SCHEDULE C
DEVELOPMENT PERMIT AREAS

CVRD Bylaw No. 4270

Cowichan Valley Regional District Official Community Plan for the Electoral Areas, 2021

Amended up to and including Bylaw No. 4484

CONSOLIDATED FOR CONVENIENCE ONLY

Please check with the Land Use Services Department (250.746.2620) for current information on this Bylaw

The amendment bylaw(s) listed below have been incorporated into enactment Bylaw No. 4270 for convenience purposes only. Persons making use of the consolidated version of Bylaw No. 4270 are advised that it is not a legal document and that for the purpose of interpreting and applying the law, the original bylaw(s) must be consulted. Certified copies of original bylaws are available through the Corporate Officer's office.

AMENDING BYLAWS

NOTE: CVRD Land Use Services Department staff have made every effort to provide the most up-to-date version of this consolidated bylaw and the associated maps. Nevertheless, this document may be somewhat out of date, particularly if there are amendments underway. Persons using this consolidated bylaw text and the maps should not rely on them for legal purposes or to make important decisions.

4424	Development Permit Area Amendment	**adopted 11 October 2023**
4484	Official Community Plan Amendment	**adopted 11 October 2023**

COWICHAN VALLEY REGIONAL DISTRICT

SCHEDULE C
DEVELOPMENT PERMIT AREAS

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INTRODUCTION

B.C.'s *Local Government Act* provides local governments with a special tool – the development permit – for managing development on a site-specific basis where the characteristics and/or context of the development site call for more finely-tuned development standards than are contained in the applicable zoning bylaw.

If your property is situated within a development permit area (DPA), any alteration or improvement to the land (by subdivision, clearing or construction, for example), you may first need to apply to the Regional District for a development permit. The permit authorizes you to proceed and sets out any conditions for development to satisfy community standards for safety, environmental protection and appearance. Also note: a development permit is not a building permit; if you are planning construction, you will also need a building permit.

Image 1: Plans to alter land or build on it are expected to satisfy community standards.

Depending on their specific purpose, some DPAs encompass the entire regional district, while others only a part of it. Still other development permit areas overlap. You can tell which DPAs pertain to your property by looking at the maps that accompany the individual DPA descriptions and guidelines.

Development permit guidelines further support compliance with a variety of regional district, provincial and federal government policies, laws, regulations and best management practices.

Authority for DPA Designation

The legislative authority for designation of development permit areas resides in sections 488 to 491 of the *Local Government Act*, which describe the various purposes for which local governments may create development permit areas, the types of activity requiring a development permit, and the range of requirements local governments may impose on applicants for different kinds of development permits.

Activities Affected and Applicability of Multiple DPAs

Once a local government has designated a development permit area, an owner of land in the area is prohibited (under section 489) from taking certain actions without either a development permit or an exemption under section 488(4). These prohibitions include

a. subdividing land;
b. starting construction of, addition to or alteration of a building or other structure;
c. altering land in any development permit area designated under section 488(1)(a) or (b) (protection of the natural environment, protection of development from hazardous conditions); or
d. altering land, a building or other structure in a development permit area designated under section 488(1)(d), (h), (i) or (j) (revitalization, energy conservation, water conservation, greenhouse gas reduction).

GG1. Where land lies within more than one development permit area, all the applicable permit requirements must be met for the part of the land lying within the applicable DPA.

Permit Exemptions

Section 488(4) of the *Local Government Act* provides that an official community plan or zoning bylaw may specify conditions under which a development permit would not be required in a designated development permit area. A list of exemptions for each development permit area is contained in CVRD Bylaw No. 4485 - Zoning Bylaw for the Electoral Areas (Development Permit Exemptions and Guidelines), 2023. Some apply to specific activities; others apply to local areas within the development permit area.

Information Requirements

Under section 485(1) of the *Local Government Act*, a local government may specify circumstances under which certain information is required prior to approval of a development permit application and may designate areas in which such information is required.

The level of assessment required depends on the type of development permit area, the size of a proposed development, and its potential impact on the community and the environment. The greater the potential risk, the more rigorous the information requirement.

CVRD's Bylaw No. 3540 (A Bylaw to Establish Development Approval Information Requirements and Procedures) sets out the type of information an applicant for a development permit may be required to provide as well as what type of appropriate professional may be required by the approving officer to prepare the report. Where applicable, a development permit area in this OCP may provide further guidance on specific application requirements.

How to Understand the Development Permit Area Designations and Justifications

Each DPA is formatted for ease of use, according to the following outline:

- ***Development Permit Area*** describes the development permit area by means of a reference to a map.

- ***Basis for Designation*** refers to the applicable subsection of s. 488 (1) of the *Local Government Act*.

- ***Justification for Designation*** describes special conditions or objectives that justify requiring a development permit in addition to other development approvals, including subdivision approvals and building permits. This section includes references to any relevant technical studies supporting "natural environment" or "hazard lands" designations.

Within this document, individual development permit area pages will feature colour-coded headers that correspond with the colours used to shade individual DPAs on their associated maps.

List of Development Permit Areas

The CVRD Official Community Plan for the Electoral Areas (OCP) designates and maps 13 development permit areas in the regional district. These DPAs are listed below, followed by Designations and Justifications for each. DPA Guidelines and Exemptions are contained in CVRD Bylaw No. 4485 - Zoning Bylaw for the Electoral Areas (Development Permit Exemptions and Guidelines), 2023.

Part 5 Energy, Water, Greenhouse Gas Emissions

Abbreviations

ALC	Agricultural Land Commission
ALR	Agricultural Land Reserve
ASTM	American Society for Testing and Materials
CEEI	Community Energy Emissions Inventory
CWPP	Community Wildfire Protection Plan
DPA	development permit area
QEP	qualified environmental professional
SEI	Sensitive Ecosystem Inventory
SPEA	streamside protection and enhancement area (riparian areas protection regulation)

DPA Wayfinding Colour Keys

DPA #1
Riparian Area Protection

DPA #2
Environmentally Sensitive Areas Protection

DPA #3
Marine Shore Protection

DPA #4
Aquifer Protection

DPA #5
Wildfire Protection

DPA #6
Flood Protection

DPA #7
Slope Stability

DPA #8
Protection of Farming

DPA #9
Intensive Residential Form and Character

DPA #10
Multi-Family Form and Character

DPA #11
Commercial Mixed-Use Form and Character

DPA #12
Industrial Form and Character

DPA #13
Energy Water Conservation Reduction GHG Emission

Definitions

These definitions apply to the development permit areas only.

Aquifer means an underground water body present in the interstices of the materials in the ground overlain by either permeable gravel or an impervious material, such as clay. The water level of the aquifer rises and falls in response to water removal and infiltration and flows to other aquifers**.**

Board means the board of directors of the Cowichan Valley Regional District.

Buffer area means an area of land that separates and protects two land uses. Examples include treed areas between commercial parcels and residences, and vegetated areas between riparian areas and nearby development.

Development means any activity referred to in section 489 of the *Local Government Act* and includes alteration or development of land for residential, commercial, industrial, institutional, service or utility uses or activities, to the extent that these uses or activities are subject to local government powers under the *Local Government Act* and without limitation includes the alteration or removal of vegetation and the deposit or removal of soil materials.

Activities that require a development permit:
489 If an official community plan designates areas under section 488 (1), the following prohibitions apply unless an exemption under section 488 (4) applies or the owner first obtains a development permit under this division:

(a) land within the area must not be subdivided;
(b) construction of, addition to or alteration of a building or other structure must not be started;
(c) land within an area designated under section 488 (1) (a) or (b) *[natural environment, hazardous conditions]* must not be altered;
(d) land within an area designated under section 488 (1) (d), (h), (i) or (j) *[revitalization, energy conservation, water conservation, greenhouse gas reduction]*, or a building or other structure on that land, must not be altered.

Emergency works means emergency actions taken to prevent flooding, erosion or other immediate threats to life and property. Such emergency works may include clearing of an obstruction from a watercourse or culvert or repairs to a bridge, culvert or drainage flow and the removal of tree(s) that present an immediate danger to public property or existing structures.

Environmentally sensitive area is an area that contains sensitive or rare ecosystems, or other environmentally sensitive values. Often used as a synonym for Sensitive Ecosystems (see below).

Environmentally significant area means a natural area with special features, habitat and ecological value, such as bald eagle nesting sites and Garry oak ecosystems.

Fish means all life stages of salmonids, game fish and regionally significant fish.

Fish-bearing watercourse means a watercourse in which fish are present or potentially present if introduced barriers or obstructions are either removed or made passable for fish.

Floodplain means a relatively flat, low-lying area adjacent to a watercourse, with a potential to flood when water levels are high.

Foreshore means the strip of land that lies between the maximum high and low tide lines and that is alternately wet and dry, according to the flow of the tide.

Green roof means a roof partially or completely covered with vegetation planted in a growing medium over a waterproof membrane.

Green Shores means a voluntary, incentive-based rating program focused on positive steps to reduce the impact of development on shoreline ecosystems, as outlined by the Stewardship Centre for British Columbia.

Groundwater means water found underground in the cracks and spaces in soil, sand and rock. It is stored in and moves through geologic formations of soil, sand and rocks called aquifers.

Highway includes a public street, path, walkway, trail, lane, bridge, road, thoroughfare and any other public way (from *Land Title Act*, [RSBC 1996] Chapter 250, Part 1 – Definitions, Interpretations and Application, s. 1).

A road or highway is a public street, path, walkway, trail, lane, bridge, road, thoroughfare and any other public way as per the *Land Titles Act*. Constructed and gazetted roads may not be formally dedicated with LTSA, may not be located in the centreline of a formally dedicated road right of way, and may not be located within a formally dedicated road right of way, therefore road centrelines cannot be assumed to represent the centreline of a road right of way.

Impervious surfaces mean hard surfaces that do not permit water to flow through to the ground beneath.

Invasive plant species means plants that are not native to the area, or are outside of their natural distribution, and are identified on the “priority invasive plant list” established by the Coastal Invasive Species Committee and Invasive Species Council of BC.

Natural features, functions and conditions include but are not limited to the following:

a. large organic debris that falls into the stream or streamside area, including logs, snags and root wads;
b. areas for channel migration, including active floodplains;
c. side channels, intermittent streams, seasonally wetted contiguous areas and floodplains;
d. the multi-canopied forest and ground cover adjacent to streams that
    i. moderates water temperatures;
    ii. provides a source of food, nutrients and organic matter to streams;
    iii. establishes root matrices that stabilize soils and stream banks, thereby minimizing erosion; and
    iv. buffers streams from sedimentation and pollution in surface runoff;
e. a natural source of stream bed substrates; and
f. permeable surfaces that permit infiltration to moderate water volume, timing and velocity and maintain sustained water flows in streams, especially during low flow periods.

No net loss is a working principle by which the Cowichan Valley Regional District strives to balance unavoidable habitat losses with habitat replacement on a project-by-project basis so that further reductions to natural resources (e.g. fisheries) due to habitat loss or damage may be prevented.

Non-fish-bearing watercourse means a watercourse that (a) is not inhabited by fish and (b) provides water, food and nutrients to a downstream fish-bearing stream or other water body.

Non-permanent watercourse means a watercourse that typically contains surface waters or flows for periods less than six months in duration.

Permanent watercourse means a watercourse that typically contains continuous surface waters or flows for a period more than six months in duration.

Qualified environmental professional (QEP) means an applied scientist or technologist, acting alone or together with another qualified environmental professional, if

a. the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, acting under that association's code of ethics and subject to disciplinary action by that association; and
b. the individual's area of expertise is recognized in the assessment methods as one that is acceptable for the purpose of providing all or part of an assessment report in respect of that development proposal, and the individual is acting within that individual's area.

Regional District means the Cowichan Valley Regional District governing body; **regional district** refers to the CVRD's geographical area.

Riparian area means an area adjacent to a watercourse that links aquatic to terrestrial ecosystems and includes both the riparian area vegetation and the adjacent upland vegetation that exerts an influence on the watercourse, the width of which includes the area up to 30 m from each edge of a bank of a watercourse.

Riparian assessment area means:

a. for a steam, the 30 m strip on both sides of the stream, measured from the high-water mark;
b. for a ravine less than 60 m wide, a strip on both sides of the stream measured from the high-water mark to a point that is 30 m beyond the top of the ravine bank; and
c. for a ravine 60 m wide or greater, a strip on both sides of the stream measured from the high-water mark to a point that is 10 m beyond the top of the ravine bank.

Road Right of Way refers to the depiction of a formally dedicated road in Parcel Map BC (PMBC) by the Land Title Survey Authority (LTSA), where "formally dedicated" refers to the vesting of title for the purposes of road. In instances where a road has been legally established, but steps have not been taken to reflect the establishment in land title records, the road is not considered "formally dedicated". As per the LTSA, roads are formally dedicated via their depiction as highway, road, or lane on a subdivision or reference plan, submitted under s. 107 of the *Land Title Act*; or roads are formally dedicated under s. 115 of the *Land Title Act* via the submission of a Form 12 (Certificate as to Highway in Statutory Right of Way Plan) and related Statutory Right of Way plan.

Sensitive ecosystem means an ecosystem in the landscape that is at-risk or ecologically fragile.

Sensitive Ecosystem Inventory (SEI): the standardized method by which sensitive ecosystems are mapped and described. The scale of mapping can be variable, ranging from 1:1 000 to 1:20 000. SEI mapping coverage in the CVRD is only available in some areas.

Shoreline means the normal high-water mark of tidal waters, a coastal or inland wetland, a standing body of water or flowing water.

Stormwater means the water that drains off or into the land following rainstorm or snowfall.

Stream includes any of the following that provides fish habitat:

a. a watercourse, whether it usually contains water or not;
b. a pond, lake, river, creek or brook;
c. a ditch, spring or wetland that is connected by surface flow to something referred to in paragraph (a) or (b) of the Riparian Areas Protection Regulation.

Streamside Protection and Enhancement Area is the portion of the riparian assessment area for the stream that

a. includes the land, adjacent to the stream boundary, that
    i. links aquatic to terrestrial ecosystems;
    ii. is capable of supporting streamside vegetation; and
    iii. in the case of a simple assessment, extends far enough upland from the stream that development outside the streamside protection and enhancement area will not result in any harmful alteration, disruption or destruction of natural features, functions and conditions in the area referred to in paragraph (a) that support the life processes of protected fish.

Without limiting subsection (1) (a) (ii), an area of human disturbance must be considered capable of supporting streamside vegetation if the area would be capable of supporting streamside vegetation were the area in a natural condition.

Sustainability means development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability involves integrating social, economic and environmental considerations.

Watercourse means a creek, pond, lake, river, stream or brook, whether usually containing water or not, and any spring or wetland that is integral to a watercourse.

Wetland means land that is inundated or saturated by surface or ground water at a frequency and duration that are sufficient to support and under normal conditions do support vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, estuaries and similar areas that are not part of the active floodplain of a watercourse.

Wetland ecosystem means an ecosystem described as such in the Sensitive Ecosystems Inventory.

Wildlife corridor means an area of habitat connecting wildlife populations separated by human activities or structures (such as roads, development or logging), providing animals with

an opportunity to move freely between two or more habitat patches or habitat types in an otherwise fragmented landscape.

1 PROTECTION OF THE NATURAL ENVIRONMENT

The health of ecological systems underpins the economic, recreational and cultural well-being of the CVRD. Simply put, nature in the Cowichan Valley is too valuable an asset to risk losing. Resilience is a primary focus of the Cowichan Valley Regional District OCP, and protection of our natural environment is a top priority.

For context, and as reported by the Cowichan Valley 2010 *State of the Environment Report*, the human footprint—including development and logging—now covers more than 75% of our land base, affecting its ability to supply and maintain basic ecological values and services. Poorly managed human activity leads to significant impacts that include:

- a steady increase in invasive plant and animal species that compromise native ecosystems;
- erosion and sedimentation of wetlands and waterways;
- point-source and non-point-source pollution from stormwater runoff (including heavy metals, fuel, disintegrating rubber and plastic), poorly maintained septic systems and dispersal of fertilizers, manure, pesticides and even backyard herbicides; and
- destruction of habitat and disruption of wildlife corridors critical to the maintenance of stable populations.

Image 2: Marine mammals in the strait.

Image 3: Garry oak meadow in bloom.

Environmental development permit areas identify sensitive aquatic and terrestrial environments and set conditions by which development within these areas may be permitted. Typically, a report prepared by a qualified environmental professional (QEP) (such as a registered hydrogeologist or biologist) is required to assess potential impacts and/or risks and applicants are required to adhere to a set of guidelines accompanying issuance of the development permit.

Image 4: A heron fishes in the estuary.

Legislative Authority and Activities Affected

Section 488(1)(a) of the *Local Government Act* authorizes an official community plan to designate development permit areas for the protection of the natural environment, its ecosystems and biological diversity. This part of the development permit areas section of the OCP addresses the need for the protection of riparian areas, sensitive ecosystems, marine shores and aquifers.

Section 491 describes the scope permitted to environmental development permit area guidelines:

491 (1) For land within a development permit area designated under section 488 (1)
(a) *[protection of natural environment]*, a development permit may do one or more of the following:

a) specify areas of land that must remain free of development, except in accordance with any conditions contained in the permit;
b) require specified natural features or areas to be preserved, protected, restored or enhanced in accordance with the permit;
c) require natural water courses to be dedicated;
d) require works to be constructed to preserve, protect, restore or enhance natural water courses or other specified natural features of the environment;
e) require protection measures, including that vegetation or trees be planted or retained in order to
    (i) preserve, protect, restore or enhance fish habitat or riparian areas,
    (ii) control drainage, or
    (iii) control erosion or protect banks.

Unless an activity is exempted, section 489 of the *Local Government Act* requires local government approval of a development permit in an area designated for protection of the natural environment, its ecosystems and biological diversity before

- subdivision of land;
- commencement of construction of, addition to or alteration of a building or other structure; and
- alteration of land.

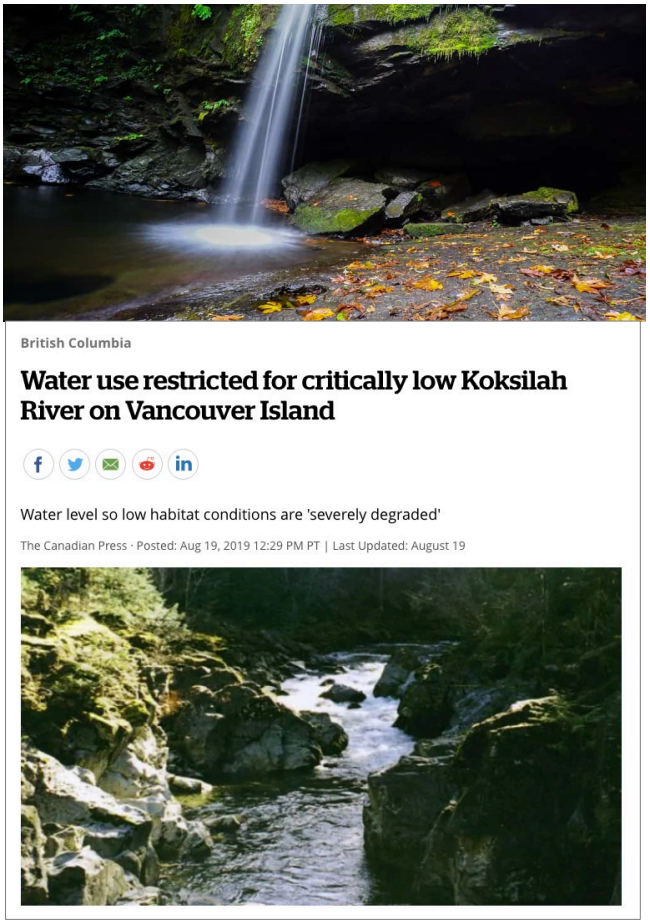
There are four development permit areas for Protection of the Natural Environment:

Development Permit Area 1 – Riparian Protection
Development Permit Area 2 – Environmentally Sensitive Areas Protection
Development Permit Area 3 – Marine Uplands and Foreshore Protection
Development Permit Area 4 – Aquifer Protection

Development Permit Area 1: Riparian Protection

Development Permit Area

Those parts of all nine electoral areas of the Cowichan Valley Regional District on Schedule U,UDPA1 Riparian Area Protection – Regional hatched pale green are designated as a development permit area in order to establish guidelines for the protection of riparian areas pursuant to section 488(1)(a) of the *Local Government Act*.


British Columbia

Water use restricted for critically low Koksilah River on Vancouver Island

Water level so low habitat conditions are 'severely degraded'

The Canadian Press · Posted: Aug 19, 2019 12:29 PM PT | Last Updated: August 19

Image 5: Water restrictions are common during the summer months.

Basis for Designation

The area included in the development permit area is the "riparian assessment area" as defined by the Riparian Areas Protection Regulation under the *Riparian Areas Protection Act*, and its width depends on the type of stream (refer to Figure 1-1).

Justification for Designation

The primary purpose of the Riparian Areas Protection Regulation is to protect riparian areas from development so that those areas can provide the natural features, functions and conditions that support fish life processes.

Streams and adjacent riparian areas act as natural storage, drainage and purification systems that help to maintain and improve water quality. Undisturbed riparian areas can help prevent flooding, control erosion, reduce sedimentation and recharge groundwater. They are also critical to a healthy aquatic environment, providing habitat, shelter, water, shade and food sources for a variety of fish and wildlife.

Riparian areas provide essential wildlife corridors for numerous species that depend on access to aquatic habitat. Wetlands, which are intricately connected with watercourses, form an integral component of riparian areas and provide similar ecosystem services, in addition to acting as water purification systems through their filtration function.

Many of the region's watercourses, including the Cowichan River, the Koksilah River, Stocking Creek and Porter Creek, are important salmon-spawning streams. Many of the watercourses and waterbodies in the region also provide, or have the potential to provide, drinking water sources for human communities. Waterbodies that currently provide drinking water for such communities include Cowichan Lake, Shawnigan Lake, Holland Lake and Stocking Lake.

The Riparian Areas Protection Regulation requires the CVRD to protect riparian areas from negative impacts of development such as loss of trees, sedimentation and the alteration of natural processes. Streams, as defined by the Riparian Areas Protection Regulation, may include everything from a seasonal creek to a lake as large as Cowichan Lake. The Riparian Areas Protection Regulation requires a local government to provide a level of protection that meets or exceeds the Riparian Areas Protection Regulation standards.

The objectives of designating a development permit area for the protection of riparian areas are to

- protect streams, their riparian areas and adjacent upland areas that exert an influence on streams from development; and,
- promote the restoration and enhancement of riparian areas to support biologically diverse wildlife habitat, corridors for wildlife movement, and the natural features, functions and conditions that support fish life processes.

g. lot line adjustments where subdivision does not result in the ability to construct a new dwelling unit.

Image 6: Salmon spawning in gravel bar.

Development Permit Area 2: Environmentally Sensitive Areas Protection

DPA 2 – Environmentally Sensitive Areas Protection designates the following areas a development permit area:

- all nine electoral areas of the Cowichan Valley Regional District identified within the report entitled *Environmentally Sensitive Areas (ESAs) Mapping in the Cowichan Region – Phase II* (Madrone Environmental Services, 2018), shaded orange on Schedule U, UDPA2 Environmentally Sensitive Areas Protection – Regional;
- those parts of area E as identified within the report entitled *Western Toad Winter Habitat Requirements in Modified Landscapes on Vancouver Island Summary* (Wind, 2018) for Wake Lake, symbolized with dark orange hatched lines on Schedule U, UDPA2 Environmentally Sensitive Areas Protection – Regional; and,
- those parts of area F identified in the Honeymoon Bay Property Environmental Overview Assessment prepared by ENKON Environmental Ltd. (2013), shaded brown on Schedule U, UDPA2 Environmentally Sensitive Areas Protection – Regional.

Basis for Designation

These areas are designated development permit areas in order to establish guidelines for protection of sensitive ecosystems pursuant to section 488(1)(a) of *the Local Government Act*.

Justification for Designation

Sensitive ecosystems provide important habitat for fish, birds and other wildlife. Maintaining the natural diversity of a region's ecosystems is vital to slowing or preventing species extirpations and extinctions and to maintaining natural resilience for the future. Undisturbed ecosystems are a form of natural capital for future economic well-being of the region and provide critical ecosystem services such as storage, drainage, purification of water and carbon sequestration.

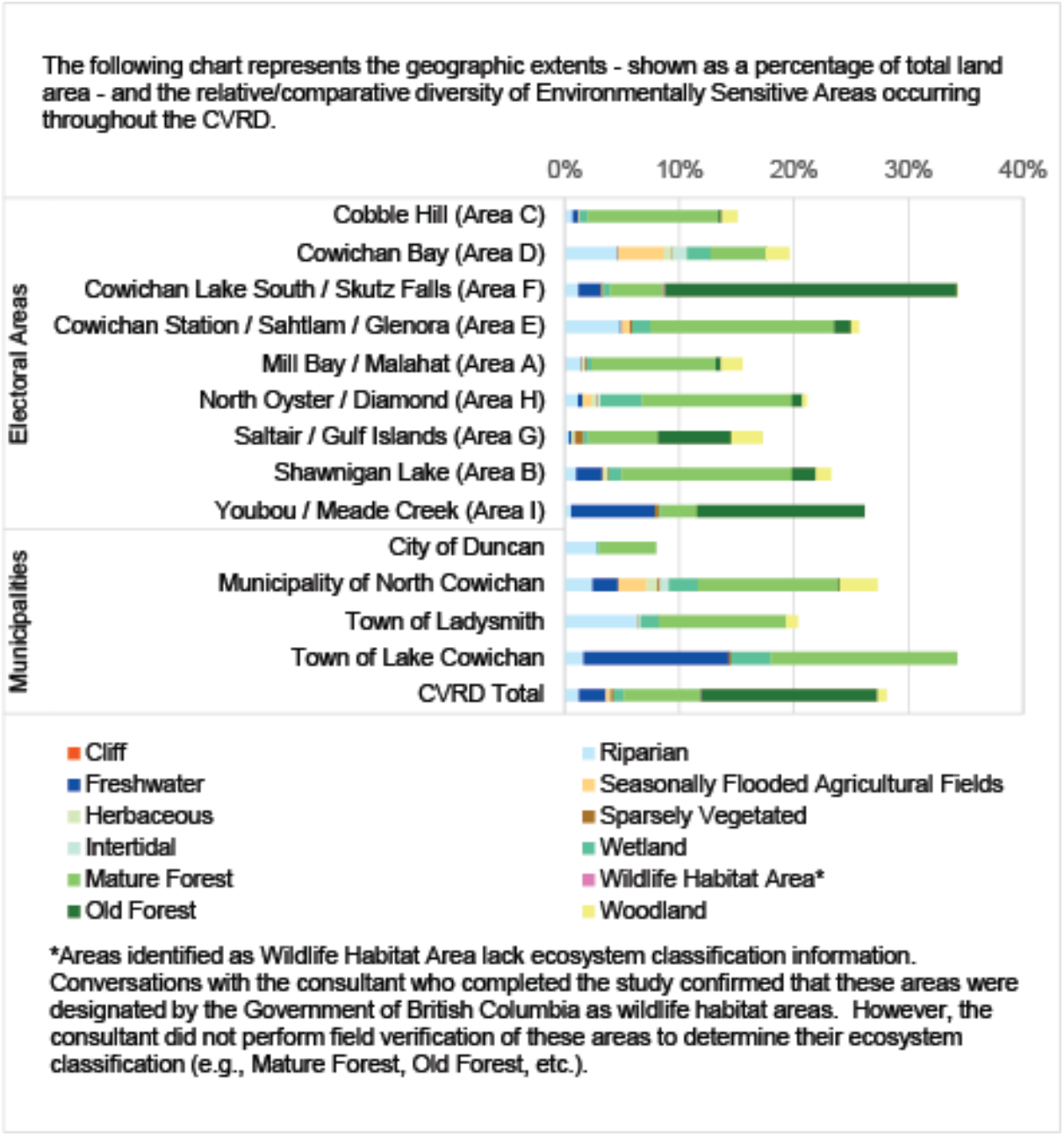


Figure 1-1: Environmentally sensitive areas (ESAs) by total land area in the CVRD.

Ecosystems in the CVRD with particularly high ecological values include the following:

- **Garry oak woodlands.** One of the most endangered ecosystems in Canada, Garry oak woodlands provide a home for a wide diversity of species, though some formerly found here have already disappeared—including the Western bluebird, Lewis's woodpecker, the acorn woodpecker and the streaked horned lark (efforts have recently been underway to attempt to re-introduce the Western bluebird to eastern Vancouver Island). Not surprisingly, Garry oak woodlands have long been one of the most favoured locations for development, the result of which losses to this type of ecosystem have been severe.

- **Estuaries.** Among shoreline ecosystems, estuaries have particularly high ecological value because of the rich mix of habitat types they contain. The Cowichan River estuary is among B.C.'s most ecologically valuable, and other smaller estuaries are locally valuable[1].
- **Wake Lake.** Wake Lake has been identified as an important breeding site for Western toad (*Anaxyrus boreas*), a species listed federally as *Special Concern*. Primary threats to this species include the loss of natural terrestrial habitats and aquatic breeding sites, and road mortality during annual migrations. A report entitled *Western Toad Winter Habitat Requirements in Modified Landscapes on Vancouver Island Summary* (Wind, 2018) identifies increased road density and traffic volumes as a serious threat to this population.

Image 7: The Cowichan Bay estuary is highly ecologically valuable... and vulnerable.

[1] CVRD, 2010 State of the Environment Report, p. 45

The focus of Development Permit Area 2 is sensitive terrestrial ecosystems, including Wake Lake.

The report entitled *Environmentally Sensitive Areas (ESAs) Mapping in the Cowichan Region – Phase II* (Madrone Environmental Services, 2018) covers a portion of the plan area and identifies rare and fragile terrestrial ecosystems that should be protected. The report includes the following categories of ecosystems: Cliff, Freshwater, Herbaceous, Intertidal, Mature Forest, Old Forest, Riparian, Seasonally Flooded Agricultural Fields, Sparsely Vegetated, Wetland and Woodland. These upland and aquatic ecosystems provide important breeding, overwintering, cover and foraging habitat for native wildlife, such as the Western toad. Native plants, wildlife and their habitat in sensitive ecosystems are particularly vulnerable to threats posed by invasive plant species.

A development permit area designation is required to ensure protection of these ecosystems from the gradual degradation of these rare areas by human activities and includes measures to protect these areas from land clearing, construction of buildings or roads, or other site alteration activities that have the potential to impair the ecological value of these areas.

The objective of designating a development permit area for the protection of sensitive ecosystems is to protect from development rare and fragile ecosystems identified in the SEI.

The Sensitive Ecosystems Inventory

The B.C. Sensitive Ecosystems Inventory (SEI) began as a joint initiative of the federal and provincial governments in 1993. Its purpose was to identify and map ecologically significant and relatively unmodified terrestrial ecosystems in order to support sustainable land use decisions and encourage wildlife conservation.

The *Sensitive Ecosystems Inventory: East Vancouver Island and Gulf Islands*, completed in 1997, focused primarily on the Coastal Douglas-fir biogeoclimatic zone, which is the smallest and rarest of B.C.'s 16 ecological zones and contains B.C.'s highest number of species and ecosystems at risk, many of them ranked globally as imperiled or critically imperiled. [CVRD 2014 State of the Environment update.]

Note: The Sensitive Ecosystems Inventory (SEI) is included in the Environmentally Sensitive Areas identified by Madrone 2018.

Development Permit Area 3: Marine Uplands and Foreshore Protection

Development Permit Area

Marine Uplands and Foreshore Protection refers to those areas of electoral areas A, C, D and G of the Cowichan Valley Regional District UDPA3 Marine Uplands and Foreshore Protection - Regional noted in pink and blue. This development permit area covers approximately 76 km of marine shoreline on the east coast of Vancouver Island along the waterfronts of Stuart Channel, Satellite Channel and Saanich Inlet including

a. upland areas extending 15 m inland from the high-water mark, upland areas extending 30 m inland from the high-water mark in area G and marinas and yacht clubs, shaded pink and outlined in dark pink;
b. Cowichan Village foreshore (hatched dark pink).

Basis for Designation

These areas are designated as development permit areas in order to establish guidelines for protection of the marine environment, pursuant to section 488(1)(a) of the *Local Government Act*.

Climate Change and the Foreshore

Projected impacts of climate change heighten the importance of ensuring careful development along shorelines. The Cowichan Region State of the Environment Report (CVRD, 2014) noted that the sea level has already risen except in areas being pushed upwards by geological processes and is expected to rise by at least one metre by the end of the century. Storm surges from windstorms and rainstorms will continue to become more frequent and intense.

Rising seas and increased storm activity will change the location of the shoreline and the nature of erosion and sedimentation patterns along shorelines. Development needs to take into account both current natural features and future patterns that may be hard to predict.

Justification for Designation

Development on land almost always affects the marine environment in ways that can have cumulative and significant impacts. Shoreline development can alter natural sedimentation processes, introduce pollution and modify the infiltration of sunlight to marine species.

Marine shorelines, including both the upland area above the high-water mark and the foreshore between the high- and low-water marks, provide many ecological services including slope and soil stability, sediment control, water purification, nutrient input and habitat. The shoreline and adjacent waters provide important habitat both for wildlife and for the forage fish on which commercially valuable fish species depend for prey. Eelgrass beds, for example, are vital for spawning and rearing a variety of fish species and are vulnerable to damage from sedimentation resulting from shoreline development. Shoreline riparian areas are also important to the health of marine ecosystems by absorbing runoff containing sediments and pollutants.

Forming the interface between terrestrial and marine environments, the shoreline is ecologically important to both. In addition to providing critical habitat for many marine and intertidal species, shorelines are important for key species such as forage fish (examples

include herring and lancefish) that provide a prey base for ecologically and commercially valuable marine species like Pacific salmon and, in turn, orca whales.

Parcels along the shoreline generally slope down to the ocean and may have complex topography. They can be on the receiving end of drainage and seepage, may have wetter soils and may be susceptible to instability. The cumulative impact of careless development of waterfront parcels, such as situating buildings close to the top of escarpment banks or clearing vegetation for views, may have a detrimental impact on habitat in addition to disrupting natural beach processes and detrimentally affecting other properties and marine habitat. Measures to stabilize one site can lead to instability of other nearby sites, as a result of wave and tidal actions combined with longshore drift energy. The demand for private boat docks and other overwater structures may also threaten the integrity of the foreshore and valued upland habitats.

One of the most vulnerable and ecologically valuable locations along the shoreline is the Cowichan River estuary, included in the SEI. In addition to acting as a globally significant flyway for migratory birds, the estuary provides important habitat for a broad variety of wildlife and fish species. Without proper mitigation, overwater structures such as piers, docks and floating homes can adversely affect estuarine habitat by affecting light, wave energy, seabed layers and water quality.

Image 8: Recreational, commercial and industrial uses in Cowichan Bay.

The designation of a development permit area for the protection of marine shores includes the following objectives:

- to protect shoreline ecosystems from negative impacts of sedimentation and pollution;
- to reduce the risk of bank erosion resulting from development;
- to mitigate impacts of shoreline development on neighbouring and nearby properties; and
- to minimize impacts of overwater structures on Cowichan River estuary habitat.

Image 9: A view of the Saanich Inlet toward the Finlayson Arm.

Development Permit Area 4: Aquifer Protection

Development Permit Area

DPA 4 - Aquifer Protection comprises all areas outlined in purple and filled with purple dots on Schedule U, UDPA4 Aquifer Protection - Regional. The boundary of the Development Permit Area encompasses the following:

- Those parts of Electoral Areas A, B, C, D, E, F G, H and I included in the 2022 provincial Ground Water Aquifers dataset.

The quality of surface and groundwater is affected by both natural factors, such as geology or climate, and human-caused factors related to land-use. Agricultural activities, sewage discharges, landfills or industrial composting can provide sources of nutrients, such as phosphorus or nitrogen, that influence the water quality within nearby aquifers and streams.

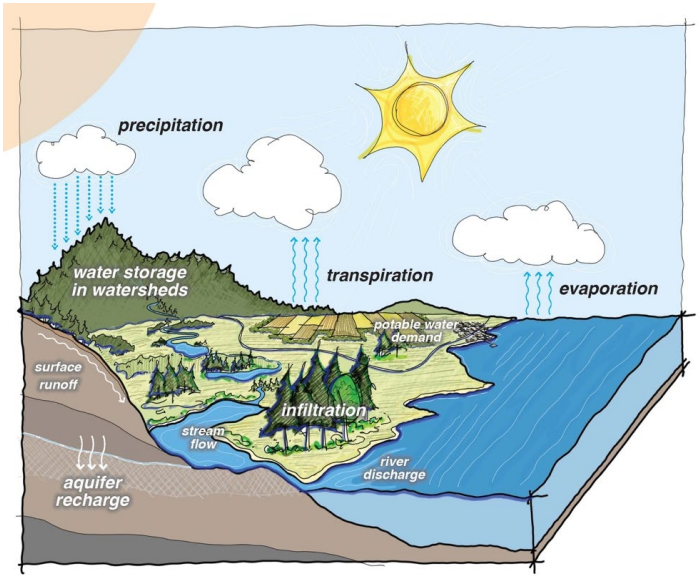


Figure 1-2: The Hydrological Cycle

It is important to protect the quality of aquifer water and to ensure its quantity is not unduly diminished by human overuse and by reductions in the surficial flows on which it depends for replenishment. In short, the ongoing health of aquifers depends on a combination of protection from contamination and promotion of efficient and frugal use of water supplies.

Basis for Designation

These areas are designated development permit areas in order to establish guidelines

- to protect the natural environment, its ecosystems and biological diversity pursuant to section 488(1)(a) of the *Local Government Act*; and
- to conserve water pursuant to section 488(1)(i) of the *Local Government Act*.

Justification for Designation

Access to clean, uncontaminated water supplies for domestic use is a critical priority for Cowichan Valley communities. A significant portion of Cowichan Valley Regional District households and commercial enterprises depend on aquifers for their daily water use. Aquifers in the region are vulnerable both to the impacts of drought and overuse on recharge capabilities and to the impacts of contamination on water quality.

The objectives of the guidelines for aquifer protection are to

- protect subsurface aquifers from contamination by land use and development activities; and
- avoid depletion of aquifer water supplies, maximize their recharge and promote the efficient use of water to ensure a stable and sustainable hydrologic system.

2 PROTECTION OF DEVELOPMENT FROM HAZARDOUS CONDITIONS

Development of land in areas subject to periodic damage by catastrophic natural events requires careful planning to minimize the risk and to mitigate the impacts of such events on communities and structures. The need for risk management is increased by the likelihood that climate change will magnify the severity and the frequency of wildfires and of flooding, particularly in natural floodplain areas. In addition, steep slopes in some parts of the region may be associated with unstable ground and present the risk of landslide. The three development permit areas (wildfire, flood and landslide) and associated guidelines described in this section provide an important means of addressing these risks in the approval of development permit applications.

Image 10: Potential for hazardous conditions must be anticipated and addressed by future development.

The use of appropriate precautionary measures during site and building design, construction and long-term maintenance can reduce the risk of a variety of hazardous conditions in addition to minimizing the high social and individual cost of event impacts. Hazardous conditions include such events as floods, mud flows, debris torrents, bank instability, erosion, groundwater seepage, land slip, rock falls, subsidence, avalanche and wildfire.

In some instances, catastrophic natural events may be causally related to one another: flooding may increase land instability and trigger mud flows and debris torrents; landslides on steep slopes, by destroying or damaging trees, may contribute to fuel loads for wildfire; and wildfire has the potential to influence both slope instability and disruption of hydrological conditions by destroying forests that lend stability to the terrain in addition to serving as natural filtration systems to regulate the flow of rainwater and stormwater.

Development Permit Areas

Mapping of areas susceptible to catastrophic natural events has been updated and made more accurate following a series of natural hazard risk assessments and updated floodplain mapping throughout the region.

This map of natural hazard risk assessment study areas shows the extent of natural hazard risk assessments completed by the CVRD. It is not a comprehensive inventory of natural hazards in the region; instead, it shows those areas where the risks from a specific hazard have been studied.

CVRD's Natural Hazard Risk Tolerance Policy

Risky locations make for difficult decision-making, and difficult decisions require careful assessments to ensure the decision-maker has the best information possible about levels of risk.

Recognizing the wide range of natural hazards across the region and growing levels of risk resulting from climate change and continuing growth, the CVRD in 2019 adopted a Natural Hazard Risk Tolerance Policy. The Policy establishes tolerance criteria for decisions made by the CVRD to protect public safety and minimize potential life loss. The CVRD recognizes the wide range of natural hazards across the region, the historic development patterns which may affect some communities, as well as the growing level of risk due to both climate change and continued growth. Therefore, the CVRD will apply the hazard acceptability thresholds and responses to inform planning, land use and decisions related to subdivision; construction of, addition to or alteration of a building or other structure; or land alteration as well as our management of infrastructure.

Distinction between existing development and new development under the policy can be reflected in exemptions and in different criteria for technical reports required.

Basis for Designation

Section 491 of the *Local Government Act* spells out the types of conditions a local government may set before granting a development permit to an applicant.

491(2) For land within a development permit area designated under section 488 (1)(b) [protection from hazardous conditions], a development permit may do one or more of the following:

- (a) specify areas of land that may be subject to flooding, mud flows, torrents of debris, erosion, land slip, rock falls, subsidence, tsunami, avalanche or wildfire, or to another hazard if this other hazard is specified under section 488 (1)(b), as areas that must remain free of development, except in accordance with any conditions contained in the permit;
- (b) require, in an area that the permit designates as containing unstable soil or water which is subject to degradation, that no septic tank, drainage and deposit fields, or irrigation or water systems be constructed;
- (c) in relation to wildfire hazard, include requirements respecting the character of the development, including landscaping, and the siting, form, exterior design and finish of buildings and other structures;
- (d) in relation to wildfire hazard, establish restrictions on the type and placement of trees and other vegetation in proximity to the development.

(3) Conditions and requirements under subsection (2) may vary the use or density of land, but only as they relate to health, safety or protection of property from damage.

Justification for Designation

In order for an area to be included in a development permit area for protection from a natural hazard, it must have been the subject of recommendation, preferably supported by a technical report, by a qualified professional establishing a factual basis for the need for protection from hazardous conditions.

Applicants for development permits within the DPA for protection from hazardous conditions need to be prepared to support their application with a technical report, if required. The risk associated with hazardous conditions can vary greatly from one location to another within a relatively small area depending on such factors as the nature of the terrain, hydrological patterns in the area, past history of hazard events, impacts of past development and the type of work proposed.

New Development

New development is defined to include:

- rezoning;
- subdivision as defined in section 455 of the *Local Government Act*;
- removal, alteration, disruption or destruction of vegetation;
- disturbance of soils;
- construction or erection of buildings and structures;
- creation of non-structural impervious or semi-impervious surfaces;
- flood protection works;
- construction of roads, trails, retaining walls greater than 1.2 m in height, public docks, public wharves and bridges;
- provision and maintenance of sewer and water services;
- development of drainage systems; and
- development of utility corridors; and structural alterations and additions to existing buildings and structures that do not qualify as existing development.

Hazards 101: Homeowner Tips for Understanding and Managing Natural Hazards in the CVRD

A useful first step for understanding the risks associated with different types of natural hazards in the Cowichan Valley Regional District as well as tips on how to anticipate and prepare for that risk would be a review of the guide for homeowners published by the CVRD on its website.

For fire in particular, the *Homeowner's FireSmart Manual*, B.C. edition, provides a wealth of advice about how to protect property and persons from the risk of uncontrolled wildfire.

The acceptability thresholds document describes the types of development applications that relate to natural hazard criteria. It can be found here:

https://www.cvrd.bc.ca/DocumentCenter/View/97301/CVRD_HazardAcceptabilityThresholds

Best Management Practices for Protection from Hazardous Conditions

In addition to following the guidelines associated with each development permit area for protection from hazardous conditions, holders of development permits should adhere closely to best management practices published by the British Columbia and federal governments as well as those developed by organizations with relevant expertise. Some of the most pertinent best management practices are listed below:

Wildfire
The Home Owner's FireSmart Manual
Government of British Columbia

Flood
Environmental Protection in Flood Hazard Management
Fraser Basin Council, 2010

Stormwater Planning
Government of British Columbia, 2002

Landslide
A Guide for Management of Landslide-prone Terrain in the Pacific Northwest
BC Ministry of Forests, 1994

General
Natural Resource Best Management Practices
Government of British Columbia

Note the assurance process for development permit holders:

Hazard Assurance Statement Form:
https://www.cvrd.bc.ca/DocumentCenter/View/96534/Hazard-Assurance-Statement-Form

Hazard Assurance Guidelines:
https://www.cvrd.bc.ca/DocumentCenter/View/96536/Hazard-Assurance-Guidelines

The Busyplace Creek Stormwater Management Plan and the Natural Hazard Risk reports for flood, sea level rise and slope failure include additional recommendations for development in hazard areas.

There are three development permit areas for Protection of Development from Hazardous Conditions:

DPA 5 – Wildfire Hazard
DPA 6 – Floodplain Hazard
DPA 7 – Slope Stability

Development Permit Area 5: Wildfire Hazard

Image 11: Wildfire risks come with serious consequences.

Development Permit Area

Wildfire Hazard DPA refers to those parts of all electoral areas of the Cowichan Valley Regional District on Schedule U, UDPA5 Wildfire Hazard – Regional identified in the orange patterned area within 200 metres of moderate, high or extreme wildfire behaviour threat class areas.

This applies to land and water but excludes First Nations reserve land and member municipalities.

Basis for Designation

These areas are designated development permit areas in order to establish guidelines for the protection of development from wildfire pursuant to section 488(1)(b) of the *Local Government Act*.

Justification for Designation

Cowichan Valley Regional District Central Zone Community Wildfire Protection Plan 2017 Update – submitted by B.A. Blackwell & Associates Ltd, June 25, 2019; Cowichan Valley Regional District North Zone Community Wildfire Protection Plan 2017 Update – submitted by B.A. Blackwell & Associates Ltd, November 20, 2018; Cowichan Valley Regional District South Zone Community Wildfire Protection Plan 2017 Update – submitted by B.A. Blackwell & Associates Ltd, September 28, 2018; and Cowichan Valley Regional District West Zone Community Wildfire Protection Plan 2017 Update – submitted by B.A. Blackwell & Associates Ltd, May 1, 2019 identified areas of the regional district with moderate, high or extreme wildfire behaviour threat classes. Once started, wildfires can move quickly and far. Dwellings and other structures can be ignited by sparks and embers that may travel up to 2 km, by extreme heat that can ignite materials from a distance of 30 m, or by direct flame spreading along flammable objects. In some locations, there are structures within moderate, high or extreme wildfire threat classes located over water. In addition to adhering to the guidelines below, following FireSmart practices can greatly reduce the potential impacts of wildfires.

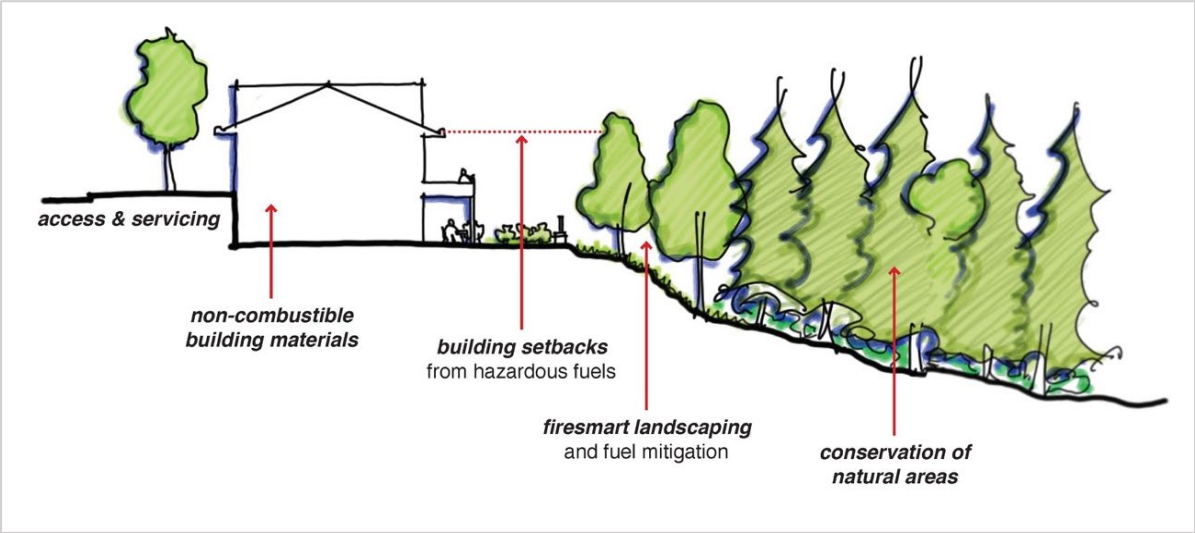


Figure 2-1: Designing with FireSmart practices in mind.

The primary objectives of designation of the development permit area for protection from wildfire hazard are to

- reduce the risk of wildfire in areas of high and extreme risk and increase capacity to contain wildfire events;
- prevent personal injury and property loss, protect structures from damage, ensure stable and accessible building sites, and ensure risks of predictable natural hazards are identified and mitigated;
- reduce the risk of post-fire landslide, debris flow and erosion; and
- conserve the visual and ecological benefits of forests throughout the regional district.

Development Permit Area 6: Floodplain Hazard

Image 12: Flood events are anticipated to increase with climate change.

Development Permit Area

The following areas are designated a floodplain hazard development permit area:

- those parts of electoral areas F and I of the Cowichan Valley Regional District shaded light grey on Schedule U, UDPA6 Floodplain Hazard – Regional designated as floodplain in June 1984 by the Province of BC and mapped in the Mapped Floodplains in BC (Historical) dataset.
- those parts of electoral area I of the Cowichan Valley Regional District shaded light grey and outlined in grey on Schedule U, UDPA6 Floodplain Hazard – Regional (Youbou Lands).

Basis for Designation

These areas are designated development permit areas to establish guidelines for protection from flood and erosion, pursuant to section 488(1)(b) of the *Local Government Act*.

Justification for Designation

The Youbou Lands development site largely comprises an alluvial fan, part of which remains active, and protecting development from the possibility of flooding, erosion and associated accumulation of debris is necessary.

In 2019, Northwest Hydraulic Consultants conducted a risk assessment of the floodplains around the Cowichan Lake area of the Cowichan River. Modelling of flood levels was carried out for four scenarios, including a present day (baseline) scenario and increases in precipitation of 10, 20 and 40 percent to represent the range of climate projections.

Floodplains are typically adjacent to or overlap areas with high biological diversity and fisheries values and consequently are also likely to be included in Development Permit Areas 1 (Riparian Area Protection) and 2 (Environmentally Sensitive Areas Protection).

The primary objectives of designation of the development permit area for protection from flooding are to

- minimize development in floodplains and other areas known to be at high risk of flooding;
- mitigate impacts of flooding in already developed areas;
- prevent personal injury and property loss, protect structures from damage, ensure stable and accessible building sites, and ensure risks of predictable flood events are identified and mitigated; and
- maintain a natural riverine and floodplain regime and its contingent ecological, hydrological and aesthetic benefits.

Development in Floodplains

"In floodplain areas that are still undeveloped, these areas should be kept in a natural state and the land should remain undeveloped. Undeveloped land can be rehabilitated as riparian and aquatic habitat.

"Future urban development should be promoted in areas with low flood risk and a lower habitat sensitivity. Tools that help with the long-term planning are Flood Hazard Maps and Habitat Sensitivity Maps."

Risk Assessment of Floodplains and Coastal Sea Level Rise: Strategic Climate Risk Assessment for the Cowichan Valley Regional District. Northwest Hydraulic Consultants, 2019, p. 95.

Development Permit Area 7: Slope Stability

Image 13: Development at the tow-of-slope faces increased risk.

Development Permit Area

The following areas are designated as a slope stability hazard development permit area, outlined in dark red with dark red horizontal stripes on Schedule U, UDPA7 Slope Stability – Regional:

- those parts of electoral area E of the Cowichan Valley Regional District, as identified in the report *Allenby Road Slope Hazard Overview Assessment* (McQuarrie Geotechnical Consultants Ltd, 2019) and "Slope Stability Hazard Assessment 3064-3070 Allenby Road" (Thurber Consultants Ltd, 1982);
- those parts of electoral area G of the Cowichan Valley Regional District (Saltair Bluffs);
- those parts of electoral area H of the Cowichan Valley Regional District as indicated in the reports completed by Ministry of Highways and Public Works (1979) and Hardy BBT Ltd (1991), including parcels containing land above the 300-foot (91.44 m) contour level of Woodley Range; and
- those parts of electoral area I of the Cowichan Valley Regional District as identified in the report *Debris Flow Runout Model: North Shore Cowichan Lake: LABS Model Results 2021 Rev2* (Stantec and Palmer, 2021), (Youbou Lands).

A technical report for the Saltair Bluffs in area G will be undertaken in spring 2020 by CVRD environmental services. A technical report for Cowichan Bay in area D will be undertaken in the modernization.

Basis for Designation

These areas are designated development permit areas to establish guidelines for the protection of development from landslide, pursuant to section 488(1)(b) of the *Local Government Act*.

Justification for Designation

The primary objectives of designation of the development permit area for protection from landslides are to

- manage development in steep slope areas in a manner that reduces the risk to life and property, prevents erosion and potential risks to down-slope property, prevents destabilization of slopes and protects the aesthetic quality of the slopes;
- ensure public safety and prevent damage to property from lands considered to contain or that exhibit hazardous conditions; and
- prevent erosion, if possible, in areas of steep slopes by leaving slopes uncleared, retaining areas of mature tree cover and preserving other natural features.

Land slippage and sloughing between Miller Road and Allenby Road resulted in the destruction of a building in December 1975. Incidence of soil creep has been evident since then, including small slides in 1979 and in December 1984, the latter case resulting in some structural damage to a building. Since 1975, several engineering studies, including those by Thurber Consultants (1979) and B.H. Levelton and Associates (1979 through 1984), have identified the potentially hazardous condition that exists in the area should the slope be developed without regard to drainage, slope stability or potential sloughing. Some vegetation removal has occurred on the slope face, which has further reduced stability.

A 1979 Ministry of Transportation report on the Woodley Range concluded that major portions of the area appear unsuitable for development due to the extreme shallow nature of the soils, moderate to steep complex topography and potential surface drainage problems. Since 1979, site-specific geotechnical reports, completed as part of development applications, have identified evidence of geotechnical instability and rockfall hazards. Multiple other reports have been undertaken since and are outlined in the figure below.

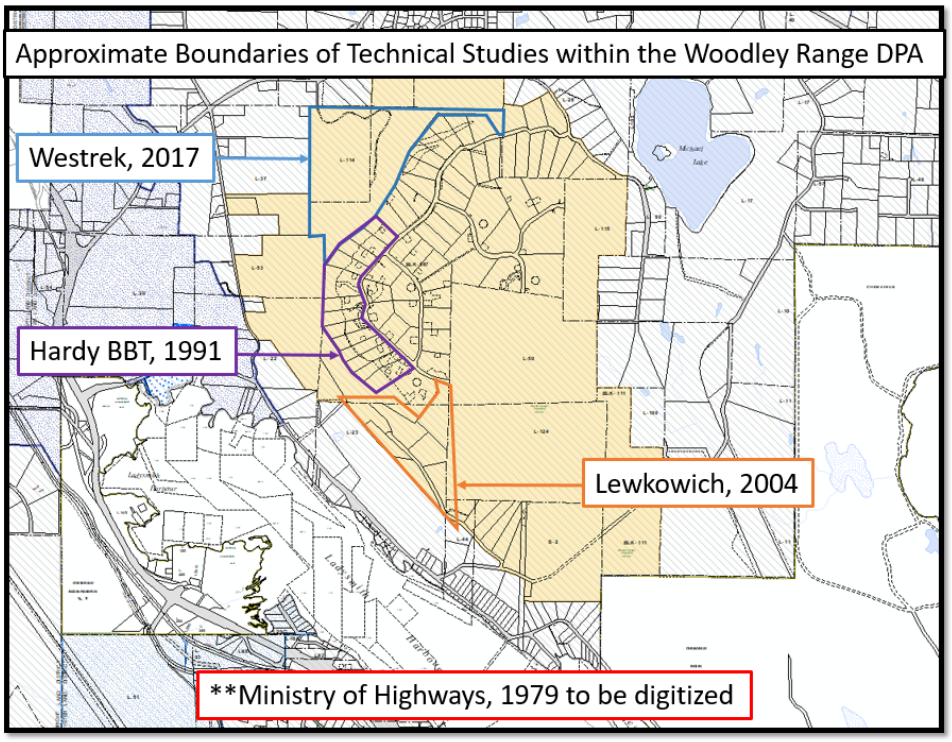


Figure 2-2: Approximate boundaries of technical studies within the Woodley Range DPA.

In 2020, Stantec Consulting Ltd. in association with Palmer Environmental Consulting Group carried out an assessment of the risks associated with various types of landslides (debris flows, debris floods) on the steep slopes above Youbou and Lake Cowichan. Stantec, in association with Palmer, conducted debris flow and debris avalanche runout modelling to better discretize the encounter probability map and refine the hazard component of risk to the residents of the North Shore of Cowichan Lake.

In the community of Saltair, the marine foreshore bluffs consist of steep slopes and complex topography generally unsuitable for urban development. The bluffs have been created by wave action eroding away at the glacial material of the backshore. There is limited beach material protecting the bluffs. The bluff and foreshore are low in gravel and high in silt and clay. Particularly, when vegetation is removed at the edge of bank, it is susceptible to further wave action, which may result in land slippage, sloughing or soil creep. The placement of buildings and structures and the clearing of vegetation near the edge of the Saltair Bluffs could increase the rate of erosion and add to the risk of land slides.
ve plant species.

3 PROTECTION OF FARMING

Image 14: Protection of our land resources is fundamental to the protection of farming.

Agriculture is a central component of the Cowichan Valley's economy and culture, thanks in large part to the mildest year-round climate in Canada, a lengthy history of farming activity from colonial times to a 21st century influx of innovative entrepreneurs, and strong community support. Cattle farming has been a mainstay of the Valley's agricultural scene ever since the establishment of the Cowichan Creamery in 1895—more farms are devoted to cattle production than to other activity—but the Cowichan Valley today features one of the most diverse ranges of agricultural activity, large and small, in the country. And with climate change predicted to have a significant impact on regional temperature and precipitation patterns in years to come, further changes in the makeup of Cowichan Valley farming may be expected as new agricultural activities become feasible and some existing ones face greater challenges.

One of the keys to ensuring the future stability of agriculture lies in protecting farm land from conversion to other uses. Only about 10% of the area of the regional district is capable of agricultural production. Agricultural land has always been in relatively short supply in British Columbia and under threat from development pressures. Provincial government efforts to secure a healthy future for the farming industry included the 1970s establishment of the agricultural land reserve and the 1990s enactment of the *Farm Practices Protection (Right To Farm) Act*, which protects farms from nuisance claims as long as their farm operations comply with land use regulations and adhere to normal farm practices.

The importance ascribed to agriculture through these legislative initiatives continues in the *Local Government Act* provision, in section 488(1)(c), for designation of development permit areas for protection of farming. Section 491(6) lists the types of requirements that may be included in such protection: screening, landscaping, fencing and siting of buildings or other structures, in order to provide for the buffering or separation from farming on adjoining or reasonably adjacent land.

Normal Farm Practices and Environmental Protection

In order to qualify for protection under the *Farm Practices Protection (Right to Farm) Act,* and hence for protection under development permit area guidelines, a farm operation must not only be in the agricultural land reserve but must also be conducted in accordance with normal farm practices. A normal farm practice means a practice that is conducted in a manner consistent with "proper and accepted customs and standards" and any standards prescribed by the Lieutenant Governor in Council.

One such set of standards is the Code of Practice for Agricultural Environmental Management, a provincial regulation that was developed to ensure agricultural practices are consistent with the protection of clean water and clean air. The regulation specifies clear requirements for the storage of and use of manure, other nutrient sources (such as fertilizers) and agricultural material. In a region such as the Cowichan Valley with many riparian areas, sensitive ecosystems, and aquifers and other groundwater sources critical to the supply of domestic water, adherence to the best management practices incorporated in the Code is of critical importance.

Although the Protection of Farming development permit area guidelines are restricted in their scope to addressing potential threats to agricultural land from encroaching development, the Code of Practice for Agricultural Environmental Management comes into play in other development permit areas where protection of water quality, fish habitat and other biodiversity concerns are a central issue.

There is one development permit area for Protection of Farming:

Development Permit Area 8 – Protection of Farming

Development Permit Area 8: Protection of Farming

Development Permit Area

Protection of Farming includes all areas shown on Schedule U, UDPA8 Protection of Farming – Regional shaded light green and identified as Protection of Farming. For clarity, this includes all land in areas A, B, C, D, E, F, G (excluding the Gulf Islands), H, and I adjacent the Agricultural Land Reserve boundary and Agriculture Designation and extends 30m into the non-agricultural lands.

DPA 8 Protection of Farmland is a 30 m buffer measured from the boundary of the Agricultural Land Reserve as submitted to DataBC by the Agricultural Land Commission as of May 3, 2023, and from the boundary of the Renewable Resource - Agriculture Land Use Designation, and extends into non-agricultural lands. The ALR boundary is not always consistent with parcel boundaries.

Basis for Designation

These areas are designated development permit areas for the protection of farming, pursuant to section 488(1)(c) of the *Local Government Act*.

Justification for Designation

Protection of agricultural lands and productive soils is vital for the sustainability of the Cowichan Valley's agriculture industry. Non-farm uses located close to agricultural land can lead to land use conflicts.

Figure 3-1: Protection of farming guidelines in the Cowichan Valley Regional District.

Landscape buffers between farms and surrounding lands can reduce potential conflict (e.g. visual, noise, dust and odour impacts), control the spread of invasive species and help protect agricultural productivity.

The primary objectives of designating the Protection of Farming development permit area are to buffer and separate development from farming on adjacent land with screening, landscaping, fencing and siting of buildings on development sites in order to

- minimize the impact of urban encroachment on agricultural land;
- minimize conflicts between farm and non-farm uses in agricultural areas; and
- promote the sustainability of farmland and farm operations.

4 FORM AND CHARACTER

The form and character—or overall "look and feel"—of development is important in enhancing the livability of communities. Guidelines in this section address factors such as exterior design, accessibility, security, connectivity within the neighbourhood and larger community, and high-quality standards in building and landscape design. The guidelines have been created to identify, reflect and strengthen the best qualities of Cowichan Valley communities and direct the "look and feel" of future development.

While basic principles of good design are applicable to all development, individual communities throughout the region have unique contextual qualities and, accordingly, distinct patterns and characteristics of development. The form and character DPAs respect and capture these differences while at the same time supporting a standard of quality.

A Deeper Exploration of Form and Character: Three Community Design Charettes

Additional in-depth village design studies and associated design guidelines should be considered—where applicable—within the design development:

- Cobble Hill Village – Community Design Charrette: Village Toolkit "Keep It Rural" (July 2017);
- Cowichan Bay Village Development Guide: Directions for Place-keeping and Place-making (July 2018); and,
- Shawnigan Village Charrette Report (February 2020).

Cobble Hill

Future development should be made to be complementary and compatible with the existing scale and character of the historical rural village centre in Cobble Hill. Design should reference, respect and retain heritage qualities that exist in Cobble Hill, using traditional and local materials to offer contemporary interpretations.

Colour should create a welcoming and interesting village centre. Infill housing is encouraged with adaptive uses on the ground level, allowing for fully accessible ground floor units that can be used as needed for residential (e.g. age in place), office or retail space. Designs should consider interior spaces to "spill out" into the front setback area as a means to program and activate street fronts.

Natural materials, such as wood, brick, stone, concrete, exposed heavy timber and steel, are appropriate in Cobble Hill. Vinyl siding is not in keeping with the character.

The tradition of brightly coloured buildings in agricultural settings continues to resonate with the residents today.

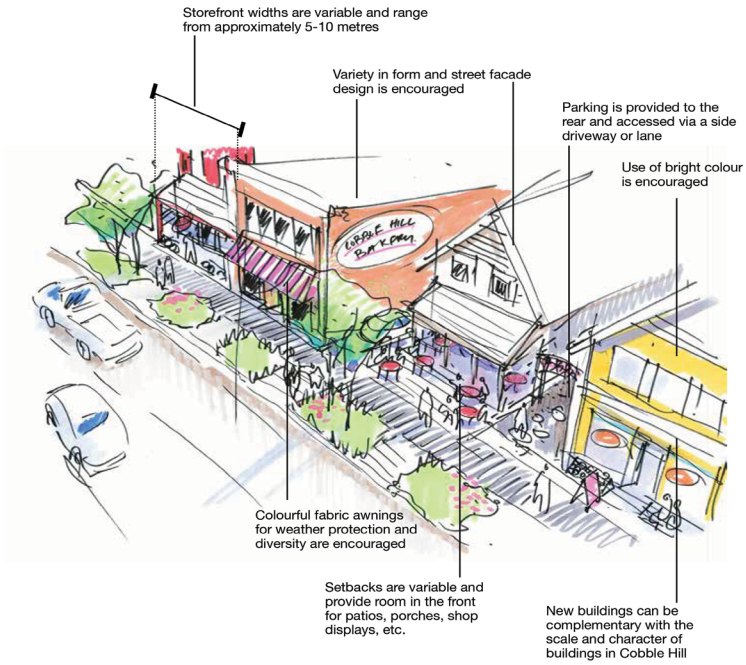


Figure 4-1: Cobble Hill commercial design principles.

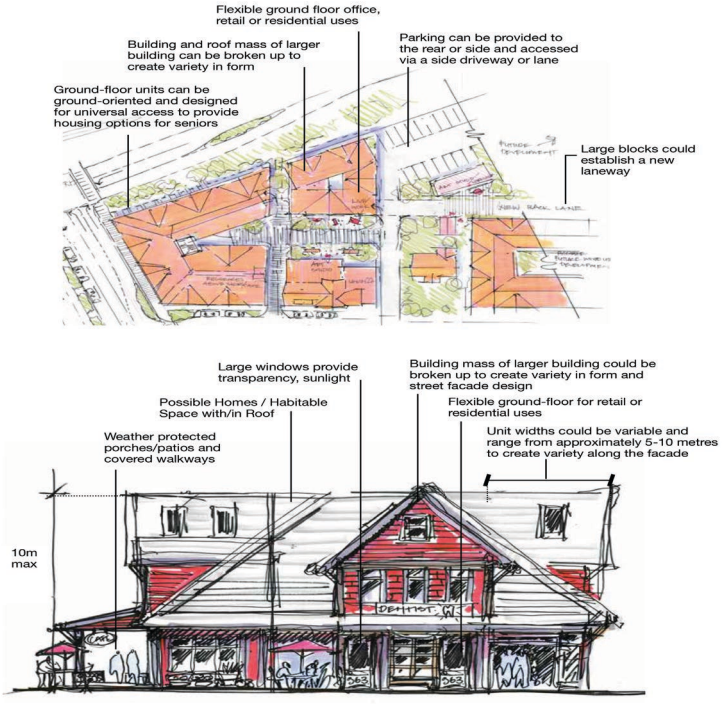


Figure 4-2: Cobble Hill design principles for flexible ground level.

Cowichan Bay

The Vitalization Strategy for Cowichan Bay Village has one simple goal: to make the village better without losing the highly valued character and scale. Core values of the strategy include building community relationships and enjoying a quality of life that is blessed with quality spaces, shops, inns, historic buildings, farms, nature and unspoiled landscapes.

Design Guide

An overall action plan embraces the short term, medium term and long-term actions for the village. It is divided into the four major themes that shape the sustainable and resilient directions of the plan: mobility, culture and character, environment, and economy.

Development Guide

The Development Guide is intended to direct new development so that it fits in with the character of the village. The detailed design guidelines include building form and character, street front design, signs, sidewalks, lighting, planting and seating and should be referred to when new development are considered and evaluated

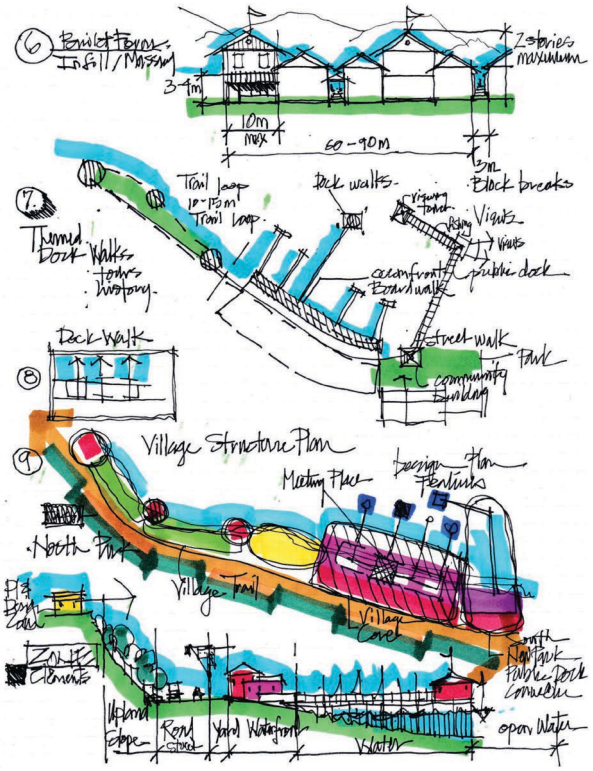


Figure 4-3: Cowichan Bay Village structure plan.

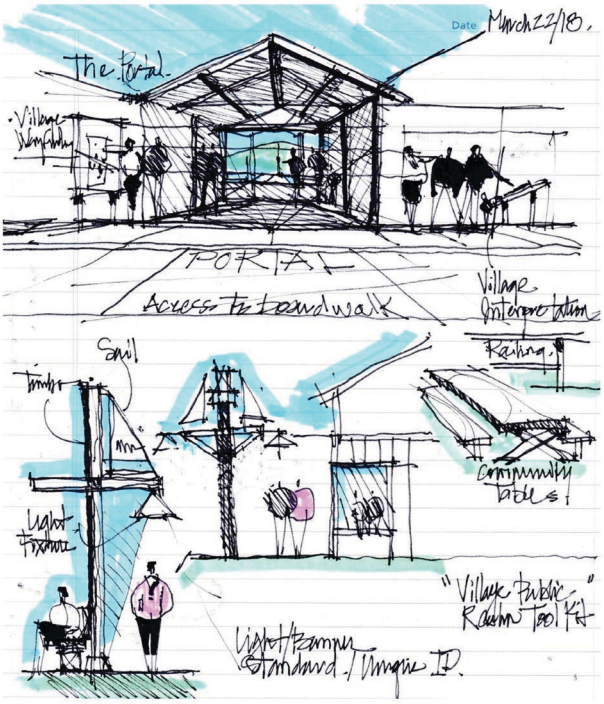


Figure 4-4: Portal access to boardwalk.

Shawnigan Lake

The small-scale character and form of Shawnigan Lake Village is fundamental to retaining its unique sense of place. Single building form and limited height in redevelopment will be key ingredients.

Buildings will follow a cottage or west coast design theme to fit into the existing character of the village. If multiple properties are assembled, new buildings or alterations will maintain the "fine grain" of the existing village defined by individual shopfronts not greater than 8 metres and building frontages not greater than 25–30 m. Portals, or breaks in continuous buildings for views or access to the lakefront, are required between/through larger developments.

As part of the Good Shawnigan Lake Neighbours program, the CVRD also requires the form and massing of any additional units to be integrated into the form and character of the block and requires that drawings are completed to illustrate the proposal.

Figure 4-5: Form and character in Shawnigan Lake.

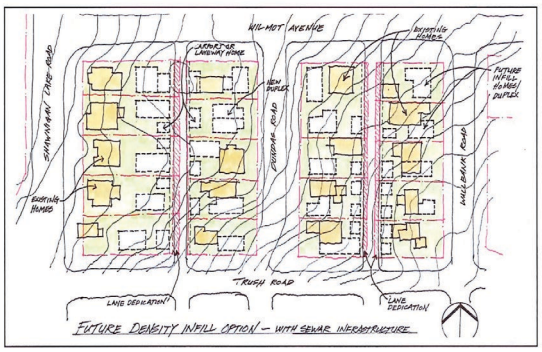


Figure 4-6: Residential infill in Shawnigan Lake.

Glazing should be maximized and use only clear, untinted glass. Storefront windows should have a minimum height of 2.5 m and no obstruction, such as metal bars, signage, coolers or shelving units should be placed on or against the inside face.

Recessed entries shall be well-lit and well-defined. Special treatment of these entries is encouraged, such as a special doorframe or mosaic tiles to identify the uniqueness of the store or business.

Upper level windows should be sized and spaced to relate to the vertical rhythm of the storefronts or businesses at ground level.

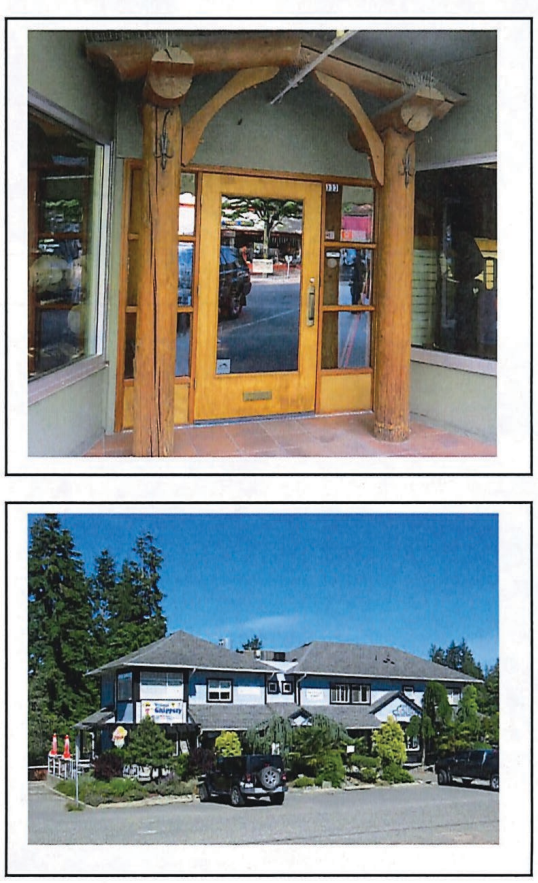


Image 15: Commercial façade composition.

Form and Character Development Permit Areas

There are four development permit areas for Form and Character:

- Development Permit Area 9 – Intensive Residential Development
- Development Permit Area 10 – Multi-family Residential Development
- Development Permit Area 11 – Commercial and Mixed-use Development
- Development Permit Area 12 – Industrial Development

Each of the four form and character DPAs includes a description of:

- the types of development to which it applies as well as activities that are exempted from the requirement to obtain a development permit;
- guidelines that applicants for development permits are expected to follow during development; and
- application requirements (if any) that developers are expected to meet before submitting an application for development.

Intensive and multi-family residential development share some similar characteristics, but intensive residential development typically comprises single detached houses on smaller lots, whereas multi-family residential development typically includes buildings containing three or more residential units.

Each development permit area is described both in text (under the heading “Area”) and through their associated coloured shading on a map of the region. When one DPA overlaps with another on the map, the guidelines for both DPAs apply to any development that is not specifically exempted.

General guidelines define a standard of development and apply to development applications in all form and character DPAs, except where otherwise indicated as exempt.

Basis for Designations

Section 488(1)(e) and (f) of the *Local Government Act* authorizes an official community plan to designate development permit areas to establish objectives for the form and character within four specific uses: intensive residential, multi-family residential, commercial and industrial.

Section 488(1)(d) also authorizes the designation of development permit areas for the revitalization of an area in which a commercial use is permitted, for example in conjunction with initiatives to promote a mix of uses that preserve and enhance village character.

The commercial and mixed-use development DPA addresses both commercial development under section 488(1)(f) and revitalization of commercial areas with mixed uses under section 488(1)(d).

Under section 491 of the *Local Government Act*, guidelines governing the character of an intensive residential development may be more detailed than for the other three categories described in section 488(1)(e) and (f) and may include landscaping and the siting, form, exterior design and finish of buildings and other structures.

Development Permit Area 9: Intensive Residential Development

Intensive residential development includes single detached houses on smaller lots and may include semi-detached dwellings depending on the varying definitions of intensive residential development.

Development Permit Area

DPA 9 Intensive Residential Development establishes objectives for the form and character of intensive residential development in electoral areas A, B, C, D, E, F and I, as seen on the Schedule U, UDPA9 Intensive Residential Development – Regional outlined in bright purple with bright purple vertical stripes.

In areas A, B and C, it applies to single-family detached dwellings on parcels less than 0.074 ha.

In area D, this applies to semi-detached or single detached dwellings on parcels less than 500 m^2 in size that are not included in the Marine Village (lands adjacent to the natural boundary of the ocean).

In area E, DPA 9 applies to lands in the Allenby Road area zoned for residential use with a maximum dwelling density standard equal to or greater than 12 units/ha and to the R-6 zone on Culverton Road.

In area F, this applies to lands zoned CD-1, Paldi Comprehensive Development and MR-1, Mixed Residential.

In area I, this applies to those lands known as 'Youbou Lands'.

Where this development permit area overlaps with other DPAs, all applicable guidelines must be considered. In addition, all development must comply with the general form and character guidelines listed at the beginning of Part 4.

Basis for Designation

These areas are designation development permit areas pursuant to section 488(1)(e) of the *Local Government Act*.

Justification for Designation

Cowichan Valley communities aim to provide for future residential growth that is sustainable and considers both the historic character of each community as well as contemporary priorities such as adaptability to climate change, water and energy conservation, community cohesion and connectivity, accessibility and safety. Intensive residential development is located in lower-density residential neighbourhoods, primarily in areas serviced with lanes, close to neighbourhood-scale amenities (services, parks) and where gentle densification is most appropriate. Development permit guidelines help maintain the historic character of neighbourhoods and enhance their livability.

The guidelines for intensive residential development are intended to ensure that residential infill development occurs in a manner that is sensitive to the existing built form by encouraging

new development to consider local characteristics and incorporate high-quality design into the siting configuration, landscaping treatments and overall building aesthetics.

The guidelines will enable the regional district to ensure that new intensive residential development

- provides a healthy, safe and livable environment for residents;
- fits with and relates to its context, and is compatible with surrounding land uses;
- minimizes environmental impact;
- provides safe vehicular and pedestrian access;
- ensures a “friendly face” along residential frontages and secondary edges, where applicable, with a comfortable relationship to the street;
- is compatible with surrounding land uses;
- supports the social and environmental goals of the regional OCP; and
- is constructed to high standards, both materially and aesthetically.

Development Permit Area 10: Multi-family Residential Development

Multi-family residential development includes a wide range of higher-density housing forms, including multiplexes, row-houses, townhouses, low-rise apartments and high-rise apartments.

Development Permit Area

Development permit area 10 establishes objectives for the form and character of multi-family residential development in areas A, B, C, D, E, F and I, as seen on the Schedule U, UDPA10 Multi-family Residential Development – Regional outlined in yellow with yellow vertical stripes. The multi-family residential development guidelines apply to all multi-family development for properties currently zoned for multi-family residential and containing multi-family residential uses.

In areas A, B and C, it applies to a building or cluster of buildings consisting of three or more dwelling units, including a condominium, townhouses, apartment buildings and a seniors' congregate care house.

In area D, it applies to a building containing three or more dwelling units.

In area E, this applies to parcels zoned for multi-family uses within 200 m of the centre line of the Trans-Canada Highwayand parcels within the Koksilah Business Park are excluded.

In area F, it applies to a building containing three or more dwelling units and includes a condominium, townhouses and/or apartments.

In area I, DPA 10 applies to a building containing three or more dwelling units including a condominium, townhouses and/or apartments.

Where this development permit area overlaps with other DPAs, all applicable guidelines must be considered. In addition, all development must comply with the general form and character guidelines listed at the beginning of Part 4.

Basis for Designation

These areas are designation development permit areas pursuant to section 488(1)(f) of the *Local Government Act*.

Justification for Designation

Certain neighbourhoods and areas have been designated for multi-family development to accommodate the demand for housing choice, increased affordability and living close to amenities and services. The multi-family DPA guidelines ensure successful integration of these housing types into their neighbourhoods.

Guidelines for multi-family housing provide a means to enhance neighbourhoods and create sensitive transitions in scale and density by addressing issues such as privacy, landscape retention and neighbourliness.

New development should recognize and respect local scale and patterns of development with the following objectives:

- ensure social spaces and support for active living (through provision of amenity spaces and indoor-outdoor relationships);
- avoid shadow/shading impacts to public parks and priority pedestrian realm; and
- encourage high quality materials and design.

Development Permit Area 11: Commercial and Mixed-use Development

Commercial use refers to buildings used for commercial purposes only, while mixed-use buildings typically accommodate retail on the ground floor with office and/or residential above.

Development Permit Area

Development permit area 11 establishes objectives for the form and character of commercial development in areas A, B, C, D, E, F, G, H and I as seen on the Schedule U, UDPA11 Commercial Mixed-use Development – Regional outlined in red with red vertical stripes. The commercial development guidelines apply to all commercial development for properties that are currently zoned for commercial and mixed uses.

In area E, this applies to lands zoned for commercial and mixed uses within 200 m of the centre line of the Trans-Canada Highway, parcels within the Koksilah Business Park and the area zoned C-1 on Cowichan Lake Road.

In area H, DPA 11 applies to the area bordering the Regional District of Nanaimo along the Trans-Canada Highway known as 'Commercial/Institutional', and all parcels zoned for tourist commercial in the Yellow Point area.

In area I, this development permit area includes those parcels designated as Waterfront Commercial.

Where this development permit area overlaps with other DPAs, all applicable guidelines must be considered. In addition, all development must comply with the general form and character guidelines listed at the beginning of Part 4.

Basis for Designation

These areas are designated development permit areas pursuant to section 488(1)(f) of the *Local Government Act*, and for the revitalization of an area in which a commercial use is permitted pursuant to section 488(1)(d).

Justification for Designation

The visual quality of commercial areas is important to residents, as is accommodation of pedestrians in commercial areas with significant vehicle traffic.

DPA 11 encourages a wide range of developments that can support both commercial-only use and mixed-use (e.g., retail, office, residential), preserving affordable forms of commercial development and allowing for people to move into higher-density, higher-amenity neighbourhoods.

New development should recognize and respect local scale and patterns of development with the following objectives:

- produce streetscapes defined by attractive buildings and landscaping;
- transition extensive areas of surface parking to more pedestrian friendly and amenity-rich neighbourhood commercial;
- provide an attractive, comfortable, safe environment for pedestrians as well as vehicular traffic;

- establish building forms, site planning principles and landscape standards appropriate to quality urban spaces thus avoiding the appearance that characterizes some ‘strip plaza’ type developments; and
- reflect multi-family residential design guidelines for mixed-use residential development.

Development Permit Area 12: Industrial Development

Industrial use refers to buildings and sites used for assembling, storing, transporting, distributing, wholesaling, testing, servicing, repairing or salvaging goods, materials or things.

Development Permit Area

Development permit area 12 establishes objectives for the form and character of industrial development in electoral areas A, B, C, D, E, F, H and I as shown on the Schedule U, UDPA12 Industrial Development – Regional outlined in green with green hatching. The industrial development guidelines apply to all industrial development for properties that are currently zoned for industrial uses.

In area E, this DPA applies to lands zoned for industrial uses within 200 m of the centre line of the Trans-Canada Highway, the area zoned I-2 on Rowe Road and lands designated industrial within the Koksilah Business Park.

In area F, this DPA applies to lands zoned I-3, Light Industrial 3.

In area H, this DPA applies to the applies to the area bordering the Regional District of Nanaimo along the Trans-Canada Highway known as 'Commercial/Institutional' and the lands zoned I-2 on Brenton-Page Road (Ladysmith Harbour).

In area I, this DPA applies to those lands know as 'Youbou Lands'.

Where this development permit area overlaps with other DPAs, all applicable guidelines must be considered. In addition, all development must comply with the general form and character guidelines listed at the beginning of Part 4.

Basis for Designation

These areas are designated development permit areas pursuant to section 488(1)(f) of the *Local Government Act*.

Justification for Designation

Management of visual and environmental impacts of industrial developments is important to the well-being of area residents and to environmental values such as clean air and water.

The intention is to ensure industrial uses maintain high aesthetic standards and protect environmental values.

Industrial development should respect and accommodate neighbourhood and environmental values through:

- visual and noise buffering; and
- high aesthetic design standards.

5 ENERGY AND WATER CONSERVATION; GREENHOUSE GAS EMISSIONS REDUCTION

Climate change has already had a significant impact on the Cowichan Valley's ecosystems, resource base and economy. As the change accelerates, so too will the local impacts be magnified. A concerted community response will be required in order to adapt to the effects of climate change, more efficiently use and conserve natural resources impacted by climate change, and take practical steps to reduce the community's emissions of greenhouse gases, such as carbon dioxide and methane, that contribute to and magnify climate change by absorbing and emitting radiant energy. The development permit area guidelines in this section are designed to help achieve those objectives.

The near-term regional impacts of climate change (to the year 2050) are expected to include an increase in mean annual temperature of 1.6 degrees Celsius, more winter and less summer precipitation, and less snowpack. These changes, in turn, will be accompanied by a range of impacts that will have widespread effects on the region and are to some extent addressed by the guidelines attached to other development permit areas—for example, an increased risk of flooding and wildfire; a significant rise in sea level; the introduction of more invasive species, pests and diseases affecting native ecosystems; and more (and more prolonged) summer drought.

The Cowichan Valley Regional District is already a study in extremes where precipitation is concerned: the west coast is one of the wettest areas of British Columbia and will become gradually wetter; the east coast of Vancouver Island, where most of us live, is one of the driest coastal areas of the province and, along with the expectation of summer drought and loss of snowpack, there will be growing demand for water by a growing human population. Conservation of our potable water resource is therefore a priority.

Stormwater is associated with flooding, erosion and pollution—including noxious manufactured substances and

Practising Low Impact Development

Low impact development is an approach to land development or redevelopment that both minimizes negative impacts of stormwater and avoids unnecessary waste of rainwater. It does so by managing runoff close to its source, conserving rainwater for beneficial uses and promoting the natural movement of water in an ecosystem or watershed. Characteristics of low impact development include

- protecting natural features that catch and retain water, such as wetlands, streams and forest corridors;
- disturbing land as little as possible when laying out streets and lots;
- reducing the size of building footprints;
- emphasizing cluster developments where appropriate; and
- minimizing the extent of paved areas, for example by reducing parking lot stall size or by using pervious materials for surfacing.

Examples of stormwater best management practices include

- rain gardens;
- vegetated swales—marshy tracts of low land;
- absorbent landscapes;
- large canopy trees;
- green roofs;
- flow-through rain planters; and
- infiltration trenches.

organic wastes and sediments—and is known for its negative effects on slope stability (e.g. landslide hazard), fish habitat and water quality.

We distinguish rainwater from stormwater because rainwater is understood as a precious resource to be well managed, whereas stormwater is seen as a negative force to be mitigated: the guidelines are intended to manage rainwater and to avoid the generation of stormwater.

The *Local Government Act* recognizes the singular importance of including climate change as an appropriate subject for a development permit area, providing authorization in section 488(1)(h), (i) and (j) for a local government to establish objectives to promote energy conservation, water conservation and the reduction of greenhouse gas emissions.

Under section 491(9) and (10) of the *Local Government Act*, a development permit for these purposes may

- include requirements respecting the following in order to provide for energy and water conservation and the reduction of greenhouse gas emissions:
  a. landscaping;
  b. siting of buildings and other structures;
  c. form and exterior design of buildings and other structures;
  d. specific features in the development; and
  e. machinery, equipment and systems external to buildings and other structures.
- establish restrictions on the type and placement of trees and other vegetation in proximity to the buildings and other structures in order to provide for energy and water conservation and the reduction of greenhouse gas emissions.

There is one development permit area for Energy and Water Conservation; Greenhouse Gas Emissions Reduction:

Development Permit Area 13 – Energy and Water Conservation; Greenhouse Gas Emissions Reduction

Development Permit Area 13: Energy and Water Conservation; Greenhouse Gas Emissions Reduction

Development Permit Area

Development permit area 13 includes those parts of electoral areas A, B, C, D and E of the Cowichan Valley Regional District outlined in teal with teal vertical stripes on Schedule U, UDPA13 Energy and Water Conservation; Greenhouse Gas Emissions Reduction – Regional for the conservation of energy and water and the reduction of greenhouse gas emissions. This DPA applies to all parcels in Multi-family, Commercial/Mixed-use, and Industrial developments in electoral areas A, B, C, D and E, and additionally to those parcels in Intensive Residential developments in electoral area D.

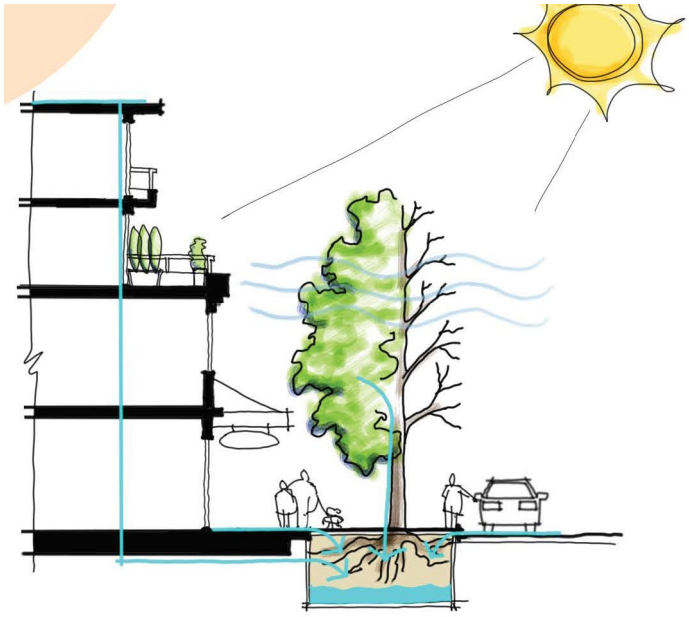


Figure 5-1: Solar shading is an important green building principle.

Basis for Designation

These areas are designated development permit areas pursuant to section 488(1)(h), (i) and (j) of the *Local Government Act*.

Justification for Designation

Natural water supplies are of vital importance throughout the Cowichan Valley. In addition to the potential of climate change to exacerbate drought conditions, overuse of water for human purposes can have serious ecological consequences such as causing streams to run dry and be unable to support aquatic ecosystems. The impacts of wells and water licences, for both domestic and industrial uses, on groundwater and surface water supplies are of significant concern. Additional pressures on water supplies are anticipated with population increases and reductions in runoff to lakes and streams resulting from lower snowpack.

The Cowichan region's west coast includes some of the wettest ecosystems in B.C., and some of the driest ecosystems in coastal B.C. exist on the region's east coast. This means that the part of the regional district with the least water has the highest demand and highest potential for changes to natural hydrology due to land use changes.

Energy use and greenhouse gas emissions can be measured through the Community Energy Emissions Inventory (CEEI), which tracks energy use from buildings, transportation and waste in all B.C. communities. The contribution of transportation to greenhouse gas emissions is several times higher than that from buildings because a major source of energy for buildings

is electricity rather than fossil fuels. On-road transportation accounts for almost three-quarters of the greenhouse gas emissions in the CVRD.[2]

Deforestation is also a significant source of greenhouse gas emissions in the Cowichan Valley. Natural ecosystems such as forests, wetlands and grasslands act as "carbon sinks" by absorbing carbon dioxide from the atmosphere, thus mitigating the effect of human-caused greenhouse gas emissions. Disruption of those ecosystems by timber harvesting and wildfire results in significant amounts of carbon being released back into the atmosphere, as does the conversion of wetlands to agricultural and other uses.

The establishment of a development permit area for energy and water conservation and reduction of GHG emissions has three related objectives:

- to reduce energy and water consumption in new buildings;
- to reduce costs associated with ongoing operation and maintenance of buildings; and
- to promote innovation in building design and development.

[2] CVRD, Cowichan Region *State of the Environment Report*, 2014 Update, p. 8.