

DPA 3 – Aquifers¹¹

DESIGNATION

The Aquifers Development Permit Area is shown on Map No. 6 and applies to the land above all known aquifers.

AUTHORITY

The Aquifers Development Permit Area is designated a development permit area for protection of the natural environment, its ecosystems and biological diversity, pursuant to Section 488(1)(a) of the *Local Government Act*.

JUSTIFICATION

Aquifers are sensitive to impact from development and disturbance by human activity and require special treatment in order to protect their ecological value, and community value as a drinking water source now and for the future.

Aquifers and surface water are connected and interact with each other as typically, surface waters recharge aquifers in months with precipitation and snow melt. The groundwater system contributes to baseflow in rivers and streams, maintaining habitat for fish, wildlife and plants and is the sole domestic water supply for many residents. Maintaining both water quality and quantity requires careful management for the long-term sustainability of ecosystems and drinking water values. Within the Big Qualicum Water Region, the sand and gravel aquifers are productive, though vulnerable to surface contamination. Significant surface water features in the water region include the Big Qualicum River, Rosewall Creek, Thames Creek, Nile Creek and Horne Lake and Spider Lake.

Care must be taken in construction methods, excavation, surface drainage and the storage, handling and manufacture and use of products on parcels of land within this DPA to avoid contamination of the underlying aquifer and to protect and promote its sustainable use as a drinking water source. Penetration of the aquitard that confines the aquifer could cause an uncontrolled release of large volumes of groundwater under artesian pressure.

OBJECTIVES

1. To implement Regional Growth Strategy Policy 2.14 to protect groundwater aquifers and environmentally sensitive areas from contamination and reduced supply caused by land use and development activities.
2. To reflect Community Value in this Official Community Plan of “support for development regulations to protect environmentally sensitive areas, natural hazard lands, the marine/freshwater foreshores, and aquifer recharge areas”.
3. To protect the integrity of the low-permeable till layer (the aquitard) in the area identified as at risk of artesian conditions.

¹¹ Bylaw 1335.07, adopted December 4, 2018

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Information Note: the designation of this development permit area and description of the special conditions or objectives that justify the designation are located in the applicable official community plans.

APPLICABILITY

A development permit is required for the following activities wherever they occur within this development permit area, unless specifically exempted:

1. alteration of land, disturbance of soils, including grubbing, scraping and the removal of top soils;
2. construction, alteration, or erection of buildings and structures;
3. creation of non-structural impervious or semi-pervious surfaces;
4. subdivision of land as defined in the *Land Title Act* or *Strata Property Act*; and
5. excavation or sub-surface disturbance in the sub-area defined as ‘risk of artesian conditions’.

EXEMPTIONS

The following activities are exempt from any requirement for a development permit:

1. Construction, renovation, repair or addition to a single dwelling unit, duplex dwelling unit, secondary suite, building or structure accessory to residential use including a driveway and except for excavation of a depth greater than 1.5 metres in an area with ‘risk of artesian conditions’.
2. Construction of or additions to a building or structure that do not require a building permit.
3. Digging of observation holes for percolation testing under supervision of a Registered Onsite Wastewater Practitioner or Professional Engineer, and digging of test pits for geotechnical investigation under supervision of a Professional Engineer.
4. Onsite wastewater disposal system installation meeting the requirements of the *Sewerage System Regulation* of the *Public Health Act*.
5. Subdivision of land within Cedar Village Centre and South Wellington Light Industrial & Commercial Area as designated in the Electoral Area A Official Community Plan, except for intensive residential within the Cedar Main Street Village Plan area (intensive residential is defined in that plan).
6. Subdivision of land where a maximum of three lots are proposed, including the remainder, and where the subject property:
 - a) in Electoral Area H has a ‘low’ vulnerability as identified in the Official Community Plan or;
 - b) in Electoral Area G does not have a development subclass of ‘heavy’ nor a vulnerability class of ‘high’ or a combination of ‘heavy’ or ‘high’ as identified in the Official Community Plan.

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7. Subdivision of land where the application is limited to lot line adjustment and no additional lots are created.
8. Subdivision of land where each lot has an approved connection to a community water system, except for within Cassidy Village Centre.
9. The activity is part of a farm operation as defined by the *Farm Practices Protection (Right to Farm) Act*, is a permitted farm use as defined in Section 2(2) of the *Agricultural Land Reserve Use, Subdivision, and Procedures Regulations*, and the lands are assessed as ‘farm’ under the *BC Assessment Act*. The farm operation of land clearing is only exempt from the requirement of a development permit if conducted in accordance with a current Environmental Farm Plan (less than 5 years old); otherwise, land clearing as part of a farm operation is not exempt. Note that other provincial legislation such as the *Waste Management Act* and the *Water Sustainability Act* may apply to farm operation activities.
10. All forest management activities on lands subject to the *Forest Act* or *Private Managed Forest Land Act* and classified as ‘Forest Lands’ on the property assessment.
11. Works conducted by the Regional District or its agents where appropriate measures have been undertaken to satisfy the applicable development permit area Guidelines as determined by the Regional District.

GUIDELINES

Development permits shall be issued in accordance with the following:

1. The use or disposal of substances or contaminants that may be harmful to area aquifers is discouraged and steps must be taken to ensure the proper disposal of such contaminants.
2. A report must be prepared by a Professional Engineer or Geoscientist with experience in hydrogeology. The report should follow any applicable checklist of the Regional District for preparation of hydrogeological assessment reports and should also include, but is not limited, to the following:
 - a) definition of the study area and the relationship of the proposed development to the protected aquifer and known recharge areas, including map(s) indicating community water well locations;
 - b) capture zone analysis for existing and proposed new wells;
 - c) an assessment of the ability of the aquifer to accommodate additional groundwater demand proposed by the development, which shall include the anticipated water demand of the proposed uses based on the development potential of the subject property based on the current zoning;
 - d) identification of potential impacts on adjacent properties and land uses; and
 - e) recommendations for measures required to ensure the quality and quantity of water in the aquifer is protected.
3. The use of permeable paving and other methods to reduce rainwater runoff are encouraged.

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4. Where a proposed development will include any of the purposes or activities listed in Schedule 2 of the Contaminated Sites Regulation, (B.C. Reg. 375/96), the report prepared by a Professional Engineer or Geoscientist with experience in hydrogeology (as described in Guideline 2) shall be required to confirm the protection of the aquifer in relation to the intended uses. In this case, the professional report should additionally include the following:
 - a) as part of the map(s) described in Guideline 2a., also indicate: site location of activities listed in abovementioned regulation, all well locations (abandoned or operational, proposed or existing above ground or underground fuel storage tanks, and underground utilities, such as water, sanitary, and storm water drainage or natural gas lines;
 - b) assess the potential for contamination and the expected results should a spill occur;
 - c) identify appropriate site-specific groundwater protection measures;
 - d) address site design, and best management practices for site drainage, sewage disposal and hazardous material use, handling, storage, disposal and spill response; and
 - e) provide recommendations, a conclusion and a reference site layout plan.
5. A rainwater management plan prepared by a Professional Engineer may be required to ensure that the discharge of any treated effluent and rainwater does not negatively affect groundwater quality. The plan must include recommendations on how to minimize the risk of deleterious substances entering the groundwater.
 - a) Treated effluent and diverted rainwater collection and discharge systems on commercial, industrial, multi-residential, and other developments where there is potential for silt and petroleum-based contaminants to enter a watercourse or infiltrate into the ground must be directed through an appropriately sized and engineered sediment, oil, water and grease separator or other engineered solution. Examples of uses to which this guideline applies includes uses such as vehicle and machinery storage, cleaning and maintenance, and public parking areas.
 - b) The engineer must provide an appropriate maintenance schedule.
6. Development or subdivision of land should be designed to:
 - a) replicate the function of a naturally vegetated watershed;
 - b) not interfere with groundwater recharge;
 - c) maintain the hydraulic regime of surface and groundwater and pre-development flow rates which includes no net increase in peak rainwater run-off from the land to adjoining lands.
7. Where a proposed development is within a sub-area “risk of artesian conditions” as identified in the applicable official community plan:
 - a) the professional report shall determine the depth of the overlying till aquitard, and provide recommendations for its protection during excavation, well drilling, and construction; and
 - b) wells must be drilled by a registered well driller who is qualified to control artesian flow.
8. Where a proposed development is within the well protection area or well capture zone of a community water system, the professional report must refer to the relevant well protection

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plan and provide recommendations for the development to ensure mitigation of any potential risk to the community water source.

9. All development that proposes a site, facility, or premise where municipal solid waste or recyclable materials will be managed must be conducted in accordance with RDN Waste Stream Management Licensing Bylaw No. 1386, 2004 as amended or replaced from time to time.
10. Recommendations within the professional report(s) will form part of the development permit terms and conditions, and may include registration of a Section 219 covenant, prepared at the applicant's expense and to the satisfaction of the Regional District. Where a maintenance schedule for a sediment, oil, water and grease separator is recommended, a commitment to the maintenance schedule may be included in the covenant.
11. Developments that are found to pose detrimental impact(s) on either the quality or quantity of groundwater which cannot be adequately mitigated shall not be supported by the Regional District.