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**18.32.200 - Drinking Water (Wellhead) Protection Areas - Purpose and Intent**

In order to protect the public health and safety, prevent the degradation of groundwater used for potable water, and to provide for regulations that prevent and control risks to the degradation of groundwater, drinking water (wellhead) protection areas shall be subject to the standards described in OMC 18.32.205 through 18.32.240.

(Ord. 6648 §8, 2009; Ord. 6356 §5, 2005).

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### *18.32.205 - Drinking Water (Wellhead) Protection Areas - Applicability and Designation*

A "Drinking Water (Wellhead) Protection Area" shall include the surface and subsurface area surrounding a water well or well field supplying a public water supply system with over one thousand (1,000) connections through which contaminants are reasonably likely to move toward and reach such well or well field within six (6) months, and one (1), five (5), and ten (10) years; for which the water purveyor has adopted a wellhead protection plan; and which said plan has been either formally proposed by the City to the Washington Department of Health pursuant to WAC 246-290-135(3) and WAC 246-290-100(2) or approved by the Washington State Department of Health. See Figure 1.

The periods of time (six months and one, five and ten years) for movement of a contaminant toward a drinking water well define "time-of-travel zones." These zones establish areas around a drinking water source within which these wellhead protection measures apply.

An Extended Capture Zone can be designated outside the ten year zone if it is determined that surface water flows within that zone will discharge into the Wellhead Protection Area. All of the capture zones are considered part of the Drinking Water (Wellhead) Protection Zone.

Maps adopted pursuant to WAC 246-290-135(3) and WAC 246-290-100(2) which are hereby adopted by reference as though fully set forth herein, shall constitute the Drinking Water (wellhead) Protection Areas. Three copies of these maps shall be kept on file in the office of the City Clerk.

(Ord.6648 §9, 2009; Ord. 6356 §5, 2005).

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**18.32.210 - Drinking Water (Wellhead) Protection Areas - Exempt Uses and Activities**

The following activities shall be exempt from the review requirements of this critical area category:

- A.** Agriculture, existing and ongoing; except in conditions described in OMC 18.32.240
- B.** Boundary line adjustments;
- C.** Building projects for individual, single family residences or duplexes connected to a sanitary sewer;
- D.** Conservation or preservation of soil, water, vegetation and wildlife in consultation with the Natural Resources Conservation Service, Washington Department of Fish and Wildlife, or other appropriate federal or state agency;
- E.** Grading permit for less than five hundred (500) cubic yards of material;
- F.** Installation, replacement, alteration or construction and operation in improved city road right-of-way of all water or electric facilities, lines, equipment or appurtenances but excluding substations and the application of chemical substances;
- G.** Installation, replacement, alteration or construction and operation in improved city road right-of-way of all natural gas, cable communications and telephone facilities, lines, pipes, mains, equipment or appurtenances, but excluding the application of chemical substances;
- H.** Location of boundary markers;
- I.** Passive noncommercial outdoor recreation activities that have no impact on aquifer recharge, such as bird watching or hiking;
- J.** Nondevelopment educational activities and scientific research;
- K.** Normal and routine maintenance or repair of existing utility structures or right-of-way, excluding the application of chemical substances; and
- L.** Site investigative work necessary for land use application submittals such as surveys, soil logs, percolation tests and other related activities.

(Ord. 6648 §10, 2009; Ord. 6356 §5, 2005).

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**18.32.215 - Drinking Water (Wellhead) Protection Areas - Prohibited Uses**

**A.** Expansion or development of the following uses shall be prohibited within a designated drinking water (wellhead) protection area:

1. Landfills (municipal sanitary solid waste and hazardous waste, demolition (inert) and wood waste);
2. Chemical/Hazardous waste reprocessing transfer, storage and disposal facilities;
3. Wood and wood products preserving/treating; and
4. Chemical (including pesticides) manufacturing, processing, mixing, manufacturing, and storage;
5. Gas stations without attendant;
6. Pipelines - liquid petroleum projects or other hazardous liquid transmission;
7. Solid waste processing;
8. Electroplating, metal plating;
9. Manufacturing - electrical/electronic;
10. Petroleum products refining, reprocessing and related storage [except underground storage of heating oil or agricultural fueling in quantities less than one thousand one hundred (1,100) gallons for consumptive use on the parcel where stored];
11. Land spreading disposal facilities (as defined by WAC 173-304 and 173-308);
12. Cemeteries; and
13. Vehicle wrecking/junk/scrap/salvage yards.

**B.** Expansion or development of the following uses within the six (6) month and one (1) year time of travel zone of a designated drinking water (wellhead) protection area shall be prohibited:

1. Agriculture operations with over two hundred (200) animal units;
2. Gas stations with attendants,
3. Confined animal feeding operations including, but not limited to dairies, stables, horse boarding/training, auction facilities, feedlots, poultry raising;
4. Funeral facilities and taxidermy (without sewer);
5. Maintenance/fueling facilities including but not limited to municipal, county, school district, transit, airports, railroads, buses;

6. Hazardous waste transfer and storage facilities, including radioactive wastes as defined in Chapter 43.200 RCW;
7. Fertilizer storage facilities;
8. Storage tanks, underground;
9. Solid waste handling, transferring, recycling;
10. Asphalt plants/cement concrete plants;
11. Furniture staining/fabricating with hazardous materials;
12. Machine shops, metal finishing/fabricating. Metal processing with etchers and chemicals;
13. Wastewater reuse facilities/wastewater recycling satellite plant; and
14. All other activities involving the use, handling, or storing of hazardous materials of generating hazardous materials by their activities or action in quantities exceeding the threshold in 18.32.235 (B).

(Ord. 6648 §11, 2009; Ord. 6356 §5, 2005).

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**18.32.220 - Drinking Water (Wellhead) Protection Areas - Administratively Authorized Uses and Activities**

**A.** All other uses and activities (i.e., those not listed in OMC 18.32.210 Exempted Uses and Activities, and OMC 18.32.215 Prohibited Uses and Activities) are subject to minimum mitigation standards as outlined in OMC 18.32.225 and further review by the Department in consultation with the Thurston County Health Officer. The Department shall determine whether the use or activity will ensure adequate protection of the source water supply, after a review of the hydrogeological reports if required in OMC 18.32.230.

**B.** Administrative approval may be conditioned upon the implementation of mitigating measures which the Department determines are needed to ensure adequate protection of the source water supply.

(Ord. 6648 §12, 2009; Ord. 6356 §5, 2005).

### 18.32.225 - Wellhead Protection Areas - Minimum Mitigation Standards

**A.** Every application for a non-exempt development permit within a drinking water (wellhead) protection area shall meet these minimum standards for mitigation:

1. If the proposal indicates the use, storage, handling or disposal of hazardous materials above the minimum quantity thresholds listed in 18.32.235, the applicant shall submit a hazardous materials management (spill) plan as outlined in 18.32.235.
2. Landscaping and irrigation plans that mitigate the leaching of soluble contaminants into groundwater. These plans shall meet the requirement of OMC 18.36 and in addition incorporate the following requirements:
  - a. Within the landscape plans, the Stormwater Operations and Maintenance Agreement, and the Conditions, Covenants and Restrictions regarding fertilizers, insert the following specific passage, "Only slow release fertilizers shall be applied for the life of the development at a maximum amount of 4 lbs of nitrate as Nitrogen annually and no more than 1 lb. per application for every 1,000 square feet of turf grass. Only fertilizer formulas with a minimum of 50% water insoluble form of nitrogen are permitted for use. Approved water insoluble forms of nitrogen include sulfur and/or polymer coated fertilizers, Isobutylidene Diurea (IBDU), Methylene Urea and Ureaform, and organic fertilizers registered with Washington Department of Agriculture."
  - b. The total turf area of the development will be limited to 25% of the total regulated landscaped area. All additional plantings will include native and/or drought tolerant plants as listed in the Thurston County Common Sense Gardening Plant List or a similar list approved by the above department.
  - c. Irrigation systems shall be designed and managed to maximize efficient use of water. Lawns will not be watered more than a depth of 1 inch per week over the area of turf. An irrigation consultation will be required at the time the irrigation system is installed to determine precipitation rates and uniformity of system. Consultations will be conducted by an Irrigation Association Certified Landscape Irrigation auditor.
3. A well inventory report. Any existing wells shall be identified on a map, with an assessment of their condition, photographs and well logs (if available). Wells that are not being used for ongoing domestic water use, irrigation or monitoring will be decommissioned by the applicant following the procedures in WAC 173-160-381.
4. A grant to the Department for the purposes of:
  - a. Providing pollution prevention outreach to residents, employees, and contractors. Access may include but is not limited to: interpretive sign installation, model home displays, demonstration sites, conducting interviews and surveys, observing practices, and distributing informational materials.
  - b. Ensuring compliance with items described under 18.32.225, section A above.
  - c. The grant of access shall be included in the Stormwater Operations and Maintenance Agreement and the Conditions, Covenants, and Restrictions for the project.

**B.** A dedicated groundwater monitoring well is required in situations where infiltration of stormwater is proposed, or where other groundwater contamination risks or monitoring needs are identified. The wells

will be installed and equipped by the applicant to city standards.

**C.** The city may allow alternatives to the minimum mitigation standards described in this section in unique conditions and on a case-by-case basis when the applicant demonstrates that:

1. The project has been evaluated by a Hydrogeological Report as described in OMC 18.32.230; and
2. Based upon the Hydrogeological Report and the best available science the proposed alternative mitigation measures will be adequate to protect the drinking water source.

(Ord. 6648 §13, 2009; Ord. 6356 §5, 2005).

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**18.32.230 - Drinking Water (Wellhead) Protection Areas - Hydrogeological Report**

**A.** If the department determines that where risks from on-site activities within a drinking water protection area are not well known, or where site specific assessment is necessary to determine mitigation levels above the minimum standards outlined in OMC 18.32.225, a hydrogeological report shall be required. This report shall identify the proposed development plan and the risks associated with on-site activities which may degrade the groundwater within a designated wellhead protection area.

**B.** This report shall be prepared, signed, and dated by a state-licensed geologist or hydrogeologist.

**C.** A Hydrogeological Report shall contain:

1. Information sources;
2. Geologic setting, including well logs or borings;
3. Background water quality;
4. Groundwater elevations;
5. Location and depth of perched water tables;
6. Recharge potential of facility site (permeability/transmissivity);
7. Groundwater flow direction and gradient;
8. Available data on wells located within 1/4 mile of the site;
9. Available data on any spring within 1/4 mile of the site;
10. Permanent and seasonal surface water locations and recharge potential;
11. Any proposed monitoring sampling schedules;
12. Analysis of the possible effects on the groundwater resource of the proposed project including the storage or use of any hazardous materials;
13. Discussion of potential mitigation measures, should it be determined that the proposed project will have an adverse impact on groundwater resources;
14. Information required under Washington Department of Ecology Publication 05-10-028, as amended; and
15. Any other information as required by the Department.

(Ord. 6648 §14, 2009; Ord. 6356 §5, 2005).

### 18.32.235 - Drinking Water (Wellhead) Protection Areas - Existing Uses

**A.** The Department in consultation with the Thurston County Health Officer shall request that an owner of any existing use which is located within a designated drinking water protection area, which uses, stores, handles or disposes of hazardous materials above the minimum cumulative quantities listed within this section submit a hazardous materials management (spill) plan that will ensure adequate protection of the aquifer and any domestic water supply. This plan shall be reviewed and updated as needed, and conditions under this plan shall be met on an ongoing basis.

Hazardous materials management (spill) plans shall include, at a minimum, the following:

1. A brief description of business activities and a list and map of the locations, amounts, and types of hazardous materials, hazardous waste and petroleum products, stored on site;
2. A description of inspection procedures for hazardous material storage areas and containers and the minimum inspection intervals. An inspection logbook shall be maintained for periodic review by the county;
3. Provision of an appropriate spill kit with adequate spill supplies and protective clothing;
4. Detailed spill cleanup and emergency response procedures identifying how the applicant will satisfy the requirements of the Dangerous Waste Regulations, Chapter 173-303 WAC, in the event that hazardous material is released into the ground, ground water, or surface water;
5. Procedures to report spills immediately to the Department of Ecology and the Environmental Health Division of the Thurston County Public Health and Social Services Department, in that order;
6. A list of emergency phone numbers (e.g., the local fire district and ambulance);
7. Procedures to ensure that all employees with access to locations where hazardous materials are used or stored receive adequate spill training. A training logbook shall be maintained for periodic review by the county;
8. A map showing the location of all floor drains and any hazardous material and petroleum product transfer areas; and
9. Additional information determined by the approval authority to be necessary to demonstrate that the use or activity will not have an adverse impact on ground water quality.
10. Liquid, soluble, or leachable hazardous materials, shall be stored in a secondary contaminant device or system that will effectively prevent discharge on-site. (See Chapter 15.54 and 17.21 RCW regarding pesticide storage.) (Refer to Chapter 14.32 TCC, International Fire Code, regarding seismic standards).

**B.** Any existing use which uses, stores, handles or disposes of hazardous materials above these minimum cumulative quantities will meet requirements described in A above:

1. Chemical substances that are ignitable, corrosive, reactive or toxic, consistent with WAC 173-303-090, as amended, except as provided for below. Minimum cumulative quantity: 160 pounds or the equivalent of 20 gallons.

2. Cleaning substances for janitorial use or retail sale in the same size, packaging and concentrations as a product packaged for use by the general public. Chlorinated solvents and nonchlorinated solvents which are derived from petroleum or coal tar will not be considered a cleaning substance under this subsection, but rather a chemical substance under subsection (B)(1) of this section. Minimum cumulative quantity: eight hundred (800) pounds [or the equivalent one hundred (100) gallons], not to exceed fifty-five (55) gallons for any single package.

3. Businesses which use, store, handle or dispose of chemicals listed in WAC 173-303-9903 as "P" chemicals. Minimum cumulative quantity: two and two tenths (2.2) pounds.

(Ord. 6648 §15, 2009; Ord. 6356 §5, 2005).

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**18.32.240 - Drinking Water (Wellhead) Protection Areas - Farm Conservation Plan**

**A.** The Department, upon request of the Thurston County Health Officer, or based upon good cause and with reasonable expectations of risk to groundwater, shall request that the owner of an existing agricultural use located within a designated drinking water protection area develop and implement a farm conservation plan.

**B.** Where a farm conservation plan has been requested, such plan shall be prepared in conformance with the Natural Resources Conservation Service - Field Office Technical Guide. The Department may solicit advice from the Thurston Conservation District with regard to consistency of a farm conservation plan with the Technical Guide. Only those portions of the Farm Conservation Plan which are related to groundwater protection must be implemented to comply with this standard.

**C.** The Farm Conservation Plan shall include the following:

1. A resource inventory which includes livestock types/numbers, soil types, surface and groundwater issues and location of wells,
2. An approved plan for manure storage on site, or manure export off-site;
3. Adequate setbacks from surface water and wells,
4. Heavy use protection in confinement areas, and
5. A management plan that addresses if and when fertilizers, manure, pesticides or herbicides may be applied.

(Ord. 6648 §16, 2009; Ord. 6356 §5, 2005).