

21.64.050 Critical Aquifer Recharge Areas

- A. **Classification and Rating of Critical Aquifer Recharge Areas.** To promote consistent application of the standards and requirements of this chapter, Critical Aquifer Recharge Areas within the City of Redmond shall be rated or classified according to their characteristics, function and value, and/or their sensitivity to disturbance.
1. **Critical Aquifer Recharge Areas Classification.** Critical aquifer recharge areas are those areas with a critical recharging effect on aquifers used for potable water. Wellhead protection involves the management of activities that have a potential to degrade the quality of groundwater produced by a supply well. The City of Redmond is classified into four wellhead protection zones that are based on proximity to and travel time of groundwater to the City's public water source wells, and are designated using guidance from the Washington Department of Health Wellhead Protection Program pursuant to Chapter 246-290 WAC.
 - a. Wellhead Protection Zone 1 represents the land area overlying the six-month time-of-travel zone of any public water source well owned by the City.
 - b. Wellhead Protection Zone 2 represents the land area that overlies the one-year time-of-travel zone of any public water source well owned by the City, excluding the land area contained within Wellhead Protection Zone 1.
 - c. Wellhead Protection Zone 3 represents the land area that overlies the five-year and 10-year time-of-travel zones of any public water source well owned by the City, excluding the land area contained within Wellhead Protection Zones 1 or 2.
 - d. Wellhead Protection Zone 4 represents all the remaining land area in the City not included in Wellhead Protection Zones 1, 2, or 3.
 2. Classification of wellhead protection zones shall be determined in accordance with the City's adopted Wellhead Protection Zone Map, which serves to designate Zones 1 through 4. The Committee, at its discretion, may consider the following factors:
 - a. Maps adopted pursuant to this chapter;
 - b. Application of the criteria contained in these regulations; and
 - c. Consideration of the technical reports submitted by qualified consultants in connection with applications subject to these regulations.
- B. **Alteration of Critical Aquifer Recharge Areas.** Alteration of critical aquifer recharge areas may only be permitted subject to the criteria in RZC 21.64.020.D, RZC 21.64.020.E, RZC 21.64.030.C, RZC 21.64.040.B, RZC 21.64.050.B, and RZC 21.64.060.D.
- C. **Prohibited Activities in Wellhead Protection Zones.**

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1. Land uses or activities for new development or redevelopment that pose a significant hazard to the City's groundwater resources, resulting from storing, handling, treating, using, producing, recycling, or disposing of hazardous materials or other deleterious substances, shall be prohibited in Wellhead Protection Zones 1 and 2. These land uses and activities include, but are not limited to:
 - a. Large on-site sewage systems, as defined in WAC Chapter 246-272A;
 - b. Hazardous liquid pipelines as defined in RCW Chapter 81.88 and ~;
 - c. Solid waste landfills;
 - d. Solid waste transfer stations;
 - e. Liquid petroleum refining, reprocessing, and storage;
 - f. Bulk storage facilities as defined in ~, Definitions;
 - g. The storage or distribution of gasoline treated with the additive MTBE;
 - h. Hazardous waste treatment, storage, and disposal facilities except those defined under permit by rule for industrial wastewater treatment processes per WAC 173-303-802(5)(c);
 - i. Chemical manufacturing, including but not limited to organic and inorganic chemicals, plastics and resins, pharmaceuticals, cleaning compounds, paints and lacquers, and agricultural chemicals;
 - j. Dry cleaning establishments using the solvent perchloroethylene;
 - k. Primary and secondary metal industries that manufacture, produce, smelt, or refine ferrous and nonferrous metals from molten materials;
 - l. Wood preserving and wood products preserving;
 - m. Mobile fleet fueling operations;
 - n. Class I, Class III, Class IV, and the following types of Class V wells: 5A7, 5F1, 5D3, 5D4, 5W9, 5W10, 5W11, 5W31, 5X13, 5X14, 5X15, 5W20, 5X28, and 5N24 as regulated under RCW Chapter 90.48 and WAC Chapters 173-200 and 173-218, as amended;
 - o. Permanent dewatering of the aquifer for new projects and redevelopment;
 - p. Irrigation with graywater or reclaimed water;
2. Other land uses and activities that the City determines would pose a significant groundwater hazard to the City's groundwater supply.

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3. Wellhead Protection Zones. Development within the City of Redmond shall implement the performance standards contained in RZC 21.64.050.D below that apply to the zone in which it is located.

D. Wellhead Protection Zone Performance Standards.

1. Any uses or activities locating in the City of Redmond which involve storing, handling, treating, using, producing, recycling, or disposing of hazardous materials or other deleterious substances shall comply with the following standards that apply to the zone in which they are located. Residential uses of hazardous materials or deleterious substances are exempt from the following standards.
2. If a property is located in more than one wellhead protection zone, the Director of Public Works shall determine which standards shall apply based on an assessment evaluation of the risk posed by the facility or activity. The assessment evaluation shall include, but not be limited to: (a) the location, type, and quantity of the hazardous materials or deleterious substances on the property; (b) the geographic and geologic characteristics of the site; and (c) the type and location of infiltration on the site.
3. Development within Wellhead Protection Zones 1 or 2, and any facility or activity per RMC Chapter 13.07.100(A), shall implement the following performance standards:
 - a. Secondary Containment.
 - i. The owner or operator of any facility or activity shall provide secondary containment for hazardous materials or other deleterious substances in aggregate quantities equal to or greater than 20 gallons liquid or 200 pounds solid or in quantities specified in the Redmond Fire Code, RMC Chapter 15.06, whichever is smaller.
 - ii. Hazardous materials stored in tanks that are subject to regulation by the Washington State Department of Ecology under WAC Chapter 173-360, Underground Storage Tank Regulations, are exempt from the secondary containment requirements of this section, provided that documentation is provided to demonstrate compliance with those regulations.
 - b. Vehicle Fueling, Maintenance, and Storage Areas. Fleet and automotive service station fueling, equipment maintenance, and vehicle washing areas shall have a containment system for collecting and treating all runoff from such areas and preventing release of fuels, oils, lubricants, and other automotive fluids into soil, surface water, or groundwater. Appropriate emergency response equipment and spill kits shall be kept on-site during transfer, handling, treatment, use, production, recycling, or disposal of hazardous materials or other deleterious substances.
 - c. Loading and Unloading Areas. Secondary containment or equivalent best management practices, as approved by the Director of Public Works, shall be

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required at loading and unloading areas that store, handle, treat, use, produce, recycle, or dispose of hazardous materials or other deleterious substances in aggregate quantities equal to or greater than 20 gallons liquid or 200 pounds solid.

- d. Stormwater Infiltration Systems. Design and construction of new stormwater infiltration systems must address site-specific risks of releases posed by all hazardous materials on-site. These risks may be mitigated by physical design means or equivalent best management practices in accordance with an approved Hazardous Materials Management Plan. Design and construction of said stormwater infiltration systems shall also be in accordance with RMC Chapter 15.24.020 and the City of Redmond Clearing, Grading and Stormwater Technical Notebook, and shall be certified for compliance with the requirements of this section by a professional engineer or engineering geologist registered in the State of Washington.
- e. Well construction and operation shall comply with the standards in RMC Chapter 15.24.095.
- f. Protection Standards During Construction. The following standards shall apply to construction activities occurring where construction vehicles will be refueled on-site and/or the quantity of hazardous materials that will be stored, dispensed, used, or handled on the construction site is in aggregate quantities equal to or greater than 20 gallons liquid or 200 pounds solid, exclusive of the quantity of hazardous materials contained in fuel or fluid reservoirs of construction vehicles. As part of the City's project permitting process, the City may require any or all of the following items:
 - i. A development agreement;
 - ii. Detailed monitoring and construction standards;
 - iii. Designation of a person on-site during operating hours who is responsible for supervising the use, storage, and handling of hazardous materials and who has appropriate knowledge and training to take mitigating actions necessary in the event of fire or spill;
 - iv. Hazardous material storage, dispensing, refueling areas, and use and handling areas shall be provided with secondary containment adequate to contain the maximum release from the largest volume container of hazardous substances stored at the construction site;
 - v. Practices and procedures to ensure that hazardous materials left on-site when the site is unsupervised are inaccessible to the public. Locked storage sheds, locked fencing, locked fuel tanks on construction vehicles, or other techniques may be used if they will preclude access;

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- vi. Practices and procedures to ensure that construction vehicles and stationary equipment that are found to be leaking fuel, hydraulic fluid, and/or other hazardous materials will be removed immediately or repaired on-site immediately. The vehicle or equipment may be repaired in place, provided the leakage is completely contained;
 - vii. Practices and procedures to ensure that storage and dispensing of flammable and combustible liquids from tanks, containers, and tank trucks into the fuel and fluid reservoirs of construction vehicles or stationary equipment on the construction site are in accordance with the Redmond Fire Code, RMC Chapter 15.06; and
 - viii. Practices and procedures, and/or on-site materials adequate to ensure the immediate containment and cleanup of any release of hazardous substances stored at the construction site. On-site cleanup materials may suffice for smaller spills whereas cleanup of larger spills may require a subcontract with a qualified cleanup contractor. Releases shall immediately be contained, cleaned up, and reported if required under RMC Chapter 13.07.120. Contaminated soil, water, and other materials shall be disposed of according to state and local requirements.
- g. Fill Materials. Fill material shall comply with the standards in RMC Chapters 15.24.080 and 15.24.095.
 - h. Cathodic Protection Wells. Cathodic protection wells shall be constructed following the standards in RMC Chapter 15.24.095.
 - i. Underground Hydraulic Elevator Cylinders. All underground hydraulic elevator pressure cylinders shall be constructed following the standards in RMC Chapter 15.24.095.
 - j. Best Management Practices. All development or redevelopment shall implement Best Management Practices (BMPs) for water quality and quantity, as approved by the Technical Committee, such as biofiltration swales and use of oil-water separators, BMPs appropriate to the particular use proposed, clustered development, and limited impervious surfaces.
4. Development Within Wellhead Protection Zone 3 shall implement the following performance measures:
- a. Compliance with the performance standards for vehicle fueling, maintenance and storage areas; loading and unloading areas; well construction and operation; fill materials; cathodic protection wells; underground hydraulic elevator cylinders, and best management practices in subsections D.3.b, D.3.c, D.3.e, D.3.h, D.3.i, and D.3.j of this section; and

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- b. Development Within Wellhead Protection Zone 4 shall implement best management practices (BMPs) for water quality and quantity as approved by the Committee.
5. An incremental environmental improvement to a system protective of groundwater ~~may proceed as follows:~~
- a. Except as provided in subsection (b) below, an incremental environmental improvement to a system protective of groundwater shall not alter, expand, or intensify an existing legal nonconformance, but my proceed without having to meet the following city codes, with the approval of the Technical Committee.
- i. Restrictions associated with critical areas and critical area buffers, if the footprint of the original system protective of groundwater is located within the same critical area buffer, and it can be demonstrated through best available science that there will be no significant adverse impacts to the critical area and its buffer;
- ii. Any requirement to bring all or any portion of the facility or the development it serves up to current building, fire, or land use codes that is triggered by the value or design of the incremental environmental improvement to a system protective of groundwater; and
- iii. The incremental improvement shall not qualify as a redevelopment that would otherwise be prohibited by RZC 21.64.050.C.1.
- b. Improvements required through the Groundwater Protection Incentive Program in order to mitigate potential stormwater impacts to groundwater may alter, expand or intensify existing legal nonconforming uses and/or structures with the approval of the Technical Committee, where no reasonable alternative exists that meets the requirement to protect groundwater and fulfills the property's operational needs. By way of example and not by way of limitation, Groundwater Protection Incentive Program improvements may alter, expand, or intensify the nonconformity of existing landscaping, parking, and covered storage structures that are legally non-conforming as long as the requirements of this subsection are met.

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