

minimum of 5-years. Monitoring programs for the project shall include the following at a minimum:

- i. Establishing hydrologic monitoring stations within any wetland creation areas to verify if wetland hydrology has been successfully created,
 - ii. Establishing vegetation plots to track changes in plant species composition and density over time,
 - iii. Using photo stations to evaluate vegetation community response,
 - iv. Establishing data collection dates during the first, second, third and fifth years of the monitoring period,
 - v. Where woody vegetation (forested or scrub-shrub wetlands) is the intended result, the minimum monitoring period shall be 10 years with additional data collection dates occurring during the seventh and tenth years.
- f. Contingency Plan- Identification of potential courses of action and any corrective measures to be taken when monitoring or evaluation indicates project performance standards are not being met.
6. In order to ensure the completion and success of the planned mitigation, the City may require a performance and or maintenance bond to be posted as detailed in 18.13.060.

H. Revocation

In addition to other remedies provided for elsewhere, the City may suspend or revoke a permit if the applicant or permittee has not complied with any of the conditions or limitations set forth in the permit, has exceeded the scope of work set forth in the permit, or has failed to undertake the project in the manner set forth in the permit.

18.13.105 Critical Area- Frequently Flooded Areas

A. Classification and Designation

All lands identified in the Federal Emergency Management Agency (FEMA) FIRMs, as amended and approved by the City as being within Zone A, are designated as frequently flooded areas.

B. Performance Standards

All development within designated frequently flooded areas shall comply with the City of Stevenson Floodplain Management Regulations, Chapter 15.24, as now or hereafter amended.

18.13.110 Critical Area- Critical Aquifer Recharge Areas

A. Purpose

Because of the exceptional susceptibility and/or vulnerability to contamination of groundwaters underlying aquifer recharge areas and their importance as sources of public water, it is the intent of this section to safeguard groundwater resources by mitigating or precluding future discharges of contaminants from new land use activities.

B. Classification and Designation

1. Classification- Aquifer recharge areas will be rated according to the vulnerability of the aquifer, with the area's vulnerability being classified by its susceptibility to contamination and its contamination loading potential according to the following system:
 - a. Level 1: Critical Aquifer Recharge Areas shall be those areas found to have a high vulnerability classification. A condition of high vulnerability is characterized by a combination of hydrogeologic conditions that facilitate degradation combined with a land use that may contribute to contamination that degrades groundwater.
 - b. Level 2: Awareness Aquifer Recharge Areas shall be those areas found to have a Medium vulnerability classification.
 - c. Level 3: Limited Aquifer Recharge Areas shall be those areas found to have a Low vulnerability classification.
2. Designation- All existing areas of the City classified according to the provisions contained in this Chapter, as determined by the City, are designated as potential Critical Aquifer Recharge Areas. Because scientific data is insufficient to precisely determine the location of areas having a critical recharging effect on aquifers used for potable water, those recharging areas have not been specifically designated. However, BAS suggests that using a vulnerability determination system will allow the City to use a conservative approach in designating these areas; this approach allows for a worst case scenario for contaminant movement in the subsurface. As areas are determined to be either a Level 1: Critical Aquifer Recharge Area or a Level 2: Awareness Aquifer Recharge Area, they will be included on maps maintained by the City.

Additionally, if any of the following areas are established within city limits, they shall be included on these maps:

- a. Sole source aquifer recharge areas designated pursuant to the Federal Safe Drinking Water Act,
- b. Areas established for special protection pursuant to the Washington groundwater management program,
- c. Areas designated for wellhead protection pursuant to the Federal Safe Drinking Water Act, and,
- d. Aquifer recharge areas mapped and identified by a qualified groundwater scientist.

C. Report Guidelines; Vulnerability Determination Procedures

Development permit applications shall provide appropriate information as described below. Additional reports or information to identify potential impacts and mitigation measures to aquifer recharge areas may be required if deemed necessary.

1. The procedure for determining if a development proposal must complete a vulnerability rating shall be as follows:
 - a. The applicant shall submit a certified statement with the application materials indicating which of the criteria identified in 18.13.110.C.3 apply to the development proposal, if any. The application will not be considered complete until this certified statement is submitted.
 - b. If the applicant's statement asserts that these criteria do not apply to the development proposal, the City will accept the statement and proceed with the development permit review. However, if the City has or obtains information prior to the permit or approval being finalized that clearly establishes the applicant's statement is incorrect, the applicant will be advised in writing of the inconsistent information. The applicant then must either
 - i. Provide an amended statement adding the evaluation criteria as being applicable and determine the vulnerability rating of the development; or
 - ii. Present sufficient countering information clearly establishing that the basis for the City's concern is incorrect.If the applicant elects to proceed under ii., after receiving the applicant's information, the City shall review the information and obtain whatever additional assistance as required to decide whether a determination of vulnerability is required.
 - c. If the development has a high or medium vulnerability rating, the development shall be subject to the development standards contained within this Chapter.
2. The applicant shall be required to determine the vulnerability rating for any development permit, not otherwise exempted from this Chapter, if the site or development meets one or more primary criteria or meets two or more of the secondary remaining criteria below.
 - a. Primary Criteria-
 - i. The development proposal is within a wellhead protection area designated under WAC 246-290 Public Water Supplies;
 - ii. The development proposal is within an aquifer recharge area mapped and identified by a qualified groundwater scientist;
 - iii. The site will be utilized for processing, storing, or handling a hazardous substance (as now or hereafter defined in RCW 70.105D Hazardous Waste Cleanup – Model Toxics Control Act), in applications or quantities larger than is typical of household use;
 - iv. The site will be utilized for hazardous waste treatment and storage as set forth in RCW 70.105 Hazardous Waste Management, as now or hereafter amended.
 - b. Secondary Criteria-
 - i. The site contains highly permeable soils as designated in the NRCS Soil Survey for Skamania County;
 - ii. The development proposal is within a sole source aquifer recharge area designated pursuant to the Federal Safe Drinking Water Act;
 - iii. The development proposal involves a major or short subdivision and includes present or future plans to construct three or more dwelling units where the dwelling units will not be connected to a public sewer system and any of the lots are less than one (1) net acre in size;
 - iv. The development proposal involves a commercial and/or industrial site that is not on a public sewer system and the main structure exceeds four thousand (4,000) square feet;

- v. The development is within two hundred (200) feet of the ordinary high water mark of a perennial river, stream, lake or pond.
3. If the area in which a development is proposed has a high or medium vulnerability rating, the development shall be subject to the development standards contained within this Chapter. Vulnerability ratings shall be determined by a qualified professional and look at susceptibility to contamination and contaminant loading potential.
- a. Susceptibility to contamination will be characterized by looking at the following hydrogeologic attributes:
 - i. Depth to groundwater,
 - ii. Aquifer properties such as hydraulic conductivity and gradients,
 - iii. Soil (texture, permeability, and contaminant attenuation properties),
 - iv. Characteristics of the vadose zone including permeability and attenuation properties, and
 - v. Other relevant factors.
 - b. Contamination loading potential can be evaluated by considering the following:
 - i. General land use,
 - ii. Waste disposal sites,
 - iii. Agriculture activities,
 - iv. Well logs and water quality test results,
 - v. Density of septic systems in use in the area, and
 - vi. Other information about the potential for contamination.

D. Determining Vulnerability Rating

- 1. General- The vulnerability matrix is used to determine the vulnerability of the development and to give it a high, medium or low rating. This can be done by determining the “contaminant loading potential” of a proposed land use and the natural susceptibility of the site as outlined in this Chapter and creating a numerical vulnerability value for a proposed land use. When a proposed use is determined by a qualified professional to have a medium or high vulnerability rating, the protection measures that protect the potable water supply described in this Chapter shall be implemented.
- 2. Determining the Susceptibility Rating-
 - a. Overall Rating- A susceptibility rating is determined by adding the relative values of permeability of the soils and geologic matrix of the vadose zone, depth to groundwater, and slope. This is a baseline determination for susceptibility. The ranges of values are as follows:
 - i. High Susceptibility Rating = total range from 8 to 12,
 - ii. Medium Susceptibility Rating = total range from 4 to 7,
 - iii. Low Susceptibility Rating = total range from 0 to 3.
 - b. Rating Methods-
 - i. Permeability of the Vadose Zone- To adequately determine the overall ease with which water will travel from the surface of the land to the aquifer, it is necessary to determine the overall permeability of the vadose zone—the soil and the underlying geologic materials. Soil permeability can be determined by using Table 14a of the NRCS Soil Survey for Skamania County. The values shown in the permeability column of Table 14a represent the inches per hour that water moves downward through a saturated soil. A determination of the permeability of the geologic material underlying the soil is more problematic.
 - (a) Incrementally, the permeability of local soils (upper vadose zone) is grouped into four ranges that are assigned a relative value to be used for determining susceptibility on the matrix. Where conclusive information does not exist for permeability of the soil, a relative value of 3 will be assigned.

Table 18.13.110-1 Soil Permeability Rating (Based on Skamania County Soil Survey)

Condensed Description	Soil Survey Description	Permeability (in/hr)	Permeability (cm/sec)	Rating
Very Slow	Very Slow	<0.06	<0.00453	0
Slow	Slow	0.06-0.20	0.00453-0.0141	1
	Moderately Slow	0.21-0.60	0.0142-0.0423	
Moderate	Moderate	0.61-2.0	0.0424-0.1411	2

	Moderately Rapid	2.01-6.0	0.01412-0.4233	
High	Rapid	6.01-20.0	0.4234-1.411	3
	Very Rapid	>20.0	>1.411	

- (b) Permeability of the lower vadose zone can be estimated using Table 18.13.110-2 below by determining the material type and assigning the appropriate permeability range for the materials overlying the uppermost aquifer. In cases where heterogeneous materials are encountered, the least permeable layer with a thickness of not less than five (5) feet shall determine the overall permeability to be applied to the entire vadose zone, excluding the soil layer. Where conclusive information does not exist for permeability of the geologic matrix, a relative value of 3 will be assigned.

Table 18.13.110-2 Geologic Matrix Rating

Condensed Description	Geologic Matrix	Permeability	Rating
Very Slow	Unfractured Igneous or Metamorphic Bedrock, Shale	10^{-13} - 10^{-9}	0
	Marine Clay, Clay, Dense Sandstone, Hardpan	10^{-9} + 10^{-7}	
Slow	Loess, Glacial Till, Fractured Igneous or Metamorphic Bedrock	10^{-8} - 10^{-5}	1
	Silt, Clayey Sands, Weathered Basalt	10^{-7} + 10^{-3}	
Moderate	Silty Sands, Fine Sands, Permeable Basalt	10^{-4} - 10^{-1} (0.0001-0.1)	2
	Clean Sands, Karst Limestone	0.11-1.0	
Rapid	Sand and Gravel	1.01-10	3
	Gravel	>10.01	

- ii. Depth to Groundwater- Depth to groundwater can be determined by utilizing local well log information, well log information for sites in close proximity to the development site, or specific well information for the site. Depth to groundwater is also assigned a relative value used for determining susceptibility on the matrix. Where conclusive information does not exist for depth to groundwater, a relative value of 3 will be assigned.

Table 18.13.110-3 Depth to Groundwater Rating

Condensed Description	Depth to Water (Feet)	Rating
Very Low	Confined Aquifer	0
	> 50.01	
Low	25.01-50	1
Moderate	10.01-25	2
High	0-10	3

- iii. Slope, or gradient, is related to the infiltration characteristics of an area. The steeper the slope, the less infiltration of surface waters occurs. Slope is assigned a relative value used for determining susceptibility on the matrix. Where conclusive information does not exist for slope, a relative value of 3 will be assigned.

Table 18.13.110-4 Slope Rating

Slope as a Percent	Rating
>45%	0
30.01%-45%	1
15.01%-30%	2
<15%	3

3. Determining the Contaminant Loading Rating- Contaminant loading potential is dependent on the presence of critical materials on the site. A critical material is a

substance present in sufficient quantity that its accidental or intentional release would result in the impairment of the aquifer water to be used as potable drinking water.

- a. For the purpose of administering this section, the City will maintain a critical materials use activity list of commercial and industrial activities known to use critical materials, coupled with the names of critical materials normally associated with the activity. The following situations will be considered as having a high contaminant loading rating, unless the project applicant provides assurances otherwise:
 - i. Proposed activities fitting one of the general business descriptions provided or having one of the specified North American Industry Classification System (NAICS) codes identified on the City’s critical materials use activity list;
 - ii. Sites or uses that the City believes would be utilized for processing, storing or handling hazardous substances (as now or hereafter defined in RCW 70.105D: Hazardous waste cleanup-model toxics control act) in applications or quantities larger than is typical of household use;
 - iii. Sites that the City believes will be utilized for hazardous waste treatment and storage as set forth in RCW 70.105: Hazardous waste management, as now or hereafter amended, but may not be covered in the critical materials use activity list;
 - iv. Other contaminants and/or NAICS codes that are not currently found on the critical materials use activity list but are determined by the City to have a high contaminant loading rating.

Those uses or activities determined NOT to have a high contaminant loading rating are considered to have a low contaminant loading potential and rating.

- b. The following process shall be used to determine whether or not critical materials are involved:
 - i. An initial screening will be performed by the City by comparing the proposed use (and any other pertinent information provided by the applicant at the applicant’s expense) with the critical materials use activity list. The City will exercise its judgment in favor of aquifer protection.
 - ii. If the proposed use is determined to meet one of the above criteria, the City shall require the applicant to provide a list of materials and quantities to be used, stored, or transported in conjunction with the proposed activity. Additional information required by the City will be provided by the applicant at his expense.
 - iii. After the review of the information supplied by the applicant, the City will either confirm the designation as a critical materials use activity or nullify the tentative designation.
 - iv. If the designation as a critical materials use activity is confirmed, the applicant may respond by accepting the designation as a critical materials use activity or the applicant may appeal the designation through the procedures governing appeals of administrative decisions. Where an appeal is filed, the Washington State Department of Ecology, the Washington Department of Health, and the Skamania County Health District shall be notified of all appeal proceedings.

4. Vulnerability Rating- A determination of a high, medium, or low vulnerability rating is made by the City from the vulnerability matrix by identifying ratings for susceptibility (high [8-12], medium [4-7] or low [0-3]) and contaminant loading (high or low). After determining the susceptibility and contaminant loading ratings for the proposed use and site, the appropriate box on each axis of the vulnerability matrix below will be checked to determine the vulnerability rating. The vulnerability of the site is then determined by the intersection of the susceptibility rating and the contaminant loading rating to be low, medium, or high.

Table 18.13.110-5 Vulnerability Matrix

		Contaminant Loading -->		General Description (Susceptibility)
		Low	High	
<-- Susceptibility	0 to 3			Typically low permeability. Depth to groundwater is fairly deep and fairly significant slopes.
	4 to 7			Higher permeability and shallower depth to groundwater. Less slope potential.
	8 to 12			Extremely permeable soils. Shallow depth to groundwater and fairly flat terrain.

	Low Vulnerability (Level 3- Limited Aquifer Recharge Areas)
	Medium Vulnerability (Level 2- Awareness Aquifer Recharge Areas)
	High Vulnerability (Level 1- Critical Aquifer Recharge Areas)

E. General Performance Standards

The following minimum standards shall apply to all development activities determined to have a high (Level 1) or medium (Level 2) vulnerability rating, as determined by this Chapter.

1. Development activities within a Level 1 or Level 2 aquifer recharge area shall be designed, developed, and operated in a manner that will not potentially degrade groundwater resources.
2. Alternative site designs, phased development, and/or groundwater quality monitoring may be required to reduce contaminant loading where site conditions indicate that the proposed action will potentially degrade groundwater quality.
3. Open space may be required on development proposals overlying areas that are rated as having a high susceptibility to contamination of groundwater resources.
4. When wells are required to be abandoned, the applicant shall ensure that they are abandoned according to the requirements of the Washington State Department of Ecology.
5. Known contaminants shall be removed from stormwater runoff prior to their point of entry into surface or groundwater resources using available and reasonable best management practices;
6. Changes in occupancy and/or use of an existing site, and/or expansions of existing activities, are subject to complete evaluation by the City under the provisions of this Chapter.

F. Specific Performance Standards

The activities listed below shall be subject to the following standards in addition to the general performance standards outlined above.

1. Any agricultural activities shall incorporate best management practices concerning waste disposal, fertilizer use, pesticide use, and stream corridor management.
2. Where otherwise permitted by applicable zoning regulations, landfills, junkyards, salvage yards, and auto wrecking yards are prohibited within designated Level 1 aquifer recharge areas. Landfills, junkyards, salvage yards, and auto wrecking yards that are proposed to be located outside of designated critical aquifer recharge areas and that have a high or medium susceptibility rating must satisfactorily demonstrate that potential negative impacts to groundwater would be overcome in such a manner as to prevent adverse impacts to it.
3. Fertilizer, herbicide, and pesticide management practices of schools, parks, golf courses, and other non-residential facilities that maintain large landscaped areas shall be evaluated in relation to best management practices as recommended by Washington State University Cooperative Extension.
4. Commercial, industrial, and/or mining uses shall comply with the following minimum provisions:
 - a. For the purposes of this section, all forms of mining activities shall be considered an industrial use;
 - b. All commercial and industrial uses having a Level 1 or Level 2 vulnerability rating shall submit a contingency plan that identifies the following:
 - i. Types of hazardous wastes that would result from the proposed land use,
 - ii. On-site containment facilities designed to handle accidental releases of critical materials,
 - iii. Spill response and notification procedures.
 - c. All activities designated as critical materials use activities shall be approved only if:
 - i. Facilities will be designed and built so that any spilled or leaked material is contained on site; and
 - ii. Facilities will be designed and built so that any spilled or leaked material cannot infiltrate the ground; and
 - iii. No permanent disposal of any waste containing critical materials will be allowed on site.
 - d. Commercial or industrial activities designated as critical materials use activities shall have specially designed and installed storm runoff drainage facilities in areas where spills might occur. Such facilities shall be designed and installed to:

- i. Prevent the commingling of storm runoff and critical materials spills; and
 - ii. Enhance spill cleanup.
- e. Mining activities having a Level 1 or Level 2 vulnerability shall comply with the following conditions:
- i. Fencing 6 feet high shall be provided and maintained in good condition at all times in the following locations:
 - (a) Exterior boundary of any portion of any site on which active operations exist, and
 - (b) Exterior boundary of any portion of the site that has been mined and not yet rehabilitated.
 - ii. No excavation within 100 feet of a well or surface water used for potable drinking water is allowed;
 - iii. No excavation into an aquifer used for potable drinking water is allowed;
 - iv. The operators shall comply with all existing water quality monitoring regulations of Washington State Department of Ecology and the Skamania County Health District;
 - v. A drainage channel shall be constructed around active gravel pit areas to keep surface runoff from outside the pit excavation from entering the pit areas;
 - vi. Fuel storage areas and service facilities shall incorporate provisions to prevent lubricants and petroleum products from contaminating either pit areas or drainage channels;
 - vii. No liquid, asphalt, cement, or water used in a mining operation shall be disposed of in the bottom of a pit;
 - viii. A protective berm or retaining wall 8 feet high shall be required adjacent to property lines where the edge of a pit is within 100 feet of a street or railroad right-of-way;
 - ix. The use of fertilizers, pesticides, herbicides, and critical materials shall not be allowed within 50 feet of an active pit;
 - x. A sufficient amount of topsoil or suitable material shall be retained on site for revegetation/rehabilitation purposes;
 - xi. Reclamation plans for these sites shall include:
 - (a) A specification of the amount of materials to be left between the aquifer high water mark (or elevation) and the final grade of the reclaimed site;
 - (b) Physical barriers, as required above, shall remain unless they are specifically permitted to be removed in a subsequent land use decision by the hearing body, and provisions shall be made for limitations of access to, and activities within, the rehabilitated site until the use of the land is changed.
 - xii. In rehabilitated gravel pits over an aquifer used as a potable water source, new uses requested for the property may be limited or specifically conditioned as determined by the appropriate hearing body; and
 - xiii. All mining activities shall be reclaimed per a reclamation plan approved by the Washington Department of Natural Resources.
5. Utility facilities shall be reviewed and approved consistent with the requirements of section 18.13.110.F.4(a-e).
6. Underground storage tanks and on-site sewage disposal systems are prohibited within designated Level 1 aquifer recharge areas. Underground storage tanks and on-site sewage disposal systems that are proposed to be located outside designated critical aquifer recharge areas and that have a high or medium susceptibility rating must satisfactorily demonstrate that potential negative impacts to the groundwater would be overcome in such a manner as to prevent adverse impacts to groundwater.
7. Wood treatment facilities shall conform to the provisions of section 18.13.110F.4(a-e). Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces, whether natural or man-made, are prohibited.
8. As defined and regulated in WAC Chapter 173-218 Underground injection control program, Class I, III, and IV underground injection wells are prohibited. Class II injection wells are permitted under Chapter 173-218 WAC by the Washington State Department of Ecology in conjunction with the Washington Department of Natural Resources. Class V injection wells, involving the injection of critical materials, may be prohibited by the Washington State Department of Ecology or a permit may be required by that agency. In addition, commercial or industrial uses proposing the injection of critical materials are subject to the provisions of this Chapter.