



**MEMO TO:** Members of the City Council

**FROM:** Mayor John Marchione

**DATE:** April 16, 2019

**SUBJECT:** Adoption of an Ordinance for Wellhead Protection Code Permanent Regulations

**I. RECOMMENDED ACTION**

Adopt proposed Wellhead Protection Code Permanent Regulations.

**II. DEPARTMENT CONTACTS**

Kristi Wilson, Interim Director of Public Works	425-556-2529
Gary Schimek, Environmental and Utility Services Division Manager	425-556-2742
Amanda Balzer, Science and Data Analytics Supervisor	425-556-2762

**III. DESCRIPTION/BACKGROUND**

**Permanent Regulations**

The proposed Wellhead Protection Code (WPC) Permanent Regulations were developed to address existing and potential future impacts to Redmond's aquifer and protect the groundwater component of Redmond's drinking water supply into the foreseeable future. The permanent regulations include amendments to the Redmond Municipal Code, Redmond Zoning Code, and Redmond Comprehensive Plan. The permanent regulations will also replace an interim ordinance (associated with reclaimed water use).

The permanent regulations and their impacts may be summarized according to the following three broad categories:

- Critical Aquifer Recharge Area (CARA) map updates;
- Business impacts; and
- Development impacts.

**Process to Develop Wellhead Protection Code Regulations**

The proposed Wellhead Protection Code Permanent Regulations were developed using the following key process elements that span from technical analysis through policy development:

- Groundwater computer modeling;
- Critical Aquifer Recharge Area (CARA) map updates;
- Business impact assessment;
- Development impact assessment;
- Interim Ordinance development (based upon State rule change); and

Robust stakeholder engagement was incorporated and embedded through each step of the process. Redmond Zoning Code and Comprehensive Plan amendments were reviewed by Planning Commission in August of 2018. All amendments to the Comprehensive Plan were administrative and are not reviewed in detail below. Planning Commission approved amendments on September 12, 2018.

## **Key Process Elements**

### **Groundwater Model Development & CARA Map Updates**

- A new groundwater model was developed to replace the existing model.
- The model was used to evaluate changes to Wellhead Protection Zones (now called Critical Aquifer Recharge Areas) based upon improved model capabilities and a robust field data set.
- Stakeholders participated in the review of model inputs and outputs and the development of the updated CARA maps.

### **Business & Development Impact Assessment**

- Stakeholders identified a level of service expectation for groundwater protection at the ‘cautiously proactive’ level.
- The business and development impact assessments focused on issues including: temporary construction dewatering, groundwater monitoring, and fueling facilities.
- Staff conducted a detailed gap analysis that compared the existing language in the Redmond Municipal Code, Redmond Zoning Code, and Redmond Comprehensive Plan to the desired “cautiously proactive” level of service.

### **Interim Ordinance**

- Interim Wellhead Protection Code Regulations were adopted by Council on January 15, 2018 to protect the City’s aquifer from the potential risk of reclaimed water due to a Washington State Reclaimed Water Rule change; a CARA map established boundaries around the CARA and the use of reclaimed water in the CARA was prohibited.
- Council extended the interim regulations to June 26, 2019 to provide additional time for final stakeholder engagement and to allow staff to finalize the complete packet of proposed permanent regulations.
- The permanent regulations update the CARA boundary map adopted as part of the interim ordinance to include both CARA I and CARA II boundaries.
- The reclaimed water prohibitions have been modified to also include recycled water and allow use that is discharged to sanitary sewer system.

### Temporary Construction Dewatering Cost Recovery

- The Temporary Construction Dewatering Operating Policy (Policy) was implemented in June 2016 following the adoption of RMC 13.25.
- The Policy defines methods for evaluation and cost recovery from the loss of supply well production due to temporary construction dewatering.
- The proposed municipal code amendments allow for cost recovery from the continued impacts of temporary construction dewatering for up to two months after dewatering stops. This allows groundwater to recover from dewatering activities and supply wells to reach pre-dewatering production levels.

### Key Code Changes

This section highlights the key proposed code changes that impact development or businesses. All other proposed code changes are administrative in nature. All code changes and rationale for changes are identified in Attachments J and K.

### CARA Maps

- Replaces Wellhead Protection Zone map with CARA I and II map; map shows the portion of CARA I and II within City limits and pre-annexation areas and does not extend into King County.
- Replaces interim ordinance CARA boundary map with CARA I and II map; the overall CARA boundaries adopted with the interim ordinance remain the same.

### WHP Regulation & Development Impact

- Expands permanent dewatering prohibition from the land area representing the time it takes groundwater 1 year or less to travel to the nearest supply well to the whole CARA, due to knowledge gained from groundwater model.
- Requires tank pit liners and Class 3 trained staff on site during operations for new fueling facilities.
- Requires wrecked vehicle storage be located on concrete pad or equivalent impervious surfaces.
- Requires groundwater monitoring for high risk activities such as fueling.
- Modifies prohibition on reclaimed water to include recycled water; recycled water includes water that is produced and used on site.
- Allows exception to reclaimed water prohibition for uses that discharge to sanitary sewer system.

### WHP Regulation & Business Impact

- Expands permanent dewatering prohibition from the land area representing the time it takes groundwater 1 year or less to travel to the nearest supply well to the whole CARA, due to knowledge gained from groundwater model.

- Requires annual tank tightness testing for fuel tanks over 30 years of age.
- Modifies prohibition on reclaimed water to include recycled water; recycled water includes water that is produced and used on site.
- Allows exception to reclaimed water prohibition for uses that discharge to sanitary sewer system.

#### Temporary Construction Dewatering Cost Recovery

- Allow cost recovery for supply well loss of production for up to two months after temporary construction dewatering projects stop to allow groundwater to recover and well production to rebound to pre-dewatering levels.

## IV. **PREVIOUS DISCUSSIONS HELD**

### **Council Process to-date**

The following table documents the more recent dates when Council was informed about Wellhead Protection Code updates.

<b>Date</b>	<b>Action / Committee Presentation</b>
04/25/2017	Study Session – Stakeholder Engagement
09/26/2017	Study Session – Groundwater Model Results
01/02/2018	Staff Report – CARA Development and Stakeholder Process
01/16/2018	Approve Interim Ordinance
01/15/2019	Extend Interim Ordinance
03/26/2019	Study Session – Wellhead Protection Code Permanent Regulations

## V. **IMPACT**

### **A. Service/Delivery:**

The proposed Wellhead Protection Code Permanent Regulations protect drinking water supply for future resiliency, focus protection efforts, and support Redmond's: vision, policies, and Clean and Green budget priority.

### **B. Fiscal Note:**

Proposed amendments may have the following financial impacts:

- Implementation of source control best management practices, such as, containment of hazardous materials, parking lot sweeping, catch basin inserts. Cost impact estimated at \$500 up to \$10,000.
- Conduct groundwater monitoring for new development of high risk activities. Cost impact estimated at \$30,000 to install wells and up to \$5,000 annually for quality monitoring.

Cost recovery for continued supply well losses after temporary construction dewatering stops. Based on the last two years of TCD projects estimate cost could range from \$20,000 - \$50,000.

**VI. ALTERNATIVES TO STAFF RECOMMENDATION**

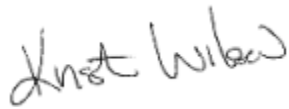
None

**VII. TIME CONSTRAINTS**

Interim Ordinance No. 2947, prohibiting the use of reclaimed water in the Redmond Critical Aquifer Recharge Areas, expires on June 26, 2019. Adoption of proposed code changes with permanent regulations will replace the interim ordinance regulations.

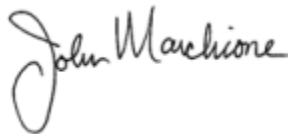
**VIII. LIST OF ATTACHMENTS**

Attachment A: Ordinance  
Attachment B: Ordinance Exhibit A1  
Attachment C: Ordinance Exhibit A2  
Attachment D: Ordinance Exhibit A3  
Attachment E: Ordinance Exhibit B1  
Attachment F: Ordinance Exhibit B2  
Attachment G: Ordinance Exhibit B3  
Attachment H: Ordinance Exhibit B4  
Attachment I: Ordinance Exhibit C  
Attachment J: Redmond Zoning Code Rationale Table  
Attachment K: Redmond Municipal Code Rationale Table



---

**Kristi Wilson, Interim Director of Public Works**



Approved for Agenda \_\_\_\_\_  
**John Marchione, Mayor**