

## 2.0 Natural Environment Development Permit Guidelines “B”

### 2.1 Development Permit Guidelines “B”: Objectives & Application

The objectives of this Development Permit Area are to protect, manage and/or mitigate the following key environmental considerations:

- (a) **Sensitive Aquatic Ecosystems:** Environmental significance as habitat for fish and wildlife, their vital functions in natural storage and flood protection, their increasingly important role in reducing the effects of climate change, and their sensitivity to disturbance by development.
- (b) **Sensitive Terrestrial Ecosystems:** Environmental significance as habitat and corridors for wildlife, their contribution to local and regional biodiversity, and their sensitivity to disturbance by development.
- (c) **Groundwater, Aquifers and Watersheds:** Quality and quantity of water supply and flow.
- (d) **Marine Shoreline and Adjacent Coastal Waters:** Environmental significance for forage fish and other species; and their sensitivity to disturbance by development.

The Development Permit Guidelines “B” are associated with DPA-3 Natural Environment will be applied to:

- (a) **Watercourses:** Streams, wetlands, lakes and ponds – shown on Map 4 of the OCP or as determined by the Municipality of North Cowichan through on-site investigation.
  - (i) For all watercourses, DPA-3 applies to a 30.0 m strip of land on both sides of the watercourse, measured from the natural boundary; and
  - (ii) Within a ravine, requirements detailed in the provincial *Riparian Area Regulation* apply.
- (b) **Coastal Areas:** The development permit requirements apply to the 30.0 m horizontal distance upland from the present natural boundary and within the 30 m horizontal distance seaward of the present natural boundary.
- (c) **Terrestrial Habitat and Endangered Species Protection Areas:** Those areas shown on Map 4 of the OCP or as determined by the Municipality of North Cowichan or a qualified professional through on-site investigation; and which include those species listed under the federal *Species at Risk Act (SARA)* and provincially ranked species identified as red-listed or blue-listed by the Provincial Conservation Data Centre or by a qualified professional through on-site investigation
- (d) **Wildlife Trees:** As detailed in the provincial *Wildlife Act* (e.g. those with nests of eagles, herons, osprey, falcons or burrowing owl)
- (e) **Aquifer Protection Areas:** Those areas having a high vulnerability rating as shown on Map 5 of the OCP.

### 2.2 Development Permit Guidelines “B”: Exemptions

See Table 1: Development Permit Guidelines Exemption Criteria. (Page 150)

Also, an exemption from Development Permit requirements under this DPA may be granted if one or more of the following criteria apply:

- (a) Development activity which occurs outside of the environmentally sensitive area, and which appropriately protects and buffers any environmentally sensitive area on the property.
- (b) The development activity involves any of the following: fence-building, growing, rearing, producing or harvesting of agricultural products in accordance with recognized standards of the *Farm Practices Protection (Right to Farm) Act* or forest management activities on lands subject to the *Forest Act* or *Private Managed Forest Land Act*;

- (c) Emergency works or procedures required to prevent, control or reduce flooding, erosion or other immediate threats to life or property, including:
  - (i) emergency flood or erosion control works;
  - (ii) clearing of an obstruction from a bridge, culvert or drainage flow;
  - (iii) repairs to bridges or safety fences; and
  - (iv) cutting down of hazardous trees within the DPA that present an immediate danger to the safety of persons or will potentially damage public or private property, as determined by an arborist or similar professional.

*NOTE: Emergency actions by anyone other than municipal or provincial government staff must be reported immediately to the Municipality.*

- (d) Planting and maintenance of native (indigenous) trees, shrubs or groundcover for the purpose of restoring or enhancing habitat values and/or soil stability within the DPA, provided such planting is carried out in accordance with the guidelines or directions provided by the Municipality.
- (e) Works approved by the Municipality, Department of Fisheries and Oceans, or provincial Ministry of Environment, including the installation of public utilities, sewer and water lines, trail construction, stream enhancement, and fish and wildlife habitat restoration;
- (f) Construction of a trail within the DPA, as long as the following conditions are met:
  - (i) only one trail is built;
  - (ii) the trail is for personal, non-vehicular use only;
  - (iii) the trail is less than 1 m wide;
  - (iv) is constructed of a pervious surface (e.g. soil, gravel, mulch);
  - (v) no erosion is caused by the trail's construction or use;
  - (vi) no native trees will be removed;
  - (vii) the overall slope of the trail is less than 10% grade or, where portions are greater than 10% grade, the trail is designed to prevent erosion; and
  - (viii) movement of soil, fill or aggregates occurs within a corridor less than 2 m wide.
- (g) Subdivision of lands containing a portion of the DPA where all of the following apply:
  - (i) minimum lot areas required under the Zoning Bylaw have been achieved exclusive of the Development Permit area where lands are located within the UCB;
  - (ii) no development or development activities (e.g. construction, grading, clearing, trenching, installation of services) relating to the creation of lots or the provision of services for those lots will occur in the DPA; and
  - (iii) the DPA has been protected through dedication, conservation covenant or other provisions acceptable to the Approving Officer.
- (h) Residential development on a lot for which a Riparian Area Assessment or bio inventory report was prepared and the conditions met through the subdivision process, and for which a S.219 covenant to protect the riparian assessment area was registered on title;
- (i) Public works and services (such as construction, repair and maintenance) performed by the Municipality or its authorized agents and contractors, as long as these works and services meet or exceed the conditions of the following guidelines;

- (j) Gardening and yard maintenance activities within an existing landscaped areas, such as lawn mowing, minor pruning of trees and shrubs, planting of vegetation, and minor soil disturbance that does not alter the general contour of the land;
- (k) The removal of invasive plants or noxious weeds on a small scale (such as Scotch broom, Himalayan blackberry, morning glory and purple loosestrife), as long as such works are conducted in accordance with a vegetation management plan and sediment and erosion control plan and the area is replanted immediately (*note*: approval by the Municipality is required before any vegetation removal); and
- (l) Minor additions to existing buildings and structures to a maximum of 25% of the total floor area of the existing building or structure, as well as renovations, repairs or maintenance, as long as the proposed improvements do not result in the building or structure shifting closer to, or further impacting on, an environmentally sensitive feature.
- (m) Exemption for Aquifer Protection Only: development of buildings that house single-family or two-family dwelling units.

### **2.3 Development Permit Guidelines “B”: General Guidelines**

The following guidelines apply to all environmentally sensitive areas within the Development Permit Area (DPA-3 Natural Environment). To protect and maintain these important assets, no alteration of land, disturbance of vegetation, movement of soils or other disturbance of land, water or subdivision of land within the DPA may be undertaken without:

- (a) Development Permit issued under these guidelines; and
- (b) Strict compliance to the terms of such a Development Permit.

Development Permits will only be issued in this Development Permit Area subject to consideration of the following specific design practices. These guidelines should be carefully considered from conceptual design through to detailed design and refinement of a development proposal.

#### **2.3.1 Working Within the Development Permit Area**

- (a) Development within the Development Permit Area will generally be considered only where:
  - (i) historical subdivision or construction has occurred before the DPA was designated;
  - (ii) the DPA occupies so much of a pre-existing lot that it makes the lot undevelopable for the use permitted under its existing zoning;
  - (iii) because of topographic, natural hazard or other environmental constraints on the lot, there is no acceptable building site outside the DPA; and
  - (iv) all opportunities to relax other development requirements (such as setbacks, minimum lot size, parking) have been exhausted.
- (b) Encroachment into the DPA by all development activities must not exceed what is indicated in the site plan approved for the Development Permit. All development activities must avoid causing disturbance in the DPA beyond the building footprint. This may mean adjusting conventional practices with respect to locating machinery and stockpiles and using alternatives such as hand labour as opposed to machinery.
- (c) The onus lies with the applicant to demonstrate that encroaching into a DPA is necessary to establish a permitted use that might not ‘fit’ on the land outside of the DPA.

### 2.3.2 Environmentally Sensitive Protection Areas

Environmentally Sensitive Areas are deemed to be areas of significant ecological value and susceptible to disturbance, as determined by a Qualified Environmental Professional or other professional (see below).

- (a) All Environmentally Sensitive Areas must be maintained free of development and conserved in a natural vegetated state or remediated to return to a natural state (except as otherwise allowed under a Development Permit issued under these guidelines).
- (b) Development activity taking place outside an Environmentally Sensitive Area must make every effort through site design to avoid encroaching into the protected area and negatively affecting its natural features, functions and conditions.
- (c) **Prohibited Activities:** The following development activities are not permitted in a Protection Area unless there is proven hardship:
  - (i) construction of septic tanks, drainage and deposit fields;
  - (ii) irrigation or drainage improvements; and
  - (iii) installation of water systems.
- (d) **Relaxation of Other Land Use Regulations:** Varying or relaxing other bylaw requirements (e.g. by allowing variances to front, side and rear yard setbacks, building height or parking requirements) will be considered to facilitate safeguarding an Environmentally Sensitive Area, particularly where the relaxation can make possible the development of the remainder of the lot.
- (e) **Varying the Boundaries of Environmentally Sensitive Protection Areas:** Varying the boundaries of a Protection Area is generally not allowed and will only be considered where:
  - (i) the Protection Area occupies so much of the property as to render it undevelopable for the use for which the property is zoned;
  - (ii) because of topographic, natural hazard or other environmental constraints, there is little or no acceptable development site on the property outside the Protection Area;
  - (iii) by averaging the width of the Protection Area over a property, an equal or greater area of ecological value, acceptable to the Municipality, is provided;
  - (iv) in the case of the Watercourse Protection Development Permit Area: an assessment has been undertaken by a Qualified Environmental Professional in accordance with the Riparian Area Regulation, the assessment supports any proposed boundary change; and the Department of Fisheries and Oceans and the provincial Ministry of Environment agree that there will no harmful alteration or destruction of fish habitat;
  - (v) in the case of other environmentally sensitive areas, an assessment prepared by a Qualified Environmental Professional demonstrates to the satisfaction of the Municipality that the natural features, functions and conditions of the Protection Area will be preserved, protected and/or enhanced by the proposed development design.
- (f) **Buffer Areas:** Buffers must be established around the Protection Area in keeping with the following guidelines:
  - (i) Buffers must be wide enough to protect the ecological integrity of the resource.
  - (ii) Riparian buffers must consider the needs of all species, not just fish.
  - (iii) Light penetration into a buffer area must be minimized.
  - (iv) The long-term protection of buffer areas must be secured through dedication, donation, covenant or other legal mechanisms.
  - (v) Permanent barriers may be required to be installed to discourage access.

- (vi) Invasive plant species within the buffer must be removed and replaced with native species.
  - (vii) Buffer areas must be physically located on the ground by a B.C. Land Surveyor or Qualified Environmental Professional before any development, land alteration or vegetation removal occurs.
  - (viii) For developments not subject to subdivision, the limit of a Protection Area may be determined and flagged on-site in cooperation with the Municipality.
  - (ix) Temporary barrier fencing, to demarcate the area of no disturbance, must be installed along all buffer areas before any development activities begin.
  - (x) Permanent fencing may be required to be installed to demarcate the Protection Area over the long term. Where required, it must be designed to allow for free and uninterrupted movement of organisms between the Protection Area and upland ecosystems and must be maintained in good order.
  - (xi) Signage may be required to be installed. Where required, it must be in a clearly visible location a minimum of every 10 m, and at least one sign must be installed on each proposed lot adjacent to the Protection Area.
- (g) **Subdivision:** When land containing a Protection Area is to be subdivided all lots smaller than 1.0 ha (2.47 acres) within the Urban Containment Boundary must meet the minimum lot size and dimensions required under the Zoning Bylaw exclusive of the Protection Area.
- (h) **Dedication:** Where possible, Protection Areas should be dedicated for conservation purposes using one of these mechanisms:
- (i) reversion to the Province (a "Return to Crown");
  - (ii) dedication to the municipality where the land would be managed primarily to protect the environmental values;
  - (iii) dedication to a private land trust where the land is managed for conservation purposes;
  - (iv) registration of a section 219 (conservation) covenant in favour of the municipality, provincial agency, recognized stewardship group or land trust; or
  - (v) other suitable mechanism as determined by the Municipality.
- (i) **Sediment and Erosion Control:**
- (i) All development within this Development Permit Area (DPA-3 Natural Environment) must be undertaken and completed in such a manner as to prevent the release of sediment to any watercourse, storm sewer or over land.
  - (ii) An erosion and sediment control plan may be required as part of the Development Permit application and should include actions to be taken before land clearing and site preparation, and the proposed timing of development activities to reduce the risk of erosion.
  - (iii) Sediment containment and erosion control measures must be installed before any land development activity begins.
  - (iv) Development must be avoided on slopes greater than 20% because of the high risk of erosion and bank slippage.
  - (v) The standards for sediment and erosion control outlined in the *Land Development Guidelines for the Protection of Aquatic Habitat* (jointly published by BC Ministry of

Environment and Department of Fisheries and Oceans) must be adhered to.

- (j) **Monitoring:** The Municipality may require a qualified environmental professional to monitor and ensure that implementation of environmental mitigation, restoration or enhancement measures approved under a Development Permit are being done.
- (k) **Unauthorized Development Activity in a Protection Area or Development Permit Area:** Where land alteration has occurred within any Protection Area or Development Permit Area without prior Municipality approval, the Municipality will require:
- (i) an environmental impact assessment report to be completed by a Qualified Environmental Professional to identify mitigation and restoration requirements;
  - (ii) the owner to apply for a Development Permit and to meet the conditions established to mitigate and restore the environmentally sensitive area; and
  - (iii) the owner to post a financial security in an amount that is equal to the amount required to pay for:
    - the cost of rehabilitating and/or restoring an environmentally sensitive area;
    - the cost of repairing damage caused by construction or site disturbance; and
    - the cost of restoring fish habitat.
- (l) **Performance Bonding:** The Municipality may require the applicant to submit an estimate, prepared by a qualified professional and accepted by the Municipality, of the total cost to rehabilitate and/or restore the environmentally sensitive area and to ensure the conditions of the permit and these DP guidelines are met. Financial security, based on the cost estimate approach outlined above, must be provided to the Municipality before any approval for construction, land alteration or vegetation removal will be issued. For example, security may be required, and applied against, erosion control works, site grading, phased clearing, barrier fence installation, habitat restoration works, post-development success of revegetation and restoration works, or any other requirements of a Development Permit.

### 2.3.3 Best Management Practices

Development design must reflect the objectives and guidelines of “Best Management Practices” outlined in the following documents and others that may be developed, updated and or amended from time to time. As stated in the preamble of this document, there are numerous references to documents, guidelines, plans and strategies developed and administered by other government agencies and organizations throughout this document. While these documents are relevant and useful as of the date of adoption of this document, it is always advisable to confirm with Municipal Planning staff that specific documents and information remains up-to-date and supported by the Municipality.

- (a) *Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia*
- (b) *Best Management Practices for Amphibians and Reptiles in Urban and Rural Environments in British Columbia*
- (c) *Instream Flow Guidelines for British Columbia*
- (d) *Standards and Best Management Practices for Instream Works*
- (e) *Riparian Area Regulation Assessment Methods*
- (f) *Best Management Practices for Lakeshore Stabilization*
- (g) *Stream Stewardship: A Guide for Planners and Developers*
- (h) *Access Near Aquatic Areas: A Guide to Sensitive Planning, Design and Management*
- (i) *Stormwater Planning: A Guidebook for British Columbia*
- (j) *Community Green Ways Linking Communities to Country and People to Nature*
- (k) *Guidelines to protect fish and fish habitat from treated wood used in aquatic environments in the Pacific Region*

- (l) *Land Development Guidelines for the Protection of Aquatic Habitat*
- (m) *Living by Water*
- (n) *Marina Development Guidelines for the Protection of Fish and Fish Habitat*
- (o) *Riparian Revegetation*
- (p) *The Shore Primer – A Cottagers Guide to a Healthy Waterfront; and*
- (q) *Other Fisheries and Oceans best practices materials for docks, wharves and retaining structures or other waterfront development.*

#### **2.3.4 Vegetation Management, Restoration and Enhancement**

- (a) Existing, native vegetation must be retained wherever possible to minimize disruption to habitat and to protect against erosion and slope failure.
- (b) To ensure their long-term health, existing trees and shrubs that are retained must be clearly marked before development, and temporary fencing must be installed at the drip line (at a minimum) to protect the trees during clearing, grading and other development activities.
- (c) If the area has been previously cleared of native vegetation, or is cleared during the process of development, replanting must be done in keeping with these guidelines or with requirements specified in the Development Permit. Areas of undisturbed bedrock exposed at the surface or natural sparsely vegetated areas shall not require planting.
- (d) Where existing trees and vegetation are retained, the following actions are allowed:
  - (i) pruning or removing of hazardous trees (as determined by an arborist), but leaving wildlife trees and snags (dead, upright trees, or stumps) wherever safe;
  - (ii) pruning of undergrowth within 1 m of existing or proposed public trails to avoid injury to users; and
  - (iii) supplementing existing vegetation with planted stock as needed to landscape bare or thin areas, following specifications noted below.
- (e) Invasive plants (e.g. blackberry, Scotch broom, English ivy) and noxious weeds may be required to be removed from the lands and areas replanted in keeping with these guidelines.
- (f) Plant species selected for replanting, restoration or enhancement should: suit the soil, light and groundwater conditions of the site; be native to the district; and be suitable for erosion control and, as needed, for fish and habitat wildlife habitat.
- (g) Replanting requirements will be set out in plans developed as part of the Development Permit application and approved by the Municipality, or will be expected to meet the guidelines provided by the Municipality and will form part of the Development Permit.
- (h) All replanting must be maintained by the property owner for a minimum of two years from the date of completion of the planting. This may require removal of invasive plants and maintenance of irrigation systems. Unhealthy, dying or dead stock will be replaced at the owner's expense within that time in the next regular planting season.

#### **2.3.5 Rainwater Management Strategies**

- (a) Rainwater management systems should be designed in accordance with the following principles:
  - (i) Development practices shall not increase nutrient inputs to waterways beyond natural levels.
  - (ii) Development must not increase or decrease the amount and quality of surface and groundwater.
- (b) Rainwater management systems should be designed with reference to the provincial Ministry of

Environment's document *Stormwater Planning: A Guidebook for British Columbia*, and should consider the following guidelines:

- (i) Manage rainwater on site so that post-development rainwater flow levels from the site are equal to pre-development levels.
- (ii) Use rain gardens, vegetated swales, reduced impervious surfaces, increased soil depths and other technologies for managing rainwater on site.
- (iii) Install features for controlling erosion and rainwater quality and quantity to the Municipality's satisfaction, to minimize impacts of outflow on slope stability, fish habitat and downstream impacts.
- (iv) Make provision, and undertake works, to provide for the disposal of surface run-off and stormwater flowing over the land which may stem from later development. Such works must divert drainage away from areas subject to sloughing.

## **2.4 Development Permit Guidelines "B": Specific Guidelines**

Development Permits will only be issued in this Development Permit Area (DPA-3 Natural Environment) subject to consideration of the following specific design practices. These guidelines should be carefully considered from conceptual design through to detailed design and refinement of a development proposal.

### **2.4.1 Watercourse Protection Areas**

The layout and design of development proposed within DPA-3 (a. Stream and Watercourses), or any associated Environmentally Sensitive Protection Areas as defined in section 2.3.2, must strive to:

- (a) preserve and protect sensitive riparian and aquatic ecosystems;
- (b) preserve and protect water quality within aquatic ecosystems;
- (c) ensure riparian and watercourse protection areas remain large enough to protect habitat, prevent flooding, control erosion, reduce sedimentation and recharge groundwater.
- (d) connect environmentally sensitive areas by retaining wildlife corridors wherever possible;
- (e) design development layout to allow flooding, streambank erosion and other natural processes to continue unimpeded;
- (f) protect the ecological values of riparian areas and watercourses during and after development;
- (g) restore degraded ecosystems where possible;
- (h) ensure that all planning and development in the DPA occurs according to the requirements of the Riparian Area Regulation and other environmental protection regulations;
- (i) maintain hydrologic regimes, including not dyking or damming inflow and outflow streams; and
- (j) maintain normal wetland and water processes such as flooding, seasonal drawdown and groundwater recharge.

### **2.4.2 Terrestrial Habitat and Endangered Species Protection Areas**

Habitat Protection Area boundaries should be located, with the assistance of a professional environmental professional, to maximize the inclusion within them of one or more of their natural features, functions or conditions. The layout and design of development proposed within DPA-3 (b. Environmentally Sensitive Areas), or any associated Environmentally Sensitive Protection Areas as defined in section 2.3.2, must strive to:

- (a) develop away from the most pristine and least disturbed habitat areas;



- (b) ensure development results in no net loss to environmentally sensitive terrestrial ecosystems;
- (c) protect endangered Douglas-fir forests and the critical habitat contained in them from disturbance;
- (d) protect endangered Garry oak meadow ecosystems, including their spring wildflowers, grasses, mosses, shrubs, lichens and fungi, as well as the variety of animal and insect species that thrive in this unique environment;
- (e) maintain connectivity and linkages between sensitive ecosystems and habitat areas, and minimize fragmentation within one property and among adjacent properties;
- (f) favour maintaining fewer larger undisturbed areas rather than many small but isolated areas;
- (g) maintain and establish more complex areas of habitat that contain a variety of plant species, ages and multi-storey vegetation;
- (h) protect and enhance biodiversity within terrestrial ecosystems;
- (i) design habitat areas without creating barriers to wildlife passage (e.g. walls, solid fences, roads);
- (j) protect the ecological values of terrestrial areas during and after development; and
- (k) restore degraded ecosystems where possible.

### **2.4.3 Shoreline Protection Areas**

- (a) Development in a Shoreline Protection Area is restricted generally only to those uses necessitating shoreline access, and then only with appropriate environmental assessment and mitigation measures.
- (b) The layout and design of development proposed within DPA-3 (c. Marine Riparian Areas), or any associated Environmentally Sensitive Protection Areas as defined in section 2.3.2, must strive to:
  - (i) minimize erosion, retain wildlife habitat and maintain water quality, slope stability and natural vegetation along shorelines;
  - (ii) avoid areas with poor slope stability and locate foreshore accesses/structures sensitively;
  - (iii) maintain existing marine habitat (e.g. eelgrass beds, shell fish beds) in their natural state to protect the resource;
  - (iv) establish water views selectively by pruning branches of shoreline trees instead of topping or removing healthy trees; and
  - (v) maintain public access.
- (c) Installation of hard structural shore protection measures (e.g. riprap structures, lock block walls, concrete walls) to address shoreline erosion is strongly discouraged. The use of non-structural options is preferred, such as using bio-engineering techniques, locating new buildings/structures farther from the shoreline, or installing on-site drainage improvements are preferred.
- (d) Before any shore protection measure is taken, an appropriate qualified coastal professional must provide conclusive evidence that the development structure is at risk from shoreline erosion caused by tidal action, currents, or waves. Evidence of normal sloughing, erosion of steep bluffs or shoreline erosion itself without a scientific or geotechnical analysis is not a sufficient demonstration of need. Confirmation is required that the erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.
- (e) All shore protection measures must be designed by an appropriate qualified coastal professional.
- (f) Shore protection measures that could cause erosion or other physical damage to adjacent or down-current properties or that impedes public access are not supported.
- (g) The size of any shore protection device must be limited to the minimum size necessary.

- (h) All structural shore protection measures should be installed within the property line or upland of the natural boundary, whichever is farther inland.
- (i) Backfilling to extend the existing top of bank is not permitted unless it can be clearly demonstrated that the fill is necessary to prevent further erosion or sloughing of the bank that would potentially endanger existing buildings/structures.
- (j) A geotechnical assessment of the site and shoreline characteristics may be required to establish safe setbacks from the top of bank and to identify measures to ensure safe building site areas or usable lots. Such assessment must consider rising sea levels. [See also DPA 4 – Hazard Lands, Sea Level Rise]
- (k) Where a Shoreline Protection Area includes native plant species or plant communities that are identified as sensitive, rare, threatened or endangered, or have been identified by a Qualified Environmental Professional as worthy of particular protection, their habitat areas must be left undisturbed. If disturbance cannot be entirely avoided, development and mitigation/compensation measures must be undertaken under the supervision of the Qualified Environmental Professional and may require additional advice from applicable senior governmental agencies.

#### **2.4.4 Nest Tree Protection Areas**

All nest trees are protected under the provincial *Wildlife Act*. Therefore, notifying the Municipality of these nest trees before and during construction and adhering to these guidelines will protect an applicant, landowner or developer from potential prosecution under the *Wildlife Act* and or under this bylaw.

- (a) The layout and design of development proposed within a DPA-3 (b. Environmentally Sensitive Areas), or any associated Environmentally Sensitive Protection Areas as defined in section 2.3.2, should ensure that buffer areas are established based on the Ministry of Environment's best practices, as detailed in *Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia*, and strive to:
  - (i) identify: areas to be maintained free of development and in a naturally vegetated state; areas of no disturbance and with noise control during the breeding season (usually January 30 to June 30), including areas around a nest tree in which no blasting should occur during the breeding season;
  - (ii) retain wildlife trees (including fallen trees and snags, trees with cavities), leaf litter, fallen debris and natural vegetation; and
  - (iii) locate artificial snags to help improve habitat.

#### **2.4.5 Aquifer Protection Areas**

- (a) Developments found to have the potential to pose detrimental impacts on either the quality or quantity of groundwater will not be supported.
- (b) The use or disposal of substances or contaminants that may be harmful to area aquifers is prohibited and, wherever practical, steps must be taken to ensure the proper disposal of such contaminants.
- (c) Where the possibility of a development impacting an aquifer exists, the applicant must submit to the Municipality a report from a registered professional that includes:
  - (i) an assessment of the characteristics of the aquifer and its ability to accommodate the additional groundwater demand proposed by the development, including an assessment of the anticipated demand given the development potential of the subject property based on its current zoning, and given potential impacts on adjacent properties;
  - (ii) a statement backed by a professional assessment that the proposed development will not

- have a negative impact on the aquifer; and
  - (iii) recommendations of measures required to ensure the aquifer is protected.
- (d) The layout and design of development proposed within DPA-3 (d. Aquifer Protection), or any associated Environmentally Sensitive Areas as defined in section 2.3.2, must strive to:
- (i) ensure that drainage from all impervious surfaces and areas where vehicles are parked is directed through an appropriately sized and engineered sedimentation, soil, water and grease separator, or is managed with another engineered solution;
    - The engineer must provide an appropriate maintenance schedule.
    - A section 219 covenant may be required to be registered on the title of the land, outlining the maintenance schedule and a commitment to maintain the sedimentation, oil, water and grease separator in keeping with the engineer's recommendations.
  - (ii) make provision for grease, oil, and sedimentation removal facilities and the ongoing maintenance of these facilities to handle treated effluent and diverted rainwater collection and discharge systems on development sites (commercial, industrial, multi-residential and others) where there is potential for silt and petroleum-based contaminants to enter a watercourse or infiltrate into the ground; and
  - (iii) use permeable paving and other methods to reduce rainwater run-off.