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# Final

# Alternate Municipal Water Management and Conservation Plan

## Wasco County



**September 2021**

Prepared by:

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# Oregon

Kate Brown, Governor

## Water Resources Department

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September 20, 2021

County of Wasco  
Attn: Tyler Stone  
511 Washington St, Ste. 101  
The Dalles, OR 97058

Subject: Water Management and Conservation Plan

Dear Mr. Stone:

Enclosed; please find the final order approving your Water Management and Conservation Plan and specifying that the diversion of water under **Permit G-13421** remains authorized at no more than **0.47 cfs** (*out of total permitted 1.11 cfs*).

The attached final order specifies that Wasco County's plan shall remain in effect until **September 20, 2031**. Additionally, Wasco County is required to submit a progress report to the Department by **September 20, 2026**, detailing progress made toward the implementation of conservation benchmarks scheduled in the plan. Finally, Wasco County must submit an updated Water Management and Conservation Plan to the Department by **March 20, 2031**.

***NOTE:** The deadline established in the attached final order for submittal of an updated water management and conservation plan (consistent with OAR Chapter 690, Division 086) shall not relieve Wasco County from any existing or future requirement(s) for submittal of a water management and conservation plan at an earlier date as established through other final orders of the Department.*

We appreciate your cooperation in this effort. Please do not hesitate to contact me at 503-979-9544 or [Kerri.H.Cope@oregon.gov](mailto:Kerri.H.Cope@oregon.gov) if you have any questions.

Sincerely,

Kerri Cope  
Water Management and Conservation Analyst  
Water Right Services Division

Enclosure

cc: WMCP File  
Application #G-14580 (Permit #G-13421)  
District 3 Watermaster, Bob Wood (*via email*)  
GSI Water Solutions, Inc. Attn: Leah Cogan (*via email: [lcogan@gsiws.com](mailto:lcogan@gsiws.com)*)





**BEFORE THE WATER RESOURCES DEPARTMENT  
OF THE  
STATE OF OREGON**

In the Matter of the Proposed Water	)	FINAL ORDER APPROVING A
Management and Conservation Plan for	)	WATER MANAGEMENT AND
Wasco County	)	CONSERVATION PLAN

**Authority**

OAR Chapter 690, Division 086, establishes the process and criteria for approving water management and conservation plans required under the conditions of permits, permit extensions and other orders of the Department.

**Findings of Fact**

1. Wasco County (County) submitted a Water Management and Conservation Plan (plan) and the required statutory fee for review of the plan to the Water Resources Department (Department) on June 7, 2021. The plan was required by a condition set forth in the final order issued on August 12, 2016 approving an extension of time for Permit G-13421.
2. The Department published notice of receipt of the plan on July 15, 2021, as required under OAR Chapter 690, Division 086. No public comments were received.
3. The Department provided written comments on the plan to the County on July 30, 2021. In response, the County submitted a revised plan on September 1, 2021.
4. The Department reviewed the revised plan and finds that the revised plan is consistent with the relevant requirements under OAR Chapter 690, Division 086.

**Conclusion of Law**

The Water Management and Conservation Plan submitted by Wasco County is consistent with the criteria in OAR Chapter 690, Division 086.

This is a final order in other than a contested case. This order is subject to judicial review under ORS 183.484. Any petition for judicial review must be filed within the 60-day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-0080, you may petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

Now, therefore, it is **ORDERED**:

**Duration of Plan Approval:**

1. The Wasco County Water Management and Conservation Plan is approved and shall remain in effect until **September 20, 2031**, unless this approval is rescinded pursuant to OAR 690-086-0920.

**Development Limitation:**

2. The limitation of the diversion of water under **Permit G-13421** established in the Final Order approving an Extension of Time for **Permit G-13421** (*issued on August 12, 2016*) remains unchanged. Subject to other limitations or conditions of the permit, therefore, Wasco County remains authorized to divert only up to **0.47cfs** (*out of the total permitted 1.11cfs*) of water under **Permit G-13421**.

**Plan Update Schedule:**

3. Wasco County shall submit an updated plan meeting the requirements of OAR Chapter 690, Division 086 (effective December 23, 2018) within **10 years** and no later than **March 20, 2031**.

**Progress Report Schedule:**

4. Wasco County shall submit a progress report containing the information required under OAR 690-086-0120(4) by **September 20, 2026**.

**Other Requirements for Plan Submittal:**

5. The deadline established herein for the submittal of an updated Water Management and Conservation Plan (consistent with OAR Chapter 690, Division 086) shall not relieve Wasco County from any existing or future requirement(s) for submittal of a Water Management and Conservation Plan at an earlier date as established through other final orders of the Department.

Dated at Salem, Oregon this day SEP 22 2021

  
Lisa J. Jaramillo, Transfer and Conservation Section Manager for  
THOMAS M. BYLER, DIRECTOR  
Oregon Water Resources

Mailing date: SEP 23 2021

**Notice Regarding Service Members:** Active duty service members have a right to stay these proceedings under the federal service members Civil Relief Act. For more information, contact the Oregon State Bar at 800-452-8260, the Oregon Military Department at 503-584-3571 or the nearest United States Armed Forces Legal Assistance Office through <http://legalassistance.law.af.mil>. The Oregon Military Department does not have a toll free telephone number.

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Appendix

- A. Notification to Affected Local Government and Response



# 1. Small Municipal Water Supplier Plan Elements

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*This section satisfies the requirements of OAR 690-086-0325.*

*This rule requires a list of affected local governments to whom the plan was made available, and a proposed date for submittal of an updated plan, and justification for requesting additional time to implement metering.*

## 1.1 Introduction

Wasco County (County) is located in north-central Oregon bordering the Columbia River. Most municipal water supplies within the County are provided by incorporated cities and small water districts in unincorporated areas. The County holds two municipal water rights to provide water to its Service Area. The largest customer within this service area is the Columbia Gorge Discovery Center and Wasco County Museum (Discovery Center). The Discovery Center opened in 1997 and is a 48,200 square foot facility located adjacent to the Columbia River. Water service is provided to the Service Area through an intergovernmental agreement with City of The Dalles (City). The City's Public Water System Identification number is 41-00869.

The purpose of this Water Management and Conservation Plan (WMCP) is to describe the development and implementation of water management and conservation policies and programs that ensure sustainable water use within the Service Area. This Plan also discusses the County's future water needs within the Service Area.

## 1.2 Plan Requirement

The Oregon Water Resources Department (OWRD) issued a final order on August 12, 2016 approving the County's request for a permit extension for Permit G-13421. The final order limited the County's ability to fully develop the right by placing a development limitation on the extension and placed a condition on the extension requiring that the County submit a WMCP within three years. In response, the County has developed this WMCP. This is the first WMCP published by the County.

Wasco County meets the definition of a Small Municipal Water Supplier under OAR 690-086-0030(8) because it has fewer than 300 water service connections within the Service Area and its maximum daily demand within the past five years has not exceeded 2 million gallons per day. There are currently two water service connections within the Service Area, and the maximum daily demand within the past three years was 0.05 million gallons per day. OAR 690-086-0300 allows a Small Municipal Water Supplier to submit an Alternate Municipal WMCP if it has documented that neither acquisition of a new water right nor expansion of diversion under an Extended Permit would be necessary to meet current or projected demand within the next ten years. This Alternate WMCP provides documentation of the County's projected water demand and determination that no new water right or expanded diversion are anticipated to be needed within the next ten years.

## 1.3 Plan Organization

This Alternate WMCP fulfills the requirements of the Oregon Administrative Rules (OAR) adopted by the Water Resources Commission (OAR Chapter 690, Division 86). It describes water management, water conservation, and curtailment programs to guide the wise use and stewardship of the County's water supply within the Service Area.

The WMCP is organized into the following sections, each addressing specific sections of OAR Chapter 690, Division 86. Section 2 is a self-evaluation of the County's water supply, water use, water rights and water systems within the service area. The information developed in Section 2 is the foundation for the sections that follow. Section 3 discusses the County's current conservation measures and presents the County's benchmarks for future efforts. Section 4 describes the County's water curtailment history within the Service Area, assesses the County's abilities to address water shortages, and provides blueprints for action when curtailment of supply is necessary. Section 5 draws information from Sections 2 and 3 to present the County's future water needs within the Service Area and how the County intends to utilize its water resources to meet future demand.

Section	Requirement
Section 1 – Small Municipal Water Supplier Plan Elements	<i>OAR 690-086-0325</i>
Section 2 – Small Municipal Water Suppliers Descriptions	<i>OAR 690-086-0340</i>
Section 3 – Small Municipal Water Conservation Element	<i>OAR 690-086-0350</i>
Section 4 – Small Municipal Water Curtailment Element	<i>OAR 690-086-0360</i>
Section 5 – Small Municipal Water Supply Element	<i>OAR 690-086-0370</i>

## 1.4 Affected Local Governments

### **OAR 690-086-0325(5)**

The following governmental agencies may be affected by this Alternate WMCP:

- City of The Dalles

Thirty days before submitting this WMCP to OWRD, the County made the draft WMCP available for review by the affected local government listed above along with a request for comments relating to consistency with the local government's comprehensive land use plan. The letter requesting comment and any comments received are found in Appendix A.

## 1.5 Plan Update Schedule

### **OAR 690-086-0325(6)**

The County will submit an update of this plan within 10 years of OWRD's final order approving the plan. As required by OAR Chapter 690, Division 86, a progress report will be submitted within 5 years of the final order.

## 1.6 Time Extension

### ***OAR 690-086-0325(7)***

The County is not requesting an extension of time to implement metering or a benchmark established in a previously approved plan.

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## 2. Small Municipal Water Supplier Description

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*This section satisfies the requirements of OAR 690-086-0340.*

*This rule requires descriptions of the water supplier's water sources, service area and population, water rights, and adequacy and reliability of the existing water supply. The rule also requires descriptions of the water system, interconnections with other water suppliers, and quantification of water delivered on a daily (average and peak) and annual basis.*

### 2.1 Terminology

The following terminology is used in this Alternate WMCP.

*Production* refers to the quantity of water delivered to the County's distribution system from its groundwater wells. By definition, production equals system demand. Production includes metered consumption (residential and commercial customers), unmetered public uses (for example, operational demands for backwash, hydrant flushing, etc.), and water lost to leakage, reservoir overflow, and other factors.

*Consumption* is equal to metered and unmetered water uses. Production minus consumption equals water loss. Water loss is equal to the sum of apparent and real losses. Apparent losses include unauthorized consumption and meter inaccuracies, among other loss types, and real losses include leakage.

Generally, production and consumption in municipal and quasi-municipal systems are expressed in units of mgd, but also may be expressed in cubic feet per second (cfs) or gallons per minute (gpm). Both units are used in this Alternate WMCP. One mgd is equivalent to 1.55 cfs or 694 gpm. For annual or monthly values, a quantity of water is typically reported in million gallons (MG).

The following terms are used to describe specific values of system demands:

- Average day demand (ADD) equals the total annual production divided by 365 days.
- Maximum day demand (MDD) equals the highest system demand that occurs on any single day during a calendar year. It is also called the one-day MDD or peak day demand.
- Peaking factors are the ratios of one demand value to another. The most common and important peaking factor is the ratio of the MDD to the ADD.

### 2.2 Water Sources

#### **OAR 690-086-0340(1)**

Municipal water supply within the Service Area is provided by groundwater from two wells. These wells are shown in Exhibit 2-1. The source of municipal water for the Discovery Center and one single-family residence is a well (Kuck Well, WASC 50145) owned by the County and operated by the City of The Dalles (City) through an intergovernmental agreement described below. This well has served the Discovery Center since 1997 and the residence located along the transmission line since 2020. Water for

emergency fire suppression at the Discovery Center comes from the second well (Discovery Center Well, WASC 3219). The County does not have any storage or regulation facilities other than an above-ground tank within the distribution system.

## 2.3 Interconnections with Other Systems

### **OAR 690-086-0340(6)**

The water system supplying the Service Area is not currently interconnected with any other water systems.

## 2.4 Intergovernmental Agreements

### **OAR 690-086-0340(1)**

Wasco County and the City of The Dalles entered into an intergovernmental agreement on June 19, 1989 concerning the purchase of land, wells, and water rights for the Discovery Center. The parties developed a second intergovernmental agreement regarding ownership and management of the water system on September 27, 1995 and subsequently amended the agreement on November 13, 1996. Under the terms of this agreement, the County constructed a water and sanitary sewer system for the Service Area, and the City operates and maintains the system. Water service is metered, and the County pays the City to provide operation and maintenance services according to the agreement. Ownership of the infrastructure will be transferred from the County to the City upon satisfaction of the bonded indebtedness from construction of the Discovery Center. The agreement describes the potential for future service connections within the Service Area, including The Dalles Country Club, as well as a potential future interconnection with the municipal water system of City of The Dalles. The Service Area is outside the City's current Urban Growth Boundary.

## 2.5 Current Service Area Description and Population

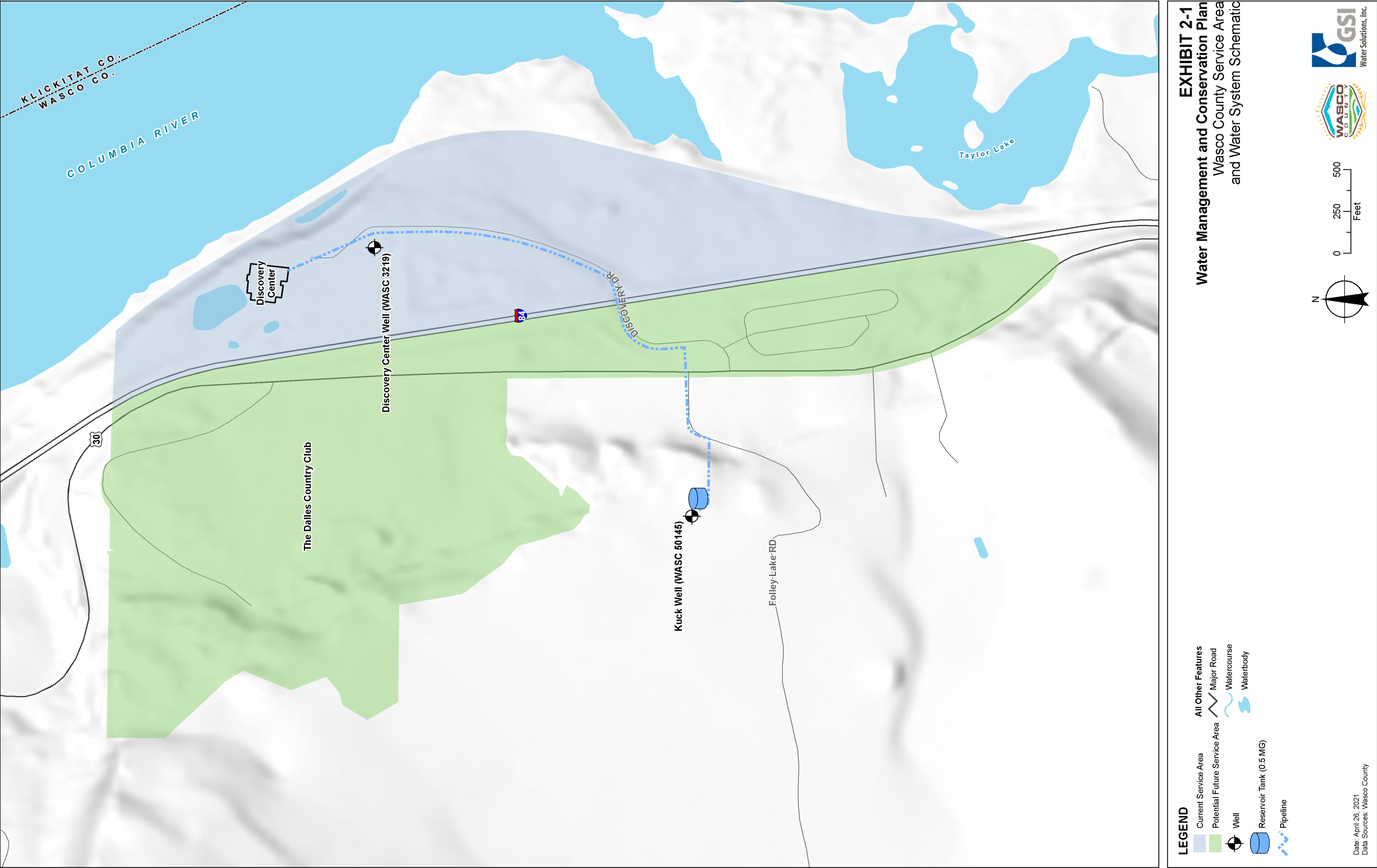
### **OAR 690-086-0340(2)**

The Service Area encompasses approximately 85 acres. Service connections include the Discovery Center museum and one private residence located along the pipeline between the Kuck Well and the Discovery Center. The Dalles Country Club golf course, a mobile home park, and a multi-family housing complex are located within the 139-acre potential future service area described in the Intergovernmental Agreements but do not currently receive water service from the County.

Visitation records from the Discovery Center show that it serves approximately 42,000 visitors annually.

The Service Area delineation and water system schematic are presented in **Exhibit 2-1**.

Exhibit 2-1. Wasco County Service Area and Water System Schematic



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## 2.6 Demand

**OAR 690-086-0340(4)**

### 2.6.1 Annual and Daily Demand

**Exhibit 2-2** presents the volumes of water appropriated annually from 2018 through 2020 within the Service Area. Exhibit 2-2 shows average annual use, average day use, and peak (maximum) day use. Data from previous years were stored using a different tracking system and were not readily available when this WMCP was prepared.

**Exhibit 2-2. Historical Water Demand, Water Years 2018 to 2020**

Year	Annual Water Demand	Average Daily Demand (ADD)	Max Day Demand Estimate* (MDD)
	MG	mgd	mgd
<b>2018</b>	7.30	0.02	0.05
<b>2019</b>	7.37	0.02	0.05
<b>2020</b>	5.90	0.02	0.04
<b>Average</b>	6.85	0.02	0.05
<b>Max</b>	7.37	0.02	0.05

\*MDD is estimated by multiplying the ADD by the estimated peaking factor of 2.6.

Over this three-year period, demand fluctuated with the lowest appropriation occurring in 2020 and the highest in 2019. Demand was similar in 2018 and 2019, while the decrease in demand in 2020 reflects the reduction in visitation hours at the Discovery Center during the COVID-19 pandemic. Although Exhibit 2-2 does not show changes in average daily demand over the three-year period at the scale of millions of gallons per day, the ADD does track with total annual water use in terms of gallons per day.

The City takes monthly meter readings at the Kuck Well, which is the primary source of supply for the Discovery Center. Therefore, the MDDs presented in Exhibit 2-2 are estimates based on a peaking factor ratio for the MDD to ADD of 2.6. The peaking factor of 2.6 was obtained from the City of The Dalles' WMCP (2014) to use as a proxy for the peaking factor within the Service Area.

## 2.7 Water Rights

**OAR 690-086-0340(5)**

### 2.7.1 Summary of Water Rights

Within the Service Area, the County holds one groundwater permit and one groundwater certificate, both for municipal use. Groundwater Permit G-13421 authorizes the use of up to 1.11 cfs from the Kuck Well and currently has a development limitation of 0.47 cfs per the extension final order for Permit G-13421. This permit serves uses at the Discovery Center as well as providing domestic supply to one

residence. Certificate 91694 authorizes the use of up to 80 gpm of groundwater at the Discovery Center and is used very infrequently for emergency purposes such as fire suppression.

**Exhibit 2-3** provides details about the County's municipal water rights.

The County also holds non-municipal water rights for activities such as road construction and pond maintenance. Water used under these rights is not conveyed through the municipal distribution system to the Service Area. **Exhibit 2-4** provides a summary of these non-municipal water rights, which are not discussed further in this WMCP.

Exhibit 2-3. Wasco County Municipal Water Rights

Source	Application	Permit	Transfer	Certificate	Priority Date	Type of Beneficial Use	Authorized Rate (cfs)	Authorized Date for Completion	Maximum Rate of Withdrawal to Date Instantaneous (cfs)	Water Year (WY) 2019-2020 Average Withdrawal Monthly (MG)	Water Year (WY) 2019-2020 Average Withdrawal Daily (mgd)	Five-Year (WY 2015-2016 to WY 2019-2020) Average Withdrawal Monthly (MG)	Five-Year (WY 2015-2016 to WY 2019-2020) Average Withdrawal Daily (mgd)	Comments
Kuck Well	G-14580	G-13421	--	--	7/23/1997	Municipal	1.11 <sup>a</sup>	10/1/2051	0.47	0.58	0.02	0.57	0.02	Serves the Discovery Center and one residence.
Discovery Center Well	G-11053	G-10355	T-7822	<del>63642</del> 91694	8/15/1983	Municipal	80.0 gpm (0.18 cfs)	N/A	80.0 gpm (0.18 cfs)	0	0	0	0	Serves the Discovery Center (fire suppression).

<sup>a</sup> Development limited to 0.47 cfs per extension final order.

Exhibit 2-4. Wasco County Non-Municipal Water Rights

Source	Application	Permit	Transfer	Certificate	Priority Date	Type of Beneficial Use	Authorized Rate (cfs)	Authorized Date for Completion	Maximum Rate of Withdrawal to Date Instantaneous (cfs)	Comments
Unnamed Spring	S-31225	S-24611	--	<del>68382</del> 80995	11/23/1956	Pond Maintenance	0.2	N/A	<b>0.2</b>	Maintenance of a fish pond
Unnamed Spring	S-31225	S-24611	T-7821	--	11/23/1956	Pond Maintenance	0.02	10/1/2006	<b>0.02</b>	Maintenance of a fish pond
Columbia River	S-26814	S-20946	T-8584	<del>27244</del> 91446	1/25/1952	Industrial/Road Construction	1.0	N/A	<b>1.0</b>	Road construction and maintenance, aggregate production, equipment washing
Unnamed Spring	S-58344	S-44210	--	82692	6/26/1979	Industrial/Road Construction	100.0 gpm	N/A	<b>100.0 gpm</b>	Operation of a rock crusher plant and road construction and maintenance

## 2.7.2 Aquatic Resource Concerns

### OAR 690-086-340(5)

OAR 690-086-340(5) requires municipal water suppliers to identify the following for each of its water sources: 1) any listing of the source as water quality limited (and the water quality parameters for which the source was listed); 2) any streamflow-dependent species listed by a state or federal agency as sensitive threatened or endangered that are present in the source; and 3) any designation of the source as being in a critical groundwater area.

The County holds municipal water rights for groundwater, including G-13421 and Certificate 91694. The County's groundwater sources are located in the Columbia River Basin, and these sources are not located within an OWRD designated Critical Groundwater Area or Groundwater Limited Area.

The County holds four surface water rights which are not used for municipal supply. The Oregon Department of Environmental Quality (DEQ) publishes the Integrated Report Assessment Database, which identifies surface water bodies that are water quality limited and associated water quality limiting parameters. The information described below related to water quality was drawn from DEQ's 2018/2020 Integrated Report, otherwise known as DEQ's "303(d) list" which can be accessed on DEQ's webpage at <https://www.oregon.gov/deq/wq/Pages/WQ-Assessment.aspx>.

The source of water for Certificate 80995 and Transfer T-7821 is an unnamed spring (tributary to the Columbia River), and the source of water for Certificate 82692 is an unnamed spring (tributary to Wapinitia Creek). No streamflow-dependent species were listed in these springs, and neither spring is listed as water quality limited by DEQ.

The source of water for Certificate 91446 is the Columbia River. The Columbia River is on DEQ's 303(d) list at the County's four authorized points of diversion on the river, from approximately River Mile 177 through 200. At these points of diversion, the Columbia River is listed for temperature (year round), temperature (spawning), pH, methylmercury, and polychlorinated biphenyls (PCBs), based on a review of DEQ's 2018/2020 Integrated Report. The Columbia River supports several streamflow-dependent fish species that are listed as threatened, endangered, or sensitive under state and federal laws. The streamflow-dependent species that occur in this area are summarized in **Exhibit 2-5**.

#### Exhibit 2-5. Listed Streamflow-Dependent Species

Species	Evolutionarily Significant Unit (ESU)	Federal Listing	State Listing
Chinook salmon ( <i>Oncorhynchus tshawytscha</i> )	Mid-Columbia River SMU	Endangered	Sensitive
Pacific lamprey ( <i>Entosphenus tridentata</i> )	Range-wide	N/A	Sensitive
Steelhead – Summer / Columbia Basin rainbow trout ( <i>O. mykiss</i> / <i>gairdneri</i> )	Middle Columbia ESU	Threatened	Sensitive – Critical

Species	Evolutionarily Significant Unit (ESU)	Federal Listing	State Listing
Western brook lamprey ( <i>Lampetra richardsoni</i> )	No ESU listed	N/A	Sensitive
Western river lamprey ( <i>Lampetra ayresii</i> )	No ESU listed	N/A	Sensitive
Westslope cutthroat trout ( <i>O. clarki lewisii</i> )	No ESU listed	N/A	Sensitive - Critical

SMU = Species Management Unit

Sources for this list:

- State of Oregon Sensitive Species List (2019)--  
[https://www.dfw.state.or.us/wildlife/diversity/species/docs/Sensitive\\_Species\\_List.pdf](https://www.dfw.state.or.us/wildlife/diversity/species/docs/Sensitive_Species_List.pdf)
- Endangered Species Act Listing for West Coast Salmon and Steelhead, National Oceanic and Atmospheric Administration (2016)--  
[https://archive.fisheries.noaa.gov/wcr/publications/gis\\_maps/maps/salmon\\_steelhead/critical\\_habitat/wcr\\_salmonid\\_ch\\_esa\\_july2016.pdf](https://archive.fisheries.noaa.gov/wcr/publications/gis_maps/maps/salmon_steelhead/critical_habitat/wcr_salmonid_ch_esa_july2016.pdf)

## 2.7.3 Assessment of Water Supply

### OAR 690-086-0340(3)

The County's municipal groundwater rights, Permit G-13421 and Certificate 91694, authorize diversion from the Kuck Well and Discovery Center Well respectively. Combined, the authorized rate of appropriation for these rights is 0.65 cfs, taking into account the development limitation of 0.47 cfs for extended Permit G-13421. The Kuck Well is the primary source of municipal supply for the Discovery Center and one residence. The Discovery Center Well is used only to provide an emergency supply of water for fire suppression. Therefore, the groundwater use authorized by extended Permit G-13421 is the only source of water for municipal use at the Discovery Center and residence.

The County has not experienced any reliability issues in the past with the Kuck Well. The current pumping rate of 0.33 cfs has been able to provide sufficient water for all users while remaining below the development limitation of 0.47 cfs, showing that this source is more than adequate to meet demand. Water appropriated from this well is treated to remove naturally occurring iron and manganese. The Discovery Center Well has been able to provide an adequate and reliable rate of supply to meet emergency demands.

The County currently has more than enough water available to meet current needs, and it is exploring opportunities to provide supplemental water supply at The Dalles Country Club golf course (Country Club). As described further in the projected demands in Section 5 of this WMCP, the Country Club is located within the potential future service area, and it is identified as a potential future service connection in the Intergovernmental Agreements previously referenced. The Kuck Well is located adjacent to the Country Club. The County is working with the Country Club to begin serving water at this location.

## 2.8 System Description

### OAR 690-086-0340(7)

Water is appropriated from the Kuck Well using a 25-horsepower submersible pump and treated at the wellhead using an iron and manganese removal system. Water is then stored in a 500,000-gallon above-ground steel tank adjacent to the well. The water system is gravity fed from the reservoir. The wells, storage tank, and distribution lines are shown in Exhibit 2-1.

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## 3. Water Conservation Element

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*This section addresses the requirements of OAR 690-086-0350(1) – (4). This rule requires a description of specific required conservation measures and benchmarks, and additional conservation measures implemented by the County.*

### 3.1 Progress Report

#### **OAR 690-086-0350(1)**

This is the County's first WMCP; therefore, this rule does not apply.

### 3.2 Use and Reporting Program

#### **OAR 690-086-0350(2)**

The City operates the water system serving the Discovery Center and reports water use to comply with the measurement and reporting standards in OAR Chapter 690, Division 85. The City measures groundwater appropriated from the Kuck Well using a flow meter and submits monthly water use measurements to OWRD on an annual basis. The meter for the Discovery Center Well has not been read and reported annually due to infrequency of use; however, the County intends to begin reporting water use again in the near future. Reporting is for the previous water year (October 1 to September 30). The water use records can be found at [http://apps.wrd.state.or.us/apps/wr/wateruse\\_report/](http://apps.wrd.state.or.us/apps/wr/wateruse_report/)

### 3.3 Required Conservation Measures

#### **OAR 690-086-0350(4)(a-g)**

OAR 690-086-0350(4) requires that all Small Municipal Water Suppliers establish five-year benchmarks for implementing the following water management and conservation measures:

1. Annual water audit
2. System-wide metering
3. Meter testing and maintenance
4. Unit-based billing
5. Water loss analysis
6. Public education

During the next five years, the County plans to initiate, continue, or expand the following conservation measures that are required of all small municipal water suppliers when a condition of a water use permit, permit extension, or another order or rule requires a WMCP.

#### **3.3.1 Annual Water Audit**

OWRD defines a water audit for a small municipal water supplier as an analysis of the water system that compares the quantity of water entering and leaving the system. Demand is defined as water entering

the system from the Kuck Well, and consumption is defined as the sum of metered water usage at the Discovery Center and private residence plus authorized unmetered uses such as system flushing to maintain water quality. The results of the County's water audits for the years 2018 through 2020 are presented in **Exhibit 3-1** below.

**Exhibit 3-1. Water Audits 2018-2020.**

Year	Demand (MG)	Consumption (MG)	Water Loss (MG)	Water Loss (Percent)
2018	7.30	6.95	0.35	4.8
2019	7.37	7.10	0.27	3.7
2020	5.90	5.34	0.56	9.5

As shown in Exhibit 3-1, water losses during the past three years did not exceed 15 percent. Therefore, the requirements in OAR 690-086-0350(e) and OAR 690-086-0350(f) regarding actions to be taken if water losses exceed 15 percent do not apply.

**Five-Year Benchmark** – The County will continue to perform annual water audits comparing the quantity of water entering and leaving the system. In the event that water losses exceed 15 percent, the County will investigate potential sources of water loss and take corrective actions as needed.

### 3.3.2 System-wide Metering

Currently, both water service connections are metered. The City operates the water system, and the County will request that the City continue to install meters at any new water connections.

**Five-Year Benchmark** – The County will continue to require installation of meters on all new water connections.

### 3.3.3 Meter Testing and Maintenance

The meter serving the Discovery Center is scheduled for replacement in 2021 under the City's active meter maintenance and replacement program. In addition, the meter located at the County's residential customer is included in the City's residential meter replacement program, and approximately 8-9% of customer meters are replaced annually. After the initial replacement program has reached all customers, meters are scheduled to be replaced every 20 years.

Meter data is collected using Advanced Metering Infrastructure (AMI). The AMI system automatically flags unusually high or low readings to enable a timely response from maintenance staff if needed.

**Five-Year Benchmark** – The City will continue to perform necessary meter testing, maintenance, and replacements consistent with meter manufacturers' recommendations.

### 3.3.4 Water Rate Structure

The City operates the water system and uses a rate structure that is based, in part, on the quantity of water metered at each service connection. The rate structure includes a monthly fixed charge based on customer type (residential or commercial) and meter size, as shown in **Exhibit 3-2**.

**Exhibit 3-2. Monthly Fixed Charges by Customer Type and Meter Size.**

Meter Size	Residential	Commercial
0.75"	\$55.30	\$44.56
1"	\$55.30	\$50.30
1.5"	\$66.36	\$61.56
2"	\$84.06	\$78.95
2.5"	--	\$101.85
3"	\$121.68	\$119.00
4"	--	\$181.93
6"	--	\$325.06
8"	--	\$518.67
10"	--	\$763.17
12"	--	\$1,056.71

In addition, the City charges a volumetric rate of \$1.68 for every 1,000 gallons over 10,000 gallons per month for residential customers, and \$3.61 per 1,000 gallons over 5,000 gallons per month for commercial customers. Outside city limits, customers are charged 1.5 times the applicable rates. Based on the Intergovernmental Agreement, the Discovery Center is charged as an in-city customer even though it is located outside city limits. The residence is charged out-of-city rates.

**Five-Year Benchmark** – The City will continue to bill customers based, in part, on the volume of water consumed.

### 3.3.5 Public Education

This rule requires the County to establish a public education program to encourage efficient water use that includes distribution of conservation materials to all customers by July 1 of each year. These conservation materials can be prepared by OWRD or other existing sources.

Currently, City of The Dalles provides conservation outreach materials to its customers in compliance with its own WMCP. To comply with this rule within the Service Area, the County will request that the City include the Discovery Center, the private residence, and any future service connections in the Service Area in its outreach efforts.

*Five-Year Benchmark* – The County will request that the City provide its existing conservation outreach materials to all customers within the Service Area prior to July 1 of each year.

### **3.4 Other Conservation Measures**

#### **OAR 690-086-0350(3)**

OAR 690-086-0350(3) requires a description of other conservation measures, if any, that are currently implemented by the small municipal water supplier, including any measures required under water supply contracts. The County does not have any other conservation measures other than those previously identified. Furthermore, the County's agreement with the City to operate the County's water system within the Service Area does not contain any specific water conservation requirements.

## 4. Water Curtailment Element

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*This section satisfies the requirements of OAR 690-086-0360. This rule requires a description of past supply deficiencies and current capacity limitation. It also requires inclusion of stages of alert and the associated triggers and curtailment actions for each stage.*

### 4.1 Introduction

Curtailment planning is the development of proactive measures to reduce demand during supply shortages as the result of prolonged drought, or partial or full system failure from unanticipated events including catastrophic events, mechanical or electrical equipment failure, source water contamination, or events not under control of the County or City. The County developed this curtailment plan by reflecting on the most likely events which may reduce the water system's ability to meet demands. The County's planned responses to these types of events are described in Section 4.4.

### 4.2 History of System Curtailment Episodes

#### **OAR 690-086-0360(1)**

The County has not experienced any system curtailment episodes within the last 10 years.

### 4.3 Capacity Limitations

The County's water supply does not have any current capacity limitations that prevents it from fully meeting system demands. The following curtailment plan will help the County respond to any challenges to maintaining delivery in the event of a water shortage.

### 4.4 Curtailment Stages and Initiating Conditions

#### **OAR 690-086-0360(2) and (3)**

The County developed a two-stage curtailment plan to be invoked in the event of a water supply shortage. These stages could be initiated and implemented sequentially, or the second stage could be implemented directly depending on water supply conditions. The plan includes both voluntary and mandatory measures, depending upon the cause, severity, and anticipated duration of the shortage.

**Exhibit 4-1** presents the two curtailment stages, as well as their initiating conditions (i.e., triggers). Initiation of a curtailment stage is based on the specific circumstances of the actual event. The decision to implement curtailment will also consider the knowledge and judgment of City staff members familiar with managing the water system on behalf of the County. Staff members may evaluate such considerations as assessments of the extent of system damage or contamination, volume of water in the storage tank, duration of repair, costs, fire hazards, weather forecasts, and system demand.

#### Exhibit 4-1. Curtailment Stages of Alert and Initiating Conditions

Curtailment Stages	Initiating Conditions
Stage 1	The capacity of the water system may be or is temporarily compromised and system demand may not be or cannot be fully met.
Stage 2	There is significant and/or potentially long-term loss of the water system's capacity to meet demand.

## 4.5 Curtailment Plan Implementation

### OAR 690-086-0360(4)

This curtailment plan provides specific curtailment actions for the two curtailment stages. In Stage 1, voluntary actions are requested of customers, and some uses may be restricted. In the latter curtailment stage, mandatory actions are prescribed to restrict water use. In regard to the following lists of measures or restrictions, the County may revise, add, or remove specific measures or restrictions on water use or activities as needed, depending upon the circumstances of the event for which curtailment is necessary. Given the small number of service connections, notifications of either stage of curtailment will be made by telephone to promote immediate awareness of any potential water shortages.

#### 4.5.1 Stage 1 (Voluntary)

Under Stage 1, the County will issue a general request for a voluntary reduction in water use by all users. The request will include a summary of the current water situation, the reason for the requested reduction in use, suggestions for conserving water, and a warning that mandatory cutbacks will be required if the voluntary measures do not sufficiently reduce water usage. Examples of voluntary reductions include reductions to outdoor water use and/or limiting irrigation of landscape and lawns to specific hours. Supplemental irrigation of the Country Club golf course, if connected to the water system at the time of the shortage, may be permitted between the hours of 8 PM and 6 AM, or may be further restricted depending on the severity of the water shortage. The County may recommend postponing special events at the Discovery Center that would use more water than the average daily demand.

#### 4.5.2 Stage 2 (Mandatory)

Under Stage 2, the County will prohibit all nonessential water use that does not maintain the health and safety of the public at the Discovery Center and residents at the private residence. Supplemental irrigation of the Country Club golf course, if connected to the water system at the time of the shortage, will be fully curtailed. The County may recommend temporary closure of the Discovery Center.

## 4.6 Drought Declaration

If a declaration of a severe drought in Wasco County is declared by the Governor per ORS 536.720, the Oregon Water Resources Commission may order political subdivisions within any drainage basin or sub-basin to implement a water conservation or curtailment plan or both, approved under ORS 536.780. The conservation and curtailment elements of this Alternate WMCP meet these requirements. If the Service Area falls within a severe drought area declared by the Governor, the County will consult with the City staff operating the water system to consider whether curtailment measures are needed to meet system demands. If ordered to implement a water conservation or curtailment plan during a declared drought, the County will comply by implementing the water conservation and curtailment provisions of this Alternate WMCP. Regardless of whether curtailment is needed, the County will continue to encourage customers to conserve water.

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## 5. Water Supply Element for Small Municipal Water Suppliers

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*This section satisfies the requirements of OAR 690-086-0370.*

*This rule requires descriptions of the County's current and future service area and population projections, demand projections for 10 and 20 years, a comparison of the County's projected water needs and the available sources of supply, and a description of how the County will meet future system demand.*

### 5.1 Delineation of Service Area

#### **OAR 690-086-0370(1)**

The County's current Service Area is described in Section 2 and delineated in Exhibit 2-1. Within the 20-year planning period, the County anticipate that the Service Area will expand to include The Dalles Country Club and other potential service connections as shown in Exhibit 2-1.

### 5.2 Population and Other Growth Projections

#### **OAR 690-086-0370(1)**

As described in Section 2, the Discovery Center serves a transient population of approximately 42,000 museum visitors annually. Visitation has been relatively consistent over the past five years except for the temporary closures related to the COVID-19 pandemic in 2020. As of late March 2021, the Discovery Center had returned to its regular hours, and staff anticipate annual visitation eventually to return to and maintain approximately the same level as in previous years.

The second service connection within the Service Area is one residence. Multi-family housing and a mobile home park located near the Service Area could potentially be connected in the future, although there are no existing plans to do so. The County has identified an additional need for municipal water service at The Dalles Country Club and intends to begin serving water upon construction of the necessary infrastructure to connect the golf course irrigation system to the Kuck Well and its reservoir tank.

### 5.3 Demand Forecast and Comparison of Projected Need to Available Sources

#### **OAR 690-086-0370(2) and (3)**

Demand at the Discovery Center and residence are not expected to change significantly within the next ten to twenty years. Total demand for the Kuck Well system is projected to increase due to the new service connection to the Country Club. Based on estimates from the Country Club, approximately 1 MG is needed per month from April through September for supplemental irrigation. Annual water use of the Kuck Well system has ranged from 5.9 – 7.3 MG, so with this additional demand, total demand is

expected to increase to approximately 12 – 14 MG annually in the next ten years, and to remain at this level during the next twenty years. Therefore, the County's 10-year and 20-year demands are projected both to reach up to 14 MG annually. Extended permit G-13421 does not have an annual volume limitation.

Extended permit G-13421 authorizes the use of up to 1.11 cfs (498.2 gpm) from the Kuck Well and has a development limitation of 0.47 cfs (210.95 gpm). The County will be able to continue to meet existing system demands combined with new demands from the addition of the golf course by relying on the storage capacity of the reservoir and more frequent use of the well, but at a rate at or less than 0.47 cfs. Specifically, based on the County's calculations, the County does not anticipate needing to increase its instantaneous rate of appropriation above 0.33 cfs (150.0 gpm) within the 20-year planning period. Therefore the County is not requesting access to the undeveloped portion of extended Permit G-13421 of 0.64 cfs (1.11 – 0.47 cfs) in this WMCP and is not requesting green light water to meet its projected 20 year demands.

## Appendix A

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### Notification to Affected Local Government and Response



**From:** [Tyler Stone](#)  
**To:** [Leah Cogan](#)  
**Subject:** Fwd: Wasco County WMCP draft  
**Date:** Friday, April 30, 2021 9:17:58 AM

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FYI

Tyler Stone  
Administrative Officer  
Wasco County  
511 Washington St. Suite 101  
The Dalles, OR 97058  
541-506-2552  
[www.co.wasco.or.us](http://www.co.wasco.or.us)

----- Forwarded message -----

**From:** **Dave Anderson** <[danderson@ci.the-dalles.or.us](mailto:danderson@ci.the-dalles.or.us)>  
**Date:** Fri, Apr 30, 2021 at 8:56 AM  
**Subject:** Fwd: Wasco County WMCP draft  
**To:** Tyler Stone <[tylers@co.wasco.or.us](mailto:tylers@co.wasco.or.us)>

Tyler-

I just learned that there will be no other comments to be provided from the City. Thanks.

Dave

Sent from my iPad

Begin forwarded message:

**From:** Dave Anderson <[danderson@ci.the-dalles.or.us](mailto:danderson@ci.the-dalles.or.us)>  
**Date:** April 26, 2021 at 2:44:58 PM PDT  
**To:** Tyler Stone <[tylers@co.wasco.or.us](mailto:tylers@co.wasco.or.us)>  
**Cc:** Julie Krueger <[jkrueger@ci.the-dalles.or.us](mailto:jkrueger@ci.the-dalles.or.us)>, Alice Cannon  
<[acannon@ci.the-dalles.or.us](mailto:acannon@ci.the-dalles.or.us)>  
**Subject:** Re: Wasco County WMCP draft

Tyler-

Thank you for the opportunity to review this draft. I have also sent it to our Planning Director for her review if she wants since the draft plan specifically

references consistency with the City's comprehensive land use plan. I recognize that there is likely limited relevance to the City's plan since this service area is outside the UGB.

Overall, I think the draft plan looks really good; it's appropriately simple for a simple system. I offer the following comments as they relate to operation of the system and the existing agreements.

1. Section 2.7.2, second paragraph, second sentence: I'm not certain, but I think this should say that " ~~The City's~~ County's groundwater sources are located..."
2. Section 2.7.3, the last sentence says "The County has requested that the City, which operates the water system on its behalf, work with the Country Club to begin serving water at this location." I think it would be appropriate to amend this sentence to say that "The County is working with the Country Club to begin serving water at this location."
3. Section 3.4, last sentence: I suggest amending the sentence to "Furthermore, the County's contract agreement with the City to ~~provide water~~ operate the County's water system within the Service Area does not contain any specific water conservation requirements.

That's it. Thanks again for the opportunity to comment.

Dave

1. \_\_\_\_\_

**From:** Tyler Stone <[tylers@co.wasco.or.us](mailto:tylers@co.wasco.or.us)>

**Sent:** Monday, April 26, 2021 10:33:04 AM

**To:** Dave Anderson

**Subject:** Fwd: Wasco County WMCP draft

Comments that you want included?

Tyler Stone  
Administrative Officer  
Wasco County  
511 Washington St. Suite 101  
The Dalles, OR 97058  
541-506-2552  
[www.co.wasco.or.us](http://www.co.wasco.or.us)

----- Forwarded message -----

From: **Leah Cogan** <[lcogan@gsiws.com](mailto:lcogan@gsiws.com)>  
Date: Mon, Apr 26, 2021 at 9:46 AM  
Subject: Wasco County WMCP draft  
To: Tyler Stone <[tylers@co.wasco.or.us](mailto:tylers@co.wasco.or.us)>  
Cc: Adam Sussman <[asussman@gsiws.com](mailto:asussman@gsiws.com)>

Good morning Tyler,

Please find attached the draft Water Management and Conservation Plan for Wasco County. Once you've had a chance to review, what would be a good time to meet this week to discuss any revisions needed and next steps? I'm available Tuesday afternoon, all day Wednesday and Friday, and most of the day Thursday.

Thank you,

**Leah Cogan**

**Water Resources Analyst**

mobile: 541.272.9888

1600 SW Western Boulevard, Suite 240, Corvallis, OR 97333

**GSI Water Solutions, Inc.** | [www.gsiws.com](http://www.gsiws.com)

*pronouns: she, her*

**Please note:** GSI is open for business, although most of us are working remotely. I can be reached by phone or email.