallon per minute or less. (Note: There are different flow rates for residential vs non-residential. This is the non-residential version.)	No	
11	Faucets	Behavior	Voluntary	Indoor	Year Round	NR	**Water On Request:** Serve water only on request, and then ask before refilling.	No	
12	Fire Lines	Behavior	Mandatory	Indoor	Year Round	NR	**No Fire Line Testing:** Fire line testing within buildings is prohibited. (Note: Confirm w/ Fire Department this is reasonable.)	No	Yes
13	Hose	Behavior	N/A - Conservation	Outdoor	Year Round	All	**Use a Broom Not Hose:** Use a broom, rather than a hose, to clean sidewalks, driveways, and	No	
14	Hose	Behavior	N/A - Conservation	Outdoor	Year Round	All	**Hose Shut-Offs:** Never leave a hose running; always use a shut-off nozzle.	No	
15	Hose	Behavior	Mandatory	Outdoor	Year Round	All	**No Hose Washing:** Using a hose to clean sidewalks, driveways, and patios is prohibited. Use a broom instead.	Yes	Yes
16	Irrigation - Frequency	Behavior	N/A - Conservation	Outdoor	Summer	All	**Water Deeply, But Infrequently:** It's better to have one or two deep waterings, rather than several shallow waterings.	No	
17	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	**Eliminate One Watering Day:** Cut one day from your typical weekly watering schedule (except for young trees as noted elsewhere). (Note: The similar "Water X Times A Week Maximum" series might be preferred wording, but this is included as an	No	
18	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	**Eliminate Two Watering Days:** Cut two days from your typical weekly watering schedule (except for young trees as noted elsewhere). (Note: The similar "Water X Times A Week Maximum" series might be preferred wording, but this is included as an	No	
19	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	**Eliminate Three Watering Days:** Cut three days from your typical weekly watering schedule (except for young trees as noted elsewhere). (Note: The similar "Water X Times A Week Maximum" series might be preferred wording, but this is included as an	No	
20	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	**Water Twice A Week Maximum:** Limit plant watering to twice a week.	No	

Potential Customer Demand Reduction Actions[1] (See the footnotes to understand how to use this list)									
#	End Use[2]	Behavior vs Hardware[3]	SMP Stage[4]	Indoor vs Outdoor[5]	Season[6]	Sector[7]	Demand Reduction Action[8]	Enforce[9]	Potential Exemption[10]
21	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	**Water Once A Week Maximum:** Limit plant watering to once a week (except for young trees as noted elsewhere).	No	
22	Irrigation - Frequency	Behavior	Mandatory	Outdoor	Summer	All	**Water Twice A Week Maximum:** Plant watering is only allowed twice a week, in accordance with the published schedule by	Yes	
23	Irrigation - Frequency	Behavior	Mandatory	Outdoor	Summer	All	**Water Once A Week Maximum:** Plant watering is only allowed once a week, in accordance with the published schedule by address.	Yes	
24	Irrigation - Method	Behavior	N/A - Conservation	Outdoor	Summer	All	**Tune Up Automatic Systems:** Do an efficiency tune up of your automatic irrigation system such as fixing overspray onto sidewalks and ensuring sprinkler heads reach adjacent sprinkler	No	
25	Irrigation - Method	Behavior	N/A - Conservation	Outdoor	Summer	All	**Get Water to the Roots:** Use soaker hoses, drip irrigation, or watering wands to deliver water where it's needed.	No	
26	Irrigation - Method	Behavior	N/A - Conservation	Outdoor	Summer	All	**Water Young Trees Efficiently:** Water young trees efficiently using a water bag. Trees planted 5 or fewer years ago need 15-20 gallons of water twice a week to thrive.	No	
27	Irrigation - Method	Behavior	Voluntary	Outdoor	Summer	All	**Water Young Trees Efficiently:** Water young trees efficiently using a water bag. Trees planted 5 or fewer years ago need 15-20 gallons of water once a week to survive. (Note: This is only appropriate if the maximum temperatures are in the low 70s w/ occasional showers and not peak daylight hours.)	No	
28	Irrigation - Method	Hardware	N/A - Conservation	Outdoor	Summer	All	**Upgrade Automatic Systems:** Consider efficiency upgrades to your automatic irrigation system such as weather-based or soil-based	No	
29	Irrigation - Method	Behavior	Mandatory	Outdoor	Summer	All	**No Automatic Irrigation:** Use of automatic irrigation systems is prohibited. Watering by hand, soaker hose, and/or drip irrigation is allowed.	Yes	Yes
30	Irrigation - Other	Hardware	N/A - Conservation	Outdoor	Summer	All	**2 Inches of Mulch:** Put 2 inches of mulch on planting beds and around trees, which reduces evaporation. Keep the mulch a hands-width away	No	
31	Irrigation - Other	Behavior	Mandatory	Outdoor	Summer	All	**No Irrigation:** Irrigation is prohibited.	Yes	Yes

Potential Customer Demand Reduction Actions[1]									
(See the footnotes to understand how to use this list)									
#	End Use[2]	Behavior vs Hardware[3]	SMP Stage[4]	Indoor vs Outdoor[5]	Season[6]	Sector[7]	Demand Reduction Action[8]	Enforce[9]	Potential Exemption[10]
32	Irrigation - Plant Material	Behavior	N/A - Conservation	Outdoor	Summer	All	**Mow High**: Set your lawn mower blade to cut grass 2 inches high, which reduces evaporation.	No	
33	Irrigation - Plant Material	Behavior	Voluntary	Outdoor	Summer	SF & MF	**Let Lawn Go Dormant:** If your lawn isn't already dormant (brown), let it go dormant until the fall rains return. Just water deeply once each month to keep roots alive.	No	
34	Irrigation - Plant Material	Hardware	Voluntary	Outdoor	Summer	All	**Plant in Fall:** Consider delaying new plantings. Fall is the best time for planting new trees, shrubs and perennials, since rain provides natural irrigation.	No	
35	Irrigation - Plant Material	Behavior	Mandatory	Outdoor	Summer	All	**No Lawn Watering:** Watering of lawns is prohibited.	Yes	Yes
36	Irrigation - Timing	Behavior	N/A - Conservation	Outdoor	Summer	All	**Water Early or Late:** Water before 8am or after 7pm, which reduces evaporation.	No	
37	Irrigation - Timing	Behavior	Mandatory	Outdoor	Summer	All	**Water Early or Late:** Watering between 8am and 7pm is prohibited, due to high evaporation.	Yes	
38	Kitchen	Hardware	N/A - Conservation	Indoor	Year Round	NR	**Commercial Kitchen Equipment:** If buying new food steamers, dishwashers, or ice machines, select water-efficient models.	No	
39	Leaks	Behavior	N/A - Conservation	Outdoor	Summer	All	**Fix Leaks:** Check for and fix outdoor leaks, such as at hose bibs, spray heads, valves, and broken	No	
40	Leaks	Behavior	N/A - Conservation	Indoor	Year Round	SF & MF	**Fix Leaks:** Check for and fix indoor leaks, such as at faucets. Also, check your toilets for silent leaks. Put several drops of food coloring in your toilet tank. After 10 minutes, if you have color in the toilet bowl, you have a flapper leak. (Note: For the non-residential sector, specify for "tank" toilets for the	No	
41	Other	Behavior	N/A - Conservation	Indoor	Year Round	NR	**Equipment Not in Use:** Turn off water-using equipment when not in use, including dishwashers, garbage disposals, and food troughs.	No	
42	Other	Behavior	N/A - Conservation	Both	Year Round	NR	**Employee Awareness:** Increase employee awareness about using water wisely and encourage their suggestions.	No	
43	Other	Hardware	N/A - Conservation	Indoor	Year Round	NR	**Other Water-Using Equipment:** Consider upgrading any other water-using equipment to models that are more efficient.	No	

Potential Customer Demand Reduction Actions[1] (See the footnotes to understand how to use this list)									
#	End Use[2]	Behavior vs Hardware[3]	SMP Stage[4]	Indoor vs Outdoor[5]	Season[6]	Sector[7]	Demand Reduction Action[8]	Enforce[9]	Potential Exemption[10]
44	Pools & Hot Tubs	Behavior	N/A - Conservation	Outdoor	Year Round	All	**Pool & Hot Tub Covers:** Use covers on swimming pools and hot tubs when not in use to	No	
45	Pools & Hot Tubs	Behavior	Voluntary	Outdoor	Year Round	All	**Minimize Filling Pools & Hot Tubs:** Minimize refilling swimming pools and hot tubs.	No	
46	Pools & Hot Tubs	Behavior	Mandatory	Outdoor	Year Round	All	**No Pools & Hot Tubs:** Filling swimming pools and hot tubs is prohibited. (Note: Add a statement about safety around empty pools/tubs.)	Yes	Yes
47	Pressure Washing	Behavior	Voluntary	Outdoor	Year Round	All	**Minimize Pressure Washing:** Do only essential pressure washing.	No	
48	Pressure Washing	Behavior	Mandatory	Outdoor	Year Round	All	**No Pressure Washing:** Pressure washing is prohibited.	Yes	Yes
49	Showers	Hardware	N/A - Conservation	Indoor	Year Round	All	**Efficient Showerheads:** Replace older showerheads with WaterSense models, which use	No	
50	Showers	Behavior	Voluntary	Indoor	Year Round	SF & MF	**Shorter Showers (a):** Reduce your showering	No	
51	Showers	Behavior	Voluntary	Indoor	Year Round	SF & MF	**Shorter Showers (b):** Reduce your showering time by one minute.	No	
52	Showers	Behavior	Voluntary	Indoor	Year Round	SF & MF	**Shorter Showers (c):** Reduce your showering time, by two minutes.	No	
53	Showers	Behavior	Voluntary	Indoor	Year Round	SF & MF	**Shorter Showers (d):** Limit showers to five minutes or less.	No	
54	Toilets	Hardware	N/A - Conservation	Indoor	Year Round	All	**Efficient Toilets:** If buying a new toilet, look for a WaterSense or Premium WaterSense model, which use far less water than older models. Toilets are the largest water users in homes. (Note: For the non-residential sector, add urinals.)	No	
55	Toilets	Behavior	Mandatory	Indoor	Year Round	SF & MF	**Less Toilet Flushing:** Flush your toilet less often. As the saying goes, "If it's yellow, let it mellow." Toilet flushing is the largest water use	No	
56	Vehicle Washing	Behavior	N/A - Conservation	Outdoor	Year Round	All	**Wash Vehicles Wisely:** Wash your vehicle(s) at locations that recycle the water.	No	
57	Vehicle Washing	Behavior	Voluntary	Outdoor	Year Round	All	**Minimize Vehicle Washing:** Reduce the frequency of, or eliminate, washing vehicles.	No	
58	Vehicle Washing	Behavior	Mandatory	Outdoor	Year Round	All	**No Vehicle Washing:** Washing of vehicles is prohibited, unless at a location that recycles the	Yes	Yes
59	Water Feature	Behavior	Voluntary	Outdoor	Year Round	All	**Turn Off Water Features (a):** Turn off non-recirculating water features such as fountains.	No	
60	Water Feature	Behavior	Voluntary	Outdoor	Year Round	All	**Turn Off Water Features (b):** Turn off all water features such as fountains.	No	

Potential Customer Demand Reduction Actions[1]

(See the footnotes to understand how to use this list)

#	End Use[2]	Behavior vs Hardware[3]	SMP Stage[4]	Indoor vs Outdoor[5]	Season[6]	Sector[7]	Demand Reduction Action[8]	Enforce[9]	Potential Exemption[10]
61	Water Feature	Behavior	Mandatory	Outdoor	Year Round	All	**No Water Features (a):** Use of non-recirculating decorative water features such as fountains is prohibited.	Yes	
62	Water Feature	Behavior	Mandatory	Outdoor	Year Round	All	**No Water Features (b):** Use of decorative water features such as fountains is prohibited.	Yes	

1. This is a list of potential actions that customers can take to reduce their water use. The actual actions requested/required for each stage will depend on the severity, likely duration, and timing of the shortage, as well as the demand reduction needed. The list is in Excel, to allow for sorting and filtering, which should help develop the actual list of actions to be implemented. The list is sorted by 1) end use, 2) behavior vs hardware, 3) SMP stage.

2. The end use is how the water is being used and is typically a type of water-using fixture/equipment (e.g., showers).

3. The requested/required list of actions should include both hardware and behavior actions in order to: 1) increase the demand reduction potential, 2) ensure every customer type has actions they can do, and 3) minimize the cost to participate. For example, since some customers do not have control over their water-using hardware, it is important to make sure they have behavior actions. Similarly, since behavior actions are typically free, it is important to include many of them.

4. The stage designation is a suggestion, but may be appropriate to change due to circumstances of a particular shortage. Note the following about the stage designations:
- N/A – Conservation: None of the actions are designated as Advisory since that stage is internally focused and is not intended to include outreach to customers. However, some actions are identified as Conservation for two reasons. First, if the public/press become aware that Cascade has activated the SMP (at the Advisory Stage level), Cascade may be asked to provide suggested customer actions. In that case, the Conservation actions (things Cascade recommends continually and do not involve customer sacrifice) would be appropriate. Second, many of the Conservation actions can be promoted in the higher stages since some customers may choose not to follow these recommendations and, thus, while technically conservation actions, can be used as curtailment actions.
- Voluntary/Mandatory: The Voluntary and Mandatory actions are true curtailment.
- Emergency: No Emergency actions are identified, however they would likely be the Mandatory actions, without most exemptions.

5. The requested/required list of actions should include both indoor and outdoor actions in order to: 1) increase the demand reduction potential, and 2) ensure every customer type has actions they can do. For example, since apartment dwellers won't be able to implement most outdoor actions, it is important to make sure there is a sufficient number of indoor actions for them.

6. The seasonality of the action is important to consider in regards to the timing of the shortage. For example, if the shortage does not occur during the summer, it is unlikely that the Summer actions (mostly irrigation-related) would be useful.

7. SF = single family; MF = multifamily; NR = non-residential (commercial, industrial, institutional). The requested/required list of actions should include options for all sectors in order to: 1) increase the demand reduction potential, and 2) ensure every customer type has actions they can do.

8. The specific language for each measure has been carefully crafted, based on previous implementations of the SMP. However, the language is still just a suggestion and can be edited for many reasons including length. Note that some end uses have several, similar sounding actions. In some cases, it is to provide options for the team to consider (e.g., the number of days to restrict irrigation to). In other cases, it is to provide actions for several stages (e.g., minimize vehicle washing for voluntary and prohibit vehicle washing in mandatory.)

9. The column indicates whether Cascade would likely enforce the action. Enforcement is only applicable to the Mandatory (and the eventual Emergency) actions. Outdoor actions are typically stronger candidates for enforcement, compared to indoor actions, since Cascade staff can more readily see outdoor water uses (e.g., irrigation, hose use, car washing, etc.).

10. Some Mandatory (and the eventual Emergency) actions will have exemptions associated with them, such as for irrigation restrictions. This column indicates a potential exemption. See a separate appendix for more details regarding exemptions.

For more water conservation tips, visit cascadewater.org.

APPENDIX B

CUSTOMER OUTREACH CHECKLIST

This checklist is intended to be used by all Cascade Members during implementation of the Shortage Management Plan. The checklist differentiates among actions that Seattle Public Utilities (SPU) will perform, actions that Cascade will perform on behalf of its Members, and actions that each Member is responsible for performing.

Customer Outreach Actions	
SPU Is Responsible For:	
	Coordinating with Ecology, Health, and Governor's Office.
	Coordinating with Tacoma and Everett as needed.
	Issuing regional press releases to major media outlets (& conduct subsequent media interviews).
	Purchasing regional traditional media ads such as tv, radio, print, as appropriate.
Cascade Is Responsible For:	
	Coordinating outreach communications with SPU.
	Coordinating outreach communications with Members.
	Creating a flyer that helps customers understand there is a shortage situation and understand how to reduce their water use.
	Providing outreach to key landscaping and irrigation contacts including local nurseries (e.g., Bellevue Nursery, Grey Barn, Squak Mountain), industry organizations (WALP, WSNLA), and large landscape and irrigation firms.
	Providing drought information on Cascade's website and social media platforms.
	Providing drought information at Cascade Gardener classes.
	Providing drought information at community events at which Cascade participates.
Members Are Responsible For:	
	Posting drought information on the Member's utility website homepage.
	Making the flyer that Cascade created readily available (e.g., on utility website, in utility lobby and/or City Hall, distribute in public areas such as community centers, libraries, etc.).
	Including drought messages in existing utility publications such as bills, bill inserts, newsletters, etc.
	Including drought messages in any social media platforms used by the Member.
	Posting signage in appropriate locations (e.g., at utility buildings, on utility vehicles, in key locations in service area).
	Briefing utility staff regarding the drought.
	Highlighting the drought message at any community events at which the Member is participating.

Exhibit B

Water Right Permits

[This page left blank intentionally.]

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

December 10, 2010

Cascade Water Alliance
11400 SE 8th Street Suite 440
Bellevue WA 98004

Re: Water Right No. S2-29920(A)

Dear: Sir or Madam:

Enclosed is a Permit to be retained for your records. Please read the enclosed information sheet, as well as your entire Permit.

It is important to remember that this permit is not a *final* water right; it is permission to develop a water right.

We are enclosing a *Construction Notice* form. If you have not begun your project by **December 31, 2040**, please advise us. If you have begun construction, complete and submit the form to this office.

If you have any questions, please contact Ecology at 360-407-6300.

Sincerely,

Thomas Loranger
Water Resources Program

Enclosures: *Permit*
Construction Notice
Important Information About Your Water Right

[This page left blank intentionally.]

DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
WATER RIGHT PERMIT

PRIORITY DATE
6/20/2000

WATER RIGHT NUMBER
S2-29920(A)

MAILING ADDRESS
CASCADE WATER ALLIANCE
11400 SE 8TH ST STE 440
BELLEVUE WA 98004

SITE ADDRESS (IF DIFFERENT)

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
1000	CFS	54300

Purpose

	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		
PURPOSE	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal	1000		CFS			02/15 - 07/01[a]
Municipal	400		CFS			07/02 - 09/15[b]
Municipal	150		CFS			09/16 - 02/14[c]

REMARKS

a. From February 15 until Refill Date or July 1, whichever is earlier.

b. From Refill Date until September 15 or Fall Drawdown Date, whichever is later.

c. From the Fall Drawdown Date to February 15.

Diversion rates are further subject to refill schedule described Provision No. 2.

Ecology has issued two separate Reports of Examination corresponding to application S2-29920: one corresponds to the Lake Tapps Reservoir Water Rights and Supply Project [permit S2-29920(A)] and the other corresponds to the Regional Reserved Water Program [permit S2-29920(B)]. Water quantities from the two permits are additive. The two permits have the same priority date, but the permit for S2-29920(A) is superior in priority. Both of the permits are evaluated in one Investigator's Report.

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Pierce	White River	Puyallup River	10-Puyallup-White

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
WHITE RIVER DIVERSION DAM	0619021006	NA	19N	06E	02	NE	47.170344 Datum: NAD83/WGS84	-122.004333

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

The place of use for this water right is the combined service areas described in the most recent Water System Plans approved by the Washington State Department of Health for the Cascade Water Alliance, the City of Seattle and the City of Tacoma.

Proposed Works

Lake Tapps Water Rights and Supply Project

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
December 31, 2040	Within 15 Years of Begin Construction Date	December 31, 2060

The development schedule is as follows:

- Begin construction within 30 years of the issuance of the permits
- Complete construction within 15 years of the beginning of construction
- Achieve full beneficial use of the allocated quantities within 50 years of issuance of the permits.

The Begin Construction Date is the date when Permit Holder has received all necessary major permits for the construction of the water treatment plant and transmission system and commenced work on facilities considered to be significant permanent elements of the project or excavation for project foundations or pipelines.

The Completion of Construction Form may be filed after the water treatment plant is completed, tested and capable of treating the full capacity and a transmission system is available in accordance with Permit Holder's Water System Plan, including appropriate agreements to use other entities' transmission systems, sufficient to transport the full amount of water to the appropriate delivery points.

Permit Holder is advised that a notice of Proof of Appropriation of water (under which the final certificate of water right is issued) should not be filed until the quantity of water allocated by this authorization, to the extent water is required, has been put to full beneficial use.

Provisions:

The Permit Holder must meet the provisions and conditions of this section. These provisions and conditions apply at permit issuance, except as noted in the individual condition.

1. Minimum Flow

The Permit Holder may divert water from the White River to Lake Tapps Reservoir, subject to the schedule of maximum diversion rates provided below in Condition 2, only if the diversion does not reduce the instream flow of the White River below the Minimum Flow established in Table 1.

Compliance with the Minimum Flows shown in Table 1. shall be measured at U.S. Geological Survey ("USGS") gage 12099200 – White River above Boise Creek at Buckley gage (referred to as the "Buckley Gage"), or other appropriate gage subject to review and approval by the Washington State Department of Ecology ("Ecology") in accordance with Condition 21.

The Permit Holder may divert up to 20 cfs of water from the headgate and through the fish screens when the flow is below the Minimum Flow, set out in Table 1. due to natural flow conditions.

Table 1. Minimum Flow

Time Period	Minimum Flow	Time Period	Minimum Flow
January 1-14	650 cfs	July 1-23	800 cfs
January 15-31	525 cfs	July 24-31	650 cfs
February 1-14	550 cfs	August 1-6	650 cfs
February 15-29	500 cfs	August 7-31	500 cfs
March 1-14	550 cfs	September 1-14	500 cfs
March 15-31	725 cfs	September 15-30	500 cfs
April 1-14	775 cfs	October 1-14	500 cfs
April 15-30	825 cfs	October 15-31	500 cfs
May 1-14	875 cfs	November 1-14	500 cfs
May 15-31	875 cfs	November 15-30	550 cfs
June 1-14	800 cfs	December 1-14	550 cfs
June 15-30	800 cfs	December 15-31	600 cfs

2. Schedule of Maximum Diversion Rates

If the instream flow of the White River at the Buckley Gage (or other appropriate gage subject to review and approval by Ecology in accordance with Condition 21) exceeds the Minimum Flow established in Condition 1, then the Permit Holder may divert water from the White River into Lake Tapps Reservoir in a manner consistent with the following schedule and amounts:

a) Beginning no earlier than February 15, and continuing until Lake Tapps Reservoir is refilled to Normal Full Pool (as defined in Condition 5), or until July 1, whichever is earlier ("Refill Date") water may be diverted from the White River in an amount not to exceed 1000 cfs;

b) Beginning on the Refill Date until September 15 or the subsequent date the Permit Holder commences drawing down the water level of Lake Tapps Reservoir, whichever is later ("Fall Drawdown Date"), water may be diverted from the White River in an amount not to exceed 400 cfs; and

c) Beginning on the Fall Drawdown Date until February 15 water may be diverted from the White River in an amount not to exceed 150 cfs.

3. Releases from Reservoir

The Permit Holder shall limit releases from Lake Tapps Reservoir into the tailrace canal to not more than 50 cfs, except when Lake Tapps Reservoir is being drawn down, in accordance with Condition 2.c above.

4. Ramping Rates

The diversion from the White River and the release from Lake Tapps Reservoir through the tailrace canal shall at all times be operated so that;

a) The ramping rate does not exceed one inch per hour (increase or decrease) as measured respectively at the Buckley Gage (or other appropriate gage subject to review and approval by Ecology in accordance with Condition 21) and USGS gage 12101100 – Lake Tapps Diversion at Dieringer; and

b) Between February 16 and June 15 of each year down ramping shall not be permitted between one hour before sunrise and one hour after sunset.

5. Recreational Lake Levels

The Permit Holder shall maintain lake levels in Lake Tapps Reservoir according to the schedule established below. "Normal Full Pool" is defined as a reservoir water level between 541.0 feet and 542.5 feet National Geodetic Vertical Datum 1929 ("NGVD 29") as measured at USGS gage 12101000 – Lake Tapps near Sumner.

a) The Permit Holder shall maintain Normal Full Pool from April 15 through September 30 of each year until 30 years of the issuance of the permit or Permit Holder's commencement of the use of Lake Tapps Reservoir for municipal water supply, whichever comes later.

b) Thereafter, the Permit Holder shall:
   i) Maintain Normal Full Pool from April 15 through September 15; and
   ii) Maintain Normal Full Pool from September 16 through September 30 of each year more than ninety percent (90%) of the time, measured by the number of days (i.e., no more than fifteen (15) days in a rolling ten (10) year period of time) below the lower parameter of the Normal Full Pool, starting with the first calendar year in which lake levels fall below the lower parameter of the Normal Full Pool.

c) The Permit Holder shall make reasonable efforts to maintain Normal Full Pool through October 31 in all years.

d) Within the above-described time periods, operational variances may be required due to forecasts or available precipitation, any necessary milfoil control, or the terms and conditions of this authorization or of applicable law.

The schedule of lake levels and the definition of Normal Full Pool may be modified. Permit Holder shall submit any proposal for modification to Ecology for review and approval in accordance with Condition 21. The proposal shall include documentation that Permit Holder has completed an appropriate consultation or negotiation process with stakeholders and other interested parties.

6. Protect Puyallup River Minimum Instream Flows in Spring

During projected minimum instream flow shortfalls at USGS gage 12101500 – Puyallup River at the Puyallup from February 15 through March 31 of each year, the Permit Holder shall reduce the quantity of flow diverted from the White River up to the amount of water actually being withdrawn from Lake Tapps Reservoir for municipal water supply purposes (i.e., up to a maximum annual quantity of 5,900 acre feet). The Permit Holder shall develop an operating protocol for diversions from the White River to Lake Tapps Reservoir, for review and approval by Ecology in accordance with Condition 21. The protocol shall incorporate appropriate stream flow gaging and modeled travel time to estimate when diversions should be reduced to provide additional flow at the Puyallup gage. This condition shall apply when water is first withdrawn from Lake Tapps Reservoir for municipal water supply purposes.

7. Minimization of Powerhouse Leakage

To the extent practical, the Permit Holder shall minimize leakage from the former White River Hydroelectric Project powerhouse beginning not later than when water is first withdrawn from Lake Tapps Reservoir for municipal water supply purposes. Within 5 years of permit issuance, the Permit Holder shall submit a plan for minimizing powerhouse leakage to Ecology for review and approval in accordance with Condition 21.

8. Streamflow Monitoring

Within two (2) years of the issuance of the permit, the Permit Holder shall submit to Ecology a plan to install, operate, maintain, and report from streamflow gages necessary to monitor the minimum flows and staff gages to monitor the ramping rates required by this permit. The plan shall include at a minimum gages at the following locations:

- Canal Diversion
- White River above Boise Creek at Buckley gage (or other appropriate gage subject to review and approval by Ecology in accordance with Condition 21)
- Tailrace Release
- Lake Tapps water surface elevation (on a daily basis)

The plan shall describe the method of collecting and recording the flow and ramping rate data, and include a provision for periodically providing that data to Ecology, Washington Department of Fish and Wildlife ("WDFW"), National Oceanic and Atmospheric Association National Marine Fisheries Service ("NOAA Fisheries"), U.S. Fish and Wildlife Service ("USFWS"), USGS, the Puyallup Tribe of Indians, and Muckleshoot Indian Tribe. The Permit Holder shall prepare the plan after providing a draft and opportunity to comment to Ecology, WDFW, NOAA Fisheries, USFWS, USGS, the Puyallup Tribe of Indians and Muckleshoot Indian Tribe. The final plan shall be submitted to Ecology for review and

approval in accordance with Condition 21. The plan shall be implemented, including installation and operation of all gages, within one year after approval by Ecology.

The Permit Holder shall use the most accurate gaging equipment and methodology as determined by the USGS. At least every five (5) years, Permit Holder shall evaluate the adequacy of the stream flow monitoring gages. The Permit Holder shall maintain the above streamflow gages for the duration of this project.

9. Maintenance of Diversion Canal Fish Screens

The Permit Holder shall maintain the fish screens in the diversion canal so that they continue to meet or exceed their design specifications for fish passage and all applicable federal or state requirements.

10. Annual Compliance Summary Report

On an annual basis, the Permit Holder shall submit to Ecology a report summarizing and documenting compliance with the conditions of this permit. At a minimum, the report shall include compliance with the Minimum Flows for the White River, ramping rates, maximum diversion rates, recreational lake levels, and reductions of diversion during spring for the Puyallup River Minimum Instream Flow, as well as emergency operations, and any non-compliance with conditions of this permit. Annual reports shall document compliance with mitigation requirements over a calendar year and shall be submitted to Ecology by February 15 of the subsequent year.

11. Tailrace Study

The Permit Holder shall conduct the following studies regarding the tailrace canal of Lake Tapps Reservoir.

a) A study of the tailrace releases from Lake Tapps to determine if releases are causing or contributing to non-attainment of designated uses and water quality criteria violations in the lower White and Puyallup Rivers. If the study determines discharge from Lake Tapps is adversely affecting water quality, the Permit Holder shall develop and implement a plan to improve tailrace water quality.

   i. Study Schedule: Within five (5) years of permit issuance, the Permit Holder shall submit a Quality Assurance Project Plan ("QAPP") for the water quality study to Ecology for review and approval in accordance with Condition 21. For guidance on preparing QAPPs, see Ecology Publication No. 04-03-030. The study period shall not exceed five (5) years. The final report for the study shall be submitted to Ecology within one hundred eighty (180) days after the end of the study period, or as specified by Ecology in its QAPP approval. The water quality study should include, but not necessarily be limited to, continuous monitoring of temperature and dissolved oxygen in tailrace releases and instream locations to be identified in the QAPP.

   ii. Tailrace Water Quality Plan: If the water quality study concludes, or if Ecology determines, that tailrace releases from Lake Tapps are causing or contributing to non-attainment of designated uses or water quality criteria violations in the Lower White and Puyallup Rivers, the Permit Holder shall develop and implement a plan to improve water quality in tailrace releases. The plan shall provide for an adequate period of monitoring to determine the success of the plan in improving water quality of tailrace releases.

A draft plan shall be submitted to the following for review and comment: the agencies and parties to the 1998 Agreement on the Allocation of the Puyallup River TMDL Reserve Capacity of Biochemical Oxygen Demand ("BOD") and Ammonia or any successors in interest, Puyallup Tribe of Indians, Muckleshoot Indian Tribe, and NOAA Fisheries. The final plan shall be submitted to Ecology for review and approval in accordance with Condition 21 within one year from submittal of the final study report.

Upon receipt of the final plan, Ecology may issue an order approving or modifying the plan, and the Permit Holder shall implement the plan.

b. A study to assess the relationship between salmonids and the tailrace canal. Within one hundred eighty (180) days of the completion of Condition 7 above (Minimization of Powerhouse Leakage), Cascade shall begin a study to assess the occurrence of entry, delay, stranding, and/or delayed migration of salmonids in the tailrace canal. If the study determines that adverse conditions are occurring and remediation is necessary, the Permit Holder shall develop and implement a plan to improve conditions. The plan shall include consideration of a tailrace barrier. Prior to implementation, the Permit Holder shall submit the plan to Ecology for review and approval in accordance with Condition 21.

12. Department of Health Water System Planning

The water appropriated under this application will be used for public water supply. The State Board of Health rules require public water supply owners to obtain written approval from the Department of Health's Office of Drinking Water Supply, prior to any new construction or alterations of a public water supply system.

13. Shortage Management Plan

No later than two (2) years after this authorization to make use of public water becomes effective, Permit Holder shall adopt and submit to Ecology a shortage management plan intended to reduce and minimize the need for water for municipal water supply purposes when the region is experiencing dry or drought conditions.

14. Fish Screens on Outlets from Lake Tapps Reservoir

Within five (5) years of permit issuance, the Permit Holder shall install fish screens on any outlets from Lake Tapps Reservoir, if required and warranted based on scientific studies. Prior to construction, the Permit Holder shall submit a plan for installation, operation, and maintenance of the fish screens to WDFW for approval or modification. Fish screens shall be installed, operated, and maintained according to the plan approved by WDFW.

15. Measuring and Reporting Water Use

An approved measuring device shall be installed and maintained for the Lake Tapps water supply withdrawal pipeline to the water treatment plant in accordance with the rule "Requirements for Measuring and Reporting Water Use", chapter 173-173 WAC.

Water use data shall be recorded daily. The maximum monthly rate of diversion/withdrawal and the monthly total volume shall be submitted to Ecology in digital format by January 31 of each calendar year.

The following information shall be included with each submittal of water use data: owner, contact name if different, mailing address, daytime phone number, Water Resource Inventory Area ("WRIA"), Permit/Certificate/Claim No., source name, annual quantity used including units, maximum rate of diversion including units:

- Monthly meter readings including units;
- Peak monthly flow including units;
- Department of Health WFI water system number and source number(s);
- Purpose of use; and
- Open channel flow or pressurized diversion.

Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications of some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements."

16. Existing Rights

This authorization to make use of public water granted by the State of Washington is subject to existing water rights, including any existing rights held by the Tribes or the United States for the benefit of Tribes under treaty or settlement.

17. Use of Claim

This permit is expressly conditioned on the use of water under Claim No. 160822 to satisfy recreational, lake level, aquatic habitat, water quality, and other regulatory beneficial uses and the conditions of this permit.

18. Combined Diversion Not to Exceed Limits

The combined instantaneous diversion of water from the White River for municipal water supply under this authorization and under the rights the Permit Holder claims under Claim No. 160822 shall not exceed the limits established for additional purposes under the change decision in Claim No. 160822.

19. Trust Water Donation

No later than two (2) years after this authorization to make use of public water becomes effective, the Permit Holder shall submit to Ecology an application to make a permanent donation of a portion of Claim No. 160822 to the State's Trust Water Program.

20. Emergency Operations

Permit conditions regarding or affecting operation of Lake Tapps Reservoir and related facilities do not apply and shall be waived to the extent that emergency conditions require or as ordered by a court or by a

state or federal agency with jurisdiction. The Permit Holder shall notify Ecology of any emergency operations in accordance with Condition 21. Emergency conditions mean a temporary circumstance or condition caused by a natural disaster, accident or physical damage, or other extraordinary event that is not avoidable by the exercise of reasonable diligence. Emergency conditions do not include droughts or long term changes in hydrologic conditions.

21. Ecology Review and Approval Process

This provision defines two processes for communicating with Ecology for compliance with the provisions of this water right, including conditions 1, 2, 4, 5, 6, 7, 8, 11, and 20.

1. **Notify Ecology**
   Permit Holder shall provide notice in writing to Ecology's Southwest Regional Office Water Resources Program Supervisor, or other staff identified by Ecology, and shall ensure that Ecology receives the notice. This provision does not limit Ecology's legal authority to act. This provision applies to the requirement to notify Ecology in Condition 20.

2. **Ecology Review and Approval**
   Permit holder shall submit the required information for Ecology's review, comment, and approval. The information shall be submitted in writing to Ecology's Southwest Regional Office Water Resources Program Supervisor, or other staff identified by Ecology, and Permit Holder shall ensure that Ecology receives the information. Ecology shall review the submitted information and respond to the Permit Holder in a timely manner. This provision applies to the requirements for review and approval by Ecology in Conditions 1, 2, 4, 5, 6, 7, 8, and 11.

22. Adaptive Management

Based on the analyses conducted to evaluate this water right, Ecology is confident the project can achieve its instream flow, recreational lake level, and municipal water supply objectives on a reliable basis. The conditions of this water right provide the Permit Holder flexibility to adapt to a wide range of hydrologic conditions and still meet those objectives.

In the event that instream flow, recreational lake level, or municipal water supply objectives are not reliably met, Ecology shall consult with the Permit Holder to consider the reasons the objectives are not being met and identify possible operational changes in conformity with the conditions of this water right.

If necessary, Ecology may also convene, or direct the Permit Holder to convene, a process through which input is sought from stakeholders and other interested parties to identify possible operational changes which will result in the achievement of instream flows, recreational lake levels, and municipal water supply on a more reliable basis.

Consideration of operational changes will include, but not be limited to, the adaptive management measures identified in Section 12.3 of the Final Environmental Impact Statement. Additionally, the Permit Holder will work with other interested parties to secure funding for capital improvement projects if capital improvements are needed to meet the objectives of the project.

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or to give notice to the Department of Ecology on forms provided by the Department documenting such compliance.

Given under my hand and the seal of this office at Lacey, Washington this 10th day of Dec. 2010.

Department of Ecology

OK

By Thomas Loranger
Thomas Loranger, Section Manager

DEPARTMENT OF ECOLOGY
State of Washington

Water Resources Program
CONSTRUCTION NOTICE

☐ BEGINNING OF CONSTRUCTION ☐ COMPLETION OF CONSTRUCTION

☐ PROJECT ABANDONED ☐ REQUEST FOR EXTENSION (fee applies)

- **Beginning of Construction: development of the water system has begun.**
- **Completion of Construction: facilities are installed to deliver water to the project.**
- **Project Abandoned: water not needed for this project; authorization may now be canceled.**
- **Request for Extension: when the development schedule has not been met (see back of form).**

If requesting an extension, submit this form and $50 fee to: **DEPARTMENT OF ECOLOGY** **CASHIERING UNIT** **PO BOX 47611** **OLYMPIA, WA 98504-7611**		**Water Right No.:**	
Date Construction Began: / /	**Date Construction Expected:** / /	**Date Construction Completed:** / /	**Date Project Abandoned:** / /
Describe what equipment, material(s) and/or structure(s) are in place to date (Well, pump, pipes, number of homes, sprinklers, etc.)			
Have you installed a measuring device (flow meter) for the project? ☐ **YES** ☐ **NO** **If yes, submit a Pressurized Flow & Open Channel Flow form for each measuring device. Contact the Water Resources Program or obtain a form at http://www.ecy.wa.gov/biblio/ecy070171.html.** **Contact the Water Resources Program within your region for additional information.** **If no, explain:**			
IF CONSTRUCTION IS NOT COMPLETE, SHOW % COMPLETED AS OF THIS DATE			
% Equipment in place:	**% Material in place:**	**% Excavated:**	**% Structure:**

I certify I am the holder or authorized representative of the above water right issued by the Department of Ecology for the State of Washington.

Name: _____ **Date:** __/__/____
(Please print)

Address: _____ **City:** _____ **State:** _____ **Zip:** _____ **Telephone:** (___) ___-____

E-mail Address: _____

Signature(s): _____ _____

ECY 040-1-30 (Rev 8/26/10) *If you need this document in an alternate format, please call the Water Resources Program at 360-407 6600 Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.*

EXTENSION REQUEST

If you can't meet the deadline of the required construction schedule you may request an extension.
Extension requests shall be in writing and accompanied by a $50 fee.
The following information must be included with the request:

Water Resources Program policy POL-1050 applies to all requests for extensions of time, and the granting or denial of the request received pursuant to RCW 90.03 320 or 90 44.060 see the following link for that policy: http://www.ecy.wa.gov/programs/wr/rules/images/pdf/pol1050r.pdf

The permit holder may request an extension of time to any of the three developmental stages, specifically the Beginning of Construction date (BC), the Completion of Construction date (CC), and the Proof of Appropriation date (PA).

Every extension of time for a development phase of a permit must be requested in writing and accompanied by the required $50 fee.

The permit holder must show good cause for needing the extension, and demonstrate the due diligence and good-faith efforts made to comply with the original or updated construction schedule. The permit holder is responsible for ensuring that the permit is in good standing, and if necessary, for initiating requests for extensions.

Requests for extensions must include:

- **The reason(s) for needing the extension.**
- **A description of efforts made since the permit issued or the last extension was granted.**
- **A proposed schedule for completing the development.**

Additional information may be required. Please use a separate sheet of paper for your extension request.

Check the region in which your proposed project is located ☐ Southwest ☐ Northwest ☐ Central ☐ Eastern.
Below is a map of the State of Washington, with outlines of the areas covered by the four Ecology regional offices.

If you have additional questions, contact the Water Resources Program at the regional office in which your project is located:

Northwest Regional Office:
(425) 649-7000
3190-160th Avenue SE
Bellevue, WA 98008-5452

Central Regional Office:
(509) 575-2490
15 W Yakima Ave, Ste. 200
Yakima, WA 98902-3452

Southwest Regional Office:
(360) 407-6300
P.O. Box 47775
Olympia, WA 98504-7775

Eastern Regional Office:
(509) 329-3400
4601 N. Monroe St.
Spokane, WA 99205-1295

ECY 040-1-30 (Rev 8/26/10) *If you need this document in an alternate format please call the Water Resources Program at 360-407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.*

Permit cancellations

The cancellation of a permit can be initiated either by the applicant or by Ecology. If you wish to cancel the permit, you must request the cancellation in writing. Ecology may cancel your permit for non-compliance with the provisions of the permit, failure to meet the development schedule, or non-payment of fees. You will receive a warning letter with 60 days to respond, prior to cancellation.

If you sell the property covered by this permit

A water right permit is considered personal property in Washington. If you sell the property associated with the permit, the permit should be formally assigned to the new property owner. An assignment form requires the notarized signature of the permit holder. This form is then submitted to Ecology with the required $50.00 processing fee. An assignment form can be obtained from Ecology offices or our website. An assignment is also applicable to the application for permit stage of the process.

For more information

Contact your regional Ecology office for questions about your permit, or visit our website at www.ecy.wa.gov/programs/wr/wrhome.html

Northwest Regional Office
3190 - 160th Avenue SE
Bellevue, WA 98008-5452
(425) 649-7000

Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775
(360) 407- 6300

Central Regional Office
15 W. Yakima Ave., Suite 200
Yakima, WA 98902-3452
(509) 575-2490

Eastern Regional Office
N. 4601 Monroe
Spokane, WA 99205-1295
(509) 329-3400

You can download permit-related forms from www.ecy.wa.gov/biblio/forms-wrforms.html

This publication, and others about water rights, is available to view, download and/or order at www.ecy.wa.gov/biblio/wr.html

If you require this document in an alternate format, please call the Water Resources Program at (360) 407-6600 or TTY (for the speech or hearing impaired) at 711 or 800-833-6388.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Important Information About Your Water Right Permit

May 2004
(rev 7/07)
04-11-010

Under state law, the waters of Washington collectively belong to the public and cannot be owned by any individual or group. Instead, Ecology may grant individuals or groups the right to use them. You have taken the first major step towards securing a Certificate of Water Right by obtaining a water right permit. Be sure to read through your permit carefully, so that you fully understand all the terms and responsibilities associated with it.

Permits are permission to develop a water right

A permit is permission by the state to *develop* a water right. It is not a *final* water right. A permit allows you to proceed with construction of a water system and to put the water to use, in accordance with the conditions specified in your permit.

Key dates: mark your calendars!

The permit includes a Development Schedule that specifies the dates (on or before) by which you must:

1. *Begin construction* of the water system. "Beginning construction" means that the well is drilled or the surface water diversion is constructed.
2. *Complete construction* of the water system. Your project is considered complete when the equipment (pumps, pipes, etc.) for delivering water to the place of use is installed.
3. *Put the water to full beneficial use*, up to the amount specified in your permit. "Beneficial use" is a key concept in Washington water law. It refers to both what the water is used for (e.g. domestic use, irrigation, and recreation) as well as the amount of water necessary for the specified purpose (so water is not wasted.)

Reports must be submitted at each phase of development

As you complete each of these three stages in developing your water right, you will need to fill out and submit a form to Ecology to report your progress. These forms will be provided to you by Ecology, or you can download them from our internet site: www.ecy.wa.gov/biblio/forms-wrforms.html. These forms are:

1. "Construction Notice: Beginning of Construction."
2. "Construction Notice: Completion of Construction."
3. "Proof of Appropriation of Water:" when the water is put to full beneficial use. This form must be signed and notarized before you return it to Ecology.

It is important to complete each form for each stage in a timely manner. Failure to do so may result in the cancellation of your permit.

Extensions

Although you are expected to adhere to your Development Schedule, there are often extenuating circumstances that make this impossible. You may request an extension. Since state law requires that the project be pursued with diligence and that good cause be shown before an extension can be granted, your request must be made in writing and contain the following:

- Describe the project status and development to date.
- Explain the reasons for delay in developing the project.
- Discuss the steps that have been taken to overcome delays.
- Propose a new development schedule that you believe can be met and why.
- Include a check or money order for the $50.00 extension fee.

The Ecology regional section supervisor, with advice from staff, will evaluate the request and approve or deny it. Your extension request will be evaluated on the basis of your good faith efforts, proposed schedule and the public interests affected.

Unless you are notified otherwise, the check or money order should be included with the request and made out to the Department of Ecology. Submit fees to:

Department of Ecology
Cashiering Section
PO Box 5128
Lacey WA 98509-5128

Once your water is being put to full beneficial use

After receiving the completed and notarized Proof of Appropriation form, Ecology staff review the information and may do a field inspection (proof examination).
Once the department confirms that all the conditions of the permit are met, you will be asked to submit statutory filing fees and county auditor fees to Ecology. The county auditor will record and forward your *Certificate of Water Right* to you. It is the legal record of your water right.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

December 10, 2010

Cascade Water Alliance
11400 SE 8th Street Suite 440
Bellevue WA 98004

Re: Water Right No. R2-29935

Dear Sir or Madam:

Enclosed is your Permit to be retained for your records. Please read the enclosed information sheet, as well as your entire Permit.

You must meet the provisions on your Permit before we will issue a final Certificate of Water Right.

We are enclosing a *Proof of Appropriation of Water form* which is to be filed when the water has actually been put to full beneficial use or by December 31, 2060. This form will need to include your County Assessor's Parcel Number and must be notarized.

If you have any questions, please contact us at 360-407-6300.

Sincerely,

Thomas Loranger
Water Resources Section Manager

Enclosures: Permit
Proof of Appropriation of Water
Important Information About Your Water Right

[This page left blank intentionally.]

File NR R2-29935
WR Doc ID 22232

DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
RESERVOIR PERMIT

PRIORITY DATE
9/15/2000

WATER RIGHT NUMBER
R2-29935

MAILING ADDRESS
CASCADE WATER ALLIANCE
11400 SE 8TH ST STE 440
BELLEVUE WA 98004

SITE ADDRESS (IF DIFFERENT)

Purpose and Quantity

PURPOSE	STORAGE QUANTITY ADDITIVE	STORAGE QUANTITY NON-ADDITIVE	UNITS	ANNUAL QUANTITY (AF/YR) ADDITIVE	ANNUAL QUANTITY (AF/YR) NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal	46700		AF	46700		01/01 - 12/31

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Pierce	Lake Tapps	White River	10-Puyallup-White

Place of Use

PARCELS (NOT LISTED FOR SERVICE AREAS)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE
The place of use for this water right is the combined service areas described in the most recent Water System Plans approved by the Washington State Department of Health for Cascade Water Alliance, City of Seattle and the City of Tacoma.

Location of Impounding Structure

Dike Number	Location	Washington ID Number
1	NW1/4NW1/4 S9, TWP20N R5E	WA418
2A	NE1/4SE1/4 S5, TWP20N R5E	WA419
2B	NW1/4SW1/4 S4, TWP20N R5E	WA420
3	NE1/4SW1/4 S4, TWP20N R5E	WA421
4	W1/2SE1/4 S4 & NW1/4NE1/4 S9, TWP20N R5E	WA296
4A*	N1/2NE1/4 S9, TWP20N R5E	WA296
5*	NE1/4NE1/4 S9, TWP20N R5E	WA422
6*	SW1/4NW1/4 S10, TWP20N R5E	WA423
7	SW1/4NW1/4 S10, TWP20N R5E	WA435
8	E1/2NW1/4 S10, TWP20N R5E	WA424

WATER RIGHT PERMIT

9	NE1/4NW1/4 S10, TWP20N R5E	WA425
10	NE1/4NW1/4 & NW1/4NE1/4 S10, TWP20N R5E	WA426
11*	W1/2NE1/4 & SE1/4NE1/4 S10, TWP20N R5E	WA427
12	SE1/4SE1/4 S10, TWP20N R5E	WA428
13	NW1/4SW1/4 S27, TWP20N R5E	WA429
14	NW1/4NE1/4 S26, TWP20N R5E	WA430
15	SE1/4NW1/4 & SW1/4NE1/4 S26, TWP20N R5E	WA431

Legal Subdivisions Of Lands In Which The Submerged Area Is To Be Located

Lake Tapps Reservoir, located in Sections 4, 5, 8, 9, 10, 14, 15, 16, 17, 21, 22, 23, 27 and 28, T. 19 N., R. 5 E.W.M.

Construction of Impounding Structure

HEIGHT OF DAM
Varies from 5 to 45 Feet

LENGTH ON TOP (ft)
Varies from 240 to 2870 feet

WIDTH ON TOP (ft)
Varies from 19 to 70 feet

SLOPE OF FRONT OR WATER SIDE (ft horizontal)
Varies from 2.1:1 to 5.5:1

SLOPE OF BACKSIDE (ft horizontal : one ft vertical)
Varies from 1.4:1 to 2:1

HEIGHT OF DAM ABOVE WATER LINE AT NOPL (ft)
Varies from 1.6 to 9.2 feet

TYPE OF DAM AND CONSTRUCTION MATERIALS

Earthen embankments originally constructed in 1910-1911. No new dam construction required.

LOCATION AND APPROXIMATE DIMENSIONS OF SPILLWAY INCLUDING CREST LENGTH
Not applicable

LOCATION, SIZE AND TYPE AND OUTLET VALVE AND OUTLET CONDUIT STRUCTURE

The outlet from Lake Tapps is located in the SW¼ NE¼ of Section 8, T. 20 N., R. 5 E.W.M. It consists of a 2,842-foot long, 12-foot-diameter concrete tunnel that leads to a concrete penstock forebay located in the SW¼ NE¼ of Section 7, T. 20 N., R. 5 E.W.M. The water then enters three steel penstocks, 8 feet in diameter, and 2,135 feet in length that delivers water to the powerhouse. Two of the three steel penstocks are tapped to provide water to a fourth 8-foot-diameter steel penstock that is 1,791 feet long. The powerhouse discharges to the tailrace. The tailrace is trapezoidal in cross-section with a base width of 34 feet and a containment height of 9 to 10 feet. The tailrace is concrete-lined for the first 45 feet and then timber-lined for the next 65 feet and the last 2,400 feet leading to the White River are unlined.

NUMBER OF ACRES SUBMERGED WHEN RESERVOIR IS FILLED TO NOPL
2700

MAXIMUM DEPTH (FEET) AT NOPL
90

APPROXIMATE AVERAGE DEPTH (FEET)
25

Development Schedule

BEGIN PROJECT
Started

COMPLETE PROJECT
Completed

PUT WATER TO FULL USE
December 31, 2060

This Permit Subject to Cancellation

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or to give notice to the Department of Ecology on forms provided by the Department documenting such compliance.

Given under my hand and the seal of this office at Lacey, Washington this 10th day of Dec, 2010

OK

Department of Ecology

By

Thomas Loranger, Section Manager

[This page left blank intentionally.]

DEPARTMENT OF ECOLOGY
State of Washington

Water Resources Program
PROOF OF APPROPRIATION OF WATER

PERMIT NUMBER	CHANGE APPROVAL NUMBER
NAME OF PERMITTEE	CONTACT NAME (IF DIFFERENT)

MAILING ADDRESS (STREET)	CITY	STATE	ZIP CODE
PHONE NUMBER ( ) -	FAX NUMBER ( ) -		

SOURCE(S) OF WATER	LOCATION OF SOURCE(S)					
	NO.	¼	¼	SECTION	TOWNSHIP N.	RANGE, (E/W)M
LIST ALL PURPOSES WATER IS USED FOR:						
DATE WATER WAS COMPLETELY APPLIED TO BENEFICIAL USE	TIME OF YEAR WATER IS USED ☐ Continuous/Year round ☐ Seasonal			IF SEASONALLY, LIST THE START AND END DATE Start: End:		
DESCRIBE HOW CONSTRUCTION AND DEVELOPMENT RELATED PROVISIONS (AS REQUIRED BY PERMIT) HAVE BEEN OR ARE TO BE MET (USE ADDITIONAL PAPER IF NECESSARY)						

DESCRIPTION OF SPECIFIC AREA ON WHICH WATER IS BENEFICIALLY USED(USE ADDITIONAL PAPER IF NECESSARY)					
NO.	¼	¼	SECTION	TOWNSHIP N.	RANGE, (E/W)M

PHYSICAL WITHDRAWAL OR DIVERSION INFORMATION

Point of Diversion/Withdrawal Tax Parcel #:_____

For Pump Designed Water System Information:

TYPE OF PUMP: ☐ Submersible ☐ Turbine ☐ Centrifugal ☐ Other _____			
MAKE	MODEL #	SERIAL #	HORSEPOWER
MOTOR	BHP	SPEED	RPM
☐ Water lubricated ☐ Oil Lubricated			
BOOSTER PUMP ☐ Yes ☐ No	BREAK HORSEPOWER	PRESSURE	OPEN DISCHARGE ☐ Yes ☐ No
PUMP DISCHARGE HEAD PRESSURE psi	DISCHARGE PIPE DIAMETER		

For Ground Water Withdrawal (if more than one, please include attachment)

Ecology Unique Well Identification Number(s)_____ [include a copy of the well log(s)]

PUMP SETTING (DEPTH)	STATIC WATER LEVEL feet below land surface	DYNAMIC (PUMPING) LEVEL feet below land surface
ACCESS PORT INSTALLED? ☐ Yes	AIRLINE INSTALLED? ☐ Yes	AIRLINE LENGTH Ft.

For Non-Pump Designed Water Systems

METHOD OF WATER DIVERSION	DESCRIPTION OF WORKS	
	SCREEN MESH SIZE	METHOD OF CONTROL

USE OF WATER FOR:

1. Irrigation (Please include map of all irrigated lands).

TYPE OF SYSTEM	NUMBER OF SPRINKERS OR EMMITERS	SPRINKLER/EMMITER MAKE	MODEL & RATED DISCHARGE

SIZE NOZZLE/EMMITER OPENINGS	AVERAGE PRESSURE AT SPRINKLER/EMMITER HEADS	NUMBER OF ACRES DEVELOPED	TYPE OF CROP(S)

2. Municipal or Domestic Supply

NUMBER OF DOMESTIC UNITS CURRENTLY SERVED:	NUMBER OF DOMESTIC UNITS TO BE SERVED	POPULATION CURRENTLY SERVED

ALSO, provide the following information, if applicable:

- ☐ Department of Health public water system identification number.
- ☐ Map of the delivery system (provide copy if water system is done)
- ☐ Map of present service area and lots presently using water (Non-Municipal Users).
- ☐ If platted property, provide copy of the file plat map or file reference number Non-Municipal Users).
- ☐ Other incidental beneficial uses associated with the domestic supply (Non-Municipal Users).

3. Industrial or Commercial

TYPE OF INDUSTRY OR COMMERCIAL PROCESS

If a waste discharge permit is required for the facility, include a reference to the permit number: _____

4. Other Use of Water (describe): _____

WATER USE AND *MEASUREMENT

IS A FLOW METER OR MEASURING DEVICE INSTALLED? ☐ Yes ☐ No	LOCATION OF METER(S) OR MEASURING DEVICE(S)		
MAKE	SERIAL NUMBER	INSTALLATION DATE	INSTALLED BY:
METER READING	DATE		

*Include copy of meter specifications

Report actual amount withdrawn or diverted from permanent system on an instantaneous and annual basis. Please include meter data or describe method used to estimate annual volume.

CUBIC FEET PER SECOND	ACRE FEET PER YEAR	GALLONS PER MINUTE	TOTAL GALLONS PER YEAR

If the existing water use as indicated by meter data, etc., is less than you anticipate to be the full extent of the water right which you are reporting through submission of this form, please explain on a separate sheet of paper.

I, _____ (Please Print), and _____ (Please Print) do certify that I/we have completed appropriation of water under Water Right Permit or approved water right change number, _____. This notice and attached documents are true and accurate statements and describe and support my/our assertion that I/we have satisfied the terms of the permit/change in compliance with the law.

_____ Permittee(s) Signature

_____ Permittee(s) Signature

_____ Date

State of: _____

County of: _____ } §

Signed and sworn to (or affirmed) before me on this _____ day of _____.

_____ (Signature)

_____ (Printed Name)

_____ (Title)

My appointment expires: _____

ECY 040-1-26 (Rev 04/10) If you need this document in an alternate format, please call the Water Resources Program at 360-407-6872. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341

Permit cancellations

The cancellation of a permit can be initiated either by the applicant or by Ecology. If you wish to cancel the permit, you must request the cancellation in writing. Ecology may cancel your permit for non-compliance with the provisions of the permit, failure to meet the development schedule, or non-payment of fees. You will receive a warning letter with 60 days to respond, prior to cancellation.

If you sell the property covered by this permit

A water right permit is considered personal property in Washington. If you sell the property associated with the permit, the permit should be formally assigned to the new property owner. An assignment form requires the notarized signature of the permit holder. This form is then submitted to Ecology with the required $50.00 processing fee. An assignment form can be obtained from Ecology offices or our website. An assignment is also applicable to the application for permit stage of the process.

For more information

Contact your regional Ecology office for questions about your permit, or visit our website at www.ecy.wa.gov/programs/wr/wrhome.html

Northwest Regional Office
3190 - 160th Avenue SE
Bellevue, WA 98008-5452
(425) 649-7000

Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775
(360) 407-6300

Central Regional Office
15 W. Yakima Ave., Suite 200
Yakima, WA 98902-3452
(509) 575-2490

Eastern Regional Office
N. 4601 Monroe
Spokane, WA 99205-1295
(509) 329-3400

You can download permit-related forms from www.ecy.wa.gov/biblio/forms-wrforms.html

This publication, and others about water rights, is available to view, download and/or order at www.ecy.wa.gov/biblio/wr.html

If you require this document in an alternate format, please call the Water Resources Program at (360) 407-6600 or TTY (for the speech or hearing impaired) at 711 or 800-833-6388.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Important Information About Your Water Right Permit

May 2004
(rev 9/07)
04-11-010

Under state law, the waters of Washington collectively belong to the public and cannot be owned by any individual or group. Instead, Ecology may grant individuals or groups the right to use them. You have taken the first major step towards securing a Certificate of Water Right by obtaining a water right permit. Be sure to read through your permit carefully, so that you fully understand all the terms and responsibilities associated with it.

Permits are permission to develop a water right

A permit is permission by the state to *develop* a water right. It is not a *final* water right. A permit allows you to proceed with construction of a water system and to put the water to use, in accordance with the conditions specified in your permit.

Key dates: mark your calendars!

The permit includes a Development Schedule that specifies the dates (on or before) by which you must:

1. *Begin construction* of the water system. "Beginning construction" means that the well is drilled or the surface water diversion is constructed.
2. *Complete construction* of the water system. Your project is considered complete when the equipment (pumps, pipes, etc.) for delivering water to the place of use is installed.
3. *Put the water to full beneficial use*, up to the amount specified in your permit. "Beneficial use" is a key concept in Washington water law. It refers to both what the water is used for (e.g. domestic use, irrigation, and recreation) as well as the amount of water necessary for the specified purpose (so water is not wasted.)

Reports must be submitted at each phase of development

As you complete each of these three stages in developing your water right, you will need to fill out and submit a form to Ecology to report your progress. These forms will be provided to you by Ecology, or you can download them from our internet site: www.ecy.wa.gov/biblio/formswforms.html. These forms are:

1. "Construction Notice: Beginning of Construction."
2. "Construction Notice: Completion of Construction."
3. "Proof of Appropriation of Water:" when the water is put to full beneficial use. This form must be signed and notarized before you return it to Ecology.

It is important to complete each form for each stage in a timely manner. Failure to do so may result in the cancellation of your permit.

Extensions

Although you are expected to adhere to your Development Schedule, there are often extenuating circumstances that make this impossible. You may request an extension. Since state law requires that the project be pursued with diligence and that good cause be shown before an extension can be granted, your request must be made in writing and contain the following:

- Describe the project status and development to date.
- Explain the reasons for delay in developing the project.
- Discuss the steps that have been taken to overcome delays.
- Propose a new development schedule that you believe can be met and why.
- Include a check or money order for the $50.00 extension fee.

The Ecology regional section supervisor, with advice from staff, will evaluate the request and approve or deny it. Your extension request will be evaluated on the basis of your good faith efforts, proposed schedule and the public interests affected.

Unless you are notified otherwise, the check or money order should be included with the request and made out to the Department of Ecology. Submit fees to:

Department of Ecology
Cashiering Section
PO Box 5128
Lacey WA 98509-5128

Once your water is being put to full beneficial use

After receiving the completed and notarized Proof of Appropriation form, Ecology staff review the information and may do a field inspection (proof examination).

Once the department confirms that all the conditions of the permit are met, you will be asked to submit statutory filing fees and county auditor fees to Ecology. The county auditor will record and forward your *Certificate of Water Right* to you. It is the legal record of your water right.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

December 10, 2010

Cascade Water Alliance
11400 SE 8th Street Suite 440
Bellevue WA 98004

Re: Water Right No. S2-29934

Dear: Sir or Madam:

Enclosed is a Permit to be retained for your records. Please read the enclosed information sheet, as well as your entire Permit.

It is important to remember that this permit is not a *final* water right; it is permission to develop a water right.

We are enclosing a *Construction Notice* form. If you have not begun your project by **December 31, 2040**, please advise us. If you have begun construction, complete and submit the form to this office.

If you have any questions, please contact Ecology at 360-407-6300.

Sincerely,

Thomas Loranger
Water Resources Program

Enclosures: *Permit*
Construction Notice
Important Information About Your Water Right

[This page left blank intentionally.]

File NR S2-29934
WR Doc ID 22232

DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
WATER RIGHT PERMIT

PRIORITY DATE
9/15/2000

WATER RIGHT NUMBER
S2-29934P

MAILING ADDRESS
CASCADE WATER ALLIANCE
11400 SE 8TH ST STE 440
BELLEVUE WA 98004

SITE ADDRESS (IF DIFFERENT)

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
135	CFS	54300

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE ADDITIVE	WITHDRAWAL OR DIVERSION RATE NON-ADDITIVE	UNITS	ANNUAL QUANTITY (AF/YR) ADDITIVE	ANNUAL QUANTITY (AF/YR) NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal	135		CFS	54300		01/01 - 12/31

REMARKS
The diversion location will be Lake Tapps, likely in the forebay area of the White River Hydroelectric Project, but the specific location is not yet determined.

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Pierce	Lake Tapps	White River	10-Puyallup-White

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
UNBUILT FACILITY ON LAKE TAPPS	0520082019		20N	05E	08	SWNE	47.237999	-122.203379
							Datum: NAD83/WGS84	

Locations and parcel number are approximate.

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE
The place of use for this water right is the combined service areas described in the most recent Water System Plans approved by the Washington State Department of Health for the Cascade Water Alliance, the City of Seattle and the City of Tacoma.

Proposed Works

Lake Tapps Reservoir Water Rights and Supply Project

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
December 31, 2040	Within 15 Years of Begin Project	December 31, 2060

Provisions

The Development Schedule, and Provisions and Conditions of the 2010 Report of Examination for S2-29920(A) in their entirety are incorporated by reference.

This Permit Subject to Cancellation

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or to give notice to the Department of Ecology on forms provided by the Department documenting such compliance.

Given under my hand and the seal of this office at Lacey, Washington this 10th day of Dec, 2010.

OK

Department of Ecology

By

Thomas Loranger, Section Manager

Permit cancellations

The cancellation of a permit can be initiated either by the applicant or by Ecology. If you wish to cancel the permit; you must request the cancellation in writing. Ecology may cancel your permit for non-compliance with the provisions of the permit, failure to meet the development schedule, or non-payment of fees. You will receive a warning letter with 60 days to respond, prior to cancellation.

If you sell the property covered by this permit

A water right permit is considered personal property in Washington. If you sell the property associated with the permit, the permit should be formally assigned to the new property owner. An assignment form requires the notarized signature of the permit holder. This form is then submitted to Ecology with the required $50.00 processing fee. An assignment form can be obtained from Ecology offices or our website. An assignment is also applicable to the application for permit stage of the process.

For more information

Contact your regional Ecology office for questions about your permit, or visit our website at www.ecy.wa.gov/programs/wr/wrhome.html

Northwest Regional Office
3190 - 160th Avenue SE
Bellevue, WA 98008-5452
(425) 649-7000

Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775
(360) 407- 6300

Central Regional Office
15 W. Yakima Ave., Suite 200
Yakima, WA 98902-3452
(509) 575-2490

Eastern Regional Office
N. 4601 Monroe
Spokane, WA 99205-1295
(509) 329-3400

You can download permit-related forms from www.ecy.wa.gov/biblio/forms-wrforms.html

This publication, and others about water rights, is available to view, download and/or order at www.ecy.wa.gov/biblio/wr.html

If you require this document in an alternate format, please call the Water Resources Program at (360) 407-6600 or TTY (for the speech or hearing impaired) at 711 or 800-833-6388.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Important Information About Your Water Right Permit

May 2004
(rev 7/07)
04-11-010

Under state law, the waters of Washington collectively belong to the public and cannot be owned by any individual or group. Instead, Ecology may grant individuals or groups the right to use them. You have taken the first major step towards securing a Certificate of Water Right by obtaining a water right permit. Be sure to read through your permit carefully, so that you fully understand all the terms and responsibilities associated with it.

Permits are permission to develop a water right

A permit is permission by the state to *develop* a water right. It is not a *final* water right. A permit allows you to proceed with construction of a water system and to put the water to use, in accordance with the conditions specified in your permit.

Key dates: mark your calendars!

The permit includes a Development Schedule that specifies the dates (on or before) by which you must:

1. *Begin construction* of the water system. "Beginning construction" means that the well is drilled or the surface water diversion is constructed.
2. *Complete construction* of the water system. Your project is considered complete when the equipment (pumps, pipes, etc.) for delivering water to the place of use is installed.
3. *Put the water to full beneficial use*, up to the amount specified in your permit. "Beneficial use" is a key concept in Washington water law. It refers to both what the water is used for (e.g. domestic use, irrigation, and recreation) as well as the amount of water necessary for the specified purpose (so water is not wasted.)

Reports must be submitted at each phase of development

As you complete each of these three stages in developing your water right, you will need to fill out and submit a form to Ecology to report your progress. These forms will be provided to you by Ecology, or you can download them from our internet site: www.ecy.wa.gov/biblio/formswforms.html. These forms are:

1. "Construction Notice: Beginning of Construction."
2. "Construction Notice: Completion of Construction."
3. "Proof of Appropriation of Water:" when the water is put to full beneficial use. This form must be signed and notarized before you return it to Ecology.

It is important to complete each form for each stage in a timely manner. Failure to do so may result in the cancellation of your permit.

Extensions

Although you are expected to adhere to your Development Schedule, there are often extenuating circumstances that make this impossible. You may request an extension. Since state law requires that the project be pursued with diligence and that good cause be shown before an extension can be granted, your request must be made in writing and contain the following:

- Describe the project status and development to date.
- Explain the reasons for delay in developing the project.
- Discuss the steps that have been taken to overcome delays.
- Propose a new development schedule that you believe can be met and why.
- Include a check or money order for the $50.00 extension fee.

The Ecology regional section supervisor, with advice from staff, will evaluate the request and approve or deny it. Your extension request will be evaluated on the basis of your good faith efforts, proposed schedule and the public interests affected.

Unless you are notified otherwise, the check or money order should be included with the request and made out to the Department of Ecology. Submit fees to:

Department of Ecology
Cashiering Section
PO Box 5128
Lacey WA 98509-5128

Once your water is being put to full beneficial use

After receiving the completed and notarized Proof of Appropriation form, Ecology staff review the information and may do a field inspection (proof examination).
Once the department confirms that all the conditions of the permit are met, you will be asked to submit statutory filing fees and county auditor fees to Ecology. The county auditor will record and forward your *Certificate of Water Right* to you. It is the legal record of your water right.

DEPARTMENT OF ECOLOGY
State of Washington

Water Resources Program
CONSTRUCTION NOTICE

☐ BEGINNING OF CONSTRUCTION ☐ COMPLETION OF CONSTRUCTION

☐ PROJECT ABANDONED ☐ REQUEST FOR EXTENSION (fee applies)

- **Beginning of Construction: development of the water system has begun.**
- **Completion of Construction: facilities are installed to deliver water to the project.**
- **Project Abandoned: water not needed for this project; authorization may now be canceled.**
- **Request for Extension: when the development schedule has not been met (see back of form).**

If requesting an extension, submit this form and $50 fee to: DEPARTMENT OF ECOLOGY CASHIERING UNIT PO BOX 47611 OLYMPIA, WA 98504-7611		Water Right No.:	
Date Construction Began: / /	Date Construction Expected: / /	Date Construction Completed: / /	Date Project Abandoned: / /
Describe what equipment, material(s) and/or structure(s) are in place to date (Well, pump, pipes, number of homes, sprinklers, etc.)			
Have you installed a measuring device (flow meter) for the project? ☐ YES ☐ NO If yes, submit a Pressurized Flow & Open Channel Flow form for each measuring device. Contact the Water Resources Program or obtain a form at http://www.ecy.wa.gov/biblio/ecy070171.html. Contact the Water Resources Program within your region for additional information. If no, explain:			
IF CONSTRUCTION IS NOT COMPLETE, SHOW % COMPLETED AS OF THIS DATE			
% Equipment in place:	% Material in place:	% Excavated:	% Structure:

I certify I am the holder or authorized representative of the above water right issued by the Department of Ecology for the State of Washington.

Name: _____ **Date:** __/__/____
(Please print)

Address: _____ **City:** _____ **State:** _____ **Zip:** _____ **Telephone:** (___) ___-____

E-mail Address: _____

Signature(s): _____ _____

ECY 040-1-30 (Rev 8/26/10) *If you need this document in an alternate format, please call the Water Resources Program at 360-407-6600. Persons with hearing loss can call 711 for Washington Relay Service Persons with a speech disability can call 877-833-6341.*

EXTENSION REQUEST

If you can't meet the deadline of the required construction schedule you may request an extension. Extension requests shall be in writing and accompanied by a $50 fee. The following information must be included with the request:

Water Resources Program policy POL-1050 applies to all requests for extensions of time, and the granting or denial of the request received pursuant to RCW 90.03 320 or 90 44.060 see the following link for that policy: http://www.ecy.wa.gov/programs/wr/rules/images/pdf/pol1050r.pdf

The permit holder may request an extension of time to any of the three developmental stages, specifically the Beginning of Construction date (BC), the Completion of Construction date (CC), and the Proof of Appropriation date (PA).

Every extension of time for a development phase of a permit must be requested in writing and accompanied by the required $50 fee.

The permit holder must show good cause for needing the extension, and demonstrate the due diligence and good-faith efforts made to comply with the original or updated construction schedule. The permit holder is responsible for ensuring that the permit is in good standing, and if necessary, for initiating requests for extensions.

Requests for extensions must include:

- **The reason(s) for needing the extension.**
- **A description of efforts made since the permit issued or the last extension was granted.**
- **A proposed schedule for completing the development.**

Additional information may be required. Please use a separate sheet of paper for your extension request.

Check the region in which your proposed project is located ☐ Southwest ☐ Northwest ☐ Central ☐ Eastern. Below is a map of the State of Washington, with outlines of the areas covered by the four Ecology regional offices.

If you have additional questions, contact the Water Resources Program at the regional office in which your project is located:

Northwest Regional Office:
(425) 649-7000
3190-160th Avenue SE
Bellevue, WA 98008-5452

Central Regional Office:
(509) 575-2490
15 W Yakima Ave, Ste. 200
Yakima, WA 98902-3452

Southwest Regional Office:
(360) 407-6300
P.O. Box 47775
Olympia, WA 98504-7775

Eastern Regional Office:
(509) 329-3400
4601 N. Monroe St.
Spokane, WA 99205-1295

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

December 10, 2010

Cascade Water Alliance
11400 SE 8th Street Suite 440
Bellevue WA 98004

Re: Water Right No. S2-29920(B)

Dear: Sir or Madam:

Enclosed is a Permit to be retained for your records. Please read the enclosed information sheet, as well as your entire Permit.

It is important to remember that this permit is not a *final* water right; it is permission to develop a water right.

We are enclosing a *Construction Notice* form. If you have not begun your project by **December 31, 2030**, please advise us. If you have begun construction, complete and submit the form to this office.

If you have any questions, please contact Ecology at 360-407-6300.

Sincerely,

Thomas Loranger
Water Resources Program

Enclosures: *Permit*
Construction Notice
Important Information About Your Water Right

[This page left blank intentionally.]

File NR S2-29920(B)
WR Doc ID 46978

DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
WATER RIGHT PERMIT

PRIORITY DATE
6/20/2000

WATER RIGHT NUMBER
S2-29920(B

MAILING ADDRESS
CASCADE WATER ALLIANCE
11400 SE 8TH ST STE 440
BELLEVUE WA 98004

SITE ADDRESS (IF DIFFERENT)

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
10	CFS	5060

Purpose

	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		
PURPOSE	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal	10		CFS	5060		01/01 - 12/31

REMARKS

Ecology has issued two separate Reports of Examination corresponding to application S2-29920: one corresponds to the Lake Tapps Reservoir Water Rights and Supply Project [permit S2-29920(A)] and the other corresponds to the Regional Reserved Water Program [permit S2-29920(B)]. Water quantities from the two permits are additive. The two permits have the same priority date, but the permit for S2-29920(A) is superior in priority. Both of the permits are evaluated in one Investigator's Report.

This permit establishes a Regional Reserved Water Program to be used by the Cities of Auburn, Bonney Lake, Buckley, and Sumner (collectively referred to as the "Four Cities"). The Regional Reserved Water Program provides a mechanism that can be used by the Four Cities to mitigate impacts to the mainstem White and Puyallup Rivers in connection with water right applications to be submitted in the future. "Regional Reserved Water" refers to the water allocated by this permit.

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Pierce	White River	Puyallup River	10-Puyallup-White

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
WHITE RIVER (NON DIVERSIONARY)			19N	06E	02			

Datum: NAD83/WGS84

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

White River from the diversion dam (RM 24.3) to the confluence with the Puyallup River (RM 0.0) and the Puyallup River from the confluence with the White River (RM 10.4) to Commencement Bay (RM 0.0).

Proposed Works

Not Applicable

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
	December 31, 2030	

Any water right applicant seeking to use the Regional Reserved Water as a component of their application shall obtain an approved water right from the Washington State Department of Ecology ("Ecology") prior to the Begin Project Date of December 31, 2030. The Begin Project Date shall not be extended.

The remaining development schedule shall be established in the Report of Examination for any water right application making use of Regional Reserved Water

Provisions:

The Permit Holder must meet the provisions and conditions of this section.

1. Minimum Flow

Regional Reserved Water has no mitigation value when flows are below the Minimum Flow established in table and its use shall not reduce the instream flow of the White River below the Minimum Flow established in Table 1. Compliance with the Minimum Flows shown in table shall be measured at USGS gage 12099200 – White River above Boise Creek at Buckley, or other appropriate gage established by the Permit Holder of S2-29920(A) in accordance with the conditions of that water right.

Table 1. Minimum Flow

Time Period	Minimum Flow	Time Period	Minimum Flow
January 1-14	650 cfs	July 1-23	800 cfs
January 15-31	525 cfs	July 24-31	650 cfs
February 1-14	550 cfs	August 1-6	650 cfs
February 15-29	500 cfs	August 7-31	500 cfs
March 1-14	550 cfs	September 1-14	500 cfs
March 15-31	725 cfs	September 15-30	500 cfs
April 1-14	775 cfs	October 1-14	500 cfs
April 15-30	825 cfs	October 15-31	500 cfs
May 1-14	875 cfs	November 1-14	500 cfs
May 15-31	875 cfs	November 15-30	550 cfs
June 1-14	800 cfs	December 1-14	550 cfs
June 15-30	800 cfs	December 15-31	600 cfs

2. Subject to Puyallup River at Puyallup Minimum Instream Flow

The Regional Reserved Water Program is junior to the Minimum Instream Flow ("MIF") for the Puyallup River at Puyallup established in WAC 173-510-030. Regional Reserved Water shall not be used as mitigation in any way that would decrease flows in the Puyallup River at Puyallup when that gage is below the MIF.

3. Mitigation Value Limited to Mainstem White and Puyallup Rivers

The mitigation value of Regional Reserved Water is limited to the mainstem of the White River downstream of the diversion dam and the mainstem of the Puyallup River downstream of the confluence with the White River. Regional Reserved Water is not available to mitigate impacts to tributaries of the White River or the Puyallup River.

4. Additional Water Right(s) Required

Regional Reserved Water cannot be used as mitigation except as authorized by a new water right or change to existing right.

5. Supply and Demand Analysis Required

Any application proposing to use Regional Reserved Water shall provide a detailed water supply and demand analysis documenting that the water quantities in the application will be put to beneficial use.

6. Use Limited to Four Cities

Use of the Regional Reserved Water Program established by this water right is limited to the Cities of Auburn, Bonney Lake, Buckley and Sumner.

7. Subject to Cancellation on January 1, 2031

Ecology approval for any water rights using the Regional Reserved Water Program must be secured by December 31, 2030. Any portion of the permit for the Regional Reserved Water Program that has not been allocated in conjunction with a water right approved by Ecology shall be cancelled on January 1, 2031.

This Permit Subject to Cancellation

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or to give notice to the Department of Ecology on forms provided by the Department documenting such compliance.

Given under my hand and the seal of this office at Lacey, Washington this 10th day of Dec., 2010

OK

Department of Ecology

By Thomas Loranger

Thomas Loranger, Section Manager

DEPARTMENT OF ECOLOGY
State of Washington

Water Resources Program
CONSTRUCTION NOTICE

☐ BEGINNING OF CONSTRUCTION ☐ COMPLETION OF CONSTRUCTION

☐ PROJECT ABANDONED ☐ REQUEST FOR EXTENSION (fee applies)

- **Beginning of Construction: development of the water system has begun.**
- **Completion of Construction: facilities are installed to deliver water to the project.**
- **Project Abandoned: water not needed for this project; authorization may now be canceled.**
- **Request for Extension: when the development schedule has not been met (see back of form).**

If requesting an extension, submit this form and $50 fee to: DEPARTMENT OF ECOLOGY CASHIERING UNIT PO BOX 47611 OLYMPIA, WA 98504-7611		Water Right No.:	
Date Construction Began: / /	Date Construction Expected: / /	Date Construction Completed: / /	Date Project Abandoned: / /
Describe what equipment, material(s) and/or structure(s) are in place to date (Well, pump, pipes, number of homes, sprinklers, etc.)			
Have you installed a measuring device (flow meter) for the project? ☐ YES ☐ NO If yes, submit a Pressurized Flow & Open Channel Flow form for each measuring device. Contact the Water Resources Program or obtain a form at http://www.ecy.wa.gov/biblio/ecy070171.html. Contact the Water Resources Program within your region for additional information. If no, explain:			
IF CONSTRUCTION IS NOT COMPLETE, SHOW % COMPLETED AS OF THIS DATE			
% Equipment in place:	% Material in place:	% Excavated:	% Structure:

I certify I am the holder or authorized representative of the above water right issued by the Department of Ecology for the State of Washington.

Name: _____ **Date:** ___/___/___
(Please print)

Address: _____ **City:** _____ **State:** _____ **Zip:** _____ **Telephone:** (___) ___-____

E-mail Address: _____

Signature(s): _____ _____

ECY 040-1-30 (Rev 8/26/10) *If you need this document in an alternate format, please call the Water Resources Program at 360-407-6600*
Persons with hearing loss can call 711 for Washington Relay Service Persons with a speech disability can call 877-833-6341

EXTENSION REQUEST

If you can't meet the deadline of the required construction schedule you may request an extension. Extension requests shall be in writing and accompanied by a $50 fee. The following information must be included with the request:

Water Resources Program policy POL-1050 applies to all requests for extensions of time, and the granting or denial of the request received pursuant to RCW 90.03 320 or 90 44.060 see the following link for that policy: http://www.ecy.wa.gov/programs/wr/rules/images/pdf/pol1050r.pdf

The permit holder may request an extension of time to any of the three developmental stages, specifically the Beginning of Construction date (BC), the Completion of Construction date (CC), and the Proof of Appropriation date (PA).

Every extension of time for a development phase of a permit must be requested in writing and accompanied by the required $50 fee.

The permit holder must show good cause for needing the extension, and demonstrate the due diligence and good-faith efforts made to comply with the original or updated construction schedule. The permit holder is responsible for ensuring that the permit is in good standing, and if necessary, for initiating requests for extensions.

Requests for extensions must include:

- **The reason(s) for needing the extension.**
- **A description of efforts made since the permit issued or the last extension was granted.**
- **A proposed schedule for completing the development.**

Additional information may be required. Please use a separate sheet of paper for your extension request.

Check the region in which your proposed project is located ☐ Southwest ☐ Northwest ☐ Central ☐ Eastern. Below is a map of the State of Washington, with outlines of the areas covered by the four Ecology regional offices.

If you have additional questions, contact the Water Resources Program at the regional office in which your project is located:

Northwest Regional Office:
(425) 649-7000
3190-160th Avenue SE
Bellevue, WA 98008-5452

Central Regional Office:
(509) 575-2490
15 W Yakima Ave, Ste. 200
Yakima, WA 98902-3452

Southwest Regional Office:
(360) 407-6300
P.O. Box 47775
Olympia, WA 98504-7775

Eastern Regional Office:
(509) 329-3400
4601 N. Monroe St.
Spokane, WA 99205-1295

Permit cancellations

The cancellation of a permit can be initiated either by the applicant or by Ecology. If you wish to cancel the permit, you must request the cancellation in writing. Ecology may cancel your permit for non-compliance with the provisions of the permit, failure to meet the development schedule, or non-payment of fees. You will receive a warning letter with 60 days to respond, prior to cancellation.

If you sell the property covered by this permit

A water right permit is considered personal property in Washington. If you sell the property associated with the permit, the permit should be formally assigned to the new property owner. An assignment form requires the notarized signature of the permit holder. This form is then submitted to Ecology with the required $50.00 processing fee. An assignment form can be obtained from Ecology offices or our website. An assignment is also applicable to the application for permit stage of the process.

For more information

Contact your regional Ecology office for questions about your permit, or visit our website at www.ecy.wa.gov/programs/wr/wrhome.html

Northwest Regional Office
3190 - 160th Avenue SE
Bellevue, WA 98008-5452
(425) 649-7000

Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775
(360) 407- 6300

Central Regional Office
15 W. Yakima Ave., Suite 200
Yakima, WA 98902-3452
(509) 575-2490

Eastern Regional Office
N. 4601 Monroe
Spokane, WA 99205-1295
(509) 329-3400

You can download permit-related forms from www.ecy.wa.gov/biblio/forms-wrforms.html

This publication, and others about water rights, is available to view, download and/or order at www.ecy.wa.gov/biblio/wr.html

If you require this document in an alternate format, please call the Water Resources Program at (360) 407-6600 or TTY (for the speech or hearing impaired) at 711 or 800-833-6388.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Important Information About Your Water Right Permit

May 2004
(rev 7/07)
04-11-010

Under state law, the waters of Washington collectively belong to the public and cannot be owned by any individual or group. Instead, Ecology may grant individuals or groups the right to use them. You have taken the first major step towards securing a Certificate of Water Right by obtaining a water right permit. Be sure to read through your permit carefully, so that you fully understand all the terms and responsibilities associated with it.

Permits are permission to develop a water right

A permit is permission by the state to *develop* a water right. It is not a *final* water right. A permit allows you to proceed with construction of a water system and to put the water to use, in accordance with the conditions specified in your permit.

Key dates: mark your calendars!

The permit includes a Development Schedule that specifies the dates (on or before) by which you must:

1. *Begin construction* of the water system. "Beginning construction" means that the well is drilled or the surface water diversion is constructed.
2. *Complete construction* of the water system. Your project is considered complete when the equipment (pumps, pipes, etc.) for delivering water to the place of use is installed.
3. *Put the water to full beneficial use*, up to the amount specified in your permit. "Beneficial use" is a key concept in Washington water law. It refers to both what the water is used for (e.g. domestic use, irrigation, and recreation) as well as the amount of water necessary for the specified purpose (so water is not wasted.)

Reports must be submitted at each phase of development

As you complete each of these three stages in developing your water right, you will need to fill out and submit a form to Ecology to report your progress. These forms will be provided to you by Ecology, or you can download them from our internet site: www.ecy.wa.gov/biblio/forms-wrforms.html. These forms are:

1. "Construction Notice: Beginning of Construction."
2. "Construction Notice: Completion of Construction."
3. "Proof of Appropriation of Water:" when the water is put to full beneficial use. This form must be signed and notarized before you return it to Ecology.

It is important to complete each form for each stage in a timely manner. Failure to do so may result in the cancellation of your permit.

Extensions

Although you are expected to adhere to your Development Schedule, there are often extenuating circumstances that make this impossible. You may request an extension. Since state law requires that the project be pursued with diligence and that good cause be shown before an extension can be granted, your request must be made in writing and contain the following:

- Describe the project status and development to date.
- Explain the reasons for delay in developing the project.
- Discuss the steps that have been taken to overcome delays.
- Propose a new development schedule that you believe can be met and why.
- Include a check or money order for the $50.00 extension fee.

The Ecology regional section supervisor, with advice from staff, will evaluate the request and approve or deny it. Your extension request will be evaluated on the basis of your good faith efforts, proposed schedule and the public interests affected.

Unless you are notified otherwise, the check or money order should be included with the request and made out to the Department of Ecology. Submit fees to:

Department of Ecology
Cashiering Section
PO Box 5128
Lacey WA 98509-5128

Once your water is being put to full beneficial use

After receiving the completed and notarized Proof of Appropriation form, Ecology staff review the information and may do a field inspection (proof examination).

Once the department confirms that all the conditions of the permit are met, you will be asked to submit statutory filing fees and county auditor fees to Ecology. The county auditor will record and forward your *Certificate of Water Right* to you. It is the legal record of your water right.

201506040358 RJOHNSO 8 PGS
06/04/2015 11:54:21 AM $79.00
AUDITOR, Pierce County, WASHINGTON

RECEIVED
JUN 26 2015
WA State Department
of Ecology (SWRO)

DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE
PO BOX 47775
OLYMPIA, WA 98504-7775

DOCUMENT TITLE: CERTIFICATE OF CHANGE OF WATER RIGHT

REFERENCE NUMBER:

GRANTOR
STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
ECOLOGY SOUTHWEST REGIONAL OFFICE (ECY SWRO)
PO BOX 47775
OLYMPIA, WASHINGTON 98504-7775

GRANTEE
CASCADE WATER ALLIANCE
520 112TH AVENUE NE
SUITE 400
BELLEVUE WA 98004

LEGAL DESCRIPTION

Source Name	Parcel	Township	Range	Sec	QQ Q
WHITE RIVER		19 N	06 E	02	NE

AUTHORIZED PLACE OF USE
EXISTING IMPOUNDING STRUCTURE OF LAKE TAPPS RESERVOIR IN SECTIONS 4, 5, 8, 9, 10, 14, 15, 16, 17, 21, 22, 23, 27, AND 28, TOWNSHIP 19 N, RANGE 5 EWM

PARCELS:

ADDITIONAL LEGAL IS ON PAGE ____ OF ATTACHED DOCUMENT

[This page left blank intentionally.]

JUN 26 2015

WA State Department
of Ecology (SWRO)

File No. S2-CV1-2P168(B)

State of Washington
Department of Ecology

CERTIFICATE OF CHANGE OF WATER RIGHT

DEPARTMENT OF ECOLOGY
State of Washington

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used. This superseding certificate is the result of the administrative division of Water Right Claim #160822 and shall not be construed as validation as to the extent of the claim as originally documented. The amounts provided on the superseding portions of this water right reflect agreement among the owners of the described place of use, but are not confirmed by Ecology in the recording of the division of said right. The actual amounts authorized by the superseding certificates are subject to the historic beneficial use of water under water right document.

This certificate of change supersedes Water Right Claim #160822 and is subject to the following provisions.

PRIORITY DATE	CLAIM NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
4/17/1895	160822		S2-CV1-2P168(B)

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
CASCADE WATER ALLIANCE 520 112TH AVENUE NE SUITE 400 BELLEVUE WA 98004	

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
1,000	cfs	246,710

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE ADDITIVE	WITHDRAWAL OR DIVERSION RATE NON-ADDITIVE	UNITS	ANNUAL QUANTITY (AF/YR) ADDITIVE	ANNUAL QUANTITY (AF/YR) NON-ADDITIVE	PERIOD OF USE (mm/dd)
Hydroelectric plant; Recreational reservoir levels; winter reservoir levels to maintain reservoir; protect and enhance fish and wildlife; maintenance of water quality for recreational purposes in the reservoir and to meet other regulatory requirements	1,000		cfs	246,710		1/01-12/31

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Pierce	White River	Puyallup River	10

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Approximate Location of Diversion: 200 feet East and 200 feet South from the North quarter corner of Section 2			19 N	06 E	02	NE 1/4		

Place of Use

PARCELS (NOT LISTED FOR SERVICE AREAS)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Existing impounding structure of Lake Tapps Reservoir in Sections 4, 5, 8, 9, 10, 14, 15, 16, 17, 21, 22, 23, 27 and 28, Township 19 N, Range 5 E.W.M.

Measurement of Water Use

How often must water use be measured?

How often must water use data be reported to Ecology? See Provision 8

What volume should be reported?

What rate should be reported?

Provisions

The Water Right Holder must meet the provisions of this section. The references to "this authorization" in the provision refer to change CS2-160822CL@3, authorized on 12/10/2010. Numbering of the following provisions was done consistently with applicable provisions in permit S2-29920(A).

The Water Right Holder may elect to donate a portion of this water right to the Trust Water Rights Program on a temporary basis.

1. Minimum Flow

The Water Right Holder may divert water from the White River to Lake Tapps Reservoir, subject to the schedule of maximum diversion rates provided below in Condition 2, only if the diversion does not reduce the instream flow of the White River below the Minimum Flow established in Table 1.

Compliance with the Minimum Flows shown in Table 1 shall be measured at U.S. Geological Survey ("USGS") gage 12099200 – White River above Boise Creek at Buckley gage (referred to as the "Buckley Gage"), or other appropriate gage subject to review and approval by the Washington State Department of Ecology ("Ecology") in accordance with Condition 21.

The Water Right Holder may divert up to 20 cfs of water from the headgate and through the fish screens when the flow is below the Minimum Flow, set out in Table 1, due to natural flow conditions.

Table 1. Minimum Flow

Time Period	Minimum Flow	Time Period	Minimum Flow
January 1-14	650 cfs	July 1-23	800 cfs
January 15-31	525 cfs	July 24-31	650 cfs
February 1-14	550 cfs	August 1-6	650 cfs
February 15-29	500 cfs	August 7-31	500 cfs
March 1-14	550 cfs	September 1-14	500 cfs
March 15-31	725 cfs	September 15-30	500 cfs
April 1-14	775 cfs	October 1-14	500 cfs
April 15-30	825 cfs	October 15-31	500 cfs
May 1-14	875 cfs	November 1-14	500 cfs
May 15-31	875 cfs	November 15-30	550 cfs
June 1-14	800 cfs	December 1-14	550 cfs
June 15-30	800 cfs	December 15-31	600 cfs

2. Schedule of Maximum Diversion Rates

If the instream flow of the White River at the Buckley Gage (or other appropriate gage subject to review and approval by Ecology in accordance with Condition 21) exceeds the Minimum Flow established in Condition 1, then the Water Right Holder may divert water from the White River into Lake Tapps Reservoir in a manner consistent with the following schedule and amounts:

a. Beginning no earlier than February 15, and continuing until Lake Tapps Reservoir is refilled to Normal Full Pool (as defined in Condition 5), or until July 1, whichever is earlier ("Refill Date") water may be diverted from the White River in an amount not to exceed 1000 cfs;

b. Beginning on the Refill Date until September 15 or the subsequent date the Water Right Holder commences drawing down the water level of Lake Tapps Reservoir, whichever is later ("Fall Drawdown Date"), water may be diverted from the White River in an amount not to exceed 400 cfs; and

c. Beginning on the Fall Drawdown Date until February 15 water may be diverted from the White River in an amount not to exceed 150 cfs.

3. Releases from Reservoir

The Water Right Holder shall limit releases from Lake Tapps Reservoir into the tailrace canal to not more than 50 cfs, except when Lake Tapps Reservoir is being drawn down, in accordance with Condition 2.c above.

4. Ramping Rates

The diversion from the White River and the release from Lake Tapps Reservoir through the tailrace canal shall at all times be operated so that;

a. The ramping rate does not exceed one inch per hour (increase or decrease) as measured respectively at the Buckley Gage (or other appropriate gage subject to review and approval by Ecology in accordance with Condition 21) and USGS gage 12101100 - Lake Tapps Diversion at Dieringer; and

b. Between February 16 and June 15 of each year downramping shall not be permitted between one hour before sunrise and one hour after sunset.

5. Recreational Lake Levels

The Water Right Holder shall maintain lake levels in Lake Tapps Reservoir according to the schedule established below. "Normal Full Pool" is defined as a reservoir water level between 541.0 feet and 542.5 feet National Geodetic Vertical Datum 1929 ("NGVD 29") as measured at USGS gage 12101000 – Lake Tapps near Sumner.

a) The Water Right Holder shall maintain Normal Full Pool from April 15 through September 30 of each year until 30 years of the issuance of the permit or Water Right Holder's commencement of the use of Lake Tapps Reservoir for municipal water supply, whichever comes later.

b) Thereafter, the Water Right Holder shall:

i) Maintain Normal Full Pool from April 15 through September 15; and

ii) Maintain Normal Full Pool from September 16 through September 30 of each year more than ninety percent (90%) of the time, measured by the number of days (i.e., no more

than fifteen (15) days in a rolling ten (10) year period of time) below the lower parameter of the Normal Full Pool, starting with the first calendar year in which lake levels fall below the lower parameter of the Normal Full Pool.

c) The Water Right Holder shall make reasonable efforts to maintain Normal Full Pool through October 31 in all years.

d) Within the above-described time periods, operational variances may be required due to forecasts or available precipitation, any necessary milfoil control, or the terms and conditions of this authorization or of applicable law.

The schedule of lake levels and the definition of Normal Full Pool may be modified. Water Right Holder shall submit any proposal for modification to Ecology for review and approval in accordance with Condition 21. The proposal shall include documentation that Water Right Holder has completed an appropriate consultation or negotiation process with stakeholders and other interested parties.

8. Streamflow Monitoring

Within two (2) years of the approval of the change, the Water Right Holder shall submit to Ecology a plan to install, operate, maintain, and report from streamflow gages necessary to monitor the minimum flows and staff gages to monitor the ramping rates required by this approval. The plan shall include at a minimum gages at the following locations:

- Canal Diversion
- White River above Boise Creek at Buckley gage (or other appropriate gage subject to review and approval by Ecology in accordance with Condition 21)
- Tailrace Release
- Lake Tapps water surface elevation (on a daily basis)

The plan shall describe the method of collecting and recording the flow and ramping rate data, and include a provision for periodically providing that data to Ecology, Washington Department of Fish and Wildlife ("WDFW"), National Oceanic and Atmospheric Association National Marine Fisheries Service ("NOAA Fisheries"), U.S. Fish and Wildlife Service ("USFWS"), USGS, the Puyallup Tribe of Indians, and Muckleshoot Indian Tribe. The Water Right Holder shall prepare the plan after providing a draft and opportunity to comment to Ecology, WDFW, NOAA Fisheries, USFWS, USGS, the Puyallup Tribe of Indians and Muckleshoot Indian Tribe. The final plan shall be submitted to Ecology for review and approval in accordance with Condition 21. The plan shall be implemented, including installation and operation of all gages, within one year after approval by Ecology.

The Water Right Holder shall use the most accurate gaging equipment and methodology as determined by the USGS. At least every five (5) years, Water Right Holder shall evaluate the adequacy of the stream flow monitoring gages. The Water Right Holder shall maintain the above streamflow gages for the duration of this project.

9. Maintenance of Diversion Canal Fish Screens

Water Right Holder shall maintain the fish screens in the diversion canal so that they continue to meet or exceed their design specifications for fish passage and all applicable federal or state requirements.

18. Combined Diversion Not to Exceed Limits
The combined instantaneous diversion of water under this Claim No. 160822 and from the White River for municipal water supply under the associated permit S2-29920(A) shall not exceed the limits established for additional purposes under this change decision in the Claim No. 160822.

20. Emergency Operations
Permit conditions regarding or affecting operation of Lake Tapps Reservoir and related facilities do not apply and shall be waived to the extent that emergency conditions require or as ordered by a court or by a state or federal agency with jurisdiction. The Water Right Holder shall notify Ecology of any emergency operations in accordance with Condition 21. Emergency conditions means a temporary circumstance or condition caused by a natural disaster, accident or physical damage, or other extraordinary event that is not avoidable by the exercise of reasonable diligence. Emergency conditions do not include droughts or long term changes in hydrologic conditions.

21. Ecology Review and Approval Process
This provision defines two processes for communicating with Ecology for compliance with the provisions of this water right, including conditions 1, 2, 4, 5, 8, and 20.

1. Notify Ecology
Water Right Holder shall provide notice in writing to Ecology's Southwest Regional Office Water Resources Program Supervisor, or other staff identified by Ecology, and shall ensure that Ecology receives the notice. This provision does not limit Ecology's legal authority to act. This provision applies to the requirement to notify Ecology in Condition 20.

2. Ecology Review and Approval
Water Right Holder shall submit the required information for Ecology's review, comment, and approval. The information shall be submitted in writing to Ecology's Southwest Regional Office Water Resources Program Supervisor, or other staff identified by Ecology, and Water Right Holder shall ensure that Ecology receives the information. Ecology shall review the submitted information and respond to the Water Right Holder in a timely manner. This provision applies to the requirements for review and approval by Ecology in Conditions 1, 2, 4, 5, and 8.

22. Adaptive Management
Based on the analyses conducted to evaluate this water right, Ecology is confident the project can achieve its instream flow, recreational lake level, and municipal water supply objectives on a reliable basis. The conditions of this water right provide the Water Right Holder flexibility to adapt to a wide range of hydrologic conditions and still meet those objectives.

In the event that instream flow, recreational lake level, or municipal water supply objectives are not reliably met, Ecology shall consult with the Water Right Holder to consider the reasons the objectives are not being met and identify possible operational changes in conformity with the conditions of this water right.

If necessary, Ecology may also convene, or direct the Water Right Holder to convene, a process through which input is sought from stakeholders and other interested parties to identify possible operational changes which will result in the achievement of instream flows, recreational lake levels, and municipal water supply on a more reliable basis.

Consideration of operational changes will include, but not be limited to, the adaptive management measures identified in Section 12.3 of the Final Environmental Impact Statement. Additionally, the Water Right Holder will work with other interested parties to secure funding for capital improvement projects if capital improvements are needed to meet the objectives of the project.

The right to use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.100.

This certificate of change for water right is specifically subject to relinquishment for non-use of water as provided in Chapter 90.14 RCW.

Given under my hand and the seal of this office at Olympia, Washington, this 2nd *day of* June *2015.*

DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON

Maia Bellon, Director
Department of Ecology

DATA REVIEW
OK

Michael J. Gallagher
Michael J. Gallagher, Section Manager
Southwest Region
Water Resources Program

If you need this publication in an alternate format, please call Water Resources Program at 360-407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

[This page left blank intentionally.]

201502090445 LPATTER 4 PGS
02/09/2015 10:08:18 AM $75.00
AUDITOR, Pierce County, WASHINGTON

Name & Return Address:
Adam Gravley
Van Ness Feldman, LLP
719 Second Avenue, Suite 1150
Seattle, WA 98104

Please print legibly or type information.

Document Title(s) Water Rights Deed
Grantor(s) **Cascade Water Alliance** ____ Additional Names on Page ___ of Document
Grantee(s) **Washington State Department of Ecology** ____ Additional Names on Page ___ of Document
Legal description (abbreviated: i.e. lot, block, plat & subdivision name or number OR section/township/range and quarter/quarter section) Township 19 N, Range 06 E, NE¼ NE¼ Section 2 Township 20 N, Range 05 E, NW ¼ Section 7; Township 20 N, Range 05 E, N ½ Section 8 Complete Legal Description on Page 4 of Document (in Exhibit 1).
Auditor's Reference Number(s) N/A
Assessor's Property Tax Parcel/Account Number(s) 06-19-02-1-006; 05-20-07-2-001 and 95-20-00-0-071; 05-20-08-2-019
The Auditor/Recorder will rely on the information provided on this cover sheet. The Staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

4359701 2 PGS
02/09/2015 10:08:18 AM LPATTER
EXCISE COLLECTED: $0.00 PROC FEE: $5.00
AUDITOR
Pierce County, WASHINGTON TECH FEE: $5.00

WATER RIGHTS DEED

Grantor: Cascade Water Alliance
Grantee: Washington State Department of Ecology
Legal Description (abbreviated): T 19 N, R 06 E, NE¼ NE¼ Sec. 2;
T 20 N, R5E, NW ¼ Sec 7;
T 20 N, R5E, N ½ Sec 8

Assessor's Tax Parcel ID#: **06-19-02-1-006;**
05-20-07-2-001 and 95-20-00-0-071;
05-20-08-2-019

THE GRANTOR, CASCADE WATER ALLIANCE, for and in consideration received and acknowledged, quitclaims to WASHINGTON STATE DEPARTMENT OF ECOLOGY a portion, in the quantity of 988 cubic feet per second and 684,571 acre-feet per year, of that certain Water Right Claim No. 160822, with priority date April 17, 1895, and as amended and tentatively determined in State of Washington Report of Examination CS2-160822CL, dated September 15, 2010. Said Water Right Claim No. 160822 was historically exercised from the White River at a point of diversion located in the NE¼ NE¼ of Section 2, Township 19 N, Range 06 E, and situated in the Pierce County, State of Washington, as more specifically identified in Exhibit 1 attached hereto and incorporated herein.

The GRANTOR herein conveys only a portion of said Water Right Claim No. 160822 in the quantity of 988 cubic feet per second and 684,571 acre-feet per year for so long as GRANTEE shall use said water exclusively for instream flow purposes. The GRANTOR herein reserves for itself and its successors-in-interest the remaining quantities and interest in said Water Right Claim No. 160822, specifically in the quantity of 1000 cubic feet per second and 246,710 acre-feet per year.

[Signatures on Following Page 3]

DATED this 29th day of January, 2015.

By: Chuck Clarke
CHUCK CLARKE,
Chief Executive Officer of Cascade Water Alliance

STATE OF WASHINGTON)
) ss.
COUNTY OF King)

On this 29th day of January, 2015, before me personally appeared CHUCK CLARKE, to me known to be the Chief Executive Officer of Cascade Water Alliance, the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

In Witness Whereof I have hereunto set my hand and affixed my official seal the day and year first above written.

LINDA D. MORENO
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION EXPIRES
8-10-18

Linda D. Moreno
NOTARY PUBLIC in and for the
State of Washington, residing
at Kent, WA;
My commission expires: 8-10-18
[Type or Print Notary Name] Linda D. Moreno

50722-4

EXHIBIT 1
To Water Rights Deed

Legal Description

T 19N, R6E – E ½, NW ¼
Sec 4 NW ¼, Sec 3, N ½
Sec 2 T 20 N, R6E – SW ¼
Sec 30, Sec 31, S ½ Sec 32
E ½, SE ¼ Sec 33, S ½
Sec 34, S ½ Sec 35, T 20 N
R5E – S ½ Sec 4, SE ¼
Sec 5, N ½ Sec 7, Sec 8,
Sec 9, Sec 10, W ½ Sec 14, Sec 15, Sec 16
Sec 17, Sec 21, Sec 22,
W ½ Sec 23, S ½ Sec 25
Sec 26, Sec 27, E ½ Sec 28
NE ¼ Sec 36, T 20 N
R 4E NE ¼ Sec 12.

T 20 N, R 6E SE ¼ Sec 34

T 20 N, R 5E NW ¼ Sec 7

T 19 N, R5E, Sec 2, T 20 N,
R6E, Sec 33, 34, 35.

50722-4

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

February 23, 2022

Cascade Water Alliance
Attn: Ray Hoffman
520 112th Ave NE, Suite 400
Bellevue, WA 98004

Re: Extension Request Water Right Permit No's. **S2-29920(A), R2-29935, and S2-29934**

Dear Ray Hoffman:

Thank you for your letter dated February 7, 2022, providing additional information in support of your extension request dated December 14, 2021.

In response to your request, the development schedule for the above referenced water rights have been extended as follows:

Beginning Construction: December 31, 2065

Ecology will be sending you the appropriate form to complete and return to us when this date approaches.

As a condition of this approval, the following provision is being added to the enclosed Superseding Permits for S2-29920(A) and S2-29934:

Progress Report
The permittee is required to provide Ecology progress reports every five (5) years beginning December 31, 2027. Progress reports will consist of describing efforts made on project in the previous five (5) year period and if the project is progressing on schedule. Any changes in point of contact must also be updated.

Basis of extension approval:

- It is not regionally necessary to begin construction in 2040. Demand and supply forecasts have changed significantly since 2010. The most current forecasts in the water system plans submitted to Department of Health show a continuing abundance of supply in the region through at least 2060 which represent a decrease in demand from when the permits were initially issued. Because installing the infrastructure to put the allocated water to beneficial use would involve appropriation of funds 10 years prior, approving an extension now allows the

efficient use of existing water before adding and developing these new sources and an efficient use of capital funds.

- Although Cascade's development schedule requires construction to start by 2040 and full use by 2060, Cascade's block contract to receive water from Seattle begins to decline in 2039, and by 2042 a new source of supply will be needed. For the Lake Tapps Reservoir Project to be operational by 2042, construction would need to start at least a decade earlier. If forecasts show an abundance of supply until 2060, construction would not be necessary until at least 2050. Regardless of whether Cascade starts construction in 2040 per the development schedule, or earlier due to the Seattle block contract, doing so would add to the already excessive supply of regional water.

- A development extension is needed now to enable Cascade to negotiate with regional wholesale suppliers. In December 2021, Cascade began negotiations with Seattle for a contract extension and separately with Tacoma for a new supply contract. Cascade needs to negotiate with regional wholesale suppliers with a good faith commitment to move off regional systems and onto its own supply by a certain date. Regional water suppliers need assurances that when the time comes to terminate the contract, the communities served by Cascade will not be dependent on the contracted water. Extension of the permit schedule now provides those assurances by allowing Cascade to negotiate in good faith with a future date certain for Lake Tapps Reservoir development.

- Developing the Lake Tapps Reservoir is estimated to be $1.5 billion in inflated dollars and involves property acquisition, permitting, design and construction of transmission pumps and pipes, and design and construction of a treatment plant. Again, although the current development schedule requires construction to begin by 2040, because the block contract with Seattle begins to decline in 2039, a new source of supply would be needed by 2042. The magnitude of the project would call for construction to start no later than the early 2030's and planning to begin in earnest a decade earlier. If Cascade is unable to extend the development schedule at this time, it will need to start investing millions of dollars in the next few years to have the project on line by 2042.

YOUR RIGHT TO APPEAL

You have a right to appeal this decision to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this decision. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of this decision:

- File your appeal and a copy of this decision with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this decision on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 1111 Israel RD SW STE 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov . To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser.

If you have any questions, please contact Tammy Hall at 360-280-8463 or tammy.hall@ecy.wa.gov

Sincerely,

Michael J. Gallagher
Section Manager
SWRO Water Resources

Enclosures: *Your Right to Be Heard*

cc: Clifford Kato, AG's Office, Clifford.Kato@atg.wa.gov
Adam W. Gravley, awg@vnf.com

[This page left blank intentionally.]

Exhibit C

Water Right Self-Assessment Form

[This page left blank intentionally.]

Water Right Self-Assessment Form

Water Right Permit, Certificate, or Claim # *If water right is interruptible, identify limitation in yellow section below	WFI Source # If a source has multiple water rights, list each water right on separate line	Existing Water Rights Qi = Instantaneous Flow Rate Allowed (GPM or CFS) Qa = Annual Volume Allowed (Acre-Feet/Year) This includes wholesale water sold				Current Source Production Most Recent Calendar Year Qi = Instantaneous Flow Rate Allowed (GPM or CFS) Qa = Annual Volume Allowed (Acre-Feet/Year) This includes wholesale water sold				10-Year Forecasted Source Production (determined from WSP) This includes wholesale water sold				20-Year Forecasted Source Production (determined from WSP) This includes wholesale water sold			
		Primary Qi Maximum Rate Allowed	**Non-Additive Qi** Maximum Rate Allowed	**Primary Qa** Maximum Volume Allowed	**Non-Additive Qa** Maximum Volume Allowed	**Total Qi** Maximum Instantaneous Flow Rate Withdrawn	**Current Excess or (Deficiency) Qi**	**Total Qa** Maximum Annual Volume Withdrawn	**Current Excess or (Deficiency) Qa**	**Total Qi** Maximum Instantaneous Flow Rate in 10 Years	**10-Year Forecasted Excess or (Deficiency) Qi**	**Total Qa** Maximum Annual Volume in 10 Years	**10-Year Forecasted Excess or (Deficiency) Qa**	**Total Qi** Maximum Instantaneous Flow Rate in 20 Years	**20-Year Forecasted Excess or (Deficiency) Qi**	**Total Qa** Maximum Annual Volume in 20 Years	**20-Year Forecasted Excess or (Deficiency) Qa**
1. S2-29920 (A)		1,000 cfs *		54,300 AFY		N/A	N/A	N/A	N/A	0 cfs	1,000 cfs	0 AFY	54,300 AFY	0 cfs	1,000 cfs	0 AFY	54,300 AFY
2. S2-29920 (B) ≈		10 cfs		5.060 AFY		N/A	N/A	N/A	N/A	n/a. Subject to cancellation on 2031-01-01		n/a. Subject to cancellation on 2031-01-01		n/a. Subject to cancellation on 2031-01-01		n/a. Subject to cancellation on 2031-01-01	
3. R2-20035		N/A		46,700 AF		N/A	N/A	46,550 AF	150 AF	N/A	N/A	46,700 AF	No excess or deficiency	N/A	N/A	46,700 AF	No excess or deficiency
4. S2-29934		135 cfs		54,300 AFY		0 cfs	135 cfs	0 AFY	54,300 AFY	0 cfs	135 cfs	0 AFY	54,300 AFY	0 cfs	135 cfs	0 AFY	54,300 AFY
5. S2-CV1-2P168 (B)		1,000 cfs **		246,710 AFY **		463 cfs	537 cfs	36,423 AFY	55,536 AFY **	1,000 cfs	No excess or deficiency	91,959 AFY **	No excess or deficiency	1,000 cfs	No excess or deficiency	91,959 AFY **	No excess or deficiency
	TOTALS =	Diversion: 1,000 cfs Withdrawal: 135 cfs		54,300 AFY		0 cfs	Diversion: 1,000 cfs Withdrawal: 135 cfs	0 AFY	54,300 AFY	0 cfs	Diversion: 1,000 cfs Withdrawal: 135 cfs	0 AFY	54,300 AFY	0 cfs	Diversion: 1,000 cfs Withdrawal: 135 cfs	0 AFY	54,300 AFY

INTERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.

Name of Wholesaling System Providing Water	Quantities Allowed in Contract		Expiration Date of Contract	Currently Purchased Current quantity purchased through intertie				10-Year Forecasted Purchase Forecasted quantity purchased through intertie				20-Year Forecasted Purchase Forecasted quantity purchased through intertie			
	Maximum Qi Instantaneous Flow Rate	**Maximum Qa** Annual Volume		**Maximum Qi** Instantaneous Flow Rate Withdrawn	**Current Excess or (Deficiency) Qi**	**Maximum Qa** Annual Volume	**Current Excess or (Deficiency) Qa**	**Maximum Qi** 10-Year Forecast	**Future Excess or (Deficiency) Qi**	**Total Qa** Maximum Annual Volume in 10 Years	**Current Excess or (Deficiency) Qa**	**Total Qi** Maximum Instantaneous Flow Rate in 20 Years	**Current Excess or (Deficiency) Qi**	**Total Qa** Maximum Annual Volume in 20 Years	**Current Excess or (Deficiency) Qa**
1. Seattle Public Utilities	†	†	December 31, 2063	83 cfs †	20 cfs	32,127 AFY	5,097 AFY	83 cfs ‡	20 cfs	32,039 AFY	5,185 AFY	75 cfs ‡	0 cfs	27,163 AFY	0 AFY
2. Tacoma Water - Permanent §	23 cfs	16,767 AFY	N/A	0 cfs	23 cfs	0 AFY	16,767 AFY	0 cfs	23 cfs	0 AFY	16,767 AFY	16 cfs	7 cfs	6,363 AFY	10,404 AFY
3. Tacoma Water - Temporary #	27 cfs	13,414 AFY	December 31, 2062	N/A		N/A		N/A		N/A		0 cfs	27 cfs	0 AFY	13,414 AFY
TOTALS =	†	†		83 cfs	43 cfs	32,127 AFY	21,864 AFY	83 cfs	43 cfs	32,039 AFY	21,952 AFY	92 cfs ‡	34 cfs	33,527 AFY	20,465 AFY

ADDITIONAL COMMENTS:

* Diversion Rights from White River subject to minimum instream flows, and the following schedule:
1,000 cfs (from Feb. 15 until the Spring Refill date or July 1, whichever is earlier);
400 cfs (from the Spring Refill date until Sep. 15 or the subsequent date the Fall Drawdown commences, whichever is later);
150 cfs (from the date the Fall Drawdown commences to Feb 15)

≈ S2-29920(B) defines the Regional Reserved Water Program, and does not make water available for drinking water use to Cascade.
† Quantities allowed in contract vary by year, pusuant to Article III of 2nd Amended and Restated Declining Block Water Supply Agreement between the City of Seattle and the Cascade Water Alliance.
Actuals reflect 2023, as final 2024 usage data is not available at time of production. Reflects metered usage in billing period, which does not align exactly with calendar year.
Actual maximum Qi imputed rather than directly measured.
‡ Instantaneous flow rate is not recorded. Maximum daily demand forecasted by historical Seattle system maximum peak factor.
§ While the 2025 Tacoma Water Permanent Agreement provides the identified quantities of water, the intertie to deliver this water has not yet been constructed.
# While the 2025 Tacoma Water Termorary Agreement provides the indentified quantities of water, the intertie to deliver this water has not yet been constructed. The Temporary Agreement provides water between January 1, 2041 through December 31, 2062.
** Of this Water Right, 154,751 AF are a temporary trust water right for instream flow purposes and available to Cascade under adverse conditions per the Lake Tapps Trust Water Right Agreement.
Actuals reported in 2024 reflect impact of Mud Mountain Dam Fish Passage Phase 3 Construction Project.
For forecasted years, we do not forecast an extraordinary year, but if an extraordinary year occurs we may need use of up to 246,710 AF pursuant to the Lake Tapps Trust Water Right Agreement.

[This page left blank intentionally.]

Exhibit D

Water Demand Forecast Methodology

[This page left blank intentionally.]

Cascade Water Alliance
Water Demand Forecast Methodology

Inputs and Assumptions for the Water Demand Forecast Model

Cascade has adopted the same basic water demand forecasting methodology used by Seattle Public Utilities ("SPU") in its last three water system plans. This is the "Variable Flow Factor" approach. As with simpler fixed flow factor models, current water demand flow factors are calculated by sector (single and multifamily residential, non-residential) for each Cascade Member. However, like an econometric model, the Variable Flow Factor model reflects the impacts of variables such as price, income, and water efficiency standards on water flow factors for each sector over time. This approach takes advantage of past econometric analyses to provide estimates of how some of the variables (price and income) affect demand. An end-use model is used to estimate projected impacts on water demand from fixture and appliance codes and standards.

Model, Inputs and Assumptions

- **Weather adjusted base year consumption:**
  - By sector
    - Single family residential
    - Multifamily residential
    - Manufacturing non-residential
    - Non-manufacturing non-residential
  - By service area
    - Individual Cascade Members
  - Base Year
    - 2023
  - Weather
    - Sea-Tac Airport monthly average daily temperature and total precipitation

  Sources: Monthly data on water production, wholesale purchases, wheeling between Members, and retail sales collected by Members and Cascade. Weather data from National Weather Service.

- **Demographics – Current and projected single and multifamily households and employment:** The model uses the Puget Sound Regional Council ("PSRC") Land Use Vision census-tract-level forecasts of population, households, and employment to 2050 apportioned to Member service areas. The PSRC forecast was published in 2022.

  Table 1 below displays PSRC's forecast of population, households, and employment in King County. The tables that follow contain these forecasts as they have been apportioned into water service areas. Separate tables are provided for all of King County, SPU's retail service area, and the service area of SPU's Full and Partial Contracts (F&P) wholesale customers.

Table 1. Actual[1] & PSRC Forecasts of Population, Households, & Employment
Total Cascade Service Area

		Households			
	Population	Single Family	Multifamily	Total	Employment
2010	322,396	80,989	48,831	129,820	295,937
2020	392,725	81,860	72,188	154,048	366,151
2030	450,834	88,263	91,943	180,207	419,800
2040	508,357	91,609	114,407	206,016	476,958
2050	565,561	94,140	137,924	232,064	531,511
2020-2050					
Growth	172,836	12,280	65,736	78,016	165,359
% Change	44.0%	15.0%	91.1%	50.6%	45.2%
Annual Rate	1.2%	0.5%	2.2%	1.4%	1.3%

Since the number of households is projected to grow somewhat faster than population through 2050, household size is projected to decrease slightly. Per household flow factors are reduced each year by the percent change in household size times the elasticity of demand with respect to household size. This elasticity is estimated to be **0.38** based on data from an end-use study conducted by the Seattle Water Department in the mid-1990s.

- **Base year flow factors:** Base year flow factors are obtained by dividing the weather-adjusted base year consumption for each sector (e.g. single family residential) and service area (e.g. Bellevue) by the corresponding number of households or employees in the base year.

- **Elasticity of residential demand to changes in real (inflation adjusted) household income:** Household income is generally expected to have a positive effect on water demand. A literature review revealed a range of estimated income elasticities. An elasticity value of **0.27**, representing the middle of this range, was chosen (This means a 10% increase in household income would be expected to cause a 2.7% rise in residential demand.).

  Sources: Jegnie, Alemken, Fogarty, James, & Iftekhar, Sayed, 2021, Price and Income Elasticities for Urban Residential Water Demand: A publication bias corrected meta-analysis; Ludlum, Meg, 2006, Literature Review of Water Demand Forecasting Models.

- **Forecast of annual growth in real median household income:** *Median,* not *mean average,* household income is used in the forecast model because, with the largest share of income growth generally going to those at the very top of the income distribution, average income growth is skewed upwards. Growth in median income – the income of the households right in the middle – is more representative of the experience of most households, i.e., the bottom 90. Data from the Washington State Office of Financial Management shows that median household income in King and Snohomish counties was no higher in 2014 than it was in 1990 (adjusted for inflation). Meanwhile, disproportionate growth in the top income decile pushed *average* household income up 39% in the same period. Since 2014, however, income growth has been more evenly shared across the

[1] Census data used for 2010 population and households. 2010 employment is based on 2014 PSRC estimates.

income distribution (possibly due to in part to state and local actions to significantly increase minimum wages) so that by 2023, median and average household income had both grown about 15%. Taking the whole period 1990-2023, real median income has increased by 11.5% (averaging 0.3% annually) while real average income has grown 62% (1.5% annually). In the demand forecast model, it is assumed median household income will grow at **0.9%** per year – much more than the historical average for median income but considerably less than the historical growth rate for average income, and less than the unusually robust rate of growth for median income in the last decade.

- Sources: U.S. Bureau of Economic Analysis, U.S. Census Bureau, Washington State Office of Financial Management, Seattle Office of Economic and Revenue Forecasts, Emmanuel Saez of UC-Berkeley.

- **Elasticity of demand to changes in real water rates (prices):** A considerable body of literature concerning the effect of price upon water demand and the inverse relationship predicted by economic theory is now well established. However, a number of complications (complex and changing rate structures, impacts of conservation and codes, etc.) have made it difficult to estimate price elasticity with much confidence. As a result, there is a wide range of estimates in the literature. Values towards the middle of the range, though somewhat below the average, have been chosen. These are also similar to what the Seattle Water Department estimated in its 1992 econometric model of water demand. These are shown below (The value of -0.20 for single family households means that given a 10% increase in water prices, demand would be expected to decline by 2%.).

	Single Family	Multifamily	Non-Residential
Price Elasticity	-0.20	-0.10	-0.225

Sources: Ludlum, Meg, 2004, Literature Review of Water Demand Forecasting Models; Seattle Water Department, 1992, econometric water demand model; Bruno, Ellen M. & Jessoe, Katrina, 2021, Using Price Elasticities of Water Demand to Inform Policy.

- **Forecast of annual growth in real water rates (prices**): The seven Cascade Members have different water rates and different rate structures. Most retail customers face different marginal rates depending on whether they are residential or non-residential, what consumption block they fall in, and what season it is. There is no single price of water. However, the model abstracts from all these complexities by using the change in annual water bills (adjusted for inflation) for a typical single-family residential customer (using 6 ccf/month winter, 9 ccf/month summer) and typical non-residential customer (45 ccf/month winter, 60 ccf/month summer) over the period 1995-2020[2]. The average annual real increase in single family residential water bills across the seven Members varied from 0.9% to 3.6% with a weighted average of 2.7%. The averages for multifamily residential and non-residential customers were very similar. The forecast model assumes all Cascade Members will experience the same annual increases in their real water rates and they will be equal to the historical average growth rate across all Members: **2.7%** per year for residential customers, and **2.8%** per year for non-residential customers.

- **Reductions in water use due to efficiency codes and standards:** Even in the absence of utility-sponsored conservation programs, some conservation savings occur each year due to federal and state plumbing codes setting efficiency standards for showerheads,

[2] Water rate data prior to 2009 was not available for Issaquah or Sammamish Plateau Water.

toilets, aerators, and clothes washers. As old fixtures and appliances are replaced with new ones in existing buildings and new fixtures and appliances are installed in new construction, water use efficiency improves and conservation savings accrue. In addition, fixtures and appliances available from the market often become increasingly more efficient than is required by code, especially as more years have passed since the codes were updated. An end-use model was used to estimate these savings through 2060.

The model takes account of federal fixture and appliance codes adopted in 1992, 2002, 2007, 2012, 2015, and 2018[3], as well as the 1992 state plumbing code that was updated and tightened effective 2021. The model also estimates the proportion of fixtures and appliances sold in the market that meet the more stringent Energy Star, WaterSense, and Consortium for Energy Efficiency (CEE) standards, as well as how those proportions are expected to continue shifting in the direction of higher efficiency over time. The model assumes aerators, showerheads, clothes washers and toilets are, on average, replaced every 5, 10, 12, and 30 years, respectively.

Table 2. Projected Savings from Code and Standards (Annual MGD)

	Customer Types				Fixtures & Appliances				
	Single Family	Multifamily	Non-Residential	Total	Shower-heads	Toilets	Aerators	Clothes Washers	Total
2023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.4	0.3	0.2	0.8	0.2	0.2	0.1	0.2	0.8
2035	1.6	1.7	0.8	4.1	1.1	1.3	0.7	1.0	4.1
2045	2.2	2.8	1.3	6.3	1.6	2.2	0.9	1.6	6.3

Sources: Water Research Foundation, "Residential End Uses of Water," April 2016; U.S. EPA Office of Water; Alliance for Water Efficiency; Al Dietemann (personal communication)

- **Price/code and standards overlap:** It is believed the effects of increasing prices and water efficiency codes have some overlap. For example, a customer might have been motivated to purchase a new water-saving toilet in order to save money on their water bill. Alternatively, the customer might have wanted a new, more stylish toilet for their bathroom remodel, but because of the code, had no choice but to buy a more efficient model. Whatever the motivation, it gets counted as both a price effect and a code savings in the model. The overlap function is designed to adjust for what might otherwise be double-counting. The model assumes **50%** of whichever effect is smaller overlaps with the other, so that amount is subtracted from the estimate of total price and code water savings. The overall effect of the overlap function is to reduce total gross price/code savings by about 14% to 16% (1.6 MGD by 2045).

- **Metered irrigation:** Besides the single family, multifamily, and non-residential customer classes, most Cascade Members have created a non-residential metered irrigation class and have slowly been adding accounts to this class over the decades. From a few hundred accounts at Cascade's inception, there are now about 2,700 irrigation accounts in Cascade's service area with annual water consumption averaging 425,000 ccf, or almost 1.0 MGD, mostly in the peak season. The model assumes there will be no growth in this customer class and its consumption will remain constant at **425,000 ccf** through 2045. In

[3] The US Department of Energy adopted a two-phase residential clothes washer efficiency standard, with the first phase effective March 7, 2015, and the second, more stringent phase, effective for January 1, 2018.

reality, the number of irrigation meters and the consumption through them will probably increase over time. However, this is simply a matter of accounting. Growth in the irrigation class will be offset by a corresponding reduction in the non-residential class which will not affect total water consumption.

- **Non-revenue water:** Non-revenue water for each Member has been calculated by subtracting annual metered water sales from total annual net supply (total supply from a Member's wells and wholesale purchases minus any water sold wholesale) and expressed as a percent of net supply. Percent non-revenue for each Member is shown in the table below. Base year percent non-revenue for each Member is calculated by averaging all (or most) of the years from 2016 through 2023. It is assumed the percent non-revenue will increase at a rate of half a percent a year as distribution systems age and the frequency of system leaks increases. By 2045, the weighted average percent non-revenue water for all Cascade Members is projected to increase from **7.3%** to **8.2%.**

Table 3. Actual and Forecast Percent Non-Revenue Water

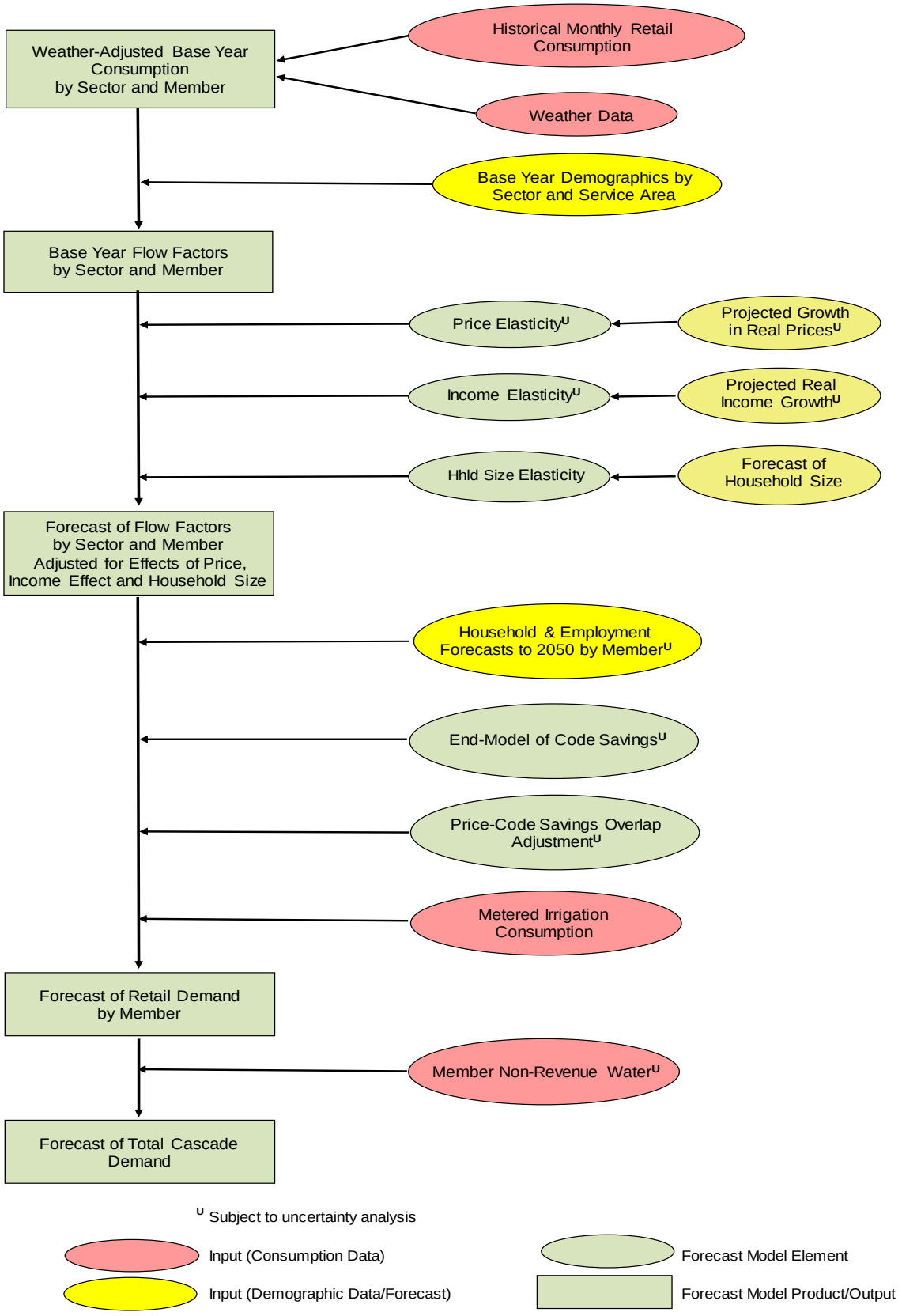
	Bellevue	Kirkland	Redmond	Skyway	Tukwila	Issaquah	Plateau	Cascade
Actual								
2016	5.0%	8.5%	2.8%	9.5%	9.0%	9.7%	4.9%	6.3%
2017	8.3%	6.6%	0.0%	10.1%	2.6%	7.4%	5.3%	7.4%
2018	6.3%	6.7%	1.0%	12.5%	5.9%	8.0%	4.6%	6.3%
2019	8.6%	8.0%	7.0%	23.7%	7.2%	8.8%	7.5%	8.0%
2020	4.9%	10.1%	9.1%	17.3%	8.8%	9.1%	3.3%	6.7%
2021	10.2%	5.3%	4.6%	18.9%	12.2%	7.0%	3.7%	7.1%
2022	6.0%	7.1%	9.1%	13.5%	7.7%	3.8%	4.9%	6.9%
2023	6.6%	11.7%	12.5%	8.1%	15.9%	2.4%	5.6%	8.5%
Forecast *								
Base Year	7.0%	8.0%	8.5%	10.7%	7.7%	8.3%	5.0%	7.3%
2035	7.4%	8.5%	9.0%	11.4%	8.2%	8.8%	5.3%	7.8%
2045	7.8%	8.9%	9.5%	12.0%	8.6%	9.3%	5.6%	8.2%

* Percent non-revenue water is assumed to increase at an annual rate of 0.5%.

** Base year percent non-revenue water is the average for 2016 through 2023 for most members. Some years for some members (indicated in red) are excluded when the values are atypical due to various factors thought to be temporary.

- **Model structure:** The structure of the forecast model is summarized in the flowchart below. Red ovals are consumption-related inputs, yellow ovals are demographic inputs, green ovals are model elements, and green rectangles are intermediate or final model outputs.

Figure 1. Forecast Model Structure



Results

Cascade's water demand is expected to increase slightly over the next 20 years from 36.4 MGD in 2023 to 39.3 MGD in 2045. This is a very slow rate of growth, only 0.3% per year, and much lower than the forecast of 1.2% annual population growth. The primary reason for this is the dampening effects on water demand of rising water prices, more stringent water efficiency codes and standards, and having most (84%) of household growth taking place in the multifamily sector. With the current 33.3 MGD block of water from SPU and Members' independent sources of supply, there would be enough water to meet Cascade's demand through 2045. However, the current contract with SPU has the block ramping down from 33.3 MGD in 2039 to 24.3 MGD in 2045 and continuing to decline 1.0 MGD per year, stopping only in 2064 when the block has been reduced to 5.3 MGD. Once the block begins to decline, Cascade will require additional water to meet its forecast demand after 2041.

Figure 2. Cascade Water Demand Forecast (2023-2045)

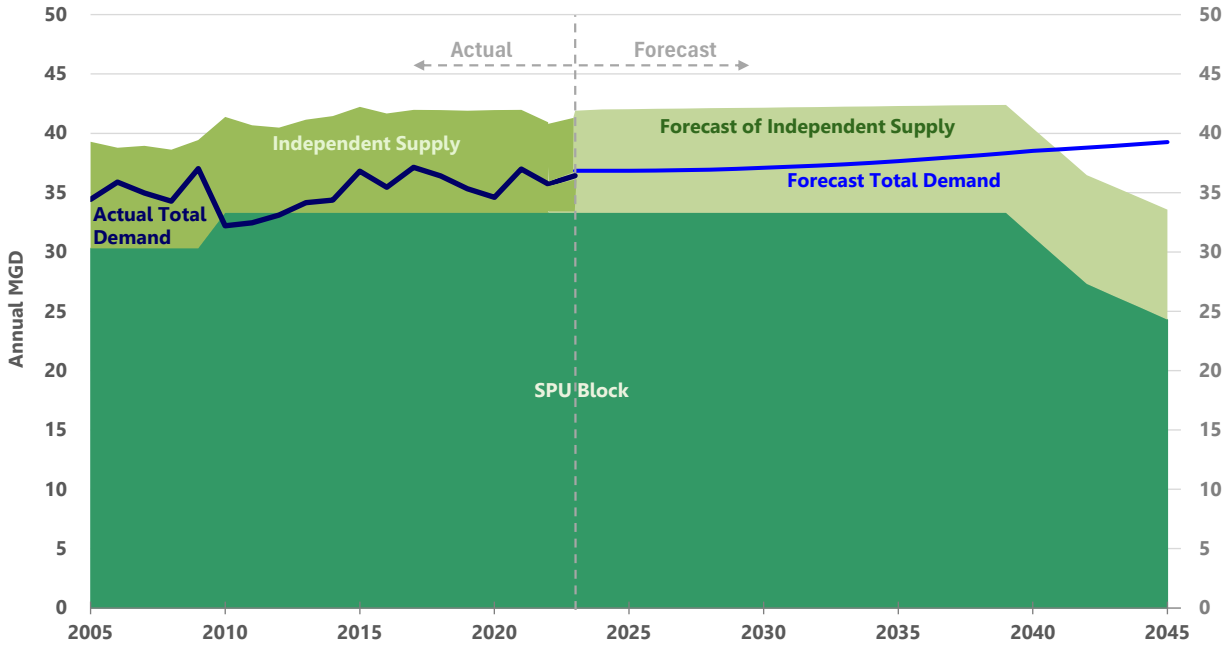


Table 4. Actual and Forecast Water Demand and Supply (Average Annual MGD)

	SPU Block	Independent Supply[1]		Total Supply		Total Cascade Demand	
	Contract	Actual	Forecast	Actual	Forecast	Actual[2]	Forecast
2005	30.3	9.0		39.3		34.4	
2006	30.3	8.5		38.8		35.9	
2007	30.3	8.7		39.0		35.0	
2008	30.3	8.3		38.6		34.3	
2009	30.3	9.1		39.4		37.0	
2010	30.3	8.1		38.4		32.2	
2011	33.3	7.4		40.7		32.5	
2012	33.3	7.2		40.5		33.1	
2013	33.3	7.8		41.1		34.2	
2014	33.3	8.1		41.4		34.4	
2015	33.3	8.9		42.2		36.8	
2016	33.3	8.4		41.7		35.4	
2017	33.3	8.7		42.0		37.1	
2018	33.3	8.7		42.0		36.4	
2019	33.3	8.6		41.9		35.3	
2020	33.3	8.7		42.0		34.6	
2021	33.3	8.7		42.0		37.0	
2022	33.3	7.6		40.9		35.7	
2023	33.3	7.9	8.6	41.2	41.9	36.4	36.8
2024	33.3		8.7		42.0		36.8
2025	33.3		8.7		42.0		36.8
2026	33.3		8.8		42.1		36.9
2027	33.3		8.8		42.1		36.9
2028	33.3		8.8		42.1		36.9
2029	33.3		8.8		42.1		37.0
2030	33.3		8.9		42.2		37.1
2031	33.3		8.9		42.2		37.2
2032	33.3		8.9		42.2		37.3
2033	33.3		8.9		42.2		37.4
2034	33.3		9.0		42.3		37.5
2035	33.3		9.0		42.3		37.7
2036	33.3		9.0		42.3		37.8
2037	33.3		9.0		42.3		38.0
2038	33.3		9.1		42.4		38.1
2039	33.3		9.1		42.4		38.3
2040	33.3		9.1		42.4		38.5
2041	31.3		9.2		40.5		38.7
2042	29.3		9.2		38.5		38.8
2043	27.3		9.2		36.5		38.9
2044	26.3		9.2		35.5		39.1
2045	25.3		9.3		34.6		39.3

[1] Cascade Members' Audited Independent Supply obligation totals 9.53 MGD
[2] Total consumption of current Cascade members (Covington is excluded)

Forecast Uncertainty

Forecasting water demand is highly speculative. Displaying the forecast as a line on a graph implies a degree of certainty that does not exist; Cascade's water demand in 2045 will most likely *not* be exactly 39.3 MGD. It is better to think of the forecast as a range of possible values that widens the further one goes out in time. The challenge is to define and quantify the uncertainty and put reasonable bounds around the forecast.

The forecast of water demand is itself based on forecasts of other factors that affect it – growth in income, water prices, households, employment, and the use of more water efficient fixtures and appliances – all of which are subject to uncertainty. Similarly, uncertainty surrounds the model's assumptions about price and income elasticities. The baseline demand forecast represents Cascade's best guesses about the future. However, it is prudent, especially in long-term planning, to consider the many uncertainties that could cause demand to be different from what's projected in the baseline forecast.

Modeling Uncertainty

Uncertainty has been modeled by positing probability distributions for each source of uncertainty. These distributions are inputs to an aggregate uncertainty model employing a Monte Carlo simulation[4] to characterize uncertainty associated with the baseline demand forecast.

A number of model inputs and elasticities were identified as being subject to uncertainty and are so indicated in the model structure flowchart (Figure 1). They include: forecasts of single and multifamily households and employment; average annual growth rates for water prices and household income; price and income elasticities; the impact of codes; and the extent to which price-induced conservation overlaps with code savings. Each uncertainty was modeled by specifying a probability distribution around the mean value of each variable. The sources and assumptions used to characterize the uncertainties are outlined below.

- **Forecasts of households and employment:** PSRC does not provide high and low growth scenarios in its baseline demographic forecasts. However, the Washington State Office of Financial Management (OFM) does produce high and low forecasts around its medium forecast of population by county. These were used to produce high and low ranges around the PSRC forecasts of households and employment as shown in Table 5.

[4] A Monte Carlo simulation calculates multiple scenarios of a model by repeatedly sampling values from the probability distributions for the uncertain variables. The data generated from the simulation can be represented as probability distributions or confidence intervals. Because the method is based on random chance, it was named after the city of Monte Carlo which is known for its gambling.

Table 5. Uncertainty Ranges Around PSRC Demographic Forecast Associated with High and Low Growth Scenarios

	2045	
	Low	High
Population	-9.6%	7.2%
Single Family Households	-5.4%	4.1%
Multifamily Households	-12.6%	9.2%
Employment	-9.6%	7.2%

The ranges around single and multifamily households were derived from the OFM high and low population values and the assumption that variability around the single family forecast is less than for the forecast of multifamily households. Employment is assumed to vary at the same rate as population. Also note the potential variation from forecast values is expected to be greater on the low side than on the high side. This is in part because the latest PSRC population forecast for King County is higher than the medium OFM forecast of population, so it is closer to the top of the range than the bottom[5].

- **Growth in the real price of water**: The baseline assumption is, on average, the price of water will continue to grow at historical rates – about 2.7% per year adjusted for inflation. A considerable range of uncertainty around this is assumed, **plus or minus 50%**, resulting in projected annual growth rates in real prices of between **1.4%** and **4.1%**.

- **Price elasticity:** The uncertainty ranges around price elasticity represent a synthesis of the various estimates of price elasticity reported in the literature review. These are **plus or minus 50%** for single and multifamily elasticities and **plus or minus 33%** around the non-residential elasticity.

Table 6. Uncertainty Ranges Around Mean Price Elasticities

	Single Family	Multi-Family	Non-Residential
Low	-0.10	-0.05	-0.15
Mean	-0.20	-0.10	-0.225
High	-0.30	-0.15	-0.30

- **Growth in real median household income:** There is some uncertainty about future growth in household income but much more uncertainty around the distribution of that growth. That means median income is harder to predict than average income. Will most income growth accrue to the households at the top end of the income scale as it has for much of the last half century, or will it be spread more proportionally as has occurred over the last decade in King County? If the former, real income growth for the *median* household would be much less than for the *average* household. If the latter, median income growth would be close to the growth in average income, which historically has been about 1.8% per year. The baseline assumption in the demand forecast is median income will grow at

[5] Past iterations of PSRC's population forecasts were designed to match up with the medium OFM forecasts at the county level.

0.9% annually, about half the rate expected for average income. This scenario might be considered mildly optimistic, but it still represents only a slowing of the rate at which the distribution of income gets worse. The uncertainty range assumed for median annual income growth is **plus or minus 33%** or between **0.6%** and **1.2%**. Even at the top end, the assumption is median income grows more slowly than average income. The low end of 0.6% is also equal to the annual rate of median household income growth between 1990 and 2021.

- **Income elasticity:** As with price elasticity, the uncertainty band around income elasticity was derived from the various estimates of income elasticity in the literature review. A range of income elasticities from **0.19** to **0.35** (i.e., **plus or minus 30%**) around the mean value of 0.27 was chosen.

- **Savings from code, standards, and market transformation:** Code savings could be more or less than modeled. If market transformation towards fixtures and appliances that exceed code occurs slower than anticipated, replacement rates are slower than modeled, or the stock of fixtures and appliances currently in place is more efficient than specified in the model, code savings could be less than estimated for the baseline forecast. Alternatively, the opposite hypotheticals would result in greater code savings than estimated for the baseline forecast. A range of **plus or minus 30%** around the baseline code savings values (which ramps to 6.3 MGD by 2045) was chosen. Another source of code-related uncertainty is how much code savings overlap with price-induced savings. The model assumes **50%** of whichever effect (code or price) is smaller overlaps with the other, so that amount is subtracted from the estimate of total price and code water savings. For the uncertainty analysis, the amount of overlap varies from **25% to 75%**.

- **Non-revenue water:** For the baseline forecast, it is assumed percent non-revenue will increase at a rate of **0.5%** a year due to age-related increases in system leaks. By 2045, the weighted average percent non-revenue water for all Cascade Members is projected to increase from 7.3% to 8.2**%**. It is assumed in the uncertainty analysis that the rate of annual growth in percent non-revenue water could vary from **0%** and **1.0%**, producing a range in non-revenue water of **7.3%** to **9.1%** by 2045.

- **Modeling uncertainty with @Risk:** The uncertainty ranges described above are assumed to have triangle distributions with the endpoint values representing the 5th and 95th percentiles. These probability distributions become inputs to an aggregate uncertainty model using @Risk software (an add-in to Excel) which employs Monte Carlo simulation to characterize uncertainty around the baseline demand forecast. During each individual run of the Monte Carlo simulation, a value is randomly selected for each input variable based on the probability density function specified for that variable[6]. Then, the complete set of input values for that iteration is used to produce a water demand forecast. The simulation procedure performs 10,000 independent iterations, each generating a separate demand forecast. These forecasts are then pooled to obtain a probability distribution of forecast water demand through 2045.

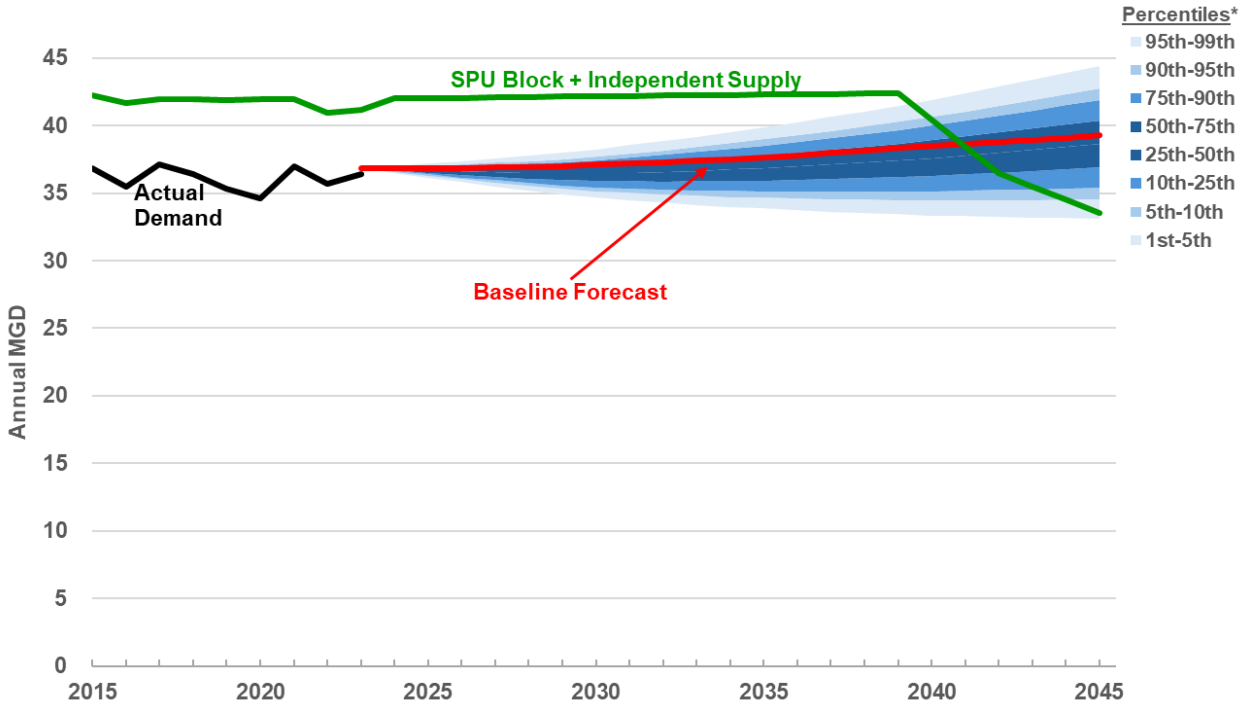
  The results of the Monte Carlo simulation are displayed in Figure 3 below. The blue bands indicate the range of uncertainty around the baseline forecast with each band representing

[6] All variables with uncertainty are assumed to be independent except for growth in households and employment. These are linked in the model because they would be expected to move together.

the indicated change in probability. For example, the top of the lowest band represents the 5th percentile. That means it is estimated there is a 5% chance actual demand will be below that level (34.5 in 2045) and, thus, a 95% chance it will be above. The bottom of the top band is the 95th percentile which corresponds to an estimated 95% probability that actual demand will be below that level (42.8 MGD in 2045).

The graph also reveals Cascade's current supply sources are sufficient to meet forecast demand through 2039, even at the top of the demand uncertainty range as modeled below. Because supply decreases sharply after 2039 due to the declining Block Contract, additional supply will be needed soon after 2039, and no later than 2045, across all levels of forecast demand in the range of uncertainty. Where the uncertain nature of future demand makes a big difference for planning purposes is in the amount of additional supply required. Simply extending the SPU block at its current level would not last long (less than 10 years) if demand were above the 75th uncertainty percentile. However, it would be sufficient to meet Cascade demand out to 2058 under the baseline forecast, and for demand scenarios lower than the baseline, it would take Cascade out beyond 2060.

Figure 3. Cascade Water Demand Forecast (2023-2045) with Ranges of Uncertainty



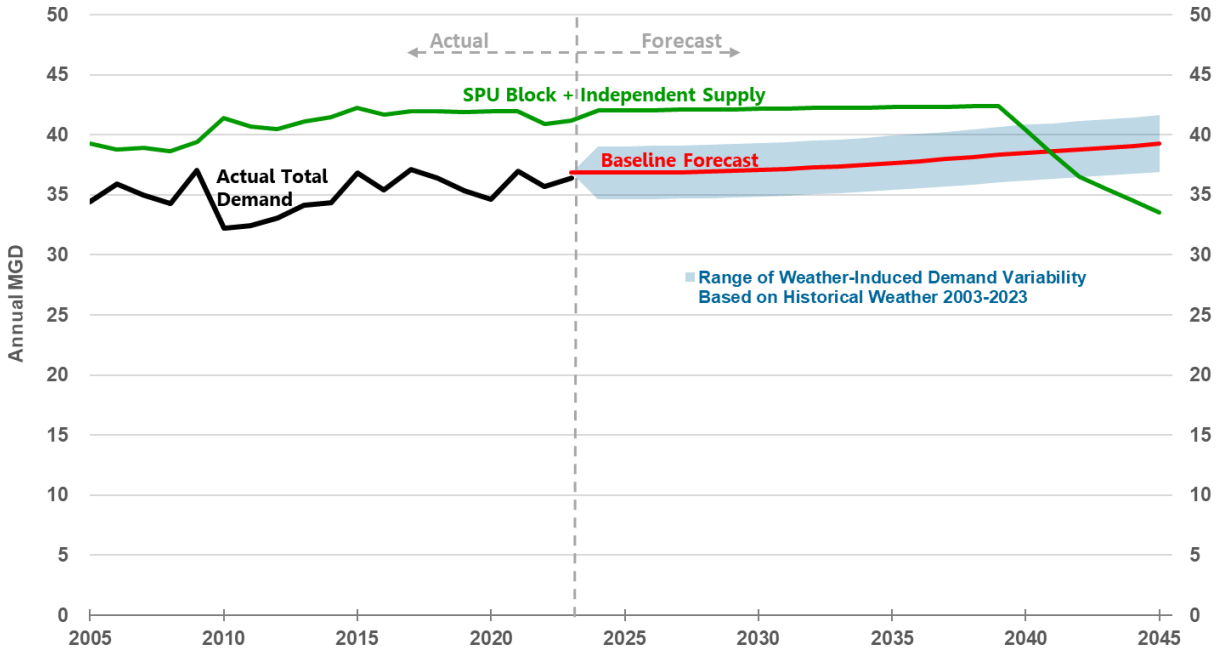
* Percentiles represent the probability that demand is less than the value shown. Ranges reflect uncertainty in projected household, employment, price and income growth; price and income elasticities; and conservation.

Additional sources of uncertainty that could affect future water demand, but which have not been accounted for in the uncertainty analysis, are described below.

- Weather-induced demand variability: Another source of "haziness" in the forecast is weather-induced demand variability. This is not strictly a matter of uncertainty since there is no doubt summer weather will continue to vary from year to year, and this variation will

cause water demand to fluctuate around the trend. Because base year flow factors are calculated from weather-adjusted consumption data, the forecast represents demand under average weather conditions. In any one year though, summer weather variability would be expected to boost or depress demand relative to the forecast under average weather. Analysis of Cascade Members' monthly water production and purchase data back to 2003 shows a maximum variability of about plus or minus **6%**. In other words, an extremely hot, dry summer would be expected to increase *annual* consumption *in that year* by up to 6% above the average trend. An extremely cool, wet summer would be expected to do the opposite, reducing that year's annual consumption by about 6% below the average trend. The amount by which actual demand is expected to be higher or lower than forecast due to variation in summer weather is shown as the blue band around the forecast in the graph below. Note this is based on historical weather variation and water use by customers. If the amount of weather variation around the average increases in the future due to climate change, the range of weather-induced demand variability might widen as well.

Figure 4. Baseline Demand Forecast with Range of Weather-Induced Variability



[This page left blank intentionally.]

Exhibit E

Financial Tables

[This page left blank intentionally.]

Financial Tables

Operating Fund Forecast, with Inflation

	2025	2026	2027	2028	2029	2030	2031
Annual Operating Expense	$40,037,692	$40,556,957	$40,075,359	$41,276,133	$43,302,707	$44,683,462	$46,039,616
Annual Transfers	$11,391,717	$10,015,492	$11,597,165	$12,329,248	$13,019,412	$9,197,253	$17,915,227
Rate Increases to Member Charges	3.5%	3.5%	4.0%	4.0%	5.0%	6.0%	6.0%
Annual Operating Revenue - w/ incr.	$48,505,035	$50,057,580	$51,998,162	$54,046,263	$56,707,174	$59,117,206	$62,832,212

	2032	2033	2034	2035	2036	2037	2038
Annual Operating Expense	$47,404,685	$48,843,429	$51,008,062	$52,837,843	$54,404,836	$57,018,492	$58,822,013
Annual Transfers	$22,099,037	$23,540,174	$28,632,338	$30,014,371	$38,120,132	$40,406,403	$39,738,398
Rate Increases to Member Charges	8.0%	8.0%	8.0%	8.0%	8.0%	5.0%	5.0%
Annual Operating Revenue - w/ incr.	$67,780,882	$73,106,948	$78,948,903	$85,206,029	$92,072,790	$96,639,856	$101,423,981

	2039	2040	2041	2042	2043	2044	2045
Annual Operating Expense	$61,428,802	$60,088,925	$61,461,952	$60,150,784	$60,708,804	$63,036,970	$66,146,230
Annual Transfers	$46,363,096	$48,652,563	$50,445,548	$51,166,596	$61,979,478	$65,352,756	$73,329,654
Rate Increases to Member Charges	5.0%	3.0%	3.0%	4.0%	4.0%	5.0%	5.0%
Annual Operating Revenue - w/ incr.	$106,577,073	$109,722,280	$113,039,703	$117,583,775	$122,487,340	$128,566,299	$134,962,265

Financial Tables

Capital Needs Forecast, with Inflation

	2025	2026	2027	2028	2029	2030	2031
Capital for Water Supply Contracts	$6,341,209	$5,856,828	$5,955,629	$6,055,488	$6,156,383	$6,944,870	$6,973,870
White River Lake Tapps Reservoir	$3,050,000	$3,060,000	$1,950,000	$3,310,000	$3,885,000	$3,785,000	$5,089,117
Bellevue Issaquah Pipeline	$800,000	$800,000	$50,000	$50,000	$50,000	$50,000	$0
Tacoma-Cascade Pipeline Program	$0	$1,770,000	$11,847,399	$16,949,454	$19,981,575	$63,584,683	$83,032,903
Total Capital Needs	**$10,191,209**	**$11,486,828**	**$19,803,028**	**$26,364,942**	**$30,072,958**	**$74,364,553**	**$95,095,890**

	2032	2033	2034	2035	2036	2037	2038
Capital for Water Supply Contracts	$6,973,870	$7,002,870	$7,002,870	$7,031,870	$7,031,870	$7,060,870	$7,060,870
White River Lake Tapps Reservoir	$5,267,236	$5,451,589	$5,642,395	$5,839,879	$6,044,275	$6,255,824	$6,474,778
Bellevue Issaquah Pipeline	$160,450	$0	$171,878	$0	$184,120	$0	$197,234
Tacoma-Cascade Pipeline Program	$94,736,965	$99,027,230	$125,605,744	$89,818,151	$90,800,959	$92,301,649	$51,829,618
Total Capital Needs	**$107,138,521**	**$111,481,690**	**$138,422,887**	**$102,689,900**	**$104,061,223**	**$105,618,344**	**$65,562,500**

	2039	2040	2041	2042	2043	2044	2045
Capital for Water Supply Contracts	$7,089,870	$7,089,870	$0	$0	$0	$0	$0
White River Lake Tapps Reservoir	$6,701,395	$6,935,944	$7,178,702	$7,429,957	$7,690,005	$7,959,155	$8,237,726
Bellevue Issaquah Pipeline	$0	$211,282	$0	$226,331	$0	$242,451	$0
Tacoma-Cascade Pipeline Program	$10,807,223	$14,037,016	$16,068,143	$52,072,228	$53,894,756	$98,358,987	$129,417,868
Total Capital Needs	**$24,598,488**	**$28,274,112**	**$23,246,845**	**$59,728,516**	**$61,584,762**	**$106,560,593**	**$137,655,594**

Financial Tables

Capital Funding Forecast, with Inflation

Funding Source	2025	2026	2027	2028	2029	2030	2031
Regional Capital Facilities Charges	$9,928,103	$9,729,949	$10,616,655	$11,244,175	$12,317,303	$13,645,642	$15,110,664
New Debt Proceeds	$0	$0	$0	$0	$0	$60,718,911	$79,985,225
Interest Earnings	$263,106	$848,915	$597,474	$0	$987,069	$0	$0
Water System Development Fund	$0	$0	$0	$15,120,767	$9,536,602	$0	$0
Member Charges	$0	$907,964	$8,588,899	$0	$7,231,984	$0	$0
Total Capital Funding	**$10,191,209**	**$11,486,828**	**$19,803,028**	**$26,364,942**	**$30,072,958**	**$74,364,553**	**$95,095,890**

Funding Source	2032	2033	2034	2035	2036	2037	2038
Regional Capital Facilities Charges	$15,796,553	$14,363,169	$12,861,121	$9,373,738	$9,599,516	$9,833,283	$10,073,032
New Debt Proceeds	$80,398,706	$88,761,681	$118,655,867	$83,343,433	$88,230,129	$86,900,685	$46,884,240
Interest Earnings	$0	$2,644,990	$668,450	$654,228	$535,351	$632,964	$631,632
Water System Development Fund	$10,943,262	$1,252,611	$674,099	$699,755	$726,876	$689,402	$572,687
Member Charges	$0	$4,459,239	$5,563,349	$8,618,747	$4,969,351	$7,562,009	$7,400,909
Total Capital Funding	**$107,138,521**	**$111,481,690**	**$138,422,887**	**$102,689,900**	**$104,061,223**	**$105,618,344**	**$65,562,500**

Funding Source	2039	2040	2041	2042	2043	2044	2045
Regional Capital Facilities Charges	$10,317,730	$15,847,073	$16,215,641	$16,598,947	$18,107,989	$19,663,483	$21,258,648
New Debt Proceeds	$5,895,452	$7,227,825	$0	$30,917,457	$33,128,360	$69,440,920	$98,706,137
Interest Earnings	$632,470	$711,710	$847,698	$974,287	$962,294	$1,255,255	$1,317,131
Water System Development Fund	$0	$0	$0	$0	$0	$0	$0
Member Charges	$7,752,836	$4,487,504	$6,183,507	$11,237,824	$9,386,119	$16,200,935	$16,373,678
Total Capital Funding	**$24,598,488**	**$28,274,112**	**$23,246,845**	**$59,728,516**	**$61,584,762**	**$106,560,593**	**$137,655,594**

[This page left blank intentionally.]

Exhibit F

Local Government Consistency for Wholesale Customers

[This page left blank intentionally.]

Local Government Consistency for Wholesale Customers

Pursuant to WAC 246-290-108(2), although Cascade is required to request each local government with jurisdiction over the service area to provide a consistency review, wholesale areas may be excluded from the consistency review provided the water system receiving the wholesale water complies with the requirements for a consistency review when developing a water system plan for any new connection within the service area of the system receiving the wholesale water. Cascade's service area falls within the exclusion of WAC 246-290-108(2). Cascade sought comment from the Cascade Members and adjacent water purveyors.

[This page left blank intentionally.]

Exhibit G

Outreach

- Outreach Communications
    - Cascade Member Outreach
    - Letter to Department of Health
    - Letter to Department of Ecology
    - Adjacent Water Purveyor Outreach
    - Public Outreach on Water System Plan
    - Public Outreach on Water Use Efficiency Savings Goal
- Comments on Water System Plan

[This page left blank intentionally.]

Outreach Communications

[This page left blank intentionally.]

Email to Cascade Member Agencies

From:	Jami Shimada on behalf of Ray Hoffman
To:	Adib Altallal (MSO); Amanda Balzer; Carly Joerger (MSO); cynthial@skywayws.org; Ella Williams (FMCIP); Jay Krauss; Matt Ellis (MSO)
Subject:	Cascade Water Alliance DRAFT 2025 Water System Plan
Date:	Monday, January 27, 2025 7:56:50 AM
Attachments:	Cascade WSP_For Member Review_012725.pdf Cascade WSP Exhibits A-I_For Member Review_012725.pdf

Cascade Water Alliance (Cascade) is preparing its 2025 Water System Plan for submittal to the Washington State Department of Health. The 2025 Water System Plan will fulfill Cascade's responsibility to submit a plan to the Department of Health that demonstrates a water system's ability to provide timely and reasonable water service to its current and future customers. In addition, it supplements information on regional supply presented in each Members' individual water system plan.

The 2025 Water System Plan will cover the same period as Cascade's planning phase of the Tacoma-Cascade Pipeline (TCP) Program. Cascade and Tacoma Public Utilities (TPU) are in the process of finalizing two new supply agreements. Over the next two-to-three years, Cascade will focus on developing the TCP Facilities Plan. The TCP Facilities Plan will form the basis of design and requirements to construct the facilities necessary to connect Cascade's and TPU's systems.

Once Cascade completes the TCP Facilities Plan, it will develop and submit a 10-year Water System Plan to the Department of Health. The alternatives for sizing and routing transmission facilities and other key recommendations from the TCP Facilities Plan will be incorporated into Cascade's next Water System Plan.

Cascade will submit the 2025 Water System Plan to the Department of Health. Although your area is excluded from consistency review under WAC 246-290-108(2), we would appreciate your review and comment on the attached Draft by Wednesday, February 12, 2025. Cascade will consider no response as a confirmation of your Member agency's support.

In addition, an informational public hearing will be held in Cascade's office on March 12, 2025, at 1 pm.

If you have any questions, please contact Melina Thung, Cascade's Chief of Staff, at 425.628.4017 or at mthung@cascadewater.org

CASCADE WATER ALLIANCE
cascadewater.org

[This page left blank intentionally.]

CASCADE WATER ALLIANCE

March 3, 2025

Krista Chavez
Washington State Department of Health
NW Office of Drinking Water
Krista.Chavez@DOH.WA.GOV

Re: Cascade Water Alliance DRAFT 2025 Water System Plan

Dear Ms. Chavez,

Cascade Water Alliance (Cascade) has completed a draft 2025 Water System Plan (WSP) and is pleased to submit the WSP for review by the Washington State Department of Health NW Office of Drinking Water (DOH). Cascade's WSP supplements information on regional supply presented in each of Cascade Members' individual water system plans. In addition to the draft WSP, also included in this submittal are the DOH Project Approval Application Form, list of adjacent purveyors, and pre-planning checklist.

Per Cascade's meeting with DOH on September 26, 2024, Cascade's 2025 WSP does not cover a 10-year period. Instead, it covers Cascade's planning phase of the Tacoma-Cascade Pipeline (TCP) Program. Cascade and Tacoma Public Utilities (TPU) are in the process of finalizing two new supply agreements. Over the next two-to-three years, Cascade will focus on developing the TCP Facilities Plan. The TCP Facilities Plan will form the basis of design and requirements to construct the facilities necessary to connect Cascade's and TPU's systems.

Once Cascade completes the TCP Facilities Plan, we will develop and submit a 10-year WSP to DOH. The alternatives for sizing and routing transmission facilities and other key recommendations from the TCP Facilities Plan will be incorporated into Cascade's next WSP. Our tentative planned date to submit Cascade's next WSP is September 30, 2028. We will communicate regularly with DOH on the progress of the TCP Facilities Plan and any changes to the submittal date for our next 10-year WSP.

Concurrently with this submittal, Cascade is providing the draft WSP to the Department of Ecology (DOE) and adjacent utilities and jurisdictions for review. (This submittal incorporates Cascade Member comments.) In addition, SEPA review is in process, and an informational public hearing will be held in Cascade's office on April 2, 2025. Once Cascade receives and incorporates comments from DOH, DOE, adjacent utilities and jurisdictions, and the public, we will finalize the WSP. We expect to submit Cascade's final WSP in June 2025.

If you have any questions regarding this submittal, please contact Melina Thung, Chief of Staff, at (425) 628-4017 or mthung@cascadewater.org.

Sincerely,

Ray Hoffman
Chief Executive Officer, Cascade Water Alliance

CC: Brietta Carter, Department of Health

Board of Directors

Chair
Penny Sweet
Councilmember
City of Kirkland

Vice Chair
Angela Birney
Mayor
City of Redmond

Secretary/Treasurer
Mary Lou Pauly
Mayor
City of Issaquah

Dave Hamilton
Councilmember
City of Bellevue

Thomas McLeod
Mayor
City of Tukwila

Lloyd Warren
President
Sammamish Plateau Water

Jon Ault
President
Skyway Water & Sewer District

Chief Executive Officer
Ray Hoffman

Cascade Water Alliance
11400 SE 8th Street
Suite 400
Bellevue, WA 98004

Phone: 425.453.0930
Fax: 425.453.0953

www.cascadewater.org

[This page left blank intentionally.]

Drinking Water

Project Approval Application (PAA) Form

331-149 F • Revised 11/2/2022

Please complete all appropriate sections of this application form and include it with your project.

WATER SYSTEM Information

Cascade Water Alliance — Water System Name
Enter ID# — PWS ID #
Water System Plan — Submittal Description
King — County
A-Community — Classification
0 — # of Service Connections

OWNER Information

Cascade Water Alliance — Name
Enter text — Owner ID #
contact@cascadewater.org — E-mail address
425.453.0930 — Phone
11400 SE 8th St #400 — Mailing address
Bellevue — City
State
Zip

PROJECT CONTACT Information

Melina Thung — Name/Position
Chied of Staff
mthung@cascadewater.org — E-mail address
425.628.4017 — Phone
11400 SE 8th St #400 — Mailing address
Bellevue — City
WA — State
98004 — Zip

CONSULTING/DESIGN ENGINEER Information

N/A — Name/Firm
N/A
N/A — E-mail address
N/A — Phone
N/A — Mailing address
Enter text — City
WA — State
Zip

SMA Information

N/A — Name/SMA
Enter text — SMA #
Enter text — E-mail address
Enter text — Phone
Enter text — Mailing address
Enter text — City
WA — State
Zip

BILLING Information*

N/A — Name
Enter text — E-mail address
Enter text — Phone
Enter text — Mailing address
Enter text — City
WA — State
Zip

GENERAL Submittal Information

☐ Check here if you need a Box.com folder set up for transferring your project to us electronically. (You will receive an invite by email after we have received the PAA form.)

Do you have projects currently under review by us? ☐ Yes ☒ No

☐ This is a new water system (if so, include a completed Water Facilities Inventory Report Form with your project).

☐ DWSRF Loan
Application # Enter Number
Loan # Enter Number

☐ Enforcement
Docket # Enter Number
Type Enter Text

☒ Water System Plan (complete Planning Information)

☐ Small Water System Management Program (complete Planning Information)

☐ Engineering (complete Engineering Information)

☐ Group B (complete Engineering Information)

☐ Satellite Management Agency Plan (complete SMA Information)

☐ Alternate Technology (complete Engineering Information)

ENGINEERING Information

Choose Project Report — Project Report Type
Choose Special Report or Plans — Special Report or Plans
Choose Predesign Study — Predesign Study
Choose Existing System Approval — Existing System Approval
Choose Construction Documents — Construction Documents
Choose Waiver — Waiver
Choose Other — Other

PLANNING Information

How many connections does system currently have?	0
If system is private-for-profit, is it regulated by UTC?	☐ Yes ☒ No
Is system expanding?	☐ Yes ☒ No
Expanding service area?	☐ Yes ☐ No
Increasing number of approved connections?	☐ Yes ☐ No
If the number of connections is expected to increase, how many *new* connections are proposed in the next ten (10) years?	0
Is your system pursuing additional water rights from Department of Ecology in the next 20 Years?	☐ Yes ☒ No
Is a new intertie proposed?	☐ Yes ☒ No
Is the system located in a Critical Water Supply Service Area (is there a Coordinated Water System Plan)?	☐ Yes ☒ No
If yes, have you sent a copy of the plan to the county or responsible agency for the CWSP?	☐ Yes ☐ No
Are you requesting distribution main project report and construction document submittal exception?	☐ Yes ☒ No
If so, does the WSP contain standard construction specifications for distribution mains?	☐ Yes ☐ No
The water system/purveyor is responsible for sending a copy of the plan to:	
• Adjacent utilities for review or a letter notifying them that a copy is available for their review and where it is located	☒ Yes ☐ No
• All local governments within the service area	☒ Yes ☐ No
• County and city planning departments, one or both if applicable, adjacent water systems, etc.	☒ Yes ☐ No
List who have you sent the WSP to for review other than ODW?	See attached
Are you proposing a change in the place of use of your water right?	☐ Yes ☒ No
If "yes," the purveyor must send a copy of the WSP or SWSMP to all local governments within the service area (county and city planning departments) for a local consistency determination. Has this been completed?	☐ Yes ☐ No
What are the years of the requested plan approval period (for example 2022 to 2032)?	2025 to 2028
Does your plan follow your preplan checklist?	☒ Yes ☐ No

SMA Information

☐ Ownership only ☐ Management and Operations only ☐ Ownership, Management & Operations

Where can we find the *SMA Notice of Intent* 331-590, in your plan..... Enter Text

Please submit all documents electronically. We request one paper copy of planning documents be submitted to the address for your regional office below.

☐ **Eastern Regional Office**
Department of Health
eroadmin@doh.wa.gov
Phone: 509-329-2100

☒ **Northwest Regional Office**
Department of Health
dw.nwro.wsprojects@doh.wa.gov
Phone: 253-395-6750

☐ **Southwest Regional Office**
Department of Health
swro.admin@doh.wa.gov
Phone: 360-236-3030

Washington State Department of Health

To request this document in another format, call 1-800-525-0127. Deaf or hard of hearing customers, please call 711 (Washington Relay) or email civil.rights@doh.wa.gov.

Adjacent Water Purveyor List

AGENCY	CONTACT	ADDRESS	EMAIL
Seattle Public Utilities	Kelly O'Rourke	700 5th Avenue Seattle, WA 98104	Kelly.ORourke@seattle.gov
Tacoma Public Utilities	Jessica Knickerbocker	3628 53rd St. Tacoma, WA 98409	jknicker@cityoftacoma.org
Northshore Utility District	Amanda Campbell	6830 NE 185th St. Kenmore, WA 98052	acampbell@nud.net
Woodinville Water District	Kathy Curry	17238 NE Woodinville Duvall Rd. Woodinville, WA 98072	kcurry@woodinvillewater.com
Union Hill Water Association	Teresa Fowlkes	5020 236th Ave NE Redmond, WA 98053	teresa@uhwa.org
NE Sammamish Water and Sewer	Laura Keough	940 1st Ave NE Issaquah, WA 98027	laura@nesswd.org
Coal Creek Utility District	Robert Russell	6801 132nd Pl SE Newcastle, WA 98059	rrussell@ccud.org
City of Renton Utilities	Martin Pastucha	1055 S Grady Way Renton, WA 98057	mpastucha@rentonwa.gov
Highline Water District	Jeremy DelMar	23828 30th Ave SE Kent, WA 98032	jdelmar@highlinewater.org
City of Kent	Sean Bauer	220 4th Ave S. Kent, WA 98032	sbauer@kentwa.gov
Ames Lake Water Association	Jeremy Reier	27905 NE 33rd St. Redmond, WA 98053	jeremy@ameslkwater.org
Fall City Water District	Dustin Possert	33015 SE 43rd Fall City, WA 98024	fcw@isomedia.com
King County Water District 125	Shane Young	3460 S 148th St. #110 Tukwila, WA 98168	shaneyoung@waterdistrict125.com
King County Water District 20	Michael Martin	12606 1st Ave S Seattle, WA 98168	Kcwd20@kcwd20.com
Soos Creek Water and Sewer District	William Appleton	14616 SE 192nd St. Renton, WA 98063	wappleton@sooscreek.com
King County	Dan Cardwell	201 S Jackson St. Seattle, WA 98104	dcardwell@kingcounty.gov
Pierce County Planning and Public Works	Brian Stacy	Tacoma Mall Plaza 2702 S. 42nd St. Tacoma, WA 98409	Brian.stacy@piercecountywa.gov

Preplan Checklist

Cascade, Department of Health NW Office of Drinking Water (DOH), Department of Ecology (DOE), and King County Utilities Technical Review Committee (KC UTRC) staff met on September 26, 2024 to discuss the content and time period of Cascade's water system plan (WSP). In an October 8, 2024 email, DOH provided Cascade with the following list of items to be included in the WSP. Cascade's draft WSP includes more information than is listed below.

Content Item	WSP Section
1. Cover letter describing the planning period	1. Executive Summary
2. Ownership and management – organizational chart	2. Section 1.4
3. System history and background	3. Section 1.1
4. Service area	4. Section 1.2
5. Inventory of existing facilities	5. Section 2.2
6. Related plans: Coordinated Water System Plan, watershed protection plans, etc.	6. Section 2.7
7. Shortage management plan	7. Section 2.5, Exhibit A
8. Consistency from local planning – KC UTRC	8. Exhibit I
9. Water Supply and Operations	9. Chapter 2
10. Water Right Self-Assessment	10. Section 2.6, Exhibit C
11. SEPA checklist	11. Exhibit H*
12. Water demand and production	12. Chapter 3, Exhibit D
13. Capital projects	13. Chapter 5
14. Water use efficiency program and goal setting meeting minutes	14. Chapter 4
15. Financial programs	15. Chapter 6, Exhibit E
16. Adjacent water purveyor/tribal outreach	16. Exhibit G
17. Cascade member outreach	17. Exhibit G
18. Public customer meeting	18. Exhibit G*
19. Comment and response letters	19. Exhibit G*
20. Resolution adopting the 2025 Water Supply Plan	20. Exhibit J*

*Will be added when WSP is finalized.

CASCADE WATER ALLIANCE

Board of Directors

Chair
Penny Sweet
Councilmember
City of Kirkland

Vice Chair
Angela Birney
Mayor
City of Redmond

Secretary/Treasurer
Mary Lou Pauly
Mayor
City of Issaquah

Dave Hamilton
Councilmember
City of Bellevue

Thomas McLeod
Mayor
City of Tukwila

Lloyd Warren
President
Sammamish Plateau Water

Jon Ault
President
Skyway Water & Sewer District

Chief Executive Officer
Ray Hoffman

March 3, 2025

Mike Shaljian
Washington State Department of Ecology
mish461@ECY.WA.GOV

Re: Cascade Water Alliance DRAFT 2025 Water System Plan

Dear Mr. Shaljian,

Cascade Water Alliance (Cascade) has completed a draft 2025 Water System Plan (WSP) and is pleased to submit the WSP for review by the Washington State Department of Ecology (DOE). Cascade's WSP supplements information on regional supply presented in each of Cascade Members' individual water system plans.

Per Cascade's meeting with DOE and Department of Health (DOH) on September 26, 2024, Cascade's 2025 WSP does not cover a 10-year period. Instead, it covers Cascade's planning phase of the Tacoma-Cascade Pipeline (TCP) Program. Cascade and Tacoma Public Utilities (TPU) are in the process of finalizing two new supply agreements. Over the next two-to-three years, Cascade will focus on developing the TCP Facilities Plan. The TCP Facilities Plan will form the basis of design and requirements to construct the facilities necessary to connect Cascade's and TPU's systems.

Once Cascade completes the TCP Facilities Plan, we will develop and submit a 10-year WSP to DOH and DOE. The alternatives for sizing and routing transmission facilities and other key recommendations from the TCP Facilities Plan will be incorporated into Cascade's next WSP. Our tentative planned date to submit our next WSP is September 30, 2028.

Concurrently with this submittal, Cascade is providing the draft WSP to DOH and adjacent utilities and jurisdictions for review. (This submittal incorporates Cascade Member comments.) In addition, SEPA review is in process, and an informational public hearing will be held in Cascade's office on April 2, 2025. Once Cascade receives and incorporates comments from DOE, DOH, adjacent utilities and jurisdictions, and the public, we will finalize the WSP. We expect to submit Cascade's final WSP in June 2025.

If you have any questions regarding this submittal, please contact Melina Thung, Chief of Staff, at (425) 628-4017 or mthung@cascadewater.org.

Sincerely,

Ray Hoffman
Chief Executive Officer, Cascade Water Alliance

Cascade Water Alliance
11400 SE 8th Street
Suite 400
Bellevue, WA 98004

Phone: 425.453.0930
Fax: 425.453.0953

www.cascadewater.org

[This page left blank intentionally.]

EMAIL TO ADJACENT PURVEYORS

March 3, 2025

To: LIST OF ADJACENT PURVEYORS

Re: Cascade Water Alliance DRAFT 2025 Water System Plan

Cascade Water Alliance (Cascade) is preparing its 2025 Water System Plan for submittal to the Washington State Department of Health. The 2025 Water System Plan will fulfill Cascade's responsibility to submit a plan to the Department of Health that demonstrates a water system's ability to provide timely and reasonable water service to its current and future customers. In addition, it supplements information on regional supply presented in each Cascade Members' individual water system plan.

The 2025 Water System Plan will cover the same period as Cascade's planning phase of the Tacoma-Cascade Pipeline (TCP) Program. Cascade and Tacoma Public Utilities (TPU) are in the process of finalizing two new supply agreements. Over the next two-to-three years, Cascade will focus on developing the TCP Facilities Plan. The TCP Facilities Plan will form the basis of design and requirements to construct the facilities necessary to connect Cascade's and TPU's systems.

Once Cascade completes the TCP Facilities Plan, it will develop and submit a 10-year Water System Plan to the Department of Health. The alternatives for sizing and routing transmission facilities and other key recommendations from the TCP Facilities Plan will be incorporated into Cascade's next Water System Plan.

Cascade will submit the 2025 Water System Plan to the Department of Health. If you have any comments, please submit them to Melina Thung at mthung@cascadewater.org by Friday, March 28, 2025. In your comment letter, please indicate the chapter and section for each comment.

In addition, an informational public hearing will be held in Cascade's office on April 2, 2025, at 1 pm.

If you have any questions, please contact Melina Thung, Cascade's Chief of Staff, at 425.628.4017 or at mthung@cascadewater.org

Attachment: DRAFT 2025 Water System Plan

Adjacent Water Purveyor List

AGENCY	CONTACT	ADDRESS	EMAIL
Seattle Public Utilities	Kelly O'Rourke	700 5th Avenue Seattle, WA 98104	Kelly.ORourke@seattle.gov
Tacoma Public Utilities	Jessica Knickerbocker	3628 53rd St. Tacoma, WA 98409	jknicker@cityoftacoma.org
Northshore Utility District	Amanda Campbell	6830 NE 185th St. Kenmore, WA 98052	acampbell@nud.net
Woodinville Water District	Kathy Curry	17238 NE Woodinville Duvall Rd. Woodinville, WA 98072	kcurry@woodinvillewater.com
Union Hill Water Association	Teresa Fowlkes	5020 236th Ave NE Redmond, WA 98053	teresa@uhwa.org
NE Sammamish Water and Sewer	Laura Keough	940 1st Ave NE Issaquah, WA 98027	laura@nesswd.org
Coal Creek Utility District	Robert Russell	6801 132nd Pl SE Newcastle, WA 98059	rrussell@ccud.org
City of Renton Utilities	Martin Pastucha	1055 S Grady Way Renton, WA 98057	mpastucha@rentonwa.gov
Highline Water District	Jeremy DelMar	23828 30th Ave SE Kent, WA 98032	jdelmar@highlinewater.org
City of Kent	Sean Bauer	220 4th Ave S. Kent, WA 98032	sbauer@kentwa.gov
Ames Lake Water Association	Jeremy Reier	27905 NE 33rd St. Redmond, WA 98053	jeremy@ameslkwater.org
Fall City Water District	Dustin Possert	33015 SE 43rd Fall City, WA 98024	fcw@isomedia.com
King County Water District 125	Shane Young	3460 S 148th St. #110 Tukwila, WA 98168	shaneyoung@waterdistrict125.com
King County Water District 20	Michael Martin	12606 1st Ave S Seattle, WA 98168	Kcwd20@kcwd20.com
Soos Creek Water and Sewer District	William Appleton	14616 SE 192nd St. Renton, WA 98063	wappleton@sooscreek.com
King County	Dan Cardwell	201 S Jackson St. Seattle, WA 98104	dcardwell@kingcounty.gov
Pierce County Planning and Public Works	Brian Stacy	Tacoma Mall Plaza 2702 S. 42nd St. Tacoma, WA 98409	Brian.stacy@piercecountywa.gov

Public Outreach on Water System Plan

For Immediate Release
March 17, 2025

Contact
Alison Bennett, Intergovernmental and Communications Director
425.453.0930 | abennett@cascadewater.org | www.cascadewater.org

Cascade Water Alliance Issues Draft 2025 Water System Plan; Public Hearing Set

Bellevue, WA – Cascade Water Alliance (Cascade) today issued its draft 2025 Water System Plan (the draft 2025 WSP). The draft 2025 WSP, once adopted by the Cascade Board and approved by the State Department of Health, will fulfill Cascade's responsibility to submit a plan to the Department of Health that demonstrates a water system's ability to provide timely and reasonable water service to its current and future customers.

The draft 2025 WSP has been released for public comment, and interested individuals should direct comments and questions to Melina Thung, Cascade Chief of Staff, at mthung@cascadewater.org. A public hearing is set for April 2, 2025 at 1 pm at Cascade's office, 11400 SE 8th Street, Suite 400, Bellevue, WA 98004.

Cascade is a municipal corporation comprised of five member cities and two districts within King County: the cities of Bellevue, Issaquah, Kirkland, Redmond and Tukwila, and Sammamish Plateau Water and Skyway Water and Sewer District. Cascade serves about 400,000 residents and an employment population of about 380,000.

Cascade will continue to purchase water from Seattle Public Utilities for its members. In addition, Cascade and Tacoma Public Utilities (TPU) are in the process of finalizing two new supply agreements. Individual members of Cascade own and operate their own water distribution systems, and some have their own independent groundwater supplies.

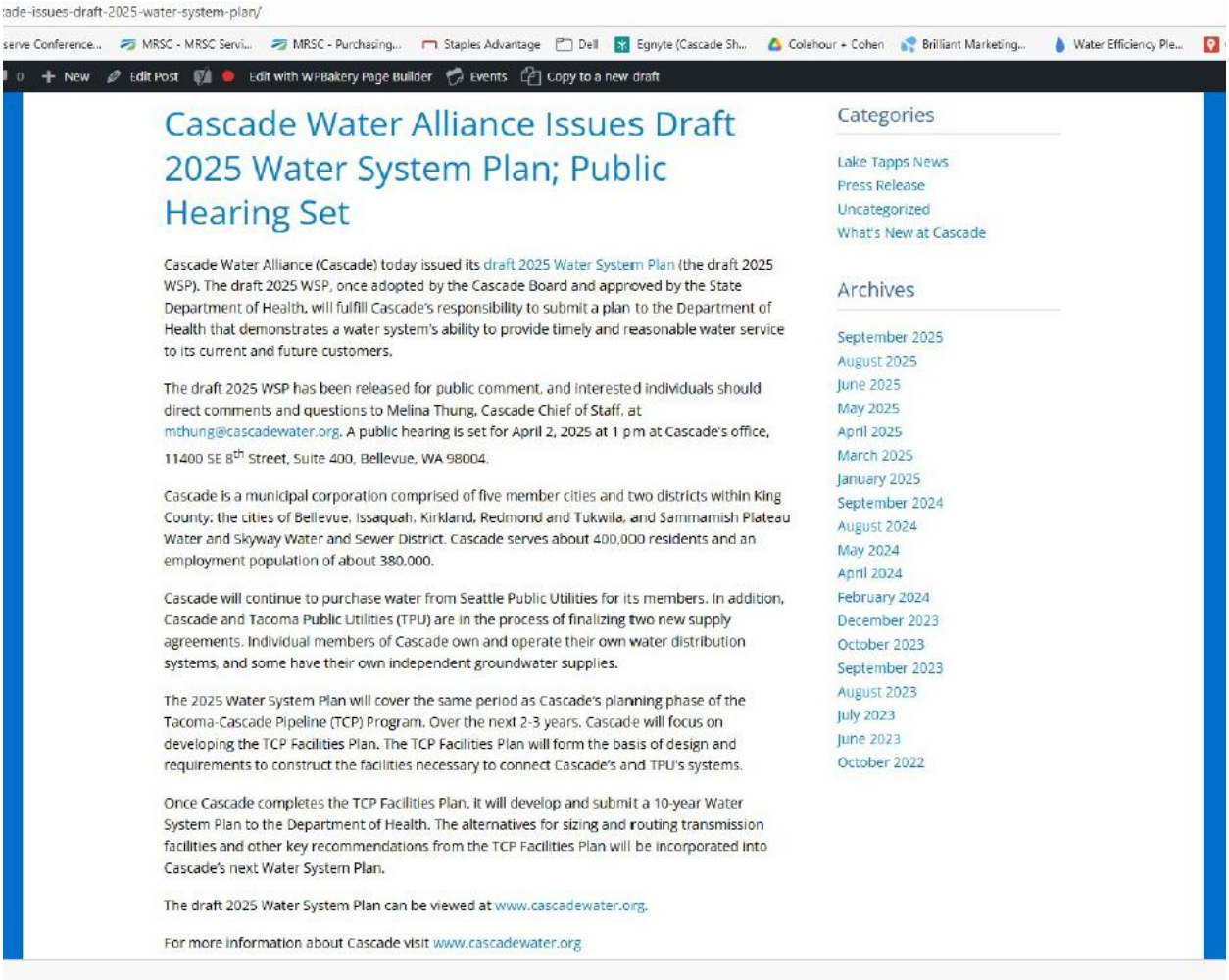
The 2025 Water System Plan will cover the same period as Cascade's planning phase of the Tacoma-Cascade Pipeline (TCP) Program. Over the next 2-3 years, Cascade will focus on developing the TCP Facilities Plan. The TCP Facilities Plan will form the basis of design and requirements to construct the facilities necessary to connect Cascade's and TPU's systems.

Once Cascade completes the TCP Facilities Plan, it will develop and submit a 10-year Water System Plan to the Department of Health. The alternatives for sizing and routing transmission facilities and other key recommendations from the TCP Facilities Plan will be incorporated into Cascade's next Water System Plan.

The draft 2025 Water System Plan can be viewed at www.cascadewater.org.

For more information about Cascade visit www.cascadewater.org

Cascade Website Posting



April 2, 2025

Water System Plan Public Hearing

Sign-In Sheet*

Name	Company	Address	Phone	Email

*No one attended the public meeting, and the meeting adjourned at 1:10 PM.

[This page left blank intentionally.]

Public Outreach on Water Use Efficiency Savings Goal

Cascade provided notification of its Water Use Efficiency (WUE) Public Forum via its website (see below), social media, and the Department of Health's WUE Goal Setting Public Forum Information website.

What's New At Cascade

See What's Happening With WeNeedWater!

We Need Water is Cascade's water conservation campaign. The goal of the campaign is to educate people about water-based issues, engage them with the solutions, and empower them to make a difference. Click here!

September 30, 2025

Cascade Hosts Water Use Efficiency Public Forum, Nov. 3 At 11am

Cascade Water Alliance invites the public to join its Water Use Efficiency Public Forum on Monday, November 3 from 11am to 12pm at Cascade's Bellevue office (11400 SE 8th St., >>

October 17, 2025

2025 Lake Tapps Reservoir Drawdown – September 8, 2025 Update

Cascade Water Alliance previously announced the Lake Tapps Reservoir fall water levels and drawdown plan on August 18. Cascade held reservoir levels higher than normal this summer due to a >>

September 8, 2025

[ADD WUE AGENDA AND NOTES.]

Comments on Water System Plan

[This page left blank intentionally.]

Comments from Bellevue

Bellevue submitted the following comments to Cascade on February 25, 2025. The comments were noted directly on the draft Water System Plan.

Table of Contents

1. Some sections that are typically required (DOH 331-068 WSP Guidebook) appear to be missing, maybe requirements are different for regional supply?
2. Source Water Protection Chapter, including the Watershed Control Program for Cascade sources required?
3. Operations and Maintenance Chapter required? Shortage Management Plan could be part of this Chapter.

Executive Summary

4. Clarify why peak day so much lower than average two years later? Maybe *After 2062 following anticipated development of Lake Tapps for municipal supply, Cascade will receive.... [referring to the new contracts with TPU]*

Table 1.1

5. *[Bellevue's population is]* 162,200

Section 2.1. Contracted Supply

6. and Bellevue (RH545 Zone, only reason for question mark is if it meets the definition of "wheeled" water)? *[referring to wheeled water]*
7. Table 2.2: The flow limits in this table are not presented consistently with the 2020 management agreement, which groups the limits by segment. Is there a more recent management agreement? If not, this table should be revised for consistency with the 2020 management agreement.
8. Table 2.2: *[The last column]* should say guaranteed.

Figure 2.2. Schematic of Cascade's Water Rights

9. Significance of the 1-4 numbering? Add to legend?

Section 3.3.1. Dealing with Uncertainty

10. Were impacts from the recently passed House Bills 1110 and 1337 considered in the variable flow model?

Section 3.4.1. Supply Through 2045

11. Any annual average limit? *[referring to the 2025 Wholesale Agreement]*

Section 5.2. Bellevue-Issaquah Pipeline (BIP) CIP

12. Is this referring to pipe segment joints or at specific components?

Section 5.3. Tacoma-Cascade Pipeline (TCP) Program

13. This sentence would fit well in Paragraph 2 of Section 5.3. *[referring to the TCP map]*

Figure 5.1. Map of Potential Future Water Supply System

14. Is there any initial consideration for what will happen to the SPU transmission lines running through Bellevue as service declines. Also, Bellevue currently receives water off of the East Channel Bridge Pipeline, will there be a future parallel line there also?

15. CIP summary table with annual allocations of project costs for 10-year planning period and additional column for 20-year deferred projects? Include annual costs for ongoing programs and fixed/variable date cost estimates for CIP projects.

Table 6.1. Statement of Revenue and Expenses and Changes in Net Assets

16. Would also like to see annual volume of water sold included in this summary.

Exhibit D. Water Forecast Demand Model

17. This is likely to continue growing as changes to climate and urban road standards are driving installation of irrigation systems along transportation redevelopment projects. *[referring to metered irrigation customer class]*

18. Bellevue's rate of consumption has grown at an average rate over 1.5% since 2020. And population growth has averaged just under 1.7%. While this may be atypical for the whole service area, if the actual growth rate is closer to this than the assumed 0.3% how would available water volume be impacted? *[referring to projected demand through 2045]*

From:	Matt Ellis
To:	Ray Hoffman
Cc:	Melina Thung; Henry Chen; Gaby Wolff
Subject:	RE: Cascade Water Alliance DRAFT 2025 Water System Plan
Date:	Wednesday, February 12, 2025 1:44:35 PM

Hi Ray,

Issaquah has completed our review of the draft water system. Below are our comments:

Table 2.2

Missing Issaquah connections:
Intersection of SR900 and Newport Way NW – 12" Meter.
650 1st Ave NE – 10" Meter with Sammamish Plateau

5.2 – Missing CIP: BIP relocation for WSDOT fish passage project at Lewis Creek

Let me know if you have any questions. Thanks,

Matthew Ellis, PE (he/him/his)| Utility Engineering Manager | City of Issaquah Public Works
Cell: (425) 539-3654 | **Direct: (425) 837-3410** | Report Spills: (425) 837-3470

City of Kirkland Comments on CWA WSP

February 2025

Alignment of Water Demand Projection & Regional Planning Coordination

Page 26 of Cascade's Plan includes a footnote highlighting discrepancies in water demand projections:

- Member agency forecasts project an annual growth rate of 1.2%.
- Cascade's projections estimate a significantly lower rate of 0.3%.

We appreciate the productive meeting on February 24, 2025, to discuss these discrepancies. It was mutually recognized that two primary factors contribute to the variance: differences in forecasting models and future growth assumptions.

Cascade utilizes a variable flow factor model, which accounts for variables such as price, income, and conservation over time. In contrast, some member agencies may use a fixed flow factor model. Regardless of the model used, household and employment growth remain key drivers. Per Exhibit D, Cascade relies on the Puget Sound Regional Council's Land Use Vision Census-Tract-Level forecasts through 2050, while Kirkland bases its projections on King County's Countywide Planning Policies (CPPs), which incorporate the impacts of missing middle housing and accessory dwelling units (ADUs). These differences significantly influence Kirkland's demand projections.

Cascade has committed to issuing a letter to address supply sufficiency concerns and mitigate the risk of the Washington State Department of Health (DOH) invalidating Kirkland's plan due to inconsistencies. However, resolving these data discrepancies remains critical to ensuring regional planning alignment and compliance with the **2012 Joint Agreement**, which mandates coordination between Cascade and its member agencies. The agreement also stipulates that each member's comprehensive water or system plan must align with Cascade's adopted plans.

Both Cascade and Kirkland staff acknowledge the importance of planning alignment and agree that coordination of model inputs and outputs is essential. We appreciate Cascade's commitment to sharing the individual demand forecast for Kirkland, allowing for further evaluation. Additionally, we recognize the value of early collaboration in establishing projection inputs to strengthen regional planning efforts.

Correction to Table 1.1 (Page 2)

The City of Kirkland's 2023 Water Service Area population is 49,200, rather than the 47,900 indicated in the table. We kindly request this correction.

Confirmation of Future Peak Demand Supply

It is noted that peak demand can reach 56.57 MGD. According to Section 3.3.1 of Cascade's Plan, the available supply is projected to be 42 MGD until 2039, decreasing to 33.6 MGD by 2045. While this supply appears sufficient to meet the projected average demand —Figures 3.2 and 3.3 indicate that peak demand can surge to 56.57 MGD during dry summer months.

Given the potential for more extreme water usage patterns due to climate change and increased summer demand, we seek confirmation that Cascade will be able to meet the region's future Peak Daily Demand. Specifically, during our meeting, we raised concerns regarding Cascade's ability to supply Kirkland's projected Peak Day Demand.

We appreciate learning that the supply contract includes provisions to meet peak demands. It is our understanding that Cascade will supplement the current plan with additional background information on the contract language related to peak demand commitments. Additionally, efforts will be made to improve the projection of peaking factors in Cascade's next 10-year Water System Plan (WSP).

Maximum Instantaneous Flow Rate Availability

In 2023, the maximum instantaneous flow rate recorded through Kirkland's three interties (Stations 72, 74, and 75) was 9,848 gpm. However, the combined **Current Limit** across these interties is 9,820 gpm, with a **Proposed Limit** of 9,860 gpm. Given that these interties supply water to Kirkland, Bellevue, and Redmond, is there a strategy in place to accommodate anticipated increases in instantaneous flow demand? As demand is expected to soon exceed the proposed **Maximum Instantaneous Flow Rate** permitted by SPU, we would appreciate insights into Cascade's approach to addressing this challenge.

Hydraulic Gradient Requirements

The contracted hydraulic gradients outlined in Table 2.2 (Page 8) do not currently meet the system needs for Kirkland, Bellevue, and Redmond. The three interties supply the **545 Zone Reservoir**, which cannot be fully filled under the minimum hydraulic gradients at two of the interties (Stations 72 and 75).

Will the future **TCP program** be designed to provide the required hydraulic gradients at the necessary flow rates? If not, should Kirkland, Bellevue, and Redmond anticipate the need to fund and construct additional infrastructure to meet these requirements? Clarifying this matter is essential for member agencies as they update their individual WSPs.

Tacoma-Cascade Pipeline (TCP) Facility Plan

Section 5.3 and Figure 5.1 provide a general overview of the **future Tacoma-Cascade Pipeline (TCP) program**. While we understand that the specific connection details will be determined through the TCP Facilities Plan (2025–2027), we noticed that the preliminary concept ends in Redmond without a direct connection to Kirkland.

We would appreciate further insights into this planning decision. As the concept continues to evolve, Kirkland is interested in participating in the design process by providing local operational knowledge to ensure that the final facility meets the needs of member agencies.

Seismic Resilience Planning

Section 2.2 mentions the potential need for seismic joints in the long term. We commend Cascade's foresight in addressing seismic resilience to prevent water supply disruptions.

However, seismic upgrades typically require system-wide replacements rather than joint retrofitting. It is unclear whether such upgrades have been factored into Cascade's **Capital Improvement Plan (CIP)**. We would appreciate Cascade providing further details on whether funding for seismic resilience improvements has been incorporated into future capital planning.

Clarification of Water Demand Figures

To improve clarity, Figures 3.2 and 3.3 should be labeled **"Demand from Cascade Members"** to indicate that the recorded water usage represents demand rather than supply.

Updates to Figures 1.1 and 2.3

The document notes that **Figure 1.1** is being updated. Will this update also apply to **Figure 2.3**?

Water Use Efficiency (WUE) Program Goals

Section 4.1 outlines Cascade's **Water Use Efficiency (WUE) program goals through 2026**. Since Kirkland's WUE program aligns with Cascade's, we would appreciate confirmation of Cascade's projected WUE goals beyond 2026. If adjustments are expected, we kindly request further details to ensure alignment with Kirkland's WSP.

Wholesale Water Supply from TPU

Figure 3.10 indicates that TPU's wholesale water supply begins in 2026. However, this does not appear to align with other projections in the plan. If there is additional context explaining this timeline, we request further clarification to ensure consistency.

Comments from Redmond

Redmond submitted the following comments to Cascade on February 25, 2025. The comments were noted directly on the draft Water System Plan.

Figure 3.1. Average Daily Water Demand, Temperatures, and Rainfall

1. Has the general trend upward in temperature (reflecting climate change) been factored into assumptions?

Figure 3.10. Cascade Water Demand and Supply Forecast (Through 2099)

2. Given that the Cascade demand numbers are not conservative it seems like a bit more buffer is needed as far as getting Lake Tapps 1 and 2 online (though it is a very long time before needed). Consider adding a 25th and 75th percentiles to graph to show range potential timeline bringing Lake Tapps on line.

Section 3.5. Reclaimed Water

3. This Agreement expires on January 1, 2026. Will there be work to either finalize the template or extend the Agreement?

4. Suggest adding in information about coordinating with King County Wastewater regarding the County's RWSP update.

Table 4.1. Water Efficiency Annual Savings

5. Should be GPD *[referring to second column header]*

Section 4.3. 2024 Water Efficiency Goal Meeting

6. It is not apparent that this meeting was for the public. Please update to clarify. How was this advertised to the public? Since there was no public participation, perhaps a new strategy of advertisement needs to be implemented.

Section 5.3. Tacoma-Cascade Pipeline (TCP) Program

7. And updates on forecast and timelines to transition to Tacoma Supply. *[referring to work that will commence upon completing the TCP Facilities Plan]*

Exhibit D. Water Forecast Demand Model

8. Table 3: This number was adjusted down after further analysis of information from Kirkland. *[referring to Redmond's 2023 actuals]*

9. Figure 2: Our numbers show demand increasing 16% from 2023 to 2033 and over 30% from 2023 to 2043. That is an average growth rate of 1.6% per year. Given that rates of reduction due to conservation have flattened out in the last several years, Cascade's growth rate does not seem conservative enough. Redmond alone is anticipating growth of 6.66 mgd peak demand over 20 years. If other members have similar demand growth

and independent supply capabilities are maxed currently, there will be a significant difference between supply and demand.

10. Table 4: Forecasts for independent supply seem high given actual supply numbers. What is Redmond's share?

Exhibit H. King County Utilities Technical Review Committee Letter

11. Per our Ops Supervisor, Redmond does distribute water in incorporated King County and believes other members may also distribute to unincorporated King County.

Sammamish Plateau Water

1510 228th Avenue SE
Sammamish, WA 98075
Main: 425.392.6256
Fax: 425.391.5389
www.spwater.org

February 24, 2025

Ray Hoffman, CEO
Cascade Water Alliance
11400 SE 8th Street, Suite 400
Bellevue, WA 98004

Re: Cascade Water Alliance DRAFT 2025 Water System Plan

Dear Mr. Hoffman,

Thank you for the opportunity to review the Cascade Water Alliance DRAFT 2025 Water System Plan (WSP). Sammamish Plateau Water and Sewer District (SPWSD) staff has collectively reviewed the draft and is providing comments in response to CWA's request for input. Our comments are suggestions for improving plan content as a useful tool for documenting current conditions and making the plan a resource for staff and elected officials who may transition into the CWA dynamics of regional water planning.

We recognize the work that has gone into preparing this WSP extension and appreciate the opportunity to contribute to its finalization. Below, we highlight key areas where additional details or considerations could enhance the WSP's effectiveness and ensure alignment with the shared goals of all member agencies. These are grouped by general category and may not strictly follow the order encountered in the WSP.

<u>Mapping:</u>

1. The service area boundaries for SPWSD in Figures 1.1 and 2.3 only include those areas that have been formally annexed to the District. These should be updated to include all areas within the SPWSD water service area, that matches those approved through the East King County Coordinated Water System Plan (EKCCWSP). Ensuring that these boundaries reflect the most up-to-date service coverage will provide clarity in future expansion discussions and growth projections.

2. Figure 1.2 – BIP – please identify the Issaquah Interties on the map.

<u>Capital Improvement Planning</u>

3. Please provide 10-year and 20-year CIP plans for all key assets to enhance long-term financial planning and investment prioritization. Clearly defined project timelines and cost estimates will allow agencies to better align their financial planning efforts with Cascade's infrastructure investments. Information on potential and expected projects are currently scattered throughout the WSP. Bringing them together in one table would be beneficial. This would include: 1) Existing WRLTR, 2) BIP – seismic

upgrades and parallel main, 3) TCP Connection to TPU, and 4) Development of Lake Tapps Water Supply (per Section 2.6.1 in 2065). Seeing all projects together would clarify schedules and the relationship between several future projects. Adding a Future Projects column for those projects that are beyond the 20-year CIP will show the full breadth of major projects.

4. For each of the major CIP categories, please include identified studies and projects, such as those listed in the WSP for the WRLTR.

5. The confidence associated with the cost estimates should also be noted. For instance, identifying Class 5 cost estimates (with -50% to +100% variability) for major projects such as the Tacoma-Cascade Pipeline (TCP) will help ensure informed decision-making and financial planning. Acknowledging this variability and providing best-case and worst-case financial projections will allow members to anticipate potential cost changes and budget accordingly.

6. The Bellevue-Issaquah Pipeline (BIP) is a critical asset, and proactive resilience planning is important for regional reliability. The WSP notes a future need for a seismic vulnerability study, but does not indicate a year or range of years, or provide an estimate of cost. The Capital Needs Forecast table in Exhibit E includes expenditures for capital needs in most years, but not any indication of the associated project(s). Additionally, a Capital Project for the assumed improvements identified by the study could be included as a placeholder to clarify the estimated timing of this future expense.

Asset Management

7. Establishing a structured condition assessment program for all critical infrastructure, including Lake Tapps, the BIP, and future transmission mains, will support proactive maintenance strategies and asset management. Routine assessment and condition monitoring will ensure that infrastructure remains reliable and cost-effective in the long term. Providing details on anticipated maintenance schedules and prioritization criteria will improve planning across all agencies.

Operation and Maintenance

8. Providing additional details on how Cascade will operate and maintain the Tacoma Public Utilities (TPU) intertie will strengthen understanding of operational responsibilities. A comprehensive operations and maintenance (O&M) plan should be developed to define the roles, responsibilities, and coordination procedures between Cascade and TPU. Establishing a structured repair and replacement (R&R) program, including prioritization criteria and funding mechanisms, will ensure the long-term functionality and sustainability of the infrastructure. Additionally, implementing a performance-based monitoring system with regular inspections, condition assessments, and predictive maintenance modeling will support data-driven asset management and improve reliability.

9. The plan should recognize anticipated functions and costs to operate and maintain CWA assets, existing or proposed, to deliver regional supply to member agencies, including estimated operation costs. This appears to be a financial gap which is not addressed.

10. Cascade's WSP should also consider emerging water quality concerns, particularly regarding potential contaminants such as PFAS in the White River Lake Tapps Reservoir (WRLTR). Establishing baseline water quality data collection and outlining a long-term strategy for source water protection will help safeguard public health and maintain compliance with evolving regulations. Addressing contaminants of emerging concern related to water quality and potential treatment may significantly affect financial projections.

Conservation & Shortage Management

11. Expanding discussion of measures to reduce peak season demand would be beneficial. Including additional detail on strategies such as pricing adjustments, rebate programs, and education campaigns will provide agencies with useful tools to manage seasonal demand fluctuations effectively. Establishing clear methodologies for measuring program effectiveness will strengthen these initiatives.

12. The plan does not recognize the use of AMI or other emerging technologies as tools for conservation and non-revenue water management. Many CWA members are transitioning to AMI platforms which result in significant water conservation due to leak detection and have a wealth of data which can be used for supply management. Encouraging and supporting the incorporation of Advanced Metering Infrastructure (AMI) and other innovative conservation technologies will support conservation efforts.

13. Please provide information regarding where Conservation and Water Efficiency fit into the Organizational Chart in Figure 1.2

14. Section 4.3 on the 2024 Water Efficiency Goal Meeting indicates that a 1-hour meeting was "held" in December 2024, and nobody attended other than the meeting organizer. Please expand on this paragraph to indicate and clearly clarify that
    - The meeting was intended for the General Public to attend, and how this meeting was advertised.
    - Clarify that Cascade Member agencies were not specifically invited to the December 13, 2024 meeting. (SPWSD reviewed emails and could not find an announcement or invitation to this 2024 meeting, although invitations to prior years meetings were found.)

15. The Shortage Management Plan (SMP) should align with Seattle Public Utilities' updated shortage plan and clarify how new TPU agreements will impact future supply resilience. Addressing evolving regional needs will ensure preparedness for supply challenges. This will also allow members to proactively adjust their local water shortage response strategies to be consistent with regional efforts, reducing confusion during periods of water restrictions.

Finance

16. Increasing transparency around minimum demand share agreements can help members plan effectively. Please clarify how demand shares are calculated and how allowing for flexibility in meeting future demand fluctuations would benefit all agencies. Providing an explanation of how fluctuations in growth rates impact these agreements will improve long-term demand planning and ensure that each member agency has a clear understanding of their obligations.

17. Offering a breakdown of projected rate impacts by member agency and translating long-term cost projections into CERUs (Customer Equivalent Residential Units) will improve financial transparency and forecasting. This will allow members to better assess the financial implications of planned infrastructure investments and make informed decisions regarding their rate structures. Providing historical trends in rate changes along with future projections will support effective financial planning.

18. The financial section of the WSP would benefit from additional clarity regarding Regional Capital Facilities Charges (RCFCs) and how they relate to the Capital Improvement Plan (CIP). Providing a direct correlation between anticipated charges and planned projects will improve financial transparency for all member agencies.

19. Other specific comments for the Financial Program:
    - A discussion of how transmission system non-revenue water is accounted for would provide useful insight into overall system efficiency. Ensuring that best practices are in place for leak detection and loss mitigation will support overall conservation goals and system sustainability.
    - Water Sales or Demand Share: Expand the language to recognize that the member demand share cost allocation should be defined as based on 3-year rolling average of ADD or Peak Season ADD and list the current members rating methodology. This would be informative to all members.
    - We request Section 6.3 be revised to include a table depicting a 10-year cost projection using a CERU metric which includes the projection by member of future cost distribution/member charges. This would allow members to project how the 10-year projections may impact individual agencies and customers.
    - Figure 6.1 Breakdown expenditures by categories such as Admin, Water Contracts, and Debt Service
      These are discussed in the text, but then not followed through in the expenses.
    - Figure 6.3 Forecasted Sources
      Anything that equals new debt = that will translate to new member charges – and that should be recognized. Either as a figure or footnote.

<u>General</u>

20. Ensuring alignment with Member Water System Plans and considering the impact of legislative changes for increased housing density initiatives such as Washington HB 1110, will help Cascade adapt to evolving regional growth patterns.

21. Exhibit F – Outreach was not included in the draft WSP. SPWSD requests the opportunity to review this section before the final plan is submitted, as outreach efforts play a vital role in engaging stakeholders and informing conservation strategies.

22. We recommend including a table to supplement Table 2.3 which summarizes member independent supply water rights by member agency.

23. The Section 3.4.2 of the plan references “measures to reduce peak season demand” but does not expand upon what these measures may be. We recommend including more information.

SPWSD greatly appreciates Cascade's leadership in regional water planning and the opportunity to contribute to this important process. We would be happy to meet to review or clarify our comments if it would be helpful. We look forward to continuing collaboration to refine and enhance the WSP in a way that benefits all member agencies.

Sincerely,

John C. Krauss
General Manager

cc: Sammamish Plateau Board of Commissioners

From: Andy Tuchscherer
To: Ray Hoffman; Melina Thung
Cc: Jay Regenstreif; Jackson Dove; Jay Krauss
Subject: RE: Sammamish Plateau WSP Comments
Date: Wednesday, February 26, 2025 3:55:12 PM
Attachments: image002.png
image003.png

One additional comment

Table 2.2, pages 8 and 9 on the draft WSP:

Please update this table to the most current version. The table on the draft plan shows the wrong intertie number for the Bellevue/Issaquah pipeline. It should be station 182, not station 60. And note #1 at the bottom of the table states that Issaquah and Sammamish Plateau do not yet take water from the intertie. This does not reflect current operation practices for either agency.

Thanks for your consideration.

Andy Tuchscherer
Operations Manager
mobile 425.495.6528

e-mail website facebook twitter youtube

Sammamish Plateau Water®

Clean water is always there because we're always here.™

1510 228th Avenue SE; Sammamish, WA 98075; main 425.392.6256 fax 425.391.5389

NOTICE OF PUBLIC DISCLOSURE: *Public documents and records are available to the public as required under the Washington State Public Records Act (Chapter 42.56 RCW). Accordingly, this e-mail, in whole or in part, may be subject to disclosure pursuant to the Public Records Act, regardless of any claim of confidentiality, privilege or exemption asserted by a third party.*

Seattle Public Utilities

March 28, 2025

Melina Thung, Chief of Staff
Cascade Water Alliance
11400 SE 8th St, Suite 400
Bellevue, WA 98004
(emailed to: mthung@cascadewater.org)

Re: Review of Cascade Draft Water System Plan

Dear Ms. Thung,

Thank you for the opportunity for Seattle Public Utilities (SPU) to review Cascade Water Alliance's draft Water System Plan. The nature of our review was limited to content related to SPU contracts, infrastructure, and programs. Our comments are provided below. Additionally, we will be interested to see your eventual Tacoma-Cascade Pipeline Facilities Plan and the subsequent 10-Year Water System Plan.

These comments all relate to Appendix A Shortage Management Plan (SMP):

1. **Section 3.1 Activation of Plan:** In the screen shot below, in the sentence "…the Cascade CEO may activate the SMP…", the word "may" likely should be "will".

> 1) When SPU activates its Water Shortage Contingency Plan (WSCP), 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. **Section 4.1.2 Triggers of Advisory Stage:** In the screen shot below, in the sentence "…the Cascade CEO may activate the SMP…", the word "may" likely should be "will".

> SPU will enter the Advisory Stage of their WSCP if supply conditions and supply forecasts raise significant concerns about SPU's ability to meet demand later in the year. Upon notice from SPU that it has activated the Advisory Stage, the Cascade CEO may activate the SMP and the Advisory Stage.

3. **Section 4.2.2 Triggers of Voluntary Stage:** In the screen shot below, in the sentence "…the Cascade CEO may activate…", the word "may" likely should be "will".

> 1) Upon notice from SPU that it has activated the Voluntary Stage of their WSCP, 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

4. **Section 4.3.2 Triggers of Mandatory Stage:** In the screen shot below, in the sentence "…the Cascade Board will consider activation…", the phrase "will consider" likely should be "will activate".

1) Upon notice from SPU that it has activated the Mandatory Stage of their WSCP, the Cascade Board will consider activation of the Mandatory Stage; or

5. **Section 4.4.2 Triggers of Emergency Stage:** In the screen shot below, in the sentence "…the Cascade Board will consider activation…", the phrase "will consider" likely should be "will activate".

1) Upon notice from SPU that it has activated the Emergency Stage of their WSCP, the Cascade Board will consider activation of the Emergency Stage; or

6. **Appendix A Possible Voluntary Stage Customer Water Saving Actions (Adapted from SPU's 2006 WSCP):** A similar document was in SPU's 2006 WSCP. However in our 2019 WSCP, we replaced that document with a more comprehensive and flexible menu of potential water saving actions for all the stages (Appendix E of SPU's 2019 WSCP). You might consider using that instead. Technically, the tips in the 2006 document might still be relevant, however the language at the top of the document regarding setting a demand reduction goal and using the example of a 10% reduction could be confusing and inconsistent with actually demand reduction goals used during a real implementation. You can find SPU's full WSCP at https://www.seattle.gov/utilities/about/plans/water/water-shortage-plan and I've attached the Excel version of Appendix E as well.

Thank you again for the review opportunity.

Sincerely,

Kelly ORourke

Kelly O'Rourke, Wholesale Water Contracts Manager

Cc: Ray Hoffman, Cascade Water Alliance, CEO (emailed rhoffman@cascadewater.org)
Alex Chen, SPU Deputy Director Water Line of Business and Shared Services (emailed alex.chen@seattle.gov)
Julie Crittenden, SPU Water Planning & Program Mgmt Division Director (emailed julie.crittenden@seattle.gov)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Region Office
PO Box 330316, Shoreline, WA 98133-9716 • 206-594-0000

May 2, 2025

Cascade Water Alliance
Melina Thung
11400 SE 8th Street, #400
Bellevue, WA 98004

Email: mthung@cascadewater.org

RE: Cascade Water Alliance (Water System ID AA374)
2025 Water System Plan Comment Letter

Dear Melina Thung:

Thank you for the opportunity to review the Cascade Water Alliance (Cascade) Water System Plan (WSP), dated March 3, 2025, and received on March 6, 2025. Consistent with the Memorandum of Understanding between the Department of Health (DOH) and Department of Ecology (Ecology), regarding joint review and approval of WSPs, this letter is being sent to your office with Ecology's comments. Specific elements of the WSP review included the Water Rights Self-Assessment as well as additional water rights documentation, including Ecology's water right files and previous Cascade Water Alliance WSPs and project reports, as applicable.

Ecology identified two issues during review of the WSP and supplemental documentation.

The issues identified are listed below and discussed in the Advisory Comments. Please address the following items prior to finalizing the WSP.

- Requirement to Collect Metering Records
- Reliance on Water Right Claim

Advisory Comments

Requirement to Collect Metering Records

Please note that as a provision of water right permits S2-29920(A) and S2-29934, once water is put to beneficial use, Cascade is required to record daily water use, the maximum monthly rate of diversion/withdrawal, and the monthly total volume of water used. Cascade should maintain

metering records in order to facilitate prompt submittal to Ecology by January 31 of each calendar year.

Reliance on Water Right Claim

Cascade relies on claim S2-160882CL and associated certificate of change S2-CV1-2P168(B) to provide for future needs related to the water system project, including maintenance of reservoir levels and protection of fish and wildlife. Please be advised that a claim is not necessarily a water right, but is an assertion that a water right was created pre-code (1917 for surface water and 1945 for groundwater). Ecology does not have authority to validate claims. A validation of your claim can only be done during a general adjudication conducted in superior court, pursuant to RCW 90.03.110-245.

In the event of a general adjudication, the accounting of actual water rights will be performed. Ecology recommends that, for your own knowledge and planning, Cascade perform a thorough analysis of the claim, the date of first putting water to beneficial use, system infrastructure modifications, and beneficial use through time.

General Information

Water Right Summary

In preparing this comment letter, Ecology reviewed specific elements of the Cascade WSP, including the Water Right Self-Assessment (Chapter 2, Exhibit C), as well as additional water rights documentation.

Please see Table 1 below for a comprehensive list of Cascade water rights and their respective relationships and limitations as understood by Ecology. Please note that the water rights summarized here agree with the Cascade Water Right Self-Assessment provided in Chapter 2 of the WSP, dated March 3, 2025.

Table 1. Existing Water Rights

Water Right	Priority Date	Source Name	Instantaneous Rate (cfs)		Annual Quantity (ac-ft/yr)	
			Additive	Non-Additive	Additive	Non-Additive
S2-CV1-2P168(B) (S2-160882CL)	April 17, 1895	White River	1,000		246,710[++]	
S2-29920(A)	June 20, 2000	White River	1,000[*]		54,300[+]	

S2-29920(B)	June 20, 2000	White River	10+++		5,060+++	
S2-29934	September 15, 2000	White River	135+		54,300+	
R2-29935	September 15, 2000	White River	N/A		46,700 (storage only)	
		TOTALS:	1,000		54,300	

cfs = Cubic Feet per Second; ac-ft/yr = Acre-feet per Year

*The conditions of this permit stipulate the allowed maximum instantaneous rate will be 1,000 cfs from 2/15 – 7/1, 400 cfs from 7/2 – 9/15, and 150 cfs from 9/16 – 2/14. This permit must also comply with minimum instream flows from WAC 173-510.

+ S2-29920(A) authorizes the diversion of up to 54,300 ac-ft/yr from the White River to the Lake Tapps Reservoir. S2-29934 authorizes the withdrawal of up to 54,300 ac-ft/yr from the Lake Tapps Reservoir for distribution in the water system.

++ S2-CV1-2P168(B) has defined purposes of use of hydroelectric power, maintaining recreational reservoir levels, maintaining winter reservoir levels, protecting and enhancing fish and wildlife, and maintenance of water quality for recreational purposes in the reservoir.

+++ S2-29920(B) establishes a Regional Reserved Water Program to be used by the cities of Auburn, Bonney Lake, Buckley, and Sumner. The program provides a mechanism that can be used by these cities to mitigate impacts to the White and Puyallup Rivers from new water right applications or change applications, provided these applications are approved by Ecology by the December 31, 2030, deadline stipulated in this permit. The quantities under this permit are considered to be separate from Cascade's other water rights.

The total instantaneous rate and annual quantity under all rights related to municipal water supply available to Cascade are limited to 1,000 cfs and 54,300 ac-ft/yr, respectively.

Future Demand

The Cascade WSP presents use and production data between 2000 and 2023. Water demand in the Cascade service area has been fairly stable since 2000, ranging from 32 to 37 million gallons per day (mgd), despite significant growth in the service area. During this period (2000 – 2023), average demand was approximately 35.1 mgd. All water served by Cascade was provided by Seattle Public Utilities (SPU), with 33.3 mgd available, and from Cascade member independent supply, with 9.5 mgd available. The average daily surplus of available water for delivery was 7.7 mgd.

Using a variable flow factor model to predict future demand, Cascade expects water demand to remain flat at approximately 37 mgd through 2030, followed by a gradual rise to 39.3 mgd by 2045. Cascade expects the combined supply from its members and SPU will provide about 42 mgd through 2039 and will be enough to meet Cascade's projected demand. Once Cascade's current block contract begins to decline in 2040-2041 this will no longer be the case, and Cascade will need an additional source of water to meet expected demand.

As noted in Section 3.4 of the WSP, without an additional/alternative source of supply to SPU's declining block contract, Cascade would need to develop and put into service the Lake Tapps Reservoir by the early 2040s. Cascade describes their intent to phase into delivery of water from Tacoma Public Utilities (TPU) beginning around 2041 to bridge the gap between projected supply and demand. Per a TPU press release dated March 19, 2025, it is Ecology's understanding that an agreement to establish this supplemental supply between TPU and Cascade has been approved by the Tacoma City Council. Based on this agreement for additional supply, Ecology understands that Cascade will now move forward with the plan to defer having the Lake Tapps Reservoir in service until the early 2060s (rather than early 2040s), as described in Section 3.4.2 of the WSP.

Based on the information provided in the Water Rights Self-Assessment (Exhibit C), and in Section 2 and 3 of the WSP, dated March 3, 2025, capacity does not appear to be an issue.

Service Area

RCW 90.03.386(2) requires that water systems be in compliance with the terms of their WSP and that any alteration of the place of use not be inconsistent with any comprehensive plans or development regulations. An evaluation of any such change should be undertaken if a future expansion of the Cascade service area is planned.

Please contact me with any questions you may have by phone at (206) 305-1720 or by email at mish461@ecy.wa.gov.

Sincerely,

Mike Shaljian
Hydrogeologist
Water Resources Program
Northwest Region Office

ecc: Krista Chavez, Department of Health

Exhibit H

SEPA Review

- Email Notification
- Determination of Non-Significance
- SEPA Checklist

[This page left blank intentionally.]

From:	Jami Shimada
To:	Kelly.ORourke@seattle.gov; Jessica Knickerbocker (WSF); acampbell@nud.net; kcurry@woodinvillewater.com; teresa@uhwa.org; laura@nesswd.org; rrussell@ccud.org; mpastucha@rentonwa.gov; jdelmar@highlinewater.org; Paul Johnson (WSF); jeremy@ameslkwater.org; fcw@isomedia.com; shaneyoung@waterdistrict125.com; Kcwd20@kcwd20.com; wappleton@sooscreek.com; dcardwell@kingcounty.gov; Brian.stacy@piercecountywa.gov; ppwcwsp@piercecountywa.gov; Mish461@ecy.wa.gov; Krista.chavez@doh.wa.gov; Brietta.carter@doh.wa.gov; sullivanj@ci.bonney-lake.wa.us; cfarnsworth@cityofbuckley.com; Sean.Gaffney@piercecountywa.gov; Ty.peterson@kingcounty.gov; Miles.Penk@dfw.wa.gov; SEPA@tpchd.org; jkrum@auburnwa.gov; ryanw@sumnerwa.gov; Patrick@muckleshoot.nsn.us; NRapin@muckleshoot.nsn.us; Mary.Neil@muckleshoot.nsn.us; Trent.crable@muckleshoot.nsn.us; Edna.Shim@muckleshoot.nsn.us; Char.Naylor@PuyallupTribe-nsn.gov; Russ Ladley; Lisa.Anderson@PuyallupTribe-nsn.gov; SEPAReview@PuyallupTribe-nsn.gov
Subject:	SEPA Determination
Date:	Monday, March 17, 2025 7:48:56 AM
Attachments:	2025 Cascade WSP DNS Final.pdf SEPA Checklist 2025 WSP Final.pdf Cascade Draft WSP with Exhibits_030325.pdf

---

Sent on behalf of Alison Bennett:

Hello,

Enclosed for your review is the issued SEPA determination and supporting documentation for Cascade Water Alliance's 2025 Water System Plan.

- SEPA Determination
- SEPA Checklist
- 2025 Water System Plan

The SEPA comment deadline is April 2, 2025. Written comments should be emailed or mailed to:

Alison Bennett, Intergovernmental and Communications Director

Cascade Water Alliance

11400 SE 8th Street, Suite 400

Bellevue, WA 98004

Phone: 425-998-5452

Email: contact@cascadewater.org

Thank you,

Alison Bennett

[This page left blank intentionally.]

STATE ENVIRONMENTAL POLICY ACT (SEPA)
DETERMINATION OF NONSIGNIFICANCE (DNS)
FOR 2025 WATER SYSTEM PLAN (WSP)

Board of Directors

Chair
Penny Sweet
Councilmember
City of Kirkland

Vice Chair
Angela Birney
Mayor
City of Redmond

Secretary/Treasurer
Mary Lou Pauly
Mayor
City of Issaquah

Dave Hamilton
Councilmember
City of Bellevue

Thomas McLeod
Mayor
City of Tukwila

Lloyd Warren
President
Sammamish Plateau Water

Jon Ault
President
Skyway Water &
Sewer District

Chief Executive Officer
Ray Hoffman

Cascade Water Alliance
11400 SE 8th Street
Suite 400
Bellevue, WA 98004

Phone: 425.453.0930
Fax: 425.453.0953

www.cascadewater.org

Date of Issuance: March 17, 2025
Lead Agency: Cascade Water Alliance
Agency Contact: Melina Thung
mthung@cascadewater.org
(425) 628-4017

Name of Proposal:
Adoption of 2025 Water System Plan

Description of Proposal:
The proposal is to adopt the 2025 Water System Plan (WSP). The 2025 Water System Plan will fulfill the Cascade Water Alliance's responsibility to submit a plan to the Department of Health (DOH) that demonstrates a water system's ability to provide timely and reasonable water service to its current and future customers. The 2025 WSP addresses Cascade's current contracted water supply, infrastructure, Member supplies, water quality regulatory compliance, shortage management, water rights self-assessment, overall demand forecast, future sources of water supply and reclaimed water, water efficiency program and water savings goals, provides an updated list of capital facility projects likely to occur over the next 20 years, and evaluates the financial position of Cascade.

The planning period for the 2025 WSP will last between 2025 through the year 2028, during which time Cascade will develop and finalize the Tacoma Cascade Pipeline Facilities Plan. Cascade will then develop and submit a new 10-year Water System Plan to DOH with a planned submittal date of September 30, 2028.

Location of Proposal:
The location covered by the Plan includes the Cascade Water Alliance Service Area (which is the service area of its Members: the Cities of Bellevue, Issaquah, Kirkland, Redmond and Tukwila, Sammamish Plateau Water, and Skyway Water and Sewer District); facilities Cascade owns (including the White River – Lake Tapps Reservoir (WRLTR) Project and the Bellevue-Issaquah Pipeline; and the Place of Use associated with the WRLTR Project water rights (the combined service areas described in the most recent Water System Plans approved by the Washington State Department of Health for Cascade, the City of Seattle and the City of Tacoma). Wholesale water contracted from SPU originates in the Cedar and Tolt River Watersheds in the Cascade Mountains. Wholesale water contracted from TPU originates from the Green River watershed within the TPU service area.

Cascade Water Alliance has determined that this proposal will not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030. This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public upon request.

This DNS is issued under WAC 197-11-340(2), and the comment period will end on April 2, 2025. There is no agency appeal for this determination.

Responsible Official:
Alison Bennett
Intergovernmental and Communications Director
Cascade Water Alliance
11400 SE 8th St., Suite 400
Bellevue, WA 98004
abennett@cascadewater.org
425-453-0930

Signature Alison Bennett Date 03/14/2025

CASCADE WATER ALLIANCE

SEPA Environmental Checklist for 2025 Water System Plan

Purpose of checklist

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization, or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. **You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown.** You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to **all parts of your proposal**, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for lead agencies

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B, plus the Supplemental Sheet for Nonproject Actions (Part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in "Part B: Environmental Elements" that do not contribute meaningfully to the analysis of the proposal.

A. Background

1. **Name of proposed project, if applicable:**
   Adoption of the Cascade Water Alliance 2025 Water System Plan

2. **Name of applicant:**
   Melina Thung
   Cascade Water Alliance Chief of Staff
   Cascade Water Alliance

3. **Address and phone number of applicant and contact person:**
   11400 SE 8th St, Suite 400
   Bellevue, WA 98004
   mthung@cascadewater.org
   (425) 628-4017

4. **Date checklist prepared:**
   March 5, 2025

5. **Agency requesting checklist:**
   Cascade Water Alliance

6. **Proposed timing of schedule (including phasing, if applicable):**
   Cascade Water Alliance ("Cascade") anticipates the adoption of the 2025 Water System Plan ("WSP") in mid-2025. It is expected that the WSP will remain in effect for a period of approximately three years. The capital improvement plan ("CIP") referenced in the WSP will remain in effect for a period of six years.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**
   This WSP is designed to manage Cascade's water system while plans are developed to construct the necessary facilities to connect Cascade's system with the Tacoma Public Utilities water system for wholesale water purchase. Over the next two-to-three years, Cascade will focus on developing the Tacoma-Cascade Pipeline ("TCP") Facilities Plan. Implementation of the TCP Facilities Plan will be integrated within a future 10-year update of the WSP which is expected to be adopted in approximately 2028. This future WSP will specify the environmental, design, permitting, and construction work needed for the Central and North Pipeline segments of the TCP, with construction anticipated to begin in the mid-2030s.

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

   Environmental information has been prepared previously for several projects described in the WSP, such as the Tacoma-Cascade Pipeline and the Lake Tapps – White River Reservoir. Environmental documents associated with these projects are listed, below:

   - Cascade Water Alliance
     - Lake Tapps Reservoir Water Supply Project
       - Environmental Checklist and State Environmental Policy Act ("SEPA") Mitigated Determination of Nonsignificance ("MDNS") – February 2, 2008
     - Lake Tapps Reservoir, Issuance of New Municipal Water Rights and Change of Use for Existing Claim No. 60822

        - Determination of Significance and Request for Comments on Scope of Environmental Impact Statement and Environmental Checklist – June 30, 2008
    - Lake Tapps Reservoir Water Rights and Supply Project
        - Draft Environmental Impact Statement – January 29, 2010
        - Final Environmental Impact Statement – June 16, 2010
    - Cascade Regional Water Supply System, Tacoma-Cascade Pipeline
        - Determination of Significance and Request for Comments on Scope of Environmental Impact Statement and Environmental Checklist – July 21, 2006
        - Draft Environmental Impact Statement – December 21, 2006
        - Final Environmental Impact Statement – April 26, 2007
- Seattle Public Utilities
    - 2019 Water System Plan SEPA Environmental Checklist, dated March 6, 2018
    - 2019 Water System Plan SEPA Determination of Nonsignificance, dated March 12, 2018
- Tacoma Public Utilities
    - 2018 Water System Plan SEPA Environmental Checklist, dated June 2018
    - 2018 Water System Plan Determination of Nonsignificance, dated June 2018

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.** N/A (not applicable)

    No applications for government approvals related to the WSP are known at this time.

10. **List any government approvals or permits that will be needed for your proposal, if known.**

    2025 WSP approval by the Washington Department of Health (“DOH”)

11. **Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)**

    Cascade is a municipal corporation formed under the authority of the Joint Municipal Utility Services Act (Chapter 39.106 RCW) to provide water supply to its member agencies (“Members”): Bellevue, Issaquah, Kirkland, Redmond, Sammamish Plateau Water, Skyway Water & Sewer District, and Tukwila. Cascade’s mission is to provide safe, clean, and reliable water to its Members in a cost-effective and environmentally responsible way through regional leadership and strong relationships.

    The WSP fulfills Cascade’s responsibility to submit a water system plan to DOH. In addition, it supplements information on regional supply presented in each Member’s individual water system plan.

    The 2025 WSP addresses Cascade’s current contracted water supply, infrastructure, Member supplies, water quality regulatory compliance, shortage management, water rights self-assessment, and related plans and agreements. Cascade and its Members currently utilize a variety of water supply sources, including Members' independent supplies, wholesale water purchased by Cascade from Seattle Public Utilities (“SPU”), wholesale water purchased by Members from non-Member water purveyors, and a small amount of reclaimed water. Cascade has a wholesale purchase contract with Tacoma Public Utilities (“TPU”) but does not currently use water from this source. Cascade also holds water rights for the use of the White

River Lake Tapps Reservoir ("WRLTR Project"), located in Pierce County, and anticipates developing WRLTR Project in the future for municipal water supply.

The 2025 WSP also updates the overall Cascade demand forecast, addresses future sources of water supply and reclaimed water. The combination of supply from SPU and Members' independent supplies is currently enough to meet Cascade's projected demand. However, Cascade will need an additional source of water to meet demand by 2041. Cascade's business model calls for the use of available regional water to bridge demand until the Lake Tapps Reservoir is developed for municipal supply. To that end, Cascade and TPU are currently finalizing two separate and complementary wholesale water supply agreements to provide temporary supply through 2062, with a reduced permanent supply to Cascade thereafter. Cascade will be responsible for constructing the facilities necessary to connect Cascade's system with the TPU system through a new pipeline, called the TCP. These facilities will be detailed in a forthcoming plan known as the TCP Facilities Plan.

Finally, the 2025 WSP outlines Cascade's water efficiency program and water savings goals, provides an updated list of capital facility projects likely to occur over the next 20 years related to the WRLTR Project, Bellevue-Issaquah Pipeline, and the TCP program, and evaluates the financial position of Cascade.

The planning period for the 2025 WSP will last between 2025 through the year 2028, during which time Cascade will develop and finalize the TCP Facilities Plan. Cascade will then develop and submit a new 10-year Water System Plan to DOH with a planned submittal date of September 30, 2028.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The location covered by the Plan includes the Cascade Water Alliance Service Area (which is the service area of its Members: the Cities of Bellevue, Issaquah, Kirkland, Redmond and Tukwila, Sammamish Plateau Water, and Skyway Water and Sewer Districts); facilities Cascade owns (including the WRLTR Project and the Bellevue-Issaquah Pipeline; and the Place of Use associated with the WRLTR Project water rights (the combined service areas described in the most recent Water System Plans approved by the Washington State Department of Health for Cascade, the City of Seattle and the City of Tacoma). Wholesale water contracted from SPU originates in the Cedar and Tolt River Watersheds in the Cascade Mountains. Wholesale water contracted from TPU originates from the Green River watershed within the TPU service area.

B. Environmental Elements

1. Earth

a. General description of the site:
Circle or highlight one: Flat, rolling, hilly, steep slopes, mountainous, other:

b. What is the steepest slope on the site (approximate percent slope)?

c. **What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.**

d. **Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**

e. **Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.** N/A

f. **Could erosion occur because of clearing, construction, or use? If so, generally describe.**

g. **About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?** N/A

h. **Proposed measures to reduce or control erosion, or other impacts to the earth, if any.**

Sections 1.a through 1.h do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

2. Air

a. **What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.**

b. **Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.**

c. **Proposed measures to reduce or control emissions or other impacts to air, if any:**

Sections 2.a through 2.h do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

3. Water

a. Surface:

1. **Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

2. **Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

3. **Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

4. **Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.**

5. **Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

6. **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.** N/A

b. Ground:

1. **Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.**

2. **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals…; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

c. Water Runoff (including stormwater):

1. **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

2. **Could waste materials enter ground or surface waters? If so, generally describe.**

3. **Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Sections 3.a through 2.c do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

4. Plants

a. Check the types of vegetation found on the site:

☐ **deciduous tree: alder, maple, aspen, other**
☐ **evergreen tree: fir, cedar, pine, other**
☐ **shrubs**
☐ **grass**
☐ **pasture**
☐ **crop or grain**

☐ **orchards, vineyards, or other permanent crops.**
☐ **wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other**
☐ **water plants: water lily, eelgrass, milfoil, other**
☐ **other types of vegetation**

b. What kind and amount of vegetation will be removed or altered?

c. List threatened and endangered species known to be on or near the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

e. List all noxious weeds and invasive species known to be on or near the site.

Sections 4.a through 4.e do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

5. Animals

a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site.
Examples include:

- **Birds: hawk, heron, eagle, songbirds, other:**
- **Mammals: deer, bear, elk, beaver, other:**
- **Fish: bass, salmon, trout, herring, shellfish, other:**

b. List any threatened and endangered species known to be on or near the site.

c. Is the site part of a migration route? If so, explain.

d. Proposed measures to preserve or enhance wildlife, if any.

e. List any invasive animal species known to be on or near the site.

Sections 5.a through 5.e do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

Sections 6.a through 6.c do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.

1. **Describe any known or possible contamination at the site from present or past uses.**

2. **Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

3. **Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

4. **Describe special emergency services that might be required.**

5. **Proposed measures to reduce or control environmental health hazards, if any.**

b. Noise

1. **What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

2. **What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site)?**

3. **Proposed measures to reduce or control noise impacts, if any:**

Sections 7.a through 7.b do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

8. Land and shoreline use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

1. Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?

c. Describe any structures on the site.

d. Will any structures be demolished? If so, what?

e. What is the current zoning classification of the site?

f. What is the current comprehensive plan designation of the site?

g. If applicable, what is the current shoreline master program designation of the site?

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

i. Approximately how many people would reside or work in the completed project?

j. Approximately how many people would the completed project displace?

k. Proposed measures to avoid or reduce displacement impacts, if any.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

Sections 8.a through 8.m do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

c. Proposed measures to reduce or control housing impacts, if any:

Sections 9.a through 9.c do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

b. What views in the immediate vicinity would be altered or obstructed?

c. Proposed measures to reduce or control aesthetic impacts, if any:

Sections 10.a through 10.c do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

b. Could light or glare from the finished project be a safety hazard or interfere with views?

c. What existing off-site sources of light or glare may affect your proposal?

d. Proposed measures to reduce or control light and glare impacts, if any:

Sections 11.a through 11.d do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

b. Would the proposed project displace any existing recreational uses? If so, describe.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Sections 12.a through 12.c do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

13. Historic and cultural preservation

a. **Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.**

b. **Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.**

c. **Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.**

d. **Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.**

Sections 13.a through 13.d do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

14. Transportation

a. **Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.**

b. **Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?**

c. **Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).**

d. **Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

e. **How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?**

f. **Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.**

g. **Proposed measures to reduce or control transportation impacts, if any:**

Sections 14.a through 14.g do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

15. Public services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Sections 15.a through 15.b do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Sections 16.a through 16.b do not apply to the proposed adoption of the WSP. Please refer to Section D, Supplemental Sheet for Non-Project Actions, which provides general programmatic-level environmental impact information.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Alison Bennett

Type name of signee: Alison Bennett

Position and agency/organization: Intergovernmental Relations & Communications Director and SEPA Responsible Official, Cascade Water Alliance

Date submitted: **March 14, 2025**

D. Supplemental sheet for nonproject actions

Do not use this section for project actions.

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.
When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. **How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?**

   No new significant discharges to water, emission to air, production, storage, or release of toxic or hazardous substances, or production of noise is expected to occur as a result of the adoption of the WSP. The 2025 WSP identifies various maintenance and upgrades to Cascade facilities as part of its six-year Capital Improvement Program ("CIP") and forecasts capital needs through the current WSP planning period horizon year of 2045. Some of the items identified by the CIP include maintenance actions for existing facilities, and construction activity associated with new facilities, including maintenance and upgrades to existing WRLTR Project facilities, maintenance and upgrades to the Bellevue-Issaquah Pipeline ("BIP"), and planning for the eventual construction of facilities needed to connect Cascade's system to TPU's system.

   A temporary increase in discharges to water, emissions to air, the storage and use of toxic/hazardous substances, and an increase in noise may occur during the construction phase of facilities identified in the CIP at facilities at the White River-Lake Tapps Reservoir and the BIP. Additional particulate emissions may be generated by increased worker trips, the operation of heavy machinery associated with construction, and earthwork associated with clearing or grading that is needed to prepare sites for construction. These activities may also result in a temporary increase in noise impacts associated with construction. No increase in the production and/or release of toxic or hazardous substances is anticipated; however, an incremental increase in the amount of chemicals used and stored by Cascade may occur with the expansion of Cascade's facilities. No impacts are expected to result from planning and development of the TCP Facilities Plan.

   - **Proposed measures to avoid or reduce such increases are:**

   Minimization of impacts to surface water would be achieved through implementation of applicable best management practices ("BMPs") and compliance with various regulatory requirements, such as permit conditions associated with National Pollution Discharge and Elimination System ("NPDES") permit approval. Compliance with NPDES, and any other applicable requirement, will be determined at the project level.

   No air quality impacts are expected to occur as a result of the adoption of the WSP. Some air quality impacts may occur because of the construction of capital facilities identified in the CIP. These impacts would be minimized via compliance with local and state regulations and will be determined during project-specific environmental review. Examples of measures that may include keeping soils damp by spraying with water, covering all truck loads, using wheel washers, and covering dirt/debris piles. Noise impacts will be managed beneath the threshold of significance via compliance with local and state noise regulations. Additional mitigations will be proposed during project-specific environmental review as needed.

2. **How would the proposal be likely to affect plants, animals, fish, or marine life?**

Water system components would not affect marine life. However, plants, animals, or fish could be affected by certain facilities depending on their location and function. The majority of the system components identified in the WSP and the CIP are associated with existing facilities. As a result, the majority of impacts to plants, animals, and fish are likely to occur during the construction phase associated with the maintenance and/or modification of Cascade facilities and would be temporary impacts limited to the duration of the construction phase. No impacts are expected to result from planning and development of the TCP Facilities Plan.

- **Proposed measures to protect or conserve plants, animals, fish, or marine life are:**

No significant impacts to plant, animal, fish, or marine life are expected to occur as a result of the adoption of the WSP. No impacts are expected to result from planning and development of the TCP Facilities Plan. The siting and design of WSP and CIP components will be minimized primarily through avoidance of impacts altogether. Where significant impacts are identified at the project level, mitigations will be developed to minimize impacts beneath the threshold of significance via site-specific environmental review.

3. **How would the proposal be likely to deplete energy or natural resources?**

The WSP contemplates the acquisition of water from various wholesale sources, such as Seattle Public Utilities and TPU, and the distribution of that water to Cascade's Members during and after the planning and construction period of the WRLTR Project. Although overall water consumption per capita is projected to decrease by approximately 18% through the year 2045, the WSP identifies an overall increase in projected average annual water demand during that planning period. While overall consumption is projected to increase, no natural resource is expected to be depleted as a result of the adoption of the WSP.

- **Proposed measures to protect or conserve energy and natural resources are:**

System components will be sited, designed, constructed, maintained, and operated to be as resource efficient as possible. Cascade will update its water use efficiency program to reduce water consumption per capita. However, conservation benefits of the updated program have not yet been quantified.

4. **How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection, such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?**

The adoption of the WSP is not expected to result in significant impacts to environmentally sensitive areas or areas designated for governmental protection. No impacts are expected to result from planning and development of the TCP Facilities Plan. It is possible that some system components could be located near or upon, or traverse, environmentally sensitive areas such as wetlands or floodplains. Parks, endangered species habitat, and historic and/or cultural sites would be avoided whenever possible. The scope of impacts would be limited to those activities listed in the CIP; because the majority of these items are already existing, no significant impacts are expected.

- **Proposed measures to protect such resources or to avoid or reduce impacts are:**

System components will be maintained and replaced with the intent of avoiding impacts to environmentally sensitive areas. Impacts will be further limited via compliance with local regulations governing impacts to environmentally sensitive areas, such as local critical area and shoreline regulations. Where work is proposed that is not SEPA-exempt, mitigations will be identified during project-specific environmental review and could include BMPs such as minimizing trench widths, minimizing construction staging areas, segregating excavation soils keeping topsoil separate, restoring disturbed environmentally sensitive areas after installation, installing buffer enhancements as appropriate, and complying with specified work windows as required by other agencies.

5. **How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?**

Adoption of the WSP will not impact land or shoreline use and will not allow or encourage land or shoreline uses that are incompatible with existing plans. No impacts are expected to result from planning and development of the TCP Facilities Plan.

- **Proposed measures to avoid or reduce shoreline and land use impacts are:**

WSP system components will comply with existing land use and shoreline management plans. Maintenance and construction activities will avoid impacts to shoreline areas whenever possible. Impacts will be further managed beneath the threshold of significance through compliance with the shoreline management programs of various local jurisdictions, and the Shoreline Management Act.

6. **How would the proposal be likely to increase demands on transportation or public services and utilities?**

The construction, maintenance, and operation of transmission and water system components identified in the WSP would, to varying degrees, depending on the specific facility and location, increase the demands on transportation, public services, and utilities. Some additional vehicular and truck trips may occur because of activities described in the CIP. These increases are not expected to be significant. No significant impacts are expected to occur as a result of the planning and development of the TCP Facilities Plan.

- **Proposed measures to reduce or respond to such demand(s) are:**

No significant impacts are expected to occur because of the adoption of the WSP.

7. **Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.**

Adoption of the WSP will not result in a conflict with any local, state, or federal laws or requirements for the protection of the environment.

[This page left blank intentionally.]

Exhibit I

King County Utilities Technical Review Committee Letter

[This page left blank intentionally.]

King County
Utilities Technical Review Committee
Department of Local Services
201 S Jackson Street
KSC-LS-0815
Seattle, WA 98104
www.kingcounty.gov

January 13, 2025

Melina Thung
Chief of Staff
Cascade Water Alliance
11400 SE 8th St, Suite 400
Bellevue, WA 98004

Subject: 2025 Water System Plan

Dear Melina Thung,

King County is interested in the Cascade Water Alliance's (Cascade) 2025 Water System Plan (Plan) as its membership entities provide water service to unincorporated King County. However, it is my understanding through our previous conversation that Cascade does not currently or have plans to obtain or distribute water in unincorporated King County. Consequently, King County Code 13.24 does not require the Plan to be reviewed and approved by the County. If in the future Cascade amends the Plan to serve unincorporated King County or seeks a franchise agreement for use of a County road right of way, King County approval will be necessary.

King County recognizes the valuable service Cascade provides to its membership entities and County residents. I look forward to receiving the final Plan as it will aid in reviewing future water system plans from Cascade's membership entities.

You may contact me at (206) 263 - 3733 or Dan.Cardwell@kingcounty.gov if you have any questions.

Sincerely,

Dan Cardwell

Dan Cardwell
Chair, Utilities Technical Review Committee

CC: Krista Chavez, Regional Planner, Washington State Department of Health

[This page left blank intentionally.]

Exhibit J

Resolutions

- Resolution Adopting the 2025 Water System Plan
- Resolution Adopting the Shortage Management Plan
- Resolution Adopting the Water Use Efficiency Savings Goal

[This page left blank intentionally.]