Chapter 30.30 CRITICAL AQUIFER RECHARGE AREAS

30.30.005 Findings and Purpose

(a) At the time of the adoption of this Title 30 and Chapter 30.30, there are no known critical aquifer recharge areas in Ruston. This chapter is being adopted for completeness and in case any critical aquifer recharge areas are later discovered in Ruston.

(b) This chapter is adopted to protect the quality and quantity of potable groundwater resources consistent with RCW 36.70A.172, WAC 365-195, and the most recent Washington State Department of Ecology CARA Guidance as Best Available Science (BAS).

(c) The City recognizes that where scientific information is inconclusive but indicates a potential risk to groundwater, a precautionary or protective approach shall be taken to avoid degradation (WAC 365-195-915(3)).

(d) The purpose of this chapter is to designate and protect Critical Aquifer Recharge Areas (CARAs) to maintain public health, safety, and welfare, and to ensure sufficient groundwater quality and recharge for future generations

(Ord. 1456 § 4, Dec. 20th, 2016).

30.30.010 Critical aquifer recharge areas designation.

Critical aquifer recharge areas (CARAs) are those areas with a critical recharging effect on aquifers used for potable water as defined by WAC 365-190-030(2). CARAs have prevailing geologic conditions associated with infiltration rates that create a high potential for contamination of groundwater resources or contribute the replenishment of groundwater. These areas include the following:

(a) Wellhead Protection Areas. Wellhead protection areas may be defined by the boundaries of the ten-year time of groundwater travel or boundaries established using alternate criteria approved by the Washington State Department of Health in those settings where groundwater time of travel is not a reasonable delineation criterion, in accordance with WAC 246-290-135.

(b) Sole Source Aquifers. Sole source aquifers are areas that have been designated by the U.S. Environmental Protection Agency pursuant to the Federal Safe Water Drinking Act.

(c) Susceptible Groundwater Management Areas. Susceptible groundwater management areas are areas that have been designated as moderately or highly vulnerable or susceptible in an adopted groundwater management program developed pursuant to WAC 173-100.

(d) Special Protection Areas. Special protection areas are those areas defined by WAC 173-200-090.

(e) Moderately or Highly Vulnerable Aquifer Recharge Areas. Aquifer recharge areas that are moderately or highly vulnerable to degradation or depletion because of hydrogeological characteristics are those areas delineated by a hydrogeological study prepared in accordance with the State Department of Ecology guidelines.

(f) Moderately or Highly Susceptible Aquifer Recharge Areas. Aquifer recharge areas moderately or highly susceptible to degradation or depletion because of hydrogeological characteristics are those areas meeting the criteria established by the State Department of Ecology.

(g) CARAs shall include areas susceptible to contamination or reduced recharge (WAC 365-190-100). Designation shall be based on Best Available Science, including local hydrogeologic studies, Ecology susceptibility maps, and relevant federal or state publications.

(Ord. 1456 § 4, Dec. 20th, 2016).

30.30.020 Aquifer recharge area susceptibility ratings.

Aquifer recharge areas shall be rated as having high, moderate, or low susceptibility based on soil permeability, geologic matrix, infiltration, and depth to water as determined by the criteria established by the State Department of Ecology. Aquifer vulnerability classification shall combine susceptibility factors with an inventory of existing and potential contaminant sources, consistent with Ecology CARA Handbook Section 4, Steps 3 and 4.(Ord. 1456 § 4, Dec. 20th, 2016).

30.30.030 Mapping of critical aquifer recharge areas.

(a) The approximate location and extent of critical aquifer recharge areas are shown on the adopted critical areas maps. [None designated; map reserved.]

(b) These maps are to be used as a guide for the City, project applicants, and/or property owners and may be continuously updated as new critical areas are identified. They are a reference and do not provide a final critical area designation.

(c) Maps shall be updated at least every five years or as new BAS becomes available. Mapping shall integrate data from Ecology's contaminated sites database, nitrate prioritization project, and other state or regional groundwater data resources.

(Ord. 1456 § 4, Dec. 20th, 2016).

30.30.040 Activities allowed in critical aquifer recharge areas.

The following activities are allowed in critical aquifer recharge areas pursuant to allowed activities, Section 30.10.150, and do not require submission of a critical area report:

(a) Construction of structures and improvements, including additions, resulting in less than five percent or 2,500 square feet (whichever is greater) total site impervious surface area that does not result in a change of use or increase the use of a hazardous substance.

(b) Development and improvement of parks, recreation facilities, open space, or conservation areas resulting in less than five percent total site impervious surface area that do not increase the use of a hazardous substance.

(c) On-site domestic septic systems releasing less than 14,500 gallons of effluent per day and that are limited to a maximum density of one system per one acre.

(Ord. 1456 § 4, Dec. 20th, 2016).

30.30.050 Critical area report—Additional requirements for critical aquifer recharge areas.

In addition to the general critical area report requirements of Section 30.10.210, critical area reports for critical aquifer recharge areas must meet the requirements of this section. Critical area reports for two or more types of critical areas must meet the report requirements for each relevant type of critical area.

(a) Preparation by a Qualified Professional. An aquifer recharge area critical area report shall be prepared by a qualified professional who is a hydrogeologist, geologist, or engineer, who is licensed in the State of Washington and has experience in preparing hydrogeological assessments.

(b) Hydrogeological Assessment. For all proposed activities to be located in a critical aquifer recharge area, a critical area report shall contain a level one hydrogeological assessment. A level two hydrogeological assessment shall be required for any of the following proposed activities:

(1) Activities that result in five percent or more impervious site area;

(2) Activities that divert, alter, or reduce the flow of surface or groundwaters, or otherwise reduce the recharging of the aquifer;

(3) The use of hazardous substances, other than household chemicals used according to the directions specified on the packaging for domestic applications;

(4) The use of injection wells, including on-site septic systems, except those domestic septic systems releasing less than 14,500 gallons of effluent per day and that are limited to a maximum density of one system per one acre; or

(5) Any other activity determined by the Planning Director likely to have an adverse impact on groundwater quality or quantity or on the recharge of the aquifer.

(6) An evaluation of cumulative impacts from existing and planned land uses and groundwater withdrawals on aquifer quality and quantity.

(7) An assessment of seawater intrusion risks, if applicable to the site location.

(c) Level One Hydrogeological Assessment. A level one hydrogeological assessment shall include the following site- and proposal-related information at a minimum:

(1) Available information regarding geologic and hydrogeological characteristics of the site, including the surface location of all critical aquifer recharge areas located on site or immediately adjacent to the site, and permeability of the unsaturated zone;

(2) Groundwater depth, flow direction, and gradient based on available information;

(3) Currently available data on wells and springs within 1,300 feet of the project area;

(4) Location of other critical areas, including surface waters, within 1,300 feet of the project area;

(5) Available historic water quality data for the area to be affected by the proposed activity; and

(6) Best management practices proposed to be utilized.

(d) Level Two Hydrogeological Assessment. A level two hydrogeological assessment shall include the following site- and proposal-related information at a minimum, in addition to the requirements for a level one hydrogeological assessment:

(1) Historic water quality data for the area to be affected by the proposed activity compiled for at least the previous five-year period;

(2) Groundwater monitoring plan provisions;

(3) Discussion of the effects of the proposed project on the groundwater quality and quantity, including:

(A) Predictive evaluation of groundwater withdrawal effects on nearby wells and surface water features; and

(B) Predictive evaluation of contaminant transport based on potential releases to groundwater; and

(C) A spill plan that identifies equipment and/or structures that could fail, resulting in an impact. Spill plans shall include provisions for regular inspection, repair, and replacement of structures and equipment that could fail.

(D) A discussion of recharge and discharge functions of the site and how the proposed activity will maintain or enhance aquifer recharge.

(Ord. 1456 § 4, Dec. 20th, 2016).

30.30.060 Performance standards—General requirements.

(a) Activities may only be permitted in a critical aquifer recharge area if the applicant demonstrates, through a hydrogeological assessment, that the proposed activity will:

(1) Not cause contaminants to enter the aquifer; and

(2) Not adversely affect the quantity or quality of aquifer recharge, including maintaining infiltration rates necessary to sustain groundwater levels and associated baseflows to surface waters.

(b) The proposed activity must comply with the water source protection requirements and recommendations of the U.S. Environmental Protection Agency, Washington State Department of Health, and Tacoma - Pierce County Health Department.

(c) The proposed activity must be designed and constructed in accordance with the State Department of Ecology Stormwater Management Manual for Western Washington.

(d) Recharge Quantity Protection Standards. All development within a critical aquifer recharge area shall:

(1) Maintain or enhance the existing infiltration capacity of the site to the maximum extent practicable;

(2) Minimize impervious surface area and implement low impact development (LID) techniques to preserve natural hydrologic conditions;

(3) Ensure that post-development infiltration and recharge rates do not fall below pre-development conditions, unless demonstrated through hydrogeological analysis that reduced recharge will not adversely impact groundwater supplies or baseflows to surface waters; and

(4) Incorporate stormwater management practices that prioritize infiltration-based systems, where feasible, to sustain recharge functions.

(e) Where infiltration is not feasible due to site constraints or contamination risks, mitigation measures shall be implemented to offset lost recharge capacity within the same aquifer recharge area.

(Ord. 1456 § 4, Dec. 20th, 2016).

30.30.070 Performance standards—Specific uses.

(a) Storage Tanks. All storage tanks proposed to be located in a critical aquifer recharge area must comply with local building code requirements and must conform to the following requirements:

(1) Underground Tanks. All new underground storage facilities proposed for use in the storage of hazardous substances or hazardous wastes shall be designed and constructed so as to:

(A) Prevent releases due to corrosion or structural failure for the operational life of the tank;

(B) Be protected against corrosion, constructed of noncorrosive material, steel clad with a noncorrosive material, or designed to include a secondary containment system to prevent the release or threatened release of any stored substances; and

(C) Use material in the construction or lining of the tank that is compatible with the substance to be stored.

(2) Above-ground Tanks. All new above-ground storage facilities proposed for use in the storage of hazardous substances or hazardous wastes shall be designed and constructed so as to:

(A) Not allow the release of a hazardous substance to the ground, groundwaters, or surface waters;

(B) Have a primary containment area enclosing or underlying the tank or part thereof; and

(C) A secondary containment system either built into the tank structure or a dike system built outside the tank for all tanks.

(b) Vehicle Repair and Servicing.

(1) Vehicle repair and servicing must be conducted over impermeable pads and within a covered structure capable of withstanding normally expected weather conditions. Chemicals used in the process of vehicle repair and servicing must be stored in a manner that protects them from weather and provides containment should leaks occur.

(2) No dry wells shall be allowed in critical aquifer recharge areas on sites used for vehicle repair and servicing. Dry wells existing on the site prior to facility establishment must be abandoned using techniques approved by the State Department of Ecology prior to commencement of the proposed activity.

(c) Residential Use of Pesticides and Nutrients. Application of household pesticides, herbicides, and fertilizers shall not exceed times and rates specified on the packaging.

(d) Use of Reclaimed Water for Surface Percolation or Direct Recharge. Water reuse projects for reclaimed water must be in accordance with the adopted water or sewer comprehensive plans that have been approved by the State Departments of Ecology and Health.

(1) Use of reclaimed water for surface percolation must meet the groundwater recharge criteria given in Sections 90.46.080(1) and 90.46.010(10) RCW. The State Department of Ecology may establish additional discharge limits in accordance with Section 90.46.080(2) RCW.

(2) Direct injection must be in accordance with the standards developed by authority of Section 90.46.042 RCW.

(e) State and Federal Regulations. The uses listed below shall be conditioned as necessary to protect critical aquifer recharge areas in accordance with the applicable state and federal regulations:

Statutes, Regulations, and Guidance Pertaining to Groundwater Impacting Activities

Activity	Statute—Regulation—Guidance
Above-Ground Storage Tanks	Chapter 173-303-640 WAC
Animal Feedlots	Chapter 173-216 WAC, Chapter 173-220 WAC
Automobile Washers	Chapter 173-216 WAC, Best Management Practices for Vehicle and Equipment Discharges (Washington Department of Ecology WQ-R-95-56)
Below-Ground Storage Tanks	Chapter 173-360 WAC
Chemical Treatment Storage and Disposal Facilities	Chapter 173-303-182 WAC

Hazardous Waste Generator (Boat Repair Shops, Biological Research Facility, Dry Cleaners, Furniture Stripping, Motor Vehicle Service Garages, Photographic Processing, Printing and Publishing Shops, Etc.)	Chapter 173-303 WAC
Injection Wells	Federal 40 CFR Parts 144 and 146, Chapter 173-218 WAC
Junkyards and Salvage Yards	Chapter 173-304 WAC, Best Management Practices to Prevent Storm Water Pollution at Vehicles Recycler Facilities (Washington State Department of Ecology 94-146)
Oil and Gas Drilling	Chapter 332-12-450 WAC, Chapter 173-218 WAC
On-Site Sewage Systems (Large Scale)	Chapter 173-240 WAC
On-Site Sewage Systems (< 14,500 gal/day)	Chapter 246-272 WAC, Local Health Ordinances
Pesticide Storage and Use	Chapter 15.54 RCW, Chapter 17.21 RCW
Sawmills	Chapter 173-303 WAC, Chapter 173-304 WAC, Best Management Practices to Prevent Storm Water Pollution at Log Yards (Washington State Department of Ecology, 95-53)
Solid Waste Handling and Recycling Facilities	Chapter 173-304 WAC
Surface Mining	Chapter 332-18-015 WAC
Wastewater Application to Land Surface	Chapter 173-216 WAC, Chapter 173-200 WAC, Washington State Department of Ecology Land Application Guidelines, Best Management Practices for Irrigated Agriculture

(f) All Best Management Practices shall comply with the most recent versions of the Ecology Stormwater Management Manual for Western Washington (SWMMWW) and other relevant state BMP guidance documents.

(Ord. 1456 § 4, Dec. 20th, 2016).

30.30.080 Uses prohibited from critical aquifer recharge areas.

The following activities and uses are prohibited in critical aquifer recharge areas:

(a) Landfills. Landfills, including hazardous or dangerous waste, municipal solid waste, special waste, wood waste, and inert and demolition waste landfills;

(b) Underground Injection Wells. Class I, III, and IV wells and sub-classes 5F01, 5D03, 5F04, 5W09, 5W10, 5W11, 5W31, 5X13, 5X14, 5X15, 5W20, 5X28, and 5N24 of Class V wells;

(c) Mining.

(1) Metals and hard rock mining; and

(2) Sand and gravel mining, prohibited from critical aquifer recharge areas determined to be highly susceptible or vulnerable.

(d) Wood Treatment Facilities. Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces (both natural and manmade);

(e) Storage, Processing, or Disposal of Radioactive Substances. Facilities that store, process, or dispose of radioactive substances; and

(f) Other Prohibited Uses or Activities

(1) Activities that would significantly reduce the recharge to aquifers currently or potentially used as a potable water source;

(2) Activities that would significantly reduce the recharge to aquifers that are a source of significant base flow to a regulated stream; and

(3) Activities that are not connected to an available sanitary sewer system, prohibited from critical aquifer recharge areas associated with sole source aquifers.

Prohibited uses are based on Guidance Document for the Establishment of Critical Aquifer Recharge Area Ordinances, by Washington State Department of Ecology, 2000, Publication #97-30.

(Ord. 1456 § 4, Dec. 20th, 2016).30.30.090 Prohibited Infiltration Areas

(a) Purpose. To protect public health, safety, and water quality by preventing the mobilization of hazardous substances, infiltration of stormwater shall be restricted or prohibited in areas where soil or groundwater contamination is present or suspected.

(b) Prohibited Areas. The use of infiltration facilities (including, but not limited to, infiltration basins, trenches, drywells, and porous pavement) shall be prohibited in the following locations:

(1) Superfund and Federal Cleanup Sites. On or within the boundaries of any site listed on the U.S. Environmental Protection Agency's National Priorities List (Superfund sites) or otherwise designated by EPA for remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

(2) State Cleanup Sites. On or within the boundaries of any site listed by the [State Department of Ecology or equivalent agency] under the Model Toxics Control Act (MTCA) or other state cleanup programs as requiring remedial action, unless expressly approved in coordination with the regulating agency.

(3) Known or Suspected Contamination. In areas where contaminants of concern are present in soil or groundwater at concentrations that could be mobilized by infiltrating stormwater, as identified through site assessment, environmental review, or regulatory records.

(4) High-Risk Land Uses. Areas generating runoff from highly contaminated source areas, such as petroleum handling facilities, hazardous substance storage or transfer areas, salvage yards, and other land uses designated by the City Engineer.

(c) Review and Approval. The Director or designee may require applicants to provide site investigations, environmental records, or groundwater monitoring data to demonstrate the suitability of infiltration facilities. Where infiltration is prohibited, alternative stormwater management practices such as lined detention, filtration, or treatment systems shall be required.

(1) Applicants proposing infiltration facilities in areas of known or suspected contamination shall provide site investigation reports (including Phase I and, where necessary, Phase II Environmental Site Assessments), relevant environmental records (such as state or federal cleanup listings, No Further Action determinations, or institutional controls), and groundwater monitoring data sufficient to demonstrate that infiltration will not mobilize contaminants or otherwise violate state or federal cleanup requirements. The Director may require additional testing or agency consultation as deemed necessary.

The following include requirements that may be required:

(A) Site Investigations

(i) Phase I Environmental Site Assessment (ESA): A records-based study (ASTM standard) to identify any recognized environmental conditions (RECs) on or adjacent to the property.

(ii) Phase II ESA (if needed): Soil and groundwater sampling to confirm presence/absence of contaminants, usually triggered if Phase I finds a REC.

(iii) Soil Borings/Logs: Characterization of soil stratigraphy, permeability, and depth to groundwater to evaluate infiltration suitability.

(B) Environmental Records

(i) EPA & State Cleanup Databases: Documentation that the parcel (or adjacent parcels) are not listed on EPA's NPL, CERCLA records, or the state's cleanup registry (e.g., Washington's MTCA Site Register).

(ii) Agency Correspondence: Any No Further Action (NFA) letters, cleanup consent decrees, or restrictive covenants recorded with Ecology/EPA.

(iii) Institutional Controls (ICs): Restrictions on excavation, infiltration, or groundwater use tied to the property.

(C) Groundwater Monitoring

(i) Depth to Groundwater: Measured via piezometers or monitoring wells to determine if infiltration would reach the water table.

(ii) Groundwater Sampling: Analysis of VOCs, metals, petroleum hydrocarbons, or other contaminants of concern where there is known/suspected contamination.

(iii) Trend Data (if available): For sites already under cleanup oversight, existing monitoring results can be submitted to demonstrate conditions.

30.30.100 Best Available Science Review and Adaptive Management

(a) The City shall review this chapter periodically to ensure consistency with updated BAS, including new Ecology publications, federal guidance, or regional hydrogeologic assessments.

(b) Where BAS is inconclusive regarding a proposed activity's impact on CARAs, the City shall apply a precautionary approach, requiring protective measures or denying the proposal if risks cannot be adequately mitigated (WAC 365-195-915(3)).

(c) An adaptive management framework shall be used to monitor, evaluate, and respond to new groundwater quality or quantity data to ensure continued protection of CARA functions and values.