

Regional District of Central Okanagan Brent Road & Trepanier Official Community Plan

- PART I: INTRODUCTION 4
 - 1 Vision and Principles4
 - 1.1 Vision Statement4
 - 1.2 Guiding Principles4
 - 2 Purpose and Administration.....6
 - 2.1 Purpose of the Official Community Plan (OCP)6
 - 2.2 OCP Overview6
 - 2.3 Authority.....7
 - 2.4 Implementation7
 - 2.5 OCP Amendments7
 - 2.6 Relationship with Neighbouring Jurisdictions.....7
 - 2.7 Relationship with Other Plans8
 - 2.8 Advocacy Policies10
 - 2.9 Zoning and Land Use Designations.....10
 - 2.10 OCP Process10
 - 3 Community Portrait.....12
 - 3.1 Location and Official Community Plan Area12
 - 3.2 History and Heritage13
 - 3.3 History of Development Activity & Servicing13
 - 3.4 Environment and Geography.....16
 - 3.5 Demographic Profile.....19
 - 3.6 Economic Development20
 - 3.7 Land Use and Ownership Profile.....20
 - 3.8 Agricultural Land Reserve21
 - 3.9 Neighbouring Municipalities and First Nation Lands21
 - 3.10 Relationship to Okanagan Shuswap Land Resource Management Plan22

- PART II: OBJECTIVES AND POLICIES 24
 - 4 Future Land Use and Land Use Designations24
 - 4.1 Overview24
 - 4.2 Land Use Plan and Designations26
 - 5 Natural Environment, Hazards and Heritage Conservation.....29
 - 5.1 Overview29
 - 5.2 Natural Hazards36
 - 5.3 Heritage Conservation and Archaeology39
 - 5.4 Climate Change Adaption and Mitigation40
 - 6 Managing Growth and Development44
 - 6.1 Overview44
 - 6.2 Growth Management and Housing44
 - 7 Commercial Uses, Working Lands and Economic Development.....47
 - 7.1 Overview47
 - 7.2 Economic Development47
 - 7.3 Agriculture Lands50
 - 7.4 Rural Resources53

8	Transportation	55
8.1	Overview	55
8.2	Roads and Highways	55
9	Infrastructure, Servicing and Utilities	57
9.1	Overview	57
9.2	Water, Sewage, Drainage, Solid Waste and Electricity.....	57
9.3	Community and Protective Services.....	61
10	Community Facilities, Parks, Recreation and Heritage	63
10.1	Overview	63
10.2	Parks and Recreation.....	63
10.3	Central Okanagan West Electoral Area Parks.....	64
10.4	Central Okanagan Regional Parks and Greenways	64
10.5	Provincial Parks	65
11	Temporary Use Permits.....	69
PART III: DEVELOPMENT PERMITS		72
12	Development Permit Areas and Development Approval Information.....	72
12.1	General Development Permit Guidelines.....	73
DEVELOPMENT PERMIT AREAS.....		75
Appendix I:	Aquatic Ecosystem Development Permit Area & Guidelines.....	75
Appendix II:	Sensitive Terrestrial Ecosystem DP Area & Guidelines	86
Appendix III:	Hillside Development Permit Area & Guidelines	100
Appendix IV:	Wildfire Development Permit Area & Guidelines.....	104
 FIGURES AND TABLES		
Figure 1:	The OCP Process	11
Table 1:	Number of Households – Growth in Electoral Area West (1981 to 2006).....	19
Table 2:	Brent Road and Trepanier Estimated Population and Households	20
Table 3:	Tenure and Land Use.....	21
Table 4:	Sequence of Initiatives	25
 MAPS		
Map 1:	Properties in the Trepanier Valley under Land Use Contract No. 277.....	15
Map 2:	Brent Road and Trepanier Creek Greenway Regional Park Areas	17
Map 3:	Antlers Saddle Wildlife Area.....	18
Map 4:	Brent Road and Trepanier Sensitive Ecosystems.....	35
Map 5:	Agricultural Land Reserve (ALR) Areas.....	52
Map 6:	Brent Road and Trepanier Serviced Areas	59
Map 7:	Future Parks Connectivity	68
 SCHEDULES (ATTACHED)		
Schedule B: Brent Road / Trepanier OCP Plan Area		
Schedule C: Brent Road and Trepanier Future Land Use Map		
Schedule D: Aggregate Tenure Map49		
Schedule E: Aquatic Ecosystem Development Permit Area85		
Schedule F: Sensitive Terrestrial Ecosystem Development Permit Area98		
Schedule G: Hillside Development Permit Area		
Schedule H: Wildfire Development PermitArea		



Part I: Introduction

PART I: INTRODUCTION

1 Vision and Principles

This Official Community Plan (OCP) was developed in consultation with residents, landowners, community associations and recreational users of the Brent Road and Trepanier communities. The development of the Brent Road and Trepanier OCP involved several opportunities for the community to build their understanding of the issues facing the area and to provide their ideas and comments.

Residents and landowners in Brent Road and Trepanier expressed what they value most about the community through community surveys and open houses. The key priorities identified were:

- Appreciation of the rural lifestyle, with the close proximity to amenities in West Kelowna and Peachland;
- Respect for the environment, and sensitive natural areas; and,
- Natural and peaceful setting with access to backcountry wilderness and recreation.

The community's values form the foundation of a vision for Brent Road and Trepanier. Community input on the issues and trends being faced in the area, form the basis for the development of the objectives and policies of the OCP.

The Okanagan has more threatened, endangered and rare species than any other part of British Columbia. Brent Road and Trepanier in particular represent an ecologically important area with rare ecosystems and sensitive stream habitats. Protecting the areas sensitive ecosystems was a key motivator for the Regional District to undertake this OCP.

The future vision for Brent Road and Trepanier does not consider adding areas of urban growth. Should such a change in vision for the Brent Road and Trepanier area be considered in a future OCP, the guiding principles, goals, and objectives would need to be updated and refined to reflect this change in direction.

1.1 Vision Statement

Brent Road and Trepanier are rural areas which preserve their rural character by directing urban development into the appropriate serviced town centres of neighbouring municipalities. Recreational, park and trail opportunities are provided and will be expanded, while protecting the unique ecological areas and environmental qualities. Residents recognize the unique and rare natural setting of these rural areas as being of high value to residents and to neighbouring communities.

1.2 Guiding Principles

The vision for the Brent Road and Trepanier OCP is supported by the following principles:

- Preserve the rural characteristics of Brent Road and Trepanier by directing future urban development into the neighbouring municipalities of Peachland and West Kelowna.
- Consider future development and subdivision in areas that are willing and able to finance and support potable water servicing and fire protection.

- Encourage tourism, home-based businesses, and agricultural activities as economic diversifiers in the area.
- Support road safety for a variety of uses on the rural roads.
- Create connections between park areas to increase the recreational enjoyment of the area parks. Balance the desire for park access and connectivity with respect for private property and privacy in rural areas.
- Recognize the unique and rare ecosystems by identifying areas and supporting best practices for protection.
- Hillsides should be developed with sensitivity to the environment to reduce hazards and risk to property.
- Address fire protection to ensure safety in the area.
- Enhance communication and connections between the Regional District, First Nations, and neighbouring municipalities to ensure cooperation in shared goals for absorbing growth, enhancing parks connections and services, and protecting the natural environment.



2 Purpose and Administration

2.1 Purpose of the Official Community Plan (OCP)

This is the first Official Community Plan (OCP) for the Brent Road and Trepanier areas of the Central Okanagan West Electoral Area. It establishes a long-term vision for the community's future, and describes the community's broad objectives. It reflects the ideas and input of participants in the planning process including residents, landowners, planning professionals, senior government agencies, Regional District staff, and elected officials. This OCP will guide future development and land use in Brent Road and Trepanier.

This OCP is an essential guide for residents, landowners, businesses, community organizations and governments that may be contemplating any changes related to land use, development, building and infrastructure in Brent Road and Trepanier. Once the OCP is adopted, works undertaken and bylaws enacted by the Regional District should be consistent with this OCP. This includes decisions about zoning, subdivision, density, services and capital spending. It also provides guidance to other levels of government regarding issues that are beyond the jurisdiction of the Regional District. In this way, the OCP provides predictability and clarity for residents, businesses, neighbouring municipalities, as well as other levels of government.

2.2 OCP Overview

This OCP was developed in consultation with the Brent Road and Trepanier community. Citizens contributed to this OCP by communicating their priorities, such as the importance of protecting the natural environment, preserving the rural lifestyle that residents appreciate in these areas and considering costs for servicing the rural residential areas. It was important to consider all aspects of the community, including the general public, government agencies, and advisory groups for issues such as environmental protection, land uses and recreational needs.

The OCP includes objectives and policies to properly manage growth and development while protecting and enhancing residents' current quality of life. The OCP contains policies on a number of community issues, including the use and development of private land, parks and trails connectivity, transportation and mobility, environmentally-sensitive areas, housing and economic development. It includes a vision and guiding principles, objectives for the planning area and specific policies that state what the Regional District will do to achieve the objectives of the OCP.

The OCP includes Development Permit Areas and Guidelines for:

- Aquatic Ecosystems;
- Sensitive Terrestrial Ecosystems;
- Wildfire Interface; and
- Hillside Developments.

2.3 Authority

Regional Districts in British Columbia are given the authority to adopt an OCP through Part 26 of the BC *Local Government Act*. This legislation states that “an Official Community Plan (OCP) is a statement of objectives and policies to guide decisions on planning and land use management, within the area covered by the plan respecting the purposes of local government” (*Local Government Act*, Section 875.1).

This legislation stipulates what must and what may be included in an OCP. It also establishes adoption procedures. This OCP has been prepared in compliance with that legislation.

While similar in some respects to a municipality there are important differences for a Regional District. In the Regional District roads are planned, owned and maintained by the Ministry of Transportation and Infrastructure (MOTI). The Regional District is not the approving authority for subdivision and also does not have a general public works function. The variety of services and activities a Regional District can undertake is generally not as flexible as in a municipality. The policies of this OCP are focused on the activities under jurisdiction of the Regional District of Central Okanagan.

2.4 Implementation

All bylaws (as enacted or amended) or works undertaken by the Regional District must be consistent with this OCP after adoption. This OCP, however, does not commit or authorize the Regional District to proceed with any project specified in this OCP. Achieving the policies of the OCP will be determined by future decisions of the Regional District’s Board of Directors regarding priorities, funding and implementation.

2.5 OCP Amendments

Collectively, these policies are intended to provide a degree of certainty for the future of the community. As a result, it is expected that this OCP will not be revised on a frequent basis. However, changes are warranted from time to time, and it should be expected that some revisions will occur over time. To this end, this OCP is intended to be flexible in responding to changing conditions and values. This OCP may be amended by the Regional District Board, at its initiative or in response to an application submitted by a landowner.

2.6 Relationship with Neighbouring Jurisdictions

The Regional District does consult with neighbouring jurisdictions, agencies and First Nations. This OCP focuses on lands under the planning jurisdiction of the Regional District and does not cover adjoining lands within the District of Peachland, the District of West Kelowna, the Okanagan–Similkameen Regional District or lands under the jurisdiction of First Nations.

2.7 Relationship with Other Plans

Regional Growth Strategy (RGS)

The *Local Government Act* requires that Official Community Plans (OCPs) include a Regional Context Statement that explains how the OCP is consistent with the objectives set out in the Regional Growth Strategy (RGS), to realize a healthy and sustainable Central Okanagan.

At the time of preparation of this OCP, the RGS for the Central Okanagan is under review, with an expected completion date of 2012. The RGS will provide general directions on regional land use and major regional issues including: housing, transportation, economic development, regional district services, regional parks and open spaces, and emerging issues, like climate change.

In 2010, the Regional Board reviewed the RGS vision statement and suggested additions and simplifications to ensure that it adequately addressed the Region's commitments to social, economic and environmental sustainability. Here is the vision currently expressed by the Regional Board:

The Central Okanagan is a region of interconnected, healthy and distinct urban and rural communities where residents, businesses, and local governments recognize their role as stewards of the environment, and work cooperatively and collaboratively to conserve and enhance our region's precious water, land and energy resources. Working together, we envision a livable, sustainable, inclusive and welcoming region with a vibrant economy, and productive working landscapes where First Nations are celebrated as full and important partners.

Regional Context Statement

The *Local Government Act* (Part 25, Section 866) requires that an Official Community Plan contain a Regional Context Statement (RCS). The purpose of a RCS is to provide a link between an applicable Regional Growth Strategy RGS and the OCP by specifying how the region intends to achieve the goals of the Regional Growth Strategy.¹

The RGS applicable to the Brent Road/Trepanier areas is the Regional District of the Central Okanagan's (RD CO) Growth Management Strategy (Bylaw No. 851, June 2000). The RD CO started a review of the RGS in 2010; however, this review will not be completed prior to the adoption of this OCP.

¹ Note: The term Regional Growth Strategy and Regional Management Strategy are used interchangeably by the RD CO.

This OCP conforms to the goals of the current RGS, and the following table provides a list of key OCP sections and policies that specifically address stated goals of the current RGS:

RGS Goal	OCP Section	
1	Contain urban growth and support growth and redevelopment in existing settlement areas with full urban services.	4. Future Land Use and Land Use Designations 6. Managing Growth and Development
2	Residential development should include a range of housing types, densities and affordability options.	6. Managing Growth and Development
3	Ensure provision of adequate and appropriate urban services before development is permitted to occur.	9. Infrastructure Servicing and Utilities
4	Obtain impact assessments for major OCP amendments and infrastructure projects, including fiscal impacts to the community.	6. Managing Growth and Development
5	Require an environmental review of development deemed to impact the land, watershed and other natural resources.	5. Natural Resources and Hazards Development Application Procedures Bylaw 944
6	Direct urban development to be directed away from hazardous, sensitive environmental and resource extraction areas and farmland.	6. Managing Growth and Development 12. Development Permit Areas
7	Maximize the efficiency of the transportation system.	8. Transportation
8	Maintain a co-ordinated approach to expansion and diversification of the economic base.	7. Commercial Uses, Working Lands, and Economic Development
9	Consideration of the social and economic benefits of arts, culture, tourism, and recreation amenities in decision making.	10. Community Facilities, Parks, Recreation, and Heritage
10	Work cooperatively to establish regional governance.	Addressed throughout OCP policies

In addition to the items noted above and in response to other required RGS context statements, Section 3.5 Demographic Profile estimates the population and households in Brent Road/Trepanier.

Furthermore, Section 5.3 Climate /Change Adaptation and Mitigation sets overall targets for Greenhouse Gas (GHG) emissions reduction in Brent Road/Trepanier that reflect provincial targets for a 33% reduction in GHG emissions by 2020 from 2007 levels; and an 80% reduction in GHG emissions by 2050 from 2007 levels.

2.8 Advocacy Policies

Where matters are outside the jurisdiction of the Regional District, this OCP states broad community objectives and “advocacy policies”. These advocacy policies encourage others to take action that the Regional District believes would contribute to community objectives. Where provisions of the OCP concern matters beyond the jurisdiction of the Regional District, senior levels of government are requested to regard them as wishes of the community and the Regional Board. Senior levels of government are requested to use advocacy policies as guidelines wherever possible for making decisions about the community.

This OCP cannot and does not represent a commitment from other governments, agencies or organizations to act according to community objectives or advocacy policies.

2.9 Zoning and Land Use Designations

An OCP is a plan that describes the community’s aspirations for the future. Therefore, it does not, and should not, always reflect the present uses of land. In this regard, it is important to note the distinction between OCP land use designations and zoning. OCP land use designations denote the future intended land use for an area. Zoning is the land use that is currently permitted. The OCP is a policy that guides decisions. Zoning is a regulation. The Zoning Bylaw is intended to prevent anyone from using a building, a structure or land in a way that does not conform with the zoning regulations that apply to that property.

In some cases, the OCP land use designation may reflect the current zoning. In other cases, the OCP land use designation will be different from the zoning because the OCP is signalling that the community would like the land use to change in the future. This does not mean that the land use must change now or any time in the future. But it does mean that any future changes in zoning must be consistent with the OCP designation. For example, if an area is designated as “Residential” in the OCP, the Regional District cannot pass a zoning bylaw amendment that changes the zoning of that land to “Industrial” or “Commercial,” unless it changes the OCP designation first, because any change in zoning must be consistent with the OCP.

2.10 OCP Process

The planning consultation process was launched in January 2011 with the approval of Regional District staff and Board. The OCP was developed in accordance with the consultation requirements set out in the *Local Government Act*, Part 26, Sections 879 and 881. According to the Act, a minimum of one opportunity for the public to give input into the generation of the Bylaw must be provided. The public process for the development of the OCP exceeded any minimum requirements in the *Local Government Act*. In addition, various agencies, First Nations and the School Board were consulted and provided with the draft OCP in July 2011. Comments received were incorporated in the development of the final OCP. See “Figure 1: The OCP Process” for an outline of the consultation process. In summary the following consultation steps were applied in the development of the Brent Road and Trepanier OCP:

Public Survey: In February 2011, a public survey was conducted to receive residents’ and landowners’ opinions on key issues in Brent Road and Trepanier. The results of this survey helped provide foundational information and preliminary directions for potential policy directions. The policy directions were tested with a second survey to residents’ and landowners’ that was sent out in July 2011.

Community Ideas Forum (Open House): Guided by results from the public survey, and review of background documents, a community ideas forum was hosted by the Regional District and its planning consultants in April 2011. This event was designed to provide community members an introduction and background information related to the OCP process, as well as provide an opportunity for residents to help develop a community vision and goals to help guide the development of the OCP’s priorities. A second open house was hosted in September 2011 to communicate and confirm the OCP directions with residents and landowners.

Website: Information on all of the OCP events as well as background information, surveys and resources were posted on the Regional District’s website at: www.regionaldistrict.com/OCP. The website also had a link to the on–line surveys that guided the OCP priorities and policies.

Draft OCP: Guided by input gathered from the public, District staff, and Regional Directors, the OCP planning team developed a draft OCP for public and referral agency review in July 2011.

Final OCP: The OCP was revised based on referral agency comments, public input including surveys, open houses and meetings with advisory committees, to create a document consideration of 1st reading by early 2012.

Public Hearing: The public hearing is the last stage of the process where community input is possible. Upon completion of the Public Hearing, the Regional Board is presented the OCP for its consideration of second and third readings.

Adoption: This is the last stage of the process where the Regional Board is formally presented the completed OCP for its final consideration and adoption.



Figure 1: The OCP Process



3 Community Portrait

3.1 Location and Official Community Plan Area

Brent Road and Trepanier are unincorporated areas in the Regional District that are within the “Central Okanagan West Electoral Area.”

The Brent Road neighbourhood is located along the western shores of Okanagan Lake and includes two residential enclaves. The area extends west of Highway 97 to include the Antlers Saddle Wildlife provincially protected area, further extending to the northwest corner of, and inclusive of DL 1275. The OCP area is bounded on the north by the District of Peachland and by the Regional District of Okanagan Similkameen to the south. The area also includes a portion of Antlers Beach/Hardy Falls Regional Park and two enclaves of agricultural land.

The Trepanier neighbourhood abuts the boundaries of Crystal Mountain Ski Resort to the north, is bounded on the east by the new municipality of the District of West Kelowna, and to the south by the District of Peachland. The OCP area extends northwest to include a portion of Trepanier Provincial Park and includes residential neighbourhoods, agricultural lands, community parks and greenways, and regional parks such as Trepanier Creek Greenway Regional Park and Coldham Regional Park. Highway 97C/Coquihalla Connector traverses the neighbourhood and also includes Crown lands north and south of the highway corridor.

Overall, the Brent Road/Trepanier OCP applies to an area of 2,742 hectares (or 6,776 acres), as shown on “Schedule B: Brent Road and Trepanier Official Community Plan Area.”

See Schedule B: Brent Road / Trepanier OCP Plan Area

3.2 History and Heritage

The area where Trepanier Provincial Park is located today protects an ancient first nations trail and trading route between the Douglas plateau and the Okanagan Valley. In 1812 Alexander Ross headed an expedition up the Columbia River, then the Okanagan River, to establish a fur trading post in the British Columbia interior, establishing Fort Kamloops and naming Trepanier and Jacques Creeks (Peachland Museum). Trepanier Creek was named after a brain surgery performed on a Shuswap chief in 1817, who had been critically wounded. The chief underwent a surgery, known as trepanning, to relieve swelling of the brain (Source: RDCO Trepanier Creek Greenway Regional Park sign).

In 1824 John Astor established a trail between Fort Okanagan and Fort Kamloops, that became known as the "Fur Brigade Trail." The trail brought fur traders and pack horses from the Oregon ports in the south to Prince George in the north. The trail entered the Peachland area from Garnet Lake and made its way to Deep Creek, stopping at a freshwater spring that is now below Princeton Avenue and Somerset, though it is unclear exactly where the trail may have run through the Trepanier area (Source: Peachland Museum). With the discovery of gold in the 1850's, hopeful miners traversed this hillside slope in the fur brigade's footsteps on their way to claims in the Okanagan (Source: Peachland Historical Society).

In 1907, the residents in "the Townsite," or Trepanier Creek area, established the Trepanier Water Users ditch to supply nearby orchards and the Lambly Ranch with water. Until the 1950's, water was supplied by wooden flume, but it was later upgraded to concrete cisterns and metal flumes. From 1909 to 1947, a small hydro-electric plant supplied energy and water to the Municipality of Peachland via a wooden stave, wire-wound pipes, and a Pelton wheel ¼ of a mile below the gorge. As the creek flow was small, the electricity in Peachland turned off at midnight, so the Trepanier Creek dam could refill overnight.

Brent Road is a rural residential neighbourhood located on the western shores of Okanagan Lake. The subdivision was established in the 1970's and homes were primarily used seasonally. Over time, the homes have been upgraded to year-round residential use.

In summary, several important influences have shaped the Brent Road and Trepanier area, including:

- The geography formed by Trepanier Creek, as well as the historic trade routes in the area.
- The original pattern of subdivision and roads established with the initial subdivisions of land around the late 1970s and early 1980s.
- The rural character and limited infrastructure such as a community water supply and sewage treatment.

3.3 History of Development Activity & Servicing

There are currently 145 private properties in the OCP study area, as well as Crown lands and undeveloped property. There are approximately 84 properties with residential buildings in the study area. Most of the properties in the Brent Road and Trepanier area are owned by people who live in the community as full-time residents. Approximately 20% of properties are owned by people whose primary residence is in the Lower Mainland or Alberta. Seven parcels are Crown land.

Trepanier has 53 residential addressed properties that were developed in distinct phases. Most of the Trepanier/Paradise Valley neighbourhood parcels, which fall under a Land Use Contract,

were built in 1982. Other homes in the Maxwell Road neighbourhoods were constructed in 1985, 2000, and 2006. The 8 properties in Star Place were largely developed around 1996.

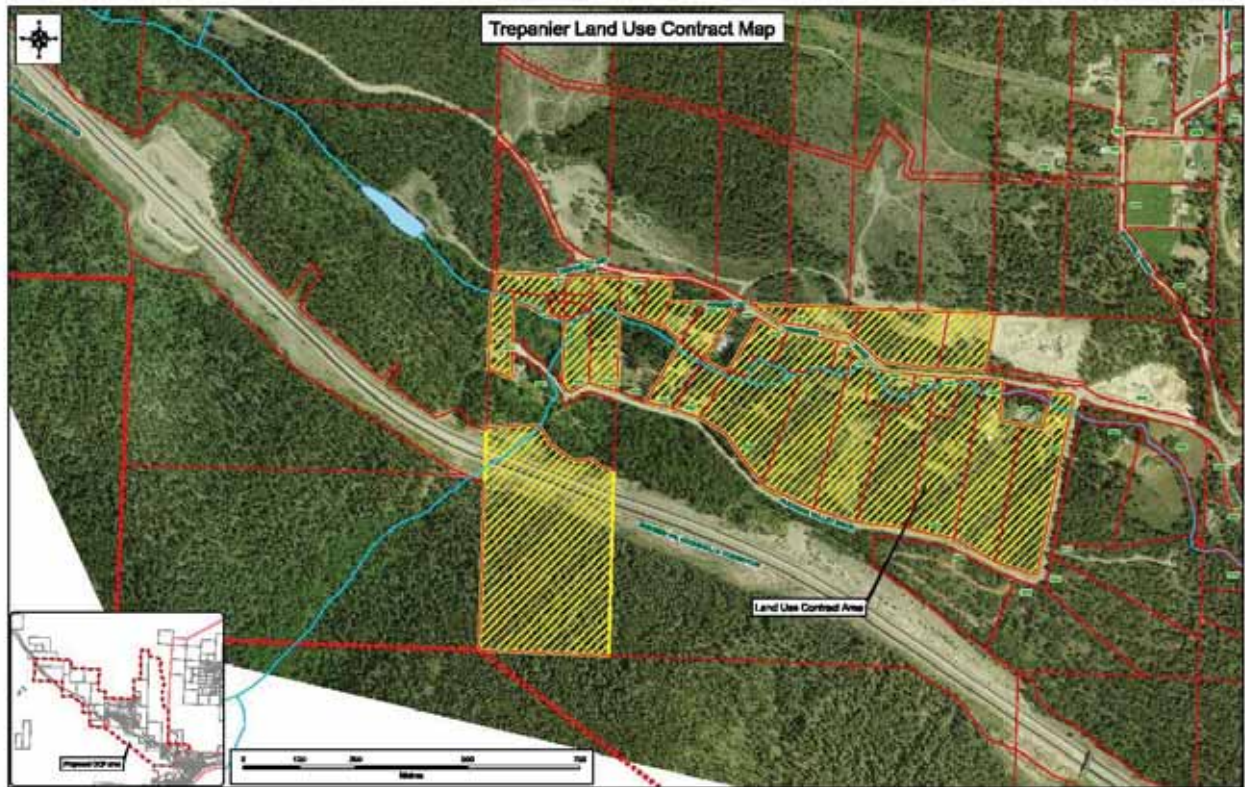
Most properties in the OCP area are self-servicing for sewage disposal, and potable water. In the Trepanier Road area, residences receive water from individual wells, and 3 small water systems including the Trepanier Ditch Users community water system, which remains on permanent boil notice. The 8 residences in Star Place rely on one of the community water systems.

Brent Road has 31 addressed residential properties. Residences were built at various times, with the majority of homes being built either in the early 1970s and 1980's. Residences in the Brent Road area have individual Okanagan Lake water intakes and septic systems for sewage disposal. Additional information on Infrastructure and Servicing is summarized in Chapter 9 of the OCP.

There are four separate areas of lands within the Agricultural Land Reserve (as shown on Map 2). In 1972, the *Agricultural Land Commission Act* came into effect in British Columbia. The goal of the legislation was to preserve the agricultural land base of BC. The Act essentially identified agricultural land that should remain agricultural and not be developed for residential or urban use.

In 1979, the Trepanier Valley lands were placed under a regulatory tool called a Land Use Contract Bylaw (in effect, a site specific Zoning Bylaw). While the area was not actually developed for several years, the bylaws to permit residential development were established by the Land Use Contract. There are currently 22 properties in the Trepanier Valley where the land use and development are governed by Land Use Contract (LUC) No. 277, unlike areas outside of the LUC which are governed by Zoning Bylaw No. 871, adopted in 2000.

There are residential land use decisions stemming from old provision of the Land Use Contract (LUC) of the late 1970's that are not consistent with the Regional District Zoning Bylaw. These two land use regulatory bylaws have different permitted uses (e.g. home based businesses and kennels are not permitted under the LUC, but are permitted in the Rural 2 Zone (RU2). This causes confusion in administering the land use.



Map 1: Properties in the Trepanier Valley under Land Use Contract No. 277

During the 1990's, Regional District policies reflected a strong community preference for growth and development to be situated in the Regional District where full urban services could be provided. This policy direction was supported by provincial agencies, within the provincial Okanagan Shuswap Land and Resource Management Plan (1997), the Okanagan Valley Transportation planning process (1990's), and the Central Okanagan Growth Management Strategy (2000). Development in Brent Road and Trepanier areas reflects the precedent for those residential areas that was largely established by decisions made in the late 1970's to the early 1990's.

The pattern of development in Brent Road and Trepanier is consistent with development in the Central Okanagan West Electoral Area (COW). According to 2006 BC Stats data, about a quarter of all development in the COW occurred between 1970 and 1980. Another 30% occurred between 1991 and 2000. Homes in the COW are overwhelmingly single family homes (more than 77% in 2006). There are also a few mobile homes, semi-detached homes, and multifamily homes. In 2006, 89% of homes were owner-occupied in the area which is much higher than the BC average (69.7%) (Source: BC Stats 2006).

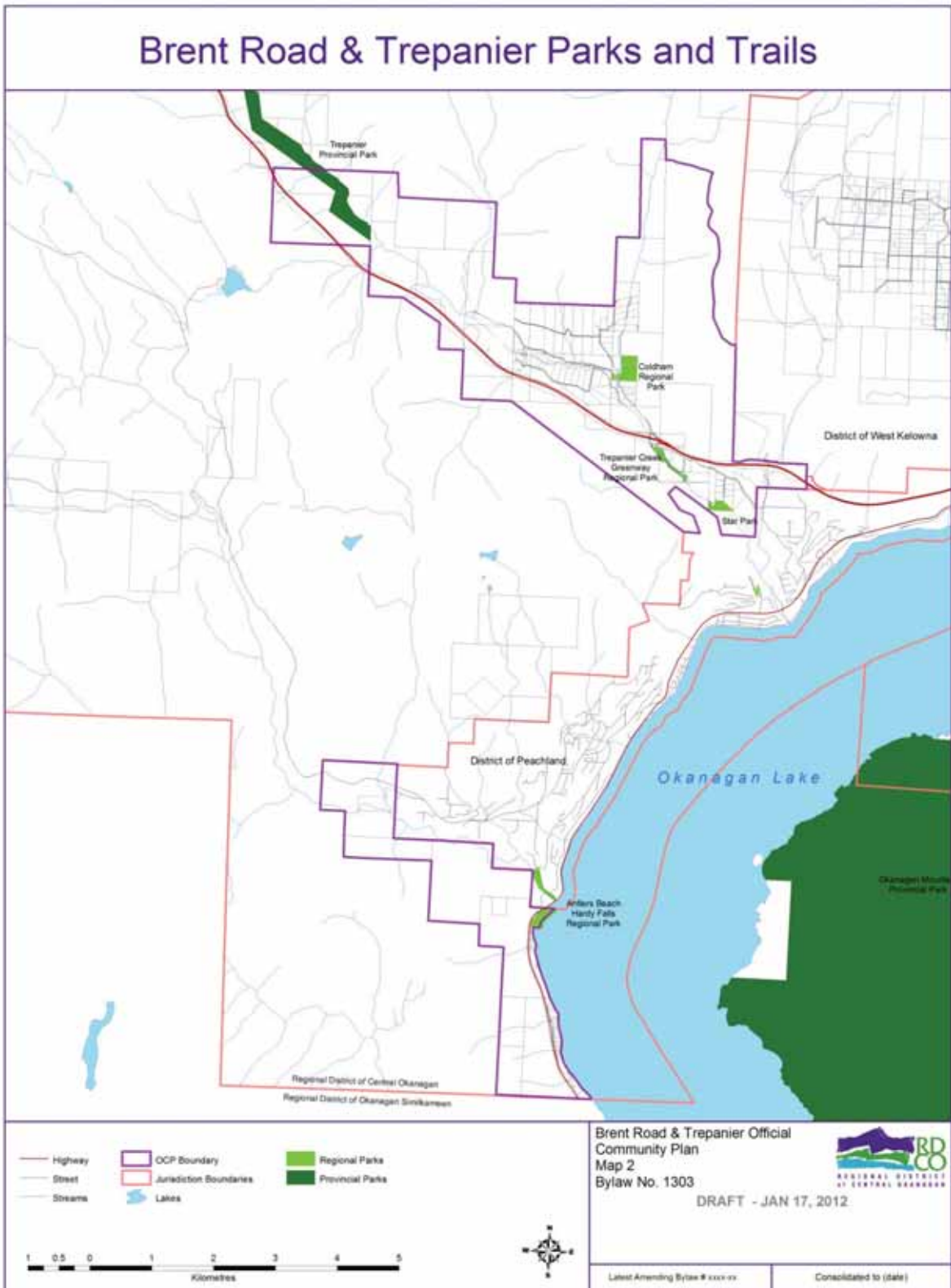
3.4 Environment and Geography

The Okanagan is the northernmost extension of the deserts that cover the great divide of North America. The geography is dramatic with steep valley hillsides that plunge down to the lake and valley bottom below. The rain shadows of the mountains create a very dry climate that changes relative to elevation. The closer to Okanagan Lake at the valley bottom, the drier it is. The high water level of Okanagan Lake is 343 meters above sea level. The top of Chrystal Mountain is 2319 meters in elevation. Precipitation records indicate not only periods of drought, but also a wide variation of precipitation from one year to the next. As a result, the Okanagan is recognized as one of the most ecologically diverse regions of Canada.

The topography of the Okanagan Valley creates the conditions for temperature inversions that often result in periods of air stagnation. During such inversions the valley is essentially “capped” and air circulation into and out of the valley is reduced. There is increasing need for air quality management measures. Furthermore, the Okanagan Valley has more threatened, endangered and rare species than any other part of BC. Those species are associated with certain ecosystems and cannot exist without the environment that supports them. The rarest ecosystems, and also those under the most threat, are in the valley bottom and consist of open grasslands, pine savannahs, and dry southerly oriented lands. The watercourses in these areas are important sanctuaries that provide for connections between ecosystems and support biodiversity.

The Trepanier Creek corridor was created as a result of glacial activity and deposits, further modified by hydrological activity after the glacial period. As a result, the Trepanier Creek corridor has rocky outcroppings and sediment deposits that support and produce highly sensitive ecosystems (Trepanier Creek Greenway Regional Park – Crown Land Acquisition Plan 2010), as well as significant deposits of gravel and aggregates.

Map 2 shows the provincial, regional parks, trails and agricultural lands in the OCP area.



Map 2: Brent Road and Trepanier Creek Greenway Regional Park Areas

Trepanier Provincial Park

Trepanier Provincial Park (2,884 hectares or 7,126 acres) was established in 2001 to protect important water, biodiversity, historical, and recreational resources, including Trepanier Creek drainage. Raymer Lake, a small fishing lake in the north-west corner of the park, is regenerating after a wildfire in 1970. Trepanier Provincial Park is also home to twelve known species at risk including: the Flammulated owl, Western rattlesnake, and Yellow-bellied racer (Source: BC Parks).

Antlers Saddle Wildlife Area

The uplands of the Brent Road OCP area (labelled TAC & ACQ1 in the map below) are Crown Lands managed by the Ministry of Forests, Lands and Natural Resource Operations. The Wildlife Program purchased the 370-hectare area (118 hectares is located within the OCP area), known as the Antler Saddle properties because of their high mule deer winter range values. In addition to mule deer, white-tailed deer and mountain goats also benefit from these winter and spring ranges. The Antler Saddle properties are particularly important to wintering ungulates because of the available low elevations, warm solar aspects, and winter forage (i.e. grasses and shrub species). Also, the properties typically have lower snow packs and provide access to early spring forage, which is the most critical factor for ungulate winter survival. Currently, management of the Antler Saddle properties is challenged by ATV and dirt bike disturbances to the ungulates populations. The area is not intended to have high recreation use. The purpose is to protect the lands for ungulate winter and spring feeding and the Ministry enforces motor vehicle restrictions on these lands. The properties are also challenged by land disturbances caused by erosion and invasive weeds.



Map 3: Antlers Saddle Wildlife Area

Regional Parks

Coldham Regional Park was donated to the Regional District of Central Okanagan by the Coldham family. The 11 hectare (27 acres) park is currently undeveloped and has limited access from Trepanier and Maxwell Roads. The park is a mixed woodland Ponderosa Pine and of Douglas fir, birch and shrubbery, and a section of Jack Creek traverses this park .

Trepanier Creek Greenway Regional Park is a series of trails over 6.79 hectares (17 acres) that links the Okanagan Connector and Okanagan Lake in Peachland. The Greenway spans Ponderosa Pine/Douglas Fir forest to grasslands with rocky outcroppings. From 1909 to 1947 there was a small hydroelectric power plant on Trepanier Creek that supplied the new Municipality of Peachland. Remnants of the dam can still be seen today. In 2008, lands near the Highway 97C overpass and Trepanier Road formed the Trepanier Creek Greenway Regional Park. To complete the greenway from District of Peachland's Trepanier Linear Trail and the existing Trepanier Creek Greenway Regional Park, statutory rights of way were acquired on private and public land. Crown land is the last remaining link required between the two (Trepanier Creek Greenway Regional Park – Crown Land Acquisition Plan 2010).

Antlers Beach Regional Park located along Okanagan Lake and adjacent to the Brent Road area, is a natural beach with Ponderosa Pine shading the picnic area. Hardy Falls Regional Park is located along Deep Creek and becomes home to Kokanee salmon returning to spawn each year. Hardy Falls Regional Park is 6 hectares (15 acres) in size and is named after Harry Hardy, one of the first orchardists on the Westside. Star Park is 3.13 hectares (7 acres) and is an undeveloped neighbourhood/community park located at the south end of Star Place.

3.5 Demographic Profile

Brent Road and Trepanier is a portion of the Central Okanagan West Electoral Area (COW) (previously Electoral Area J created from the merger of Electoral Area G and Electoral Area H). In 2007, most of the population in the COW joined the jurisdiction of the newly-incorporated District of West Kelowna.

The most current statistics data available for the area are from 2006. In 2006, COW had 10,975 households, 79% of which were one-family households. Just under 30% of the population of COW was between the ages of 20–44 in 2006, and another 30% of the population was between 45 and 64 years old. Approximately a quarter of the population was 19 years old or younger. In 2006, the median age in COW was 42.7, which was younger than the median for the Regional District (43.4) but older than in BC (40.8). COW's growth rate has been increasing more rapidly than the Regional District as a whole.

Table 1: Number of Households – Growth in Electoral Area West (1981 to 2006)

Area	1981	1986	1991	1996	2001	2006	% Change 96–01	% Change 01–06
Electoral Area West (COW)	12,710	13,445	17,770	22,901	26,001	28,972	13.5%	11.4%
Regional District	85,237	89,730	111,846	136,541	147,739	162,276	8.2%	9.8%

Table 2: Brent Road and Trepanier Estimated Population and Households

	Population	Households	Average # People per Household
Brent Road / Trepanier (Est.)	Approx. 235	Approx. 84	2.8
West Electoral Area (COW) (2006)	3,978	10,970	2.8

(Source: Stats Canada, BC Stats)

COW is less ethnically diverse than BC overall. In 2006, about 4% of the population of COW identified as Aboriginal, and another 4% identified as a visible minority. 15% of the population were immigrants, mostly having immigrated before 1970 from Northern and Western Europe, in particular Germany, England, Scotland, Ireland, and France.

Almost two-thirds (61%) of people 15 years and older in COW were married in 2006, compared to 50% for BC. However, the area had fewer families with children at home (44.8%) compared to BC as a whole (48.6%). 74% of households in this area in 2006 contained a couple.

The median household income in COW in 2005 was \$60,070, which is higher than BC overall (\$52,709).

3.6 Economic Development

Historically, major industries in the area were forestry and aggregate / gravel extraction. Forestry has declined in the area, however gravel extraction remains a significantly visible industry in Trepanier. Existing aggregate tenures and pit management is further discussed in Chapter 7 of the OCP. Aggregate management falls under Provincial jurisdiction through the Ministry of Energy and Mines. Regional District Zoning Bylaw 871 regulates permitted uses on lands, such as processing and extraction businesses.

In 2006, residents of COW primarily worked in retail trade (13.4%), construction (13.0%), healthcare and social assistance (9.9%), and manufacturing (9.1%). Residents of this area are predominantly employed in sales and service occupations, the trades, transport and equipment operators and related occupations and business, finance and administration occupations. Anecdotally, many people living in the Brent Road area are retired, or own property that they intend to retire into.

3.7 Land Use and Ownership Profile

The Ministry of Transportation and Infrastructure (MOTI) has jurisdiction over subdivisions in the area, and minimal development has occurred in the area. The most recent development in the OCP study area was the approval of Camp Okanagan cottages and recreational vehicle sites in Trepanier.

The following table describes the distribution of Crown and private land in Brent Road and Trepanier, as well as the breakdown of private land uses. *Please note some of the values are estimates.*

Table 3: Tenure and Land Use

	Area (Ha) +/-	Percent
RDCO West Electoral Area (COW)	124,756	
Total Area within OCP Boundary	2,742	2.2% of RDCO
Total Provincial Parks	31	1% of OCP area
Total Private Land	2,711	99% of OCP area
Agriculture (including ALR)	449	17% of OCP area
Agricultural Land Reserve	262	9% of OCP area
Rural Resource	1884	70% of OCP area
Rural Residential	220	8% of OCP area
Park/Open Space	137	5% of OCP area
Private Recreation	12	0% of OCP area
Other (Roads, rights of way, data incongruity <1%)	9	0% of OCP area

(Source: West Electoral Area (COW) from BC Stats 2006. Other information estimated from RDCO GIS mapping and zoning information.)

3.8 Agricultural Land Reserve

The OCP study area has only four Agricultural Land Reserve (ALR) parcels (see Map 4). In the Brent Road area, the agricultural production consists of a vineyard and apple orchard. In Trepanier, a vineyard and winery existed on the Agricultural Land Reserve lands; however, it is no longer active. The other ALR parcels on Crown land, are not currently used for agricultural production. The provincial Agricultural Land Commission controls development and subdivision in the ALR.

3.9 Neighbouring Municipalities and First Nation Lands

Brent Road and Trepanier is separated by the District of Peachland, and is bordered to the south by the Okanagan–Similkameen Regional District. Both Peachland and the Okanagan-Similkameen RD have their own regulatory OCPs and zoning bylaws for future land uses that will have an important influence on the future of Brent Road and Trepanier. Members of the Interior Salish Nation lived in the Okanagan before the first Europeans arrived. Indian Reserve #9 and Indian Reserve #10 are located near West Kelowna, but are not included within the study area. First Nations people, including the Okanagan Indian Band, the Okanagan First Nation Alliance, and the Westbank First Nation have claims on land in the Okanagan Valley.

Given the close proximity and the mutual interests of all communities in the area, the Regional District supports the continued exchange of information and the clarification and pursuit of common interests for the betterment of the area as a whole.

3.10 Relationship to Okanagan Shuswap Land Resource Management Plan

The Province of BC, approved the Okanagan Shuswap Land and Resource Management Plan (LRMP) in 2001. The LRMP provides direction for the management of the Crown land and resources within the entire plan area. It is the intent of the Community Crown Interface resource management zones (RMZ) - Section 4 of the Land Resource Management Plan are to ensure that development on private lands considers the values that exist on neighbouring Crown lands, such as species movement, wildlife habitats and recreational access to Crown lands. The Community Crown Interface lands intend to enhance coordination of environmental stewardship between Crown lands and adjacent private lands.

The LRMP policies that exist for Crown Interface lands have also been considered in the development of the Brent Rd/ Trepanier OCP. Given that 12% of the OCP area is in Crown land, the Regional District supports the continued exchange of information and pursuit of complimentary land management for the betterment of the area as a whole.

A photograph of a dirt path winding through a lush green forest. A person wearing a pink jacket and dark pants is walking away from the camera down the path. The trees are tall and thin, with dense foliage. Sunlight filters through the leaves, creating dappled shadows on the path. The overall scene is peaceful and natural.

Part II: Objectives and Policies



PART II: OBJECTIVES AND POLICIES

4 Future Land Use and Land Use Designations

Identification of community values and visions, and understanding the issues and trends in Brent Road and Trepanier, leads to the development of objectives and policies for the OCP. Those objectives and policies are grouped into the various sections of this OCP.

Some of the policies are general. They are applied as development occurs and when decisions about land use are being made. Many of the policies; however, are strategic. They indicate an action, plan or review that the Regional District may be undertaking at some point in the future. There is a certain amount of staffing and resources available to carry out the strategic actions outlined in the OCP. Each action also differs in the time it will take and complexity. Priorities need to be set and the Regional District needs to balance the obligations for the Brent Road and Trepanier area with the obligations for other areas in the Regional District and for the Regional District as a whole.

The following are some of the major initiatives outlined in this OCP. While this list was put together in a comprehensive way, it is not possible to anticipate each eventuality, especially when anticipating future activities. Furthermore, this is not a complete list of all actions required to implement all policies. This list is essentially a guide, subject to change in consideration of the resources and partnership opportunities of the Regional District. Additional resources may be required as a result of other policies in the OCP.

4.1 Overview

- O1 The Regional District supports the review and implementation policies of the Brent Road and Trepanier OCP when considering decisions with regard to land use and development in the plan area.
- O2 Pursuant to the *Local Government Act*, s.920.01-920.1, an applicant may be required to provide development approval information with a zoning amendment, development permit or temporary use permit application in order to assess how the development addresses on-site issues such as energy use, accessibility and water conservation. Approval information may also be required from the applicant to assess off-site impacts such as traffic flow, storm water runoff and local infrastructure. The objective is to provide a thorough professional collection and review of information in order to support informed land use decisions. The Regional District applies the Development

Application Procedure Bylaw, 944 in development permit reviews. Reports may be required from qualified professionals on the following:

- Flood protection, stormwater management and/or groundwater management;
- Wildlife Hazard Assessment;
- Geotechnical studies;
- Environmental impact assessment;
- Building design;
- Traffic impact and pedestrian safety studies’
- The impact and assessment on local infrastructure;
- Assessment of capacity of public facilities including schools and parks;
- The impact on or need for additional community services, as outlined in the Subdivision and Development Servicing Bylaw.

- O3 Referring to policies of this OCP the Regional District will endeavour to undertake the following major initiatives (identified in Table 4) in the short term (sooner) to the long term (later).
- O4 The timing of initiatives from this OCP must consider the available resources given other projects being undertaken by the Regional District; therefore, the order and timing of projects is subject to revision.

Table 4: Sequence of Initiatives

SHORT TERM
1. General review for concurrence with the OCP (Development Application Procedures Bylaw, publications, application forms, Zoning Bylaw, Subdivision and Development Servicing Bylaw. etc)
2. Review and update the Regional Emergency Plan.
3. Enhance liaison with First Nations on land use issues as local staff resources are increased.
4. Consult with the District of West Kelowna, District of Peachland and the Province of BC on their parks management and seek opportunities for increasing connectivity between the park areas.
5. Develop methods to expand, obtain, fund and manage parks, trails and greenways.
6. Develop a strategy for public education and information on Environmentally Sensitive Areas, watercourses, and environmental conservation.
MID TERM
7. Review of the Brent Road and Trepanier OCP for the purpose of clarification after its first year of use.
8. Undertake a process with Ministry of Energy and Mines to develop a long-term strategy for Mineral and Aggregate tenure management within the OCP boundaries, such as the complete review and update of the Aggregate Supply & Demand Study (2000) as well as work with the Province to initiate and complete a Pilot Project.
9. Implement Foreshore Structures Bylaw and implement recommendations in the Foreshore Plan for the Brent Road area.
LONG TERM
10. Undertake a process with the appropriate provincial ministry to develop a long-term strategy for Crown Land Management within the OCP boundaries.
11. Incorporate the information and guidance from the Biodiversity Conservation Strategy currently under development through the Okanagan Collaborative Conservation Program (OCCP)

4.2 Land Use Plan and Designations

The future use, of land within the Brent Road and Trepanier OCP is illustrated on “See Schedule C: Brent Road and Trepanier Future Land Use Map.” These designations outline the general category of land uses that may be considered in each location. The current permitted land uses and the conditions under which they can occur are identified by the Regional District’s Zoning Bylaw 871.

Schedule C illustrates the preferred pattern of land use as redevelopment is proposed. Current existing land uses may or may not conform to the designations shown on the Future Land Use plan. The Land Use designations describe a general category of land use. It is important to note that all the other policies in the OCP must be considered in the evaluation of any development application.

Objectives

- O1 Manage growth in an orderly manner.
- O2 Protect the rural character of Brent Road and Trepanier areas.
- O3 Use and development of land is to be consistent with the designations depicted on “See Schedule C: Brent Road and Trepanier Future Land Use Map.”
- O4 Support coordination of growth and land management between neighbouring jurisdictions and with Crown lands.

Policies

- P1 Before supporting amendments to land use designations or applications to alter land use, the Regional Board may require preparation of a Neighbourhood Plan.
- P2 Consider the Okanagan-Shuswap Land Resource Management Plan in development decision-making. The intent of the Community Crown Interface (Section 4 of the Land Resource Management Plan) is that development on private lands considers the values that exist on neighbouring Crown lands, such as species movement, wildlife habitats and recreational access to Crown lands. The Community Crown Interface lands intend to enhance coordination of environmental stewardship between Crown lands and adjacent private lands.
- P3 On “See Schedule C: Brent Road and Trepanier Future Land Use Map” where a map boundary between future land uses does not follow a legally defined line such as a road right-of-way or property line, the location of the boundary will be precisely determined through zoning or other development approvals. The location of the boundary should closely reflect “See Schedule C: Brent Road and Trepanier Future Land Use Map.”

Land Use Designations

The following is a summary of land use designations, shown on “See Schedule C: Brent Road and Trepanier Future Land Use Map”:

4.2.1 Rural Resource

- P4 Land with Rural Resource designation includes provincial forests and community watersheds and rural areas consisting of Crown land and privately owned large rural lots with minimal services.
- P5 Crown lands and private lands within this designation are intended to support resource industries such as cattle range, agriculture, timber harvest and gravel extraction as well as outdoor recreation on large parcels (30 ha or larger).
- P6 Private lands within this designation have environmental constraints to the provision of services such as community water and roads. In order to minimize road access, protect resources, and environmental values, large parcel sizes are encouraged (30 ha or larger).
- P7 Amendments to the boundary of Rural Resource areas may be considered based on expansion of community servicing areas and topography, but will be balanced against the loss of rural resource and natural landscape values.
- P8 Provincial resource development activities will be supported in this designation subject to Best Management Practices and compatibility with tenure holders and neighbouring land uses.
- P9 Home based businesses are supported within in this designation as an important employment opportunity, provided the use does not conflict with the predominant residential or rural land uses.

4.2.2 Agricultural

- P10 Lands within this designation are intended for agricultural use and will support crop growing, food processing, agri-tourism and other industries in support of the agricultural sector.
- P11 Lands within this designation are wholly or in part located within the Agricultural Land Reserve (ALR).
- P12 Further subdivision of ALR lands within the Agricultural designation is not supported save for instances that conform to exceptional cases meeting the policies located in the Agricultural Section of this OCP. Subdivisions in the ALR are subject to the approval of the Agricultural Land Commission (ALC).
- P13 Future development of these lands should be consistent with the Regional District’s Agricultural Plan.
- P14 Home based businesses are supported within in this designation as an important employment opportunity, provided the use does not conflict with the predominant agricultural or rural land uses.

4.2.3 Rural Residential

- P15 Lands within this designation are large rural properties with minimal services and some limitations consisting of a 4 ha minimum lot size.
- P16 This designation is intended for areas supporting rural residential development.
- P17 Lands within this designation are intended for rural residential use. Agricultural uses are also permitted in these rural areas.
- P18 Home based businesses are supported within in this designation as an important employment opportunity, provided the use does not conflict with the predominant residential or rural land uses.

4.2.4 Parks and Natural Open Space

- P19 This designation is intended for outdoor oriented parks, recreation services, conservation parks and natural open spaces on public or private lands.

4.2.5 Private Recreation

- P20 This designation is intended for large–scale, open space oriented, private recreation such as eco–tourism facilities or recreational cabins.

4.2.6 Uses that may be considered in any designation

- P21 Public utilities and public parks zoned P1 (Park and Open Space), and the use of Comprehensive Development Zones (CDZ) (zones written specifically for a particular site in consideration of OCP policies and designations) may be considered in any designation.

See Schedule C: Brent Road and Trepanier Future Land Use Map



5 Natural Environment, Hazards and Heritage Conservation

5.1 Overview

In recent years, the Regional District, provincial, and federal agencies have conducted inventories of the rare ecosystems in the Okanagan, in part to determine the range of rare and endangered species and to manage for health of these populations. Native fish populations have declined as a result of stream works (e.g. dams, concrete breakwaters etc). There has also been habitat loss from urban settlement and uses, agriculture, forestry, and the introduction of plants and animals not native to the Okanagan.

The Province of British Columbia has introduced legislation that requires local governments, and Regional Districts, to protect streams and their associated riparian areas. The Regional District must comply with provincial requirements and enact regulations and permits to protect local streams and water bodies.

The Central Okanagan Sensitive Ecosystem Inventory (SEI) is intended to take stock of rare and fragile ecosystems within this area. The SEI information is derived from aerial photography and supported by selective field checking of the data. SEI is a “flagging” tool that provides scientific information and support to local governments and others who are working to protect rare and unique ecosystems and maintain biodiversity. This information provides a useful basis for private land stewardship and land use planning, for example as input to rezoning or subdivision applications and as the basis for Development Permit areas.

The Sensitive Habitat Inventory Mapping (SHIM) project is an aquatic inventory completed in 2004, which identifies, inventories, and maps all watercourses, their associated riparian habitats and important fisheries habitat features. This method is a standard for fish and aquatic habitat mapping in urban and rural watersheds in BC. The mapping is used extensively as a reference in reviewing development applications.

The provincial and federal governments have a number of guidelines and Best Management Practices documents that may be considered to supplement RDCO’s environmental standards and policies.

These guidelines focus on environmental and waterway protection and enhancement. They include:

- Land Development Guidelines for the Protection of Aquatic Habitats;
- Stream Stewardship: A Guide for Planners and Developers;
- Community Green Ways Linking Communities to Country and People to Nature;
- Best Management Practices for Urban and Rural Development;
- Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia;
- Best Management Practices for Recreational Activities on Grasslands in the Thompson and Okanagan Basins;
- Lakeshore Stabilization;
- Small Boat Moorage;
- Boat Launch Construction and Maintenance on Lakes;
- Best Management Practices for Tree Topping, Limbing and Removal in Riparian Areas.

In 2010, the District of Peachland completed a “Watershed Assessment Report for Drinking Water Source Protection.” The report, which focuses on hazards and risks to water quality and quantity, analyzes the intrinsic and human-related impacts on Peachland’s drinking water sources, including Trepanier Creek which supplies 40% of water connections. Activities that pose “very high risk” to drinking water include: mountain pine beetle, forestry activities, range use, roads on steep slopes, stream crossings at roads, recreational camping, and recreational ATVs and dirt bikes. “High risk” activities include: wild fires, sediment sources, aggregate extraction, and recreational boating and fishing. The report recommends measuring, monitoring, and evaluation programs as well as policies to help protect drinking water.

Objectives

There are important objectives that form a framework for the natural hazards and environment policies:

- O1 Maintain a healthy environment.
- O2 Proactively address environmental issues and take a leadership role.
- O3 Integrate measures to sustain environmental quality and consider impacts on the environment in future land use decisions.
- O4 Identify, protect and restore sensitive ecosystems.
- O5 Encourage the enhancement of ecological systems and protect biodiversity in the Region.
- O6 Work with property owners and agents to inform and guide the design of development in a way that is sensitive to important landscape features such as watercourses, hillsides, and sensitive ecosystems of the Okanagan.
- O7 Expand partnerships in the community and in the public and private sectors to create and manage open spaces and conservation areas with settlement areas.
- O8 Support efforts to protect water quality and quantity today and for future generations. Meet the requirements of BC Provincial legislation for the protection of water bodies and riparian areas.

- O9 Support measures that reduce risk to sensitive ecosystems, to rare and endangered species, to Crown land resources, and to the community from unintended or unnecessary change to the natural environment.

Policies

5.1.1 Water and Riparian Protection

- P1 Continue to protect Environmentally Sensitive Areas on private land through the Development Permit, Rezoning and Subdivision processes.
- P2 Retain public lands next to water (such as streams and shoreline) as well as water bodies (lakes, reservoirs) in public ownership.
- P3 Work with provincial and federal water and resource managers to protect and enhance water quality, base flows, natural drainage patterns, and continuous riparian corridors of sufficient width to accommodate the dynamic nature of the hydrologic system, to avoid and reduce flood damage, to avoid the need for channel stabilization, to avoid underground drainage systems, to avoid groundwater interruption, and to protect aquatic biota and habitats.
- P4 Encourage the protection of ground water, streams, ponds, lakes, and shorelines using methods such as Development Permits, covenants, subdivision and development servicing bylaws, and park dedication.
- P5 Encourage watercourse specific management plans such as the Okanagan Lake Foreshore Plan and the Central Okanagan Lake Foreshore Inventory and Mapping.
- P6 Support the strategies of the Okanagan Lake Foreshore Plan, which address competing human uses and natural environment.
- P7 Support efforts that maintain appropriate riparian buffers, determined by qualified professionals that take into account processes of natural erosion, deposition and movement of natural stream boundaries.
- P8 Continue to work with the Okanagan Basin water management strategies, including the activities of the Okanagan Basin Water Board (OBWB).
- P9 Maintain and periodically update the inventory of streams, ponds, lakes and shorelines using the *Sensitive Habitat Information Mapping (SHIM)* method.
- P10 Update records of fish habitat, watercourse location, and watercourse condition, and, produce a strategic overview of the aquatic environment in Brent Road and Trepanier utilizing the information from the *Sensitive Habitat Information Mapping (SHIM)*.
- P11 Encourage and support the analysis of ground water hydrology, in areas with high water tables or identified aquifers, and require environmental assessments in advance of considering zoning amendments for uses such as heavy industrial, mining, fuel storage and/or sewage containment.
- P12 Locate low intensity land uses and manage forms of development on floodplains and aquifers in accordance with provincial regulations.
- P13 Recommend that Provincial land and water Managers manage the drainage areas by controlling access to community water supplies and intakes, limiting development including resource leases with the maintenance of water quality and quantity as prime considerations. The community water supply should be protected.

- P14 Support the recommendations of the “Watershed Assessment Report for Drinking Water Source Protection” that makes recommendations for drinking water source protection on Trepanier Creek and Peachland Creek.
- P15 Work with the Interior Health Authority and Ministry of Environment on education programs for lot owners in Trepanier Creek watershed regarding risks associated with land uses and to address source water protection issues such as septic system maintenance, pit toilet requirements, access to livestock and domestic animals, spill response, riparian zone protection and the importance of riparian vegetation and guidance on remediation of sediment sources.
- P16 Support the Okanagan Basin Water Board’s position to oppose private sale and expansion of Crown lease lots on reservoirs and adjacent to watercourses within Community Watersheds, e.g., within Peachland Creek and Trepanier Creek watersheds

5.1.2 Terrestrial Management

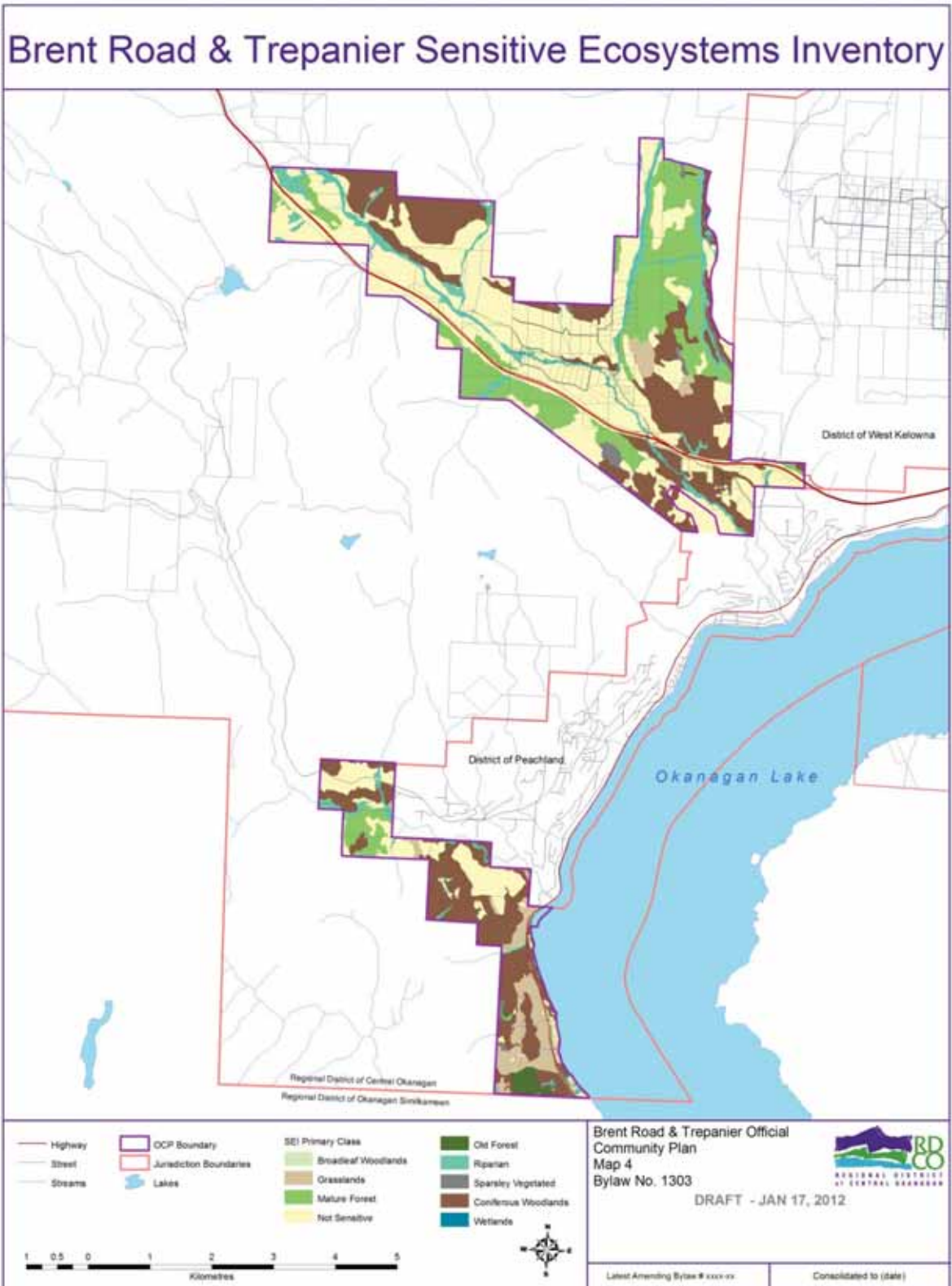
- P17 Require that rezoning applications for land proposed for development include:
 - a. information that assesses the environment, identifies natural features for that site;
 - b. considers environmental impact and overall ecosystem connectivity on and offsite. The exact characteristics and location of connecting ecosystems will be refined through development applications and in consideration of the Regional District Sensitive Ecosystem Inventory (SEI);
 - c. considers the rarity and uniqueness of the particular habitat as it relates to the remaining habitats in the OCP area; and
 - d. Follow the Environmentally Sensitive Area (ESA) criteria located within the RDCO’s Terms of Reference for Professional Reports for Planning Services.
- P18 Development should avoid sensitive areas and be designed to retain important ecosystem features and functions. Responsiveness to this policy will be a very important consideration in the approval of an application.
- P19 Review development and servicing proposals in consideration of the Sensitive Ecosystem Inventory, Sensitive Habitat Information Mapping, and Foreshore Inventory Mapping and Aquatic Habitat Index of the Regional District of Central Okanagan as well as provincial Best Management Guidelines and publications.
- P20 At time of subdivision and rezoning, assess opportunities using methods such as park dedication, land trusts, covenants, or development agreements to conserve corridors of “sensitive ecosystems” and to manage these areas in a manner that provides connectivity and movement of rare and endangered species.
- P21 Conserve, enhance and promote the protection of wildlife corridors and ecosystem connectivity with interfacing Crown lands.
- P22 Encourage the maintenance and protection of natural linkages. Protect as open space those lands, which are riparian areas, ravines, steep slopes and sensitive ecosystems in a way that provides for overall ecosystem connectivity in the Brent Road and Trepanier area, especially between parks.

- P23 Support provincial management of endangered species by discouraging the sale of Crown land and the extension of public roads to Crown lands in the grasslands (“NDT4” dry ecosystems), as established in the Okanagan Shuswap Land and Resource Management Plan (LRMP), until such time as a comprehensive plan is completed.
- P24 Map and evaluate riparian areas, ravines and steep slopes in Brent Road and Trepanier as a whole in order to avoid the creation of isolated ecosystems due to subdivision or development. Explore alternatives to ensure interconnectedness between ecosystems. Road and utility corridors should be designed to minimize crossings of aquatic and sensitive ecosystems.
- P25 Encourage the use of native vegetation to restore disturbed sites.
- P26 Encourage the use and management of topsoil specifically designed for water retention purposes.
- P27 In general, development design should consider and reflect the objectives and guidelines of the Best Management Practices produced by the Province of BC.

5.1.3 Stewardship and Management

- P28 Continue to support an Environmental Advisory Commission to consider and provide input to the Regional Board on the environmental aspect of development proposals, and strategic plans.
- P29 Develop an educational program and materials for those properties located within the Aquatic Ecosystem and Sensitive Terrestrial Ecosystem Development Permit Areas in order to encourage awareness and stewardship of sensitive ecosystems.
- P30 Work with the Environmental Advisory Commission to implement provincial Best Management Practices and to assess site-specific management practices based on measures and results based standards to supplement policies of the OCP.
- P31 Continue to support and participate in the Okanagan Similkameen Airshed Coalition Committee’s Towards an Okanagan & Similkameen Valley Air Quality Management Plan (2008), to evaluate the incremental impacts of development and to develop regional management agreements that protect air quality.
- P32 Following the initiatives and recommendations of the Biodiversity Conservation Strategy, identify wildlife corridors, ecosystem connectivity, and forest interface management areas and develop a long-term strategy for Crown lands in advance of considering rural development.
- P33 Determine methods to fund the management of natural open space lands that are under the jurisdiction of the Regional District.
- P34 Encourage and support voluntary habitat conservation and restoration. Raise the public awareness of good environmental stewardship practices.
- P35 Continue to review the bylaws and activities of the Regional District to so that environmentally responsible practices are being utilized.
- P36 Continue to support provincial and federal regulations for the spread of alien invasive species, including compliance with the Regional District Weed and Insect Bylaws.

- P37 Support measures designed to improve forest health (e.g.: tree spacing, control of pine beetle) and, where possible, implement complementary measures on rural lands adjacent to provincial forests.
- P38 Consider supplementing Regional District environmental policies and programs by supporting partnership agreements to implement regulatory programs of provincial and federal agencies.
- P39 Promote communication with residents within the Brent Road and Trepanier area through collaboration with residents associations.
- P40 Continue to support the Regional Waste Reduction Office, which includes raising public awareness and providing ongoing education on ways to reduce, reuse and recycle resources, as well as lifestyles and patterns that will help improve environmental quality.



Map 4: Brent Road and Trepanier Sensitive Ecosystems

5.2 Natural Hazards

The Okanagan Valley is a predominantly north–south oriented valley, populated by several lakes of varying sizes, with moderately steep slopes extending up to expansive rolling plateaus to the east and west. The valley is transected by Highway 97 for its full length and occupied by urban developments for the full extent of the highway through the valley. Land use varies from dense urban development to vast expanses of agricultural uses (orchards, vineyards, farm land, etc).

The valley bottom is dominated by grasslands, agricultural crops and very open stands of Ponderosa Pine. At mid elevation, moderately open Pine forests and moderately dense Douglas–fir forests occur, which then transition into very dense spruce/pine/balsam forests at higher elevations.

Brent Road and Trepanier has relatively rolling terrain, with inclusions of steep slopes exceeding 30% and incised draws with steeper slopes. Landform characteristics in riparian areas such as ravines, steep slopes and proximity to fluctuating water levels, may also be a hazard to development. Development in riparian areas needs to take natural hazards into consideration in order to protect development from environmental conditions such as flooding, erosion and land slip and ensure the safety of properties and residents.

When development is proposed there are a variety of hazards that need to be assessed including erosion, flooding, landslip or rockfall, and wildfire. The information that is available for the entire Regional District can be variable and may lack detail, so hazards often need to be investigated on a site–by–site basis.

Site planning for any proposed development needs to consider hazards that are identified on a particular site. It is important to know when to consider hazards and what level of detail is necessary. Some hazards, such as geologic issues, can be evaluated and reduced at the time of development. Other hazards, such as wildfire, can not only impact new development but can also threaten existing structures. Forested ecosystems are dynamic systems and, therefore, as they change over time the fuel hazard they pose also changes.

As the Okanagan Valley contains ecosystems within which wildfire is a natural disturbance, and since wildfire cannot be eliminated from these ecosystems, the threat of wildfire will always be present. However, the risk wildfire poses to development can be managed through appropriate development policies and continual management efforts.

Objectives

Objectives for natural hazard abatement are as follows:

- O1 Require that hazards be avoided or reduced at the time of development.
- O2 Reduce wildfire hazard threats to proposed new and existing development.

Policies

The specific policies are:

- P1 Residential sprinkler systems are encouraged for homes in areas without hydrants or a Fire Department Response service.

- P2 The susceptibility of an area to wildfire hazard should be assessed at the time of development application and may require:
- a. that an overall assessment of the site for the susceptibility to wildfire from conditions both on and off site is prepared by a Registered Professional Forester licensed in BC, with experience in wildfire risk management and interface fuel hazard assessments.
 - b. a detailed report of the site for the susceptibility to wildfire from conditions both on and off-site and ways to reduce that hazard. The report shall be prepared by a Registered Professional Forester, licensed in BC, with experience in wildfire risk management and interface fuel hazard assessments. Completion of works that reduce the hazard will be required prior to subdivision approval depending upon the content of the report.
 - c. a Wildfire Risk Management Plan for the site if the property is within 100m of a forested or grassland ecosystem. Further detailed information may be required as a result of the assessment. Completion of the recommended works in the Wildfire Risk Management Plan will be required prior to application approval.
 - d. a Wildfire Development Permit registration of a covenant, in accordance with the recommendations of the Community Wildfire Protection Plan (CWPP). For more information regarding Wildfire Interface Development Permits and guidelines please see Chapter 12, and Appendix IV.
- P3 Responding to the referral of an application for a lease on Crown land, the Regional District will require a Wildfire Risk Management Plan if the land in question is within 100m of the forest or grassland ecosystems as described in the Schedule H Development Permit map.
- a. A professional engineer's report may be required to evaluate road access and allowable bridge loads necessary for emergency vehicles as well as other factors pertaining to wildfire response (water sources, etc).
 - b. Fuel hazard mitigation should reduce the existing fuel hazard to a Low Class Rating; in some cases a Moderate Class Rating may be acceptable (sensitive slopes or ecosystems, species at risk, riparian values, etc) as agreed to by the signing professionals (forester, environmental consultant, engineers, etc) and the Regional District.
- P4 Utilize a variety of tools, such as education, development evaluation and approvals, Development Permits, and building permits, to move the community towards a wildfire risk reduced state. Review and update current practices and review these practices through time as new development occurs, ecosystem conditions change and treatment methods evolve.
- P5 Consider tools such as covenants, zoning bylaws, subdivision and development bylaws, Development Permits, building bylaws, specified area taxation, and Fire Protection Service Areas to reduce risk .
- P6 Development Permit guidelines are consistent with the Fire Smart guidelines of adjacent municipalities and Districts, including: District of Peachland, District of West Kelowna and the Okanagan Similkameen Regional District.
- P7 Support wildfire risk reduction opportunities and fuel hazard mitigation treatments in the provincial forest adjacent to the Brent Road and Trepanier neighbourhood in accordance with the Community Wildfire Protection Plan (CWPP).

- P8 Promote wildfire risk reduction and fuel hazard mitigation methods that are congruent with Ecosystem Restoration Objectives and considers all values on the land or landscape. Such values will include, but not be limited to, the following:
- a. Ecological (wildlife, coarse woody debris, soil conservation, riparian, etc);
 - b. Social (recreation, aesthetics, etc); and,
 - c. Economics (timber value, operational costs, etc) .
- P9 Discourage development that may be damaged by flooding from being located on land that might be flooded as identified by the setbacks and elevation provisions recommended by the Water Management officials of the Province of BC and outlined in Zoning Bylaw No 871, s.3.28 Floodplain Regulations. This includes flood construction levels 1.5 meters above the natural boundary of certain watercourses. Where construction may occur on existing parcels that might be flooded, buildings should meet those construction and location requirements. Development of property should be consistent with the provincial “Flood Hazard Land Use Management Guidelines available on http://www.env.gov.bc.ca/wsd/public_safety/flood/landuse_mgmt.html
- P10 The susceptibility of an area to mud flows, debris flows, debris torrents, erosion, land slip, rock falls, subsidence or avalanche shall be assessed at the time of development application to require:
- a. An overall assessment of the site for development suitability (from conditions both on and off the site) prepared by a professional engineer licensed in BC specializing in geotechnical issues. Further detailed information may be required as a result of the assessment.
 - b. A detailed hazard report (from conditions both on and off the site) and ways to reduce that hazard to a safe level prepared by a professional engineer licensed in BC specializing in geotechnical issues. The professional engineer will be required to determine an adequate level of safety given the type of hazard and the land use proposed. Completion of works that reduce the hazard may be required prior to subdivision approval depending upon the content of the report.
 - c. Responding to the referral of an application for a lease on Crown land, the Regional District may request a detailed hazard report for the site itself and the effect upon development in areas neighbouring the site.
- P11 Hillside Development Permit and a Geotechnical Report prepared by a qualified professional will be required in Hillside Development Permit Areas. For more information regarding Hillside Development Permits please see Section 12.5 and Appendix III and Schedule G.

5.3 Heritage Conservation and Archaeology

The Okanagan Valley has recorded and unrecorded heritage archaeological sites that show physical evidence of how and where people lived in the past. For centuries people have lived in this area, no written records were made. Archaeological sites and oral tradition are the only vestiges of a rich history that extends back many thousands of years.

The Province protects archeological sites, whether known or unrecorded, through the *Heritage Conservation Act*. This protection applies to both private and Crown land and means that development on a heritage site must have a provincial heritage permit to alter or develop within an archaeological site.

Objectives

Objectives for archaeological site protection are as follows:

- O1 To raise public awareness about the value of archaeological sites and their protection under the Heritage Conservation Act.
- O2 To ensure that property owners are aware of their responsibilities under the Heritage Conservation Act when conducting land-altering activities.
- O3 To avoid or reduce unauthorized damage to protected archaeological sites in accordance with the Heritage Conservation Act.
- O4 To encourage protection of archaeological sites.

Policies

- P1 RDCO staff will make property owners and development applicants aware of the Heritage Conservation Act and will check the Provincial archaeological site inventory for overlaps with areas that have potential to contain unknown but protected archaeological sites.
- P2 When an overlap with an archaeological site is identified, the RDCO will direct the applicant to engage a professional consulting archaeologist to determine whether an archaeological impact assessment is warranted. Altering a protected archaeological site will require a Provincial site alteration permit prior to any land-altering activities.
- P3 Require an evaluation of historic and archaeological values for a site proposed for park development where there is some documentation or evidence of occupation. The archaeological impact assessment, by a professional consulting archaeologist should address archaeological potential and protection for sites protected under the Heritage Conservation Act.
- P4 Regional District staff may require that an archaeological impact assessment be completed prior to a development approval in consultation with the applicable First Nation.
- P5 When a development applicant is already aware of an archaeological site in the area of proposed development, the application should include written assurance from a qualified consulting archaeologist and the Archaeology Branch, and any applicable First Nation, that all archaeological requirements have been addressed.

5.4 Climate Change Adaption and Mitigation

In 2007, Bill 44 *Greenhouse Gas Reduction Targets Act* was enacted by the Government of British Columbia. This legislation committed the Province of British Columbia to reduce greenhouse gas emissions by 33% below 2007 levels by the year 2020, and 80% below 2007 levels by the year 2050. As a result of this legislation in 2008, the Province of British Columbia made an amendment to the *Local Government Act*, Bill 27, to ensure that greenhouse gas emissions were reduced at a local level. Under this amendment, it was made mandatory that all Official Community Plans include targets, policies and actions for the reduction of greenhouse gas emissions by May 31, 2010.

On September 26, 2007, the Regional District of Central Okanagan (RDCO) became a signatory of the BC Climate Action Charter. As signatory to this charter, the Regional District has committed to develop strategies and take action to achieve the following goals:

- being carbon neutral in respect to our local government operations by 2012;
- measuring and reporting our local government's GHG emissions profile; and
- creating complete, compact, more energy efficient communities within our Regional District.

To meet the goals stated above, policies and actions as outlined in this section have been developed. There are a number of existing strategies and plans already established within the Regional District that will further contribute to meeting these goals. The Regional Growth Strategy, along with the Okanagan Similkameen Airshed Coalition Committee's *Towards an Okanagan & Similkameen Valley Air Quality Management Plan (2008)*, and the *Solid Waste Management Plan (2006)* are among the guiding documents currently in place to assist in the reduction of GHG emissions. The Province of British Columbia will support local governments to achieve some of these goals by providing the tools (Community Energy and Emissions Inventory (CEEI)) necessary to track and report GHG emissions.

As of May 2011, Bill 27 (2008) and the *Local Government (Green Communities) Statutes Amendment Act* will require Regional Growth Strategies to establish targets for the reduction of GHG emissions and policies and actions to achieve these targets. The context of the Regional Growth Strategy (RGS) for the RDCO is further discussed in Section 2.7 of this OCP. In accordance with the RDCO's commitment to reducing GHG emissions, the RGS is an essential component to assisting the local government to achieve its reduction targets. These targets will complement the policies and actions stated in this section.

The RDCO is part of the Okanagan Similkameen Airshed Coalition Committee, which develops strategies for Valley-wide improvements in air quality. This committee is a partnership between the RDCO, North Okanagan, and Okanagan-Similkameen Regional Districts. To help maintain good air quality, the RDCO enacted Smoke Control Bylaw No. 773 to reduce emissions from open burning, campfires, and wood burning appliances. The bylaw regulates burning materials and dictates when open burning can occur as a means to control and how smoke. It also regulates the production of smoke from wood burning appliances to help prevent-annoyance smoke. Regional Fire Prevention and Regulations Bylaw No. 1066 regulates the outdoor burning season and includes numerous requirements for receiving an open burning permit, including prohibiting banning outdoor burning on all properties smaller than one hectare (2.47 acres).

The Regional District also has a Regional Air Quality Program that has a mandate to work with Regional partners to protect and improve air quality. This mandate is achieved in a variety of ways, including: identifying emissions of concern, implementing new programs and educating the public. The Program includes open burning education, the agricultural chipping program, residential wood burning education, the woodstove exchange program, and numerous programs and events targeting vehicle emissions (Bike to Work Week, Car Free Day, Clean Air Day, etc). The RDCO Waste Reduction Office implements programs to help reduce garbage going to local landfills. There are many initiatives which the Waste Reduction Office has implemented to reduce waste within the region. In 2009, the Curbside Automated Waste Collection System was established. This waste reduction initiative included delivery of more than 150,000 carts to more than 50,000 homes throughout the Central Okanagan.

It is important, that we reduce our emissions of greenhouses gases that cause climates change while also preparing for and adapting to changes that are likely already underway. Major sources of greenhouse gases (GHG) in Brent Road and Trepanier would be from home heating (electrical, oil, and wood stoves) and from fuels used in vehicle use.

Objectives

Objectives for reducing greenhouse gas (GHG) emissions are as follows:

- O1 In accord with Provincial legislation, the Regional District's Greenhouse Gas Reduction Targets include:
 - 33% reduction by 2020 from 2007 levels
 - 80% by 2050 from 2007 level

These targets apply to the Brent Road and Trepanier Official Community Plan Bylaw area and the following policies and actions will be considered as they relate to development in the OCP area.

Policies

5.4.1 Land Use

- P1 Evaluate land use decisions and development applications on the implications and impacts on the natural environment.
- P2 Protect, and encourage farming to develop local food production by supporting the preservation of agricultural lands.

5.4.2 Development & Energy

- P3 Encourage sustainable development practices such as the use of energy efficient products (solar and geothermal technology) when new construction is taking place or when retrofitting existing buildings.
- P4 Promote acceptance and application of green building principles, strategies, and technologies among professionals and building developers.

5.4.3 Transportation

- P5 Support the development of plans and programs that will encourage sustainable modes of transportation and reduce the dependence on single occupancy automobiles.
- P6 Encourage the establishment of home occupations or home based businesses through various zoning designations in the Zoning Bylaw in order to decrease dependence on automobiles.
- P7 Support and encourage the provision of increased walking and cycling opportunities as an alternative transportation method by:
 - a. acquiring trail connections through private lands as identified in the RDCO Park Plans;
 - b. encouraging the Ministry of Transportation and Infrastructure to construct safe pedestrian walkways and cycling lanes along road right of ways as improvements permit; and
 - c. requiring new developments to construct walking and cycling connections through private development and connections to regional trails and Crown lands.

5.4.4 Environment

- P8 Identify and recognize the significance of the natural areas which are essential for carbon absorption, and ensure that development is directed away from these carbon sinks.
- P9 Continue to protect Environmentally Sensitive Areas on private land through the development permit, rezoning, and subdivision processes.
- P10 Encourage coordination with various levels of government to jointly manage the airshed of the Okanagan Valley.
- P11 Encourage programs which reduce the levels of airborne pollutants from residential and agricultural sources.
- P12 Review the impact of wood burning stoves and rural burning and consider potential regulations with incentives and education programs to encourage composting and chipping at regional sites.
- P13 Continue to support the work of the Okanagan Basin Water Board.

5.4.5 Waste Management

- P14 Encourage the use of recycling programs and educational opportunities for waste management to ensure members of the public are taking advantage of waste reduction opportunities.
- P15 Maintain the ability to investigate the extension of community water or sewer servicing to existing and unserviced subdivisions, where existing land use designated properties or Land Use Contracts allow development to proceed.

- P16 Continue to review and update the Liquid Waste Management Plan (LWMP) (2009) for the Central Okanagan West Electoral Area to help communities meet their wastewater objectives.

5.4.6 Implementation Actions

- P17 Work with the Okanagan Basin Water Board to address matters related to water conservation and climate change.
- P18 Implement the programs and plans of the Regional Waste Reduction Office, which includes solid waste management and recycling initiatives among others.
- P19 Encourage natural areas for carbon absorption remain a prominent component of land use within the Regional District's jurisdiction.
- P20 Protect Sensitive Terrestrial Ecosystems (protect against the removal of sensitive vegetation and trees and to require mitigation of damaged areas) through Development Permits Areas.
- P21 Work toward maintaining an acceptable level of air quality for the Okanagan air shed.
- P22 Establish sustainable long term sewage disposal systems in new and existing communities.
- P23 **Development of Future Policies and Actions**
The Regional District has committed to a multiyear initiative to complete a review and update of the Regional Growth Strategy (RGS) 2000. One of the key goals is to develop more detailed GHG reduction policies and actions in conjunction with the RGS review and update process.

It is anticipated that once the RGS review and update has been completed and adopted by the Regional Board, these policies and actions will be incorporated into the Brent Road and Trepanier OCP Bylaw. In conjunction with the RGS, the Community and Energy Emissions Inventory report for the RDCO will be updated to better represent the Brent Road and Trepanier Official Community Plan area.



Photo: Trepanier Creek, Flickr user jamica1

6 Managing Growth and Development

6.1 Overview

Land use affects a great many issues in the Brent Road and Trepanier area, including rural character, transportation, protection of the natural environment, housing choice, and economic development.

A core principle of this OCP is to retain, protect and enhance the current rural character of Brent Road and Trepanier, its forested and environmentally sensitive areas, while allowing for housing in existing or adjacent to established areas of Brent Road and Trepanier Valley. Growth may take a form that further defines and enhances the rural character of the area. In the next 5 years, little to no housing development is anticipated in the OCP area.

6.2 Growth Management and Housing

The Regional District and its member municipalities have jointly approved a Regional Growth Management Strategy that supports orderly, efficient and sustainable growth. In Brent Road and Trepanier, most of the rural properties are located in the residential neighbourhoods of Brent Road and the Trepanier Valley. The rural residential population size is small. There are approximately 84 properties with residential buildings in the OCP area. Most properties are currently self-servicing for potable water and sewage management. Eight properties located at Star Place, have a community water system.

The Regional District encourages settlement and housing in areas with services and infrastructure to support growth. Neighbouring municipal areas are currently regarded as best able to service the growth of residential housing.

Objectives

There are important objectives that form a framework for the policies:

- O1 Support that any proposed development fully provides the services it will require and that costs and difficulties not be passed on to the community or to future property owners.
- O2 Fragmented, under serviced development is avoided;

- O3 Support the policies of neighbouring local governments should concentrate growth in their serviced, sustainable urban centres;
- O4 Growth and land management between neighbouring municipal jurisdictions and with Crown lands should be coordinated.

Policies

The specific policies are:

- P1 The future use and development of land shall be consistent with the designations depicted on the Future Land Use Map “See Schedule C: Brent Road and Trepanier Future Land Use Map.”
- P2 Encourage any changes to land use proposed in areas covered by a Land Use Contract to be reviewed and considered under provisions of Zoning Bylaw No. 871 rather than a Land Use Contract. This is especially important where the existing Land Use Contract is difficult to interpret; or, the proposed change is more than a very minor amendment; or, where it is important to ensure that current standards and requirements apply to the proposal.
- P3 Provide an opportunity for residents to have the option to sign a collective discharge of the Land Use Contract.
- P4 Encourage the reduction of conflict between land uses. Consider utilizing design guidelines, provision of zoning bylaw and other regulations to incorporate buffering requirements, setbacks, landscaping or other methods.
- P5 Before considering amendments to future land use designations or applications to alter Zoning, the Regional Board may require preparation of a Neighbourhood Plan. Housing is encouraged in adjacent municipal areas where there are services and infrastructure to support growth.
- P6 Future settlement and housing need is to be fulfilled with already designated properties.
- P7 The Board may consider allowance of secondary suites on properties that are zoned for residential use. A zoning amendment process is required in accord with the Local Government Act and with provisions of the Zoning Bylaw. Secondary suites are recognized as an appropriate form of infill housing that provides affordable rental/special needs housing options without a significant impact on the character of a neighbourhood. The Regional Board generally supports secondary suites where a landowner demonstrates that all technical issues will be addressed, and where there are no significant objections from neighbouring landowners. Limited growth is anticipated in the foreseeable future due to constraints of potable water and servicing. If there is to be growth, it will be located near or adjacent to established settlement areas of Brent Road and Trepanier Valley. .
- P8 Support an evaluation of historic and archaeological values for a site proposed for development where there is some documentation or evidence of occupation. The development should address potential impacts to archaeological sites protected under the Heritage Conservation Act of BC. (The Act protects both known and unrecorded sites.)

- P9 Support the preservation of buildings and features that have significant heritage values.
- P10 Consider the Okanagan Shuswap Land Resource Management Plan in development decision-making. Lands designated in the Community Crown Interface (Section 4 of the Land Resource Management Plan) should consider the values that exist on neighbouring Crown lands, such as species movement, wildlife habitats and recreational access to Crown lands.

Advocacy Policies

- P11 Support policies of neighbouring local governments concentrate growth in their serviced, sustainable urban centres.



7 Commercial Uses, Working Lands and Economic Development

7.1 Overview

The vast majority of private lands within the OCP area are used for rural resource extraction, agriculture, and recreation. While commercial uses and economic activity are an important foundation for any community, a core principle of this OCP is to retain, protect and enhance the current rural character of Brent Road and Trepanier. As a result, the objectives and policies support the existing rural character of these areas with limited residential, commercial and industrial development.

7.2 Economic Development

Employment and the provision of services and necessities are part of the essential fabric that supports residents and their quality of life in the Okanagan. In the area, there are home based businesses, agricultural businesses, timber and gravel extraction operations and a tourist commercial site known as ‘Camp Okanagan’, which includes recreational vehicle (RV) sites and tourist cabins. Many people working and living in the Brent Road and Trepanier area are largely employed elsewhere (in the City of Kelowna or District of West Kelowna), or are retired. While employment opportunities within Brent Road and Trepanier are limited, the provision of employment and businesses in the region as a whole is important in sustaining a healthy community.

Aggregate Extraction

Aggregate (sand and gravel) is a valuable resource for the construction industry and directly relates to the cost of housing. Gravel extraction can, however, have an impact upon neighbouring uses and road safety. The provincial Ministry of Energy and Mines determines the conditions under which to grant an extraction permit. The Regional District is a referral agency and provides comments and recommendations on aggregate extraction proposals to reflect the rural context and environmental goals of the community.

OCPs are required by the *Local Government Act* to show locations suitable for sand and gravel extraction. Schedule D identifies 4 mineral aggregate tenures located in the OCP study area. This data was provided by the province, for aggregate location tenures, however area and

volume estimates were not available from the Ministry or the Regional District. Schedule D presents the best provincial information currently available.

The Regional District is initiating a review and update of the Aggregate Supply & Demand Study (2000) as well as working with Provincial agencies to initiate and complete a Pilot Project to create a coordinated approach regarding aggregate resource management. The RDCO initiated the Central Okanagan Aggregate Task Force in the fall of 2009 with the goal of developing “a process that would help determine acceptable and safe sources of aggregate throughout the Central Okanagan for decades to come in order to minimize or reduce potential conflicts from sand and gravel extraction”.

The Regional District is “referred” on aggregate extraction proposals, and can relay community concerns to the Ministry of Energy and Mines prior to their final decision. Issuance and management of tenures falls under provincial jurisdiction.

Employment

The largest employers in the Central Okanagan Regional District are:

- Government agencies and service providers such as the School District, local governments, Kelowna General Hospital and long term care hospitals;
- The University of British Columbia and Okanagan College;
- Large retail chains; and
- Businesses such as Tolko Forest Products, Kelowna Flight Craft, and Sun Rype Products.

According to Statistics Canada there were 82,600 people employed in the Regional District of Central Okanagan in 2004. It should be recognized that large employers are currently not the norm. Over 80% of businesses in the Regional District employ 20 people or fewer.

Self Employment

Home-based businesses provide opportunities for employment and contributes to the economy of the Okanagan. The Regional District Zoning Bylaw provides opportunities for home based businesses. The bylaw recognizes the need to balance the opportunities of allowing home based businesses with the expectations of the qualities of a residential neighbourhood or rural acreage.

Brent Road and Trepanier will remain a largely rural area and not a focus of commercial or industrial activity. It is anticipated that the surrounding municipalities will continue to be the major focus of commercial and industrial development.

Objectives

There are important objectives that form a framework for the policies:

- O1 Support the District of West Kelowna, District of Peachland, City of Kelowna and the Regional Growth Strategy Management Plan in their policies to create municipal town and village centres that are vibrant, viable, people friendly, visually pleasing, and

attractive. These urban centers will be the focus of employment opportunities and the focus of commercial activity.

- O2 Support home based businesses as an important employment opportunity in a way that does not conflict with the predominant residential or rural land uses.
- O3 Support Brent Road and Trepanier areas as largely rural with limited residential, commercial and industrial development.
- O4 Encourage and support the economic health of the region.
- O5 Work together with First Nations and surrounding local governments toward a comprehensive approach for economic development of the Regional District.

Policies

The specific policies are:

- P1 Support a proactive leadership role for the Regional District in economic development.
- P2 Review home occupation guidelines to provide for employment and economic opportunity in consideration of the character and residential use of residential and rural areas.
- P3 Support tourism and related businesses in Brent Road and Trepanier that complement the existing parks and their permitted low-impact (non-motorized) uses.
- P4 Support the Strategic Plan of the Economic Development Commission and its three key objectives of business retention, business attraction, and business facilitation.
- P5 Investigate the development of a Memorandum of Understanding with the Okanagan Indian Band encouraging a common approach to economic development, the sharing of relevant information, and clarification and pursuit of common interests.

Advocacy Policies

- P6 Existing mineral and aggregate tenure areas are shown in “Schedule D Aggregate Tenure Map”
- P7 Encourage the provincial government to provide permits for aggregate and timber extraction only in accordance with Provincial Best Management Practices, a detailed environmental review and neighbourhood impact review. Recognize that aggregate extraction has road safety, noise and air quality impacts on nearby rural residential areas.
- P8 P10 Submit aggregate extraction applications for review to the Central Okanagan Aggregate Task Force to integrate Task Force recommendations that will minimize and reduce conflicts for sand and gravel extraction.
- P9 Continue to pursue Provincial support for completion of a “Pilot Project” in the Central Okanagan with the intent of developing a region wide coordinated approach for aggregate resource management.
- P10 Support the review and update of the Aggregate Supply and Demand Study (2000).

See Schedule D: Aggregate Tenure Map

7.3 Agriculture Lands

The study area consists of less than ten parcels of Agricultural Land Reserve (ALR) lands . In the Brent Road area, agricultural production consists of a vineyard and apple orchard. In Trepanier, a vineyard and winery existed on the Agricultural Land Reserve lands, however, is no longer active. The other ALR parcels on Crown land, are not currently in agricultural production. The provincial Agricultural Land Commission (ALC) controls allowable uses and development and subdivision in the ALR.

Agricultural industries are not limited to operating on ALR lands, and agricultural uses such as plant nurseries, and keeping livestock is permitted in the majority of rural zones. ALR lands are different in that they cannot be used for non–agricultural purposes or subdivided without the permission of the provincial Agricultural Land Commission (ALC).

Farming as an industry, and farmers individually must be resourceful and creative in their businesses. Secondary farming activities such as produce stands, wineries, secondary processing, retail sales of items produced on the farm or from off the farm, and agritourism are becoming more common in the Okanagan Valley. Farmers are looking for new ways to expand the income derived from their land. Although small areas of land in Brent Road and Trepanier are currently farmed, agriculture is permitted in much of the private rural and resource lands, and may become a growing land use that holds regional economic benefits.

Objectives

There are important objectives that form a framework for the policies:

- O1 Support agriculture as an economic industry. Agriculture is recognized as an important basis for the economic stability and development in the Region.
- O2 Support the development, improvement, and expansion of agricultural activities.
- O3 Support the preservation of the agricultural land base.
- O4 Encourage neighbouring urban land uses that minimize negative impacts at the interface with agricultural land.
- O5 Support the Regional District's Agricultural Plan.

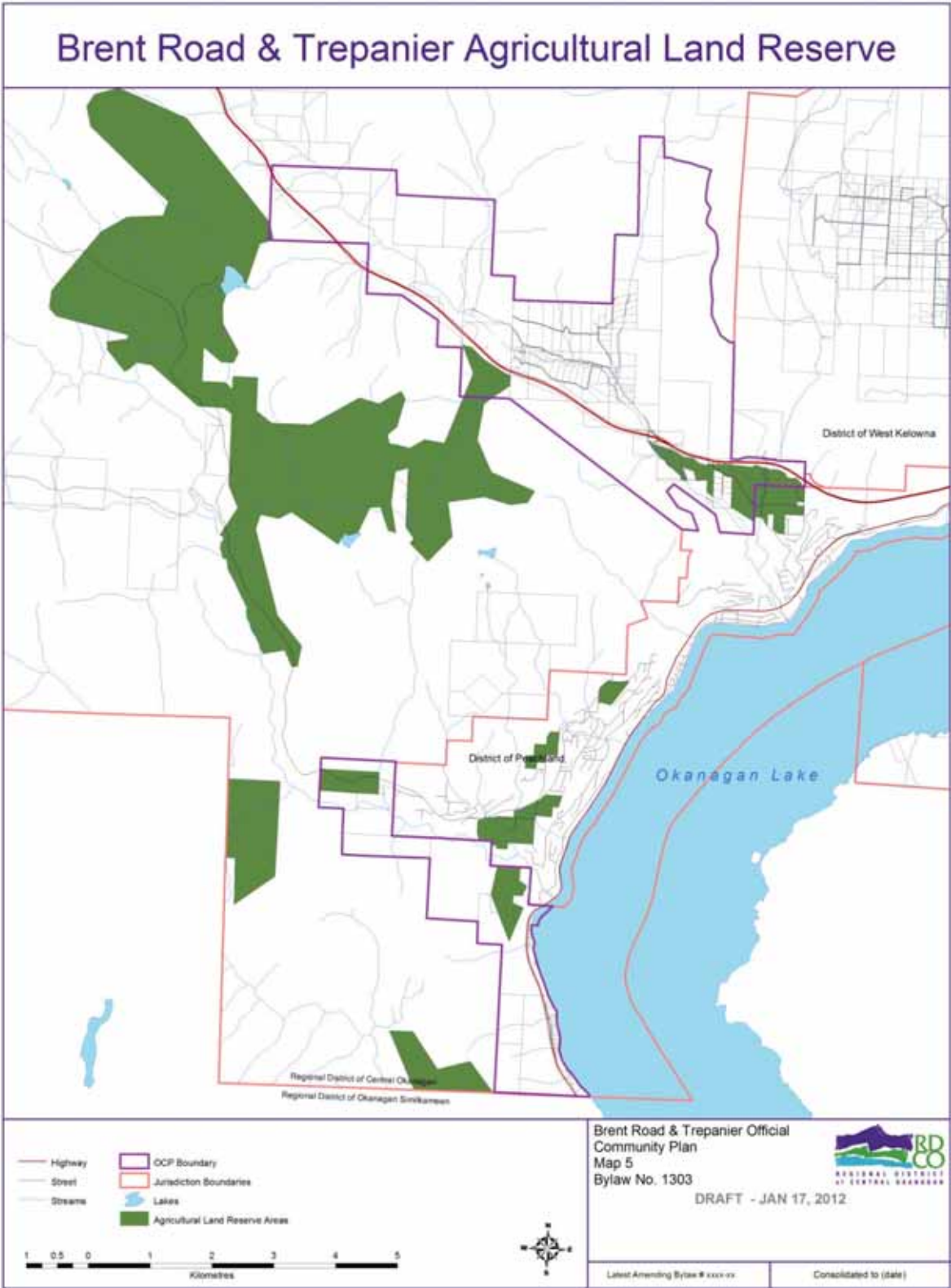
Policies

The specific policies are:

- P1 Continue to support an Agricultural Advisory Commission to consider and provide input to the Regional Board on the agricultural aspect of land use issues.
- P2 Support secondary activities that contribute to farming income (farmers markets, agri–tourism, secondary processing, etc.).
- P3 Support farming as individual businesses as well as an industry through opportunities such as supporting education, coordinating information on government programs, and business support.
- P4 Reduce the negative effects at the agriculture/urban interface. This will involve reviewing measures such as buffering requirements, reducing urban densities next to farms, developing setbacks, considering neighbouring farm practices when reviewing

applications for land use, encouraging responsible farm practices, allowing a disclosure covenant for land adjacent to the ALR at the time of property development etc.

- P5 Discourage the planting of trees that may harbour diseases and insects that affect commercial agricultural operations such as codling moth on non-agricultural land. Incentive methods that encourage the removal of “host” trees or the removal of fruit on such trees are supported.
- P6 Support the Agricultural Land Commission Landscape Buffer Specifications for urban and residential uses next to the ALR.
- P7 Support the Agricultural Land Commission in maintaining the integrity of suitable agricultural land.
- P8 Support the retention of large continuous blocks of agricultural land and discourage fragmentation.
- P9 Support applications for home site severances as defined by Agricultural Land Commission Homesite Severance Policy and Regional Board policy.
- P10 Investigate methods to jointly administer storm water drainage systems with the Ministry of Transportation and Infrastructure and provide for sustainable funding for storm water management and flood protection works.
- P11 Support development designs involving major flood control works when sustainable funding to maintain these works is secured.
- P12 Develop best management practices in order to preserve and protect major drainage systems during and after construction.



Map 5: Agricultural Land Reserve (ALR) Areas

7.4 Rural Resources

Hillsides in Brent Road and Trepanier are generally resource lands in provincial forest licences, mineral aggregate tenures, open grazing, and transportation networks that are managed by provincial resource agencies through consultation with the local community and other resource operators.

The management of these lands is complex and the potential for impact on neighbouring private property, streams and on Okanagan Lake itself is a key consideration in decision-making. Management policies and objectives supported within the Provincial Okanagan Shuswap Land and Resource Management Plan (LRMP) include “special management” in the “interface” area between public and private resource lands (Section 3.10 discusses the LRMP context further).

Sustainable development of resources (source water protection, grazing enhancement, timber harvest prescriptions, gravel extraction, expanding tourist recreation, etc.) is considered a key component of economic development throughout the Central Okanagan.

There is an interrelationship between what happens on Crown land and its effect on private lands, water supply and the environment in the Regional District. It is important to have clear policies that indicate community goals when the Province is considering land uses in Brent Road and Trepanier.

Objectives

- O1 Encourage access to and opportunity for development of Crown resources that contribute provincial revenues in support of community social, health, education and transportation services and that provide future economic opportunities for citizens of the Central Okanagan.
- O2 Protect water resources essential to public health.
- O3 Identify lands for future community needs (parkland, future transmission or transportation corridor) in advance of residential expansion.
- O4 Plan for and protect wildlife corridors, habitat of red and blue-listed provincially significant species and ecosystem connectivity in advance of rural resource expansion.

Policies

The specific policies are:

- P1 Encourage review for urban or intensive recreation uses on Crown land to allow for appropriate local opportunity to review impact, services, and community evaluation. Encourage community groups and individuals seeking to establish trails or recreation facilities within rural resource lands apply for Crown tenure, consult with resource managers, and design for compatibility with varied resource development activities.
- P2 Where applicable as indicated in the Development Permit section of this OCP, apply Development Permit Area Guidelines in response to referrals from Crown resource agencies.

- P3 Work with Ministry of Forests, Lands and Natural Resource Operations and relevant agencies to develop a plan for the “interface” (i.e.: Crown owned lands within the OCP boundary) which: identifies and protects provincially significant habitat and rare biological and physical features; identifies where and how fire hazard reduction should occur; and, identifies lands that will be made available in future to provide for the services of the community (including utility and road corridors) and economic needs (such as aggregate and timber harvest).
- P4 Where subdivision, long term lease, or transfer of tenure to private ownership is proposed in the rural resource area, the Regional District supports the establishment of boundaries that are defined by natural terrain features.

Advocacy Policies

- P1 Encourage provincial agencies to consider limiting rural resource development types of activity and human access within designated community watersheds. Additional public roads are not supported, but where permitted, they should be carefully planned. Management of Crown tenures should include provisions to consider water quality, to restore the site to natural condition, and to permit for future increase in the level of water reservoirs (allowing storage of volumes currently licensed, but not yet stored and volumes desired for maintaining flows for fish).
- P2 Encourage the viability of aggregate, mineral, energy and timber resources for future development by maintaining routes of access, by supporting development that is conducted in accord with Best Management Practices.
- P3 Support the participation by Okanagan First Nation communities in the management and development of Crown resources.
- P4 Lands adjacent to “Rural Resource” areas (including provincial parks and recreation reserves), are encouraged to provide for routes of forest road access, backcountry trail parking areas and controlled access facilities (gates, signage etc.) where such access does not conflict with resource tenures such as water reservoirs and timber harvesting.



8 Transportation

8.1 Overview

Highway 97 is the major connecting route through the Okanagan leading from Revelstoke and the Trans Canada Highway in the north down to the Coquihalla Connector (97C) and finally through to the United States in the south. The primary access roads routes into and out of Brent Road and Trepanier originate with Highway 97 and Highway 97 C. Anticipated continued growth in the Okanagan will increase both local and regional traffic on the highway.

The historic trend in the Okanagan Valley of having large distances between single detached homes on large parcels, neighbourhoods with little housing choice, and limited bike, pedestrian or transit options, has created a reliance on the automobile. For citizens in the Okanagan the result is congestion, pollution, large amounts of land devoted to asphalt and costly infrastructure.

8.2 Roads and Highways

The road network and transportation system in Brent Road and Trepanier is set on the foundation of the initial plan of subdivision from 1910 and from gravel forestry roads built over time to access timber and aggregate/ gravel resources. Originally, the rural road network was established to provide access to timber and ranches. Over time, the area developed and those roads now carry more traffic generated from residences, gravel trucks and visitors to the area. The local roads that provide connections between neighbourhoods include Paradise Valley Road, Trepanier Road, Trepanier Court, Maxwell Road, Star Place, Venner Court, Brent Road and parts of Meadow Valley Road. No major roads are planned in the OCP study area.

Other transportation modes in Brent Road and Trepanier include hiking and biking trail routes. While residents are interested in cycling and walking as alternatives to using cars, the rural road infrastructure with gravel shoulders often is not wide enough to safely accommodate them.

Residents and landowners surveyed during the OCP development expressed two major concerns with road safety in the study area. The residents of Brent Road were concerned with the access to and from Highway 97. The high speeds of Hwy 97, make turning into the residential neighbourhood a significant safety concern, as there is currently no dedicated turn left lane, nor an acceleration lane for merging into Hwy 97.

Residents of Paradise Valley expressed concerns with the condition of the roads, their deterioration and heavy use by gravel trucks travelling to and from gravel pits in the area. Safety concerns were raised with the narrow roads, the deteriorating bridges, road surfaces and speed of travel (particularly gravel trucks) through the rural residential neighbourhoods.

Jurisdiction

In the Regional District the provision and maintenance of public roads falls under the jurisdiction of the Ministry of Transportation and Infrastructure (MOTI) for the Province of British Columbia. Although there is a working relationship with the Regional District, the MOTI is responsible for road planning and maintenance in the Brent Road and Trepanier area. Road improvements to existing roads are largely subject to the availability of provincial funding, or required as a result of new development.

Objectives

There are important objectives that form a framework for the Regional District policies:

- O1 Support transportation planning that is an integrated, cohesive network that is considered as a whole.
- O2 Support a roadway system that facilitates the safe movement of goods and people within the Brent Road and Trepanier area.
- O3 Encourage multiple modes of transportation (bike and pedestrian routes) and methods of travel that reduce environmental impacts and the inefficient use of roads.

Policies

The specific policies are:

- P1 Develop with assistance from the Ministry of Transportation and Infrastructure, road standards for inclusion into the Subdivision and Development Servicing Bylaw.

Advocacy Policy – Ministry of Transportation and Infrastructure (MOTI)

- P2 Support the improvement of Highway 97, to create a dedicated southbound deceleration and left turn lane onto Brent Road to safely access the neighbourhood. In addition, support the addition of a north bound acceleration lane from Brent Road.
- P3 Support Paradise Valley Road bridge maintenance and safely upgrades that support use by commercial loads and large recreational vehicles.
- P4 Support the widening of Paradise Valley Road to accommodate cyclists and pedestrians. Investigate opportunities with MOTI to contribute to improvements to transportation options in the Trepanier Valley.
- P5 Support roadway upgrades to Maxwell Road to improve road surface, width and safety.
- P6 Support the enhancement of road safety in the Trepanier Valley by improving road travel surfaces, and adequate road maintenance and operations that recognizes and address the heavy use by gravel pit operations and other commercial and industrial traffic.



9 Infrastructure, Servicing and Utilities

9.1 Overview

The Regional District has a limited ability to provide central community services for rural settlement areas, such as purveying water and sanitary sewage treatment. Emergency response (fire and policing) is also limited in these areas. Transportation services, community and health services are discussed in other sections of this Official Community Plan that follow.

The Regional District currently requires that developers incur the costs of new development, which includes:

- the reduction of hazards,
- septic waste management,
- drainage management,
- road construction, and
- any other requirements of development and subdivision.

Fees and charges and works and services are a condition of subdivision and development. The requirements are contained within the Subdivision and Development Servicing Bylaw. The level and extent of required servicing is based on zoning and land use.

The District's Development Application Procedures Bylaw 944 is relied upon to guide and obtain information to inform development reviews.

9.2 Water, Sewage, Drainage, Solid Waste and Electricity

Water, Sewage and Drainage

Brent Road and Trepanier are largely self-servicing, for potable water and sewage disposal, with the exception of a small community water system that services 8 residences at Star Place (as shown on Map 5). The Star Place water system is maintained by the Regional District.

Most of the residences in Trepanier area draw water from private wells. Some residences draw surface water through the Trepanier Ditch Users Water Users' Community (WUC) that was established in 1980. This water system draws water from Trepanier Creek at a lower altitude on the creek and is considered at high risk of surface water contamination. The Trepanier Ditch

WUC is on a permanent boil water notice from the Interior Health Authority. Extensive upgrades to the water system would be required to remove the boil water notice.

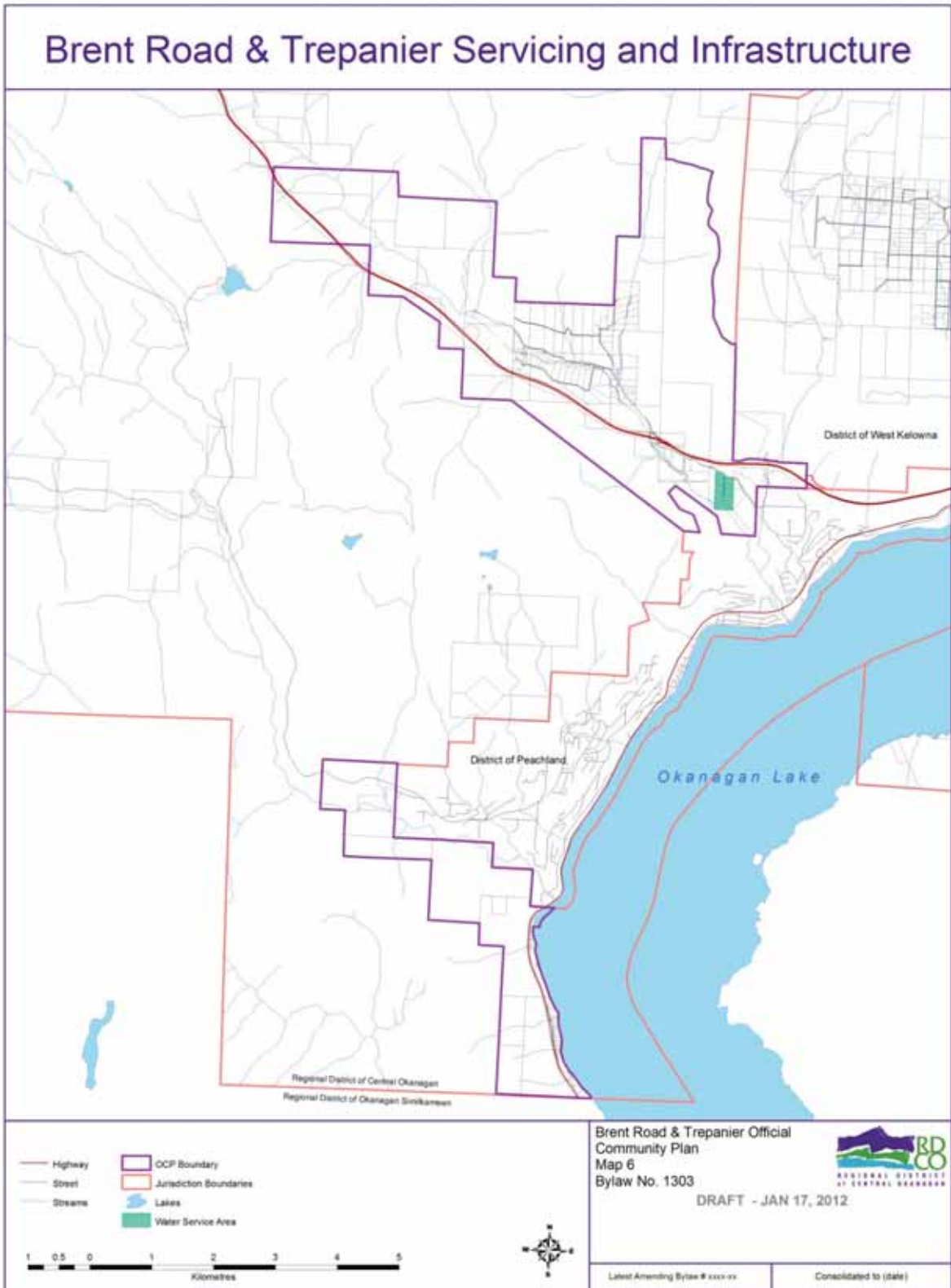
Residents surveyed during the OCP development were split on the topic of water and sewer community servicing. In the Brent Road neighbourhood, the majority of respondents were not supportive of self servicing for water and sewage disposal due to the high connection costs. Currently residents in Brent Road draw water through individual intake pipes in Okanagan Lake. In November 2009, the Regional District completed a feasibility study for sanitary sewer collection on Brent Road. The feasibility study explored low pressure sewer and gravity main collection system options for Brent Road. Preliminary costs were estimated to be approximately \$420,000 (+/- 40%) for the low pressure system and \$960,000 (+/-40%) for the gravity main collection system. An additional \$8,000/lot cost would be required for residences to connect to the system, as well as one time connection chargers and user fees.

It is important to acknowledge that septic systems have a lifespan of approximately 25 years and that septic systems will be a bacteriological pollution source (concern for well and surface water quality) when they are failing. In addition to being a potential contamination source, the Interior Health Authority and Regional District are aware of erosion, land slip and bank instability that has occurred in Brent Road area as a result of onsite sewage disposal system failure from excess moisture loads within the steep clay banks. These issues are a concern and the maintenance and management of on-site septic systems is recognized as the responsibility of the homeowner.

In the Trepanier Valley, residents were split on the topic of servicing as well. Trepanier Valley residents agreed that sewer servicing is not a concern nor is it desired in the area. Some residents are supportive of exploring the costs and delivery options for purveying community water and fire protection services to the area and others are not. Some residents of Trepanier Valley have created a community association, called Trepanier Residents Involved in Planning Our Destiny. These residents are engaged in exploring opportunities for water servicing in the rural community, and have approached the neighbouring District of Peachland to consider servicing the area.

The District of Peachland draws its drinking water source from Trepanier Creek and Peachland Creek, to purvey water to its approximately 5,500 residents. The District of Peachland's past policy has been to service only land within their boundaries. Peachland has in the past, expressed that they are not interested in extending their boundaries to include Trepanier Valley. The RDCO may consider investigating the costs associated with delivering community water and fire protection to Trepanier Valley and to discuss options for shared cost arrangements between landowners.

In 2010, the District of Peachland completed a "Watershed Assessment Report for Drinking Water Source Protection" that focuses on protecting the identifying hazards and vulnerabilities to drinking water quality and quantity and developing strategies to eliminate, minimize or mitigate hazards to provide a safe and secure drinking water source from Trepanier and Peachland Creeks. This is further discussed in Section 5.1, with related policies for reducing hazards and risks to water quality and quantity.



Map 6: Brent Road and Trepanier Serviced Areas

Solid Waste

Solid Waste is collected by the Regional District and taken to the landfill site located within the City of Kelowna. A Solid Waste Management Plan outlines the future needs and activities required for the management of solid waste in the Regional District. Door to door pick up of recyclable materials such as plastic containers, tin, and cardboard is a service provided by the Regional District on designated dates. As well, the Regional District provides a pick up of yard waste such as small branches, prunings and pine needles periodically during the year.

Electricity & Natural Gas

Electrical power in the Brent Road and Trepanier area is provided by BC Hydro, and Fortis Ltd. is the supplier of natural gas, where available.

Objectives

There are important objectives that form a framework for the policies:

- O1 Promote water, septic and drainage systems; support good health and safety; and, meet recognized standards of service.
- O2 Direct development to areas that are currently serviced or to areas within a planned service expansion area.
- O3 Support the provision of services that are responsive to environmental issues.
- O4 Properties served by individual wells or water licenses in the Regional District are to meet bylaw requirements with regard to water quality and quantity.
- O5 Discourage the establishment of new private water system providers within the Brent Road area.
- O6 Seek opportunities for shared funding to assess the costs associated with delivering a community water system to Trepanier Valley and discuss options for shared cost arrangements and service delivery options with landowners. New systems will require compliance with the RDCO Utility Acquisition Policy.
- O7 Support the regulations, setbacks, and requirements of the Province of BC for on-site septic fields where septic fields are permitted by Regional District bylaw.
- O8 Discourage the subdivision of lots straddling across a major power or gas line rights-of-way.
- O9 Support the application of service standards and regulations of independent public utilities where those utilities have more stringent standards than those required by the Regional District.
- O10 Investigate methods to jointly administer storm water drainage systems with the Ministry of Transportation and Infrastructure and provide for sustainable funding for storm water management and flood protection works.
- O11 Develop best management practices in order to preserve and protect major drainage systems during and after construction.

- O12 Consider carefully the effectiveness, costs and benefits for the Regional District in considering whether to augment or participate in the provision of services that are the responsibility of higher levels of government where the provincial government determines to limit its participation in service provision.

9.3 Community and Protective Services

Residents of Brent Road and Trepanier go to nearby Peachland, West Kelowna and City of Kelowna for community services and public facilities such as health offices, care facilities, schools and churches. Brent Road and Trepanier is rural in nature and there are currently no community buildings or facilities.

Fire Protection and Emergencies

Whether it is dealing with floods, with extreme weather conditions, or with wildfires, all service providers recognize the importance of having a planned and practiced emergency response program. The Regional District regularly updates policies and procedures under auspices of the Provincial Emergency Program office.

The Regional District provides the residents of Brent Road with community fire protection services through a Fire Protection Agreement with the Peachland Fire Protection District. The Peachland Fire Department responds to fire emergencies, when they are able, with no response time guarantees for the rural residential neighbourhood. From the end of the Peachland Fire Protection District, there is no response greater than 5 km. This is within recognized response criteria for rural fire response.

Fire response for other rural properties in the OCP area, as well as on Crown lands, is the responsibility of the Forest branch of the Province. The response teams coordinate which agency assumes responsibility for the area.

Trepanier area residents have requested that the Regional District investigate capital needs and costs associated with providing fire protection and a dedicated fire department in the area. In a "Trepanier Fire Protection Report", dated 2009, written by Emergency Manager Rod Miller, the options for fire protection service were outlined. The service area considered in the report included 70 addressed properties and 17 additional unaddressed lots along Trepanier Road, Trepanier Court, Maxwell Road, Venner Court, Paradise Valley Drive, and Star Place. The cost of a fire hall would be approximately \$780,000, with additional funding required for equipment, a fire engine, tender for water service, and land. Additional details and options should be explored with residents to assess interest and funding options.

Police and Ambulance Services

Ambulance and policing services are provided by the BC Ambulance Service and the Royal Canadian Mounted Police. The Regional District provides regional services related to crime prevention and emergencies such as the provision of 911 services, the Crime Stopper Program, the Crime Prevention Program, and the Victim Witness Assistance Program.

The Regional District works closely with police and other emergency service providers to support infrastructure and capital investments that are coordinated and planned in accordance with projected population growth.

Objectives

There are important objectives that form a framework for the policies:

- O1 Maintain community services to reflect the areas' rural population and growth.
- O2 Support services are adequate to meet the health and safety needs of the community
- O3 Strengthen partnerships between the Regional District and community service organizations and agencies.

Policies

The specific policies are:

- P1 Carefully consider the effectiveness, costs and benefits for the Regional District in whether to expand key protective services to Trepanier for community fire protection servicing and present the findings to the community for discussion and consideration.
- P2 Discourage the subdivision of properties to less than 4 hectares when located outside of the fire protection district.
- P3 Review regulations and requirements from a community preparedness perspective in order to improve standards in support of wildfire hazard abatement and the fighting of wildfires.
- P4 Review and update the Regional Emergency Plan in order to incorporate the experience gained during the 2003 Okanagan Mountain Park fire.
- P5 Future subdivisions in the Brent Road and Trepanier should meet adequate road access requirements for fire and emergency vehicle response times.
- P6 Continue to coordinate and provide 911 emergency response services.
- P7 Support the Crime Stopper Program, the Crime Prevention Program, and the Victim Witness Assistance Program.



Photo: Antler's Beach, Flickr user Wayne Weber

10 Community Facilities, Parks, Recreation and Heritage

10.1 Overview

Brent Road and Trepanier has 2% of the land area in parks that were established to protect the unique ecosystems, habitats, Trepanier Creek and recreation beaches on Okanagan Lake. Recreation and heritage sites in Brent Road and Trepanier are located within the provincial, regional parks, and neighbourhood/community parks.

The Regional District of Central Okanagan Parks Services is responsible for the delivery of park and recreation services to the residents in the region.

The Parks Services manage and operate 29 regional parks and greenways, covering 1115 ha (2755 acres) in the Central Okanagan. In addition, Parks Services also manages and operates 9 Central Okanagan East Electoral Area parks, totalling 18.5 hectares (46 acres) and 11 Central Okanagan West Electoral Area parks, totalling 17.8 hectares (44 acres).

10.2 Parks and Recreation

The Parks Services delivery of parks and recreation opportunities and programming is achieved through the provision of various park types and functions to serve the community and residents of the area.

Future park land acquisitions need to accommodate the trends and direction given by the local community and area residents.

Public surveys conducted at the time of the OCP preparation showed divided support from residents, for improving the connectivity between the natural areas, parks and trails particularly along Trepanier Creek has been identified by the RDCO in the “Parks Legacy Program” (2007-2017) as an area for future parks connectivity. The protection of natural environments and recreation is important to residents of the region.

10.3 Central Okanagan West Electoral Area Parks

Neighbourhood/Community Parks

Neighbourhood parks provide active and passive recreation functions that can include playgrounds, passive recreation amenities such as benches and picnic tables, and small sport fields to serve a specific neighbourhood.

Community parks support passive recreation functions that serve the entire community. This can include institutional/cultural/historical facilities, public cemeteries and public tourist attractions.

Star Park, is a 3.13 hectare undeveloped neighbourhood park located on Star Place in the Trepanier area.

Greenways and Linear Parks

Greenways and linear parks provide recreational access and off road, non–motorized transportation for cyclists, pedestrians, hikers and equestrian riders. The linear parks and greenway provide important linkages and connectivity between the surrounding parks, natural areas, trails and Crown lands in the area.

Jack Creek Greenway is a linear trail located in the Trepanier area.

Natural Open Space Parks

Natural open space parks provide and support a variety of functions which include habitat conservation, ecosystem restoration, protection of natural features and cultural/heritage protection.

10.4 Central Okanagan Regional Parks and Greenways

Regional Parks

Guiding documents for the regional parks system include the Official Regional Park Plan, Bylaw 884, the Regional Parks and Greenways Plan for the Central Okanagan (2008 – 2020) and the Central Okanagan Regional Parks Legacy Program (2007 – 2017).

The regional parks system of management classification includes the following four park classes:

- Regional Conservation Park
- Regional Natural Area Park
- Regional Recreation / Cultural / Waterfront

Regional Trail (Greenways)

Some of the key objectives include the protection of the natural environment and cultural landscape, protection of endangered ecosystems and linking existing parks and protected areas to provide recreational opportunities and environmental education.

Long term planning for future parkland acquisitions include securing lands to complement the existing system of regional parks, protection of regionally significant natural and human heritage

park areas, and to complete recreational corridor linkages with existing parks, linear greenways, trails, natural areas, and surrounding Crown lands.

There are four regional parks located within the Brent Road and Trepanier OCP area. The regional parks are larger, natural area parks that provide opportunities for public recreation, interpretation and enjoyment of the natural ecosystem and cultural landscape. The regional parks also serve to protect and preserve ecologically significant ecosystems, natural habitats and features and to provide wildlife habitat corridors.

The regional parks located in the Trepanier Creek Valley area include:

- Trepanier Creek Greenway Regional Park
- Coldham Regional Park

The regional parks located in the Brent Road area include:

- Antlers Beach Regional Park
- Hardy Falls Regional Park

10.5 Provincial Parks

Trepanier Provincial Park is under the jurisdiction and operation of BC Parks. In addition, the Ministry of Forests, Lands and Natural Resource Operations has land holdings for the protection of wildlife in the Antlers Saddle area (located west of Brent Road neighbourhood). Antlers Saddle and all the park areas are further described in Section 3.4 of the OCP.



Map 7: Antlers Saddle Wildlife Area

Objectives

There are important objectives that form a framework for the policies:

- O1 Acquire and provide suitable land for park and recreation opportunities through various methods (acquisitions, park dedication, statutory right of ways for public access and donation).
- O2 Secure and protect a variety of park types that reflect natural features, wildlife habitats, historical and cultural landscapes, and recreational activities including conservation areas, natural areas, recreational parks and greenway trails.
- O3 Create and implement neighbourhood/community park plans and policies.
- O4 Pursue partnerships and joint uses with other agencies (Province, School District, Westbank First Nations and adjacent municipalities) and community groups to support parks acquisitions and management.
- O5 Secure and protect regionally significant natural and human heritage park areas.

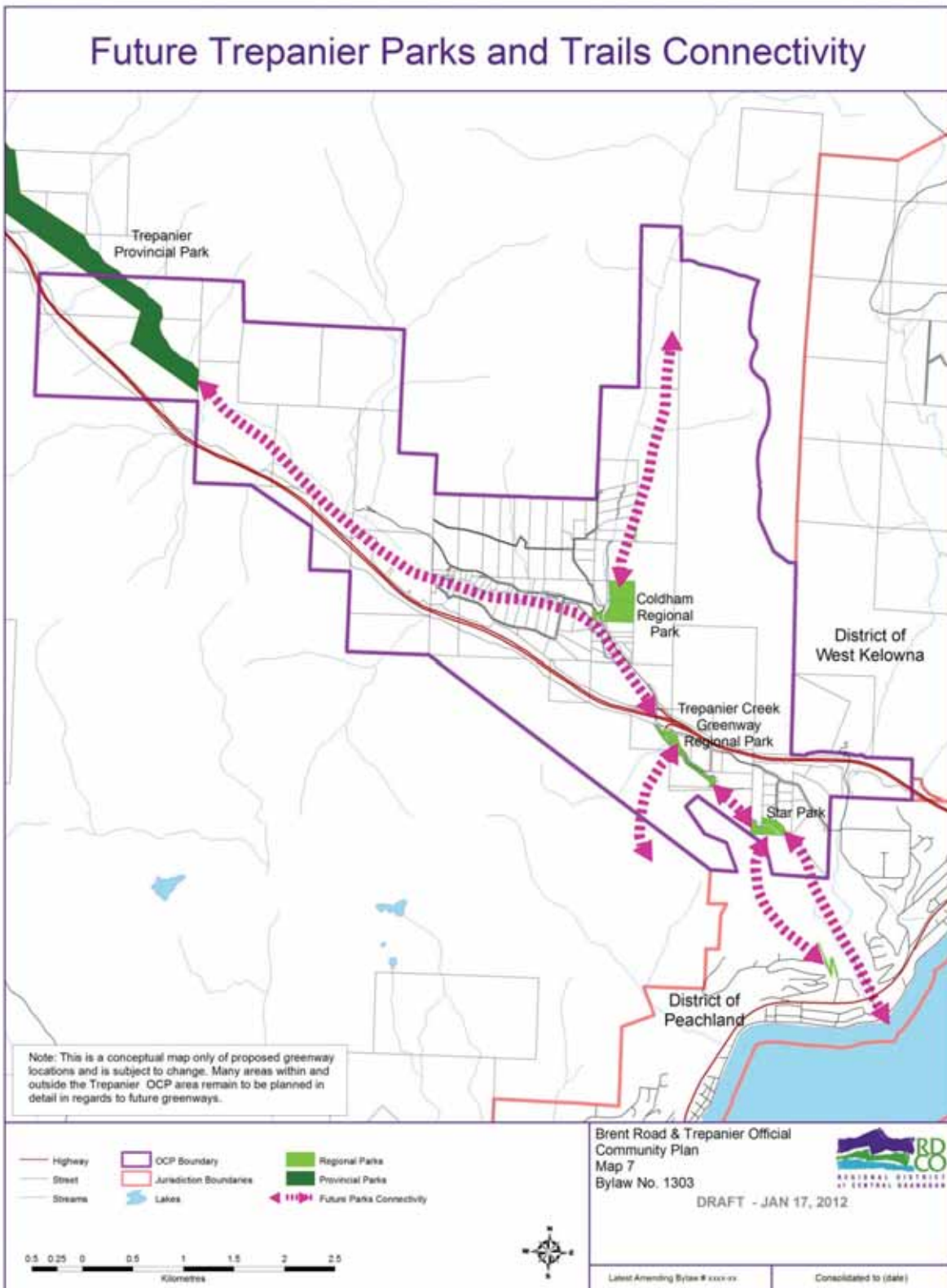
Policies

The specific policies include:

- P1 Secure parkland dedication at the time of subdivision in accordance with Provincial legislation – *Local Government Act* Section 941 requirement of 5% park dedication or cash in lieu of park dedication.
- P2 Desired future parks and greenway connectivity locations are shown on Map 3. The District's desired future park directions and policies are presented in the Regional Parks and Greenway Plan for the Central Okanagan (2008 – 2020) and the Central Okanagan Regional Parks Legacy Program (2007 – 2017).
- P3 Require subdivision adjacent to Crown land to provide and preserve public routes to access to Crown land for outdoor recreation purposes. Access points along popular trail corridors will be favoured.
- P4 Parks acquired through subdivision should be located near public streets, trails and pedestrian routes. Parks and facilities should be designed to provide (where possible) physical access for all members of the public.
- P5 Assess a range of tools for natural open space and conservation area management, including covenants, land trusts, purchase by conservation organizations and regional park acquisition.
- P6 Support and encourage efforts by community organizations to partner in the maintenance or management of public owned spaces including parks and future facilities such as community gardens, community halls, heritage sites, etc.
- P7 Review the Regional District policies regarding the acceptance of conservation areas and natural open space in order to support and encourage their preservation and public acquisition. Policies include dealing with issues of wildfire management, security and operational budget considerations.
- P8 Request an evaluation of historic and archaeological values for a site proposed for park development where there is some documentation or evidence of occupation. The

archaeological impact assessment, prepared by a professional consulting archaeologist should address archaeological potential and protection for sites protected under the Heritage Conservation Act of BC.

- P9 Advance park acquisition and connectivity for Trepanier Creek Greenway Regional Park as a priority area for regional park expansion.
- P10 Consider opportunities for expanding regional parks and securing connectivity between Trepanier Provincial Park and Okanagan Lake along Trepanier Creek and with surrounding Crown lands.
- P11 Consult with the RDCO Governance and Services Committee with regard to matters related to parks and recreation.
- P12 Review the potential acquisition of lands under proposed development that contain heritage and historical sites for future park areas and interpretive sites.
- P13 Continue to evaluate and validate heritage sites, historical sites, and cultural landscapes for acquisition and protection as part of the Regional Parks and Greenways Plan for the Central Okanagan (2008-2020) and the Central Okanagan Regional Parks Legacy Program (2007-2017).



Map 8: Future Parks Connectivity



11 Temporary Use Permits

Under the *Local Government Act* section 921, Temporary Use Permits may be considered by the Regional Board to allow specific land uses to occur for a short period of time. The permit can contain very detailed requirements such as indicating the buildings that can be used, the time frame of the permit, and other conditions.

Such permits are provided at the discretion of the Regional Board and are only in effect for a limited period of time – maximum 3 years with a possible one time extension to a maximum of an additional 3 years. They are not a substitute for a rezoning in accordance with the Zoning Bylaw of the Regional District.

Objectives

There are important objectives that form a framework for the policies:

- O1 Allow opportunity for the consideration of the issuance of a Temporary Use Permit in order to permit a temporary use to continue while a more suitable location for the use is determined or a rezoning application is completed.
- O2 Allow opportunity for the consideration of interim activities such as gravel extraction prior to development.
- O3 Ensure that Temporary Use Permits are not considered a substitute for a rezoning application.

Policies

The specific policies are:

- P1 Consider the issuance of Temporary Use Permits based upon the following general conditions;
 - a. The use must clearly be temporary or seasonal in nature;
 - b. The temporary use should not create an unacceptable level of negative impact on surrounding permanent uses; and
 - c. In the case of the discovery of a use already underway that does not conform with Zoning Bylaw No. 871, there is either an undertaking to initiate a rezoning application under Zoning Bylaw No. 871; or, an outline provided of when and how the temporary use in that location will be concluded.

- P2 Other conditions in the Temporary Use Permit may include, but are not limited to; the buildings being used, the area of use, the hours of use, appearance, site rehabilitation, and the holding of a security bond by the Regional District to ensure compliance.
- P3 The issuance of Temporary Use Permits can be considered throughout the plan area in all OCP designations.



Part III: Development Permits

Photo: Trepanier Creek Greenway Regional Park, Flickr user ermintrude75



PART III: DEVELOPMENT PERMITS

12 Development Permit Areas and Development Approval Information

The Regional District is designating development permit areas that will protect development from hazardous conditions in the environment (such as flooding, erosion, land slip, rock falls, fire hazard) and protect the natural environment from development (including sensitive ecosystems and biodiversity). It is important that these matters are considered when certain types of development or buildings are proposed. There are several types of Development Permits that achieve a variety of different community goals. A certain proposal may be required to consider just one set of guidelines, or several sets of guidelines, depending upon the type of proposal being made and its location.

Each Development Permit has specific objectives and guidelines that have been developed to achieve certain community goals. The location and circumstances where the objectives and guidelines for each Development Permit apply is indicated in the OCP Appendices in text and maps. When a proposal is located in those areas and fits those circumstances, applications for Development Permits are required so that the proposal can be evaluated.

The following development permit areas and schedules are designated in this OCP, and located in the following appendices:

- I. Aquatic Ecosystem Development Permit Area – Schedule E
- II. Sensitive Terrestrial Ecosystem Development Permit Area – Schedule F
- III. Hillside Development Permit Area – Schedule G
- IV. Wildfire Interface Development Permit Area – Schedule H

12.1 General Development Permit Guidelines

Development designated within Development Permit Areas will be reviewed by the Regional District in consideration of the objectives and guidelines identified in this OCP. Conditions or restrictions may be imposed on the development accordingly.

Development permit justifications, exemptions and guidelines are outlined in each development permit area. In the exemptions, there are references to the use of restrictive covenants as an alternative tool for protection of natural environment or development from hazardous conditions. It should be noted that the Regional District recognizes that development permit conditions are desired over covenants. A covenant is valuable as an additional tool. Covenants are voluntary private agreements, rather than a statutory permit, which is preferred by the Regional District.

Guidelines for the development permits include reference to the requirement of specific professional evaluations and reports. The Regional District also applies the procedures of the Development Application Procedure Bylaw, 944 in development permit reviews. An overall objective for development permit area designations is an understanding that there is limited future residential, commercial and industrial growth in areas with environmental and hazard concerns.

Development Permit provisions will not apply to activities such as gardening and yard maintenance activities within an existing landscaped area, such as mowed lawns, minor pruning of trees and shrubs, planting vegetation and minor soil disturbance that does not alter the general contours of the land.

Pursuant to Section 920.01 and 920.1 of the *Local Government Act*, and the RDCO's Development Application Procedures Bylaw 944, the Regional District may require an applicant to provide reports or studies prepared by qualified professionals to inform development reviews. Reports and studies may include:

- Environmental Report or Impact Assessment;
- Geotechnical Study;
- Wildfire Hazard Assessment;
- Existing Site Topography and Proposed Grading Plans;
- Hazard Tree Assessment;
- Stormwater Management and Drainage Plans;
- Groundwater Management Assessments;
- Flood Protection;
- Visual Quality Assessments and
- Other studies listed in Bylaw 944

Appendices



DEVELOPMENT PERMIT AREAS

Appendix I: Aquatic Ecosystem Development Permit Area & Guidelines

Designation

The Aquatic Ecosystem Development Permit Area is designated for the purpose of protection of the natural environment, its ecosystems and biological diversity and for the protection of development from hazardous conditions.

Aquatic Ecosystem Development Permit Areas include areas of land designated on Schedule E. The Aquatic Ecosystem Development Permit Area was established through the identification of watercourses, riparian areas, wetlands and broadleaf woodlands utilizing a combination of field Inventory (using sub-metric global positioning system), interpretation of provincial TRIM² data, field surveys, and documentation of riparian locations.

Aquatic ecosystems are protected not only because of their great importance to the ecology of the Okanagan but also because Provincial and Federal legislation (*Riparian Area Regulation*, the BC *Water Act*, and the Federal *Fisheries Act*) require that the RDCO ensure the protection of aquatic ecosystems.

Justification

The importance of aquatic ecosystems is far reaching and is only briefly summarized here. In the dry ecology of the Okanagan, aquatic habitats are critical for the survival of wildlife and form necessary travel corridors between habitats. Water is an important part of maintaining biodiversity and is essential for many species. Many rare species in the Okanagan are associated with aquatic environments.

Such ecosystems are important not only in their own right but form a backbone of corridors between ecosystems that create a healthy diversity and better support the needs of a variety of species. These connections avoid the creation of isolated “islands” and increase ecosystem sustainability for the future.

The Okanagan also has a limited water supply and the water quality of surface water and aquifers (both below ground and in surface recharge areas) is important. The riparian habitat is a natural water purifier and pollution filtration system. A healthy riparian area also helps slow water flow and prevent erosion and soils stability.

Landform characteristics such as ravines, steep slopes and proximity to fluctuating water levels, may also be a hazard to development. Development in riparian areas needs to take natural hazards into consideration in order to protect development from environmental conditions such as flooding, erosion and land slip and ensure the safety of properties and residents,

² TRIM = Terrain Resource Inventory Mapping

The entire water system is highly interconnected and fragile. A change in one part of a stream or wetland can have downstream consequences on wildlife, people and property. Finally, the quality of the aquatic environment will affect fish habitat and fish population numbers.

The Aquatic Ecosystem Development Permit Area is established to meet the following objectives:

- Protection of ecological attributes and socio–economic values that is common to all Aquatic Ecosystems.
- To protect, restore and enhance Aquatic Ecosystems (water, wetland, riparian and broadleaf woodland).
- To protect Aquatic Ecosystems through the use of buffers.
- To protect water quality and quantity.
- To protect vital wildlife functions such as (but not limited to) a travel corridor, a place of refuge, water source, fish habitat, and a breeding habitat to ensure future generations.
- Protection of development and lands from hazard conditions.

Further special conditions and objectives are in the specific section of the guidelines in relation to riparian and wetland ecosystems.

Exemptions

In Aquatic Ecosystem Development Permit Areas, a Development Permit must be approved before land is subdivided; construction of, addition to or alteration of a building or structure; or alteration or clearing of land (including but not limited to grading, blasting, preparation for the construction of services or roads). A Development Permit is required unless one of the following exemptions applies:

- a. A Development Permit of this type has already been issued or a covenant substantially addressing aquatic ecosystem and hazard issues is registered on property title for the area in the past, and the conditions in the Development Permit or covenant have all been met, and the conditions addressed in the previous Development Permit or covenant will not be affected; or,
- b. Where the Development Permit Area is fenced in a way acceptable to the Director of Development Services in order to prevent any accidental disturbance, and, there is a permanent protection of the Development Permit Area by means such as a restrictive covenant, return to Crown land, provided as public park, or similar method acceptable to the Director of Development Services; or,
- c. A Qualified Environmental Professional (QEP)³ certifies in a signed letter that an aquatic ecosystem feature (ie. stream, wetland, or riparian) is not present at the

³ Qualified environmental professional 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,
- 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
- c. the individual is acting within that individual's area of expertise.

location specified. This may be the case where TRIM mapping interpreted a watercourse based on landforms such as gullies, which may not convey surface flows. Field Inventory and Mapping completed by the RDCO endeavoured to confirm the presence of aquatic features on the landscape. However, stream lines identified by TRIM base remain within the DP area until certified by a QEP that such a feature is not present; or,

- d. The proposed works are site restoration and ecological enhancement, general parks maintenance and works in accordance with established Best Management Practices and Provincial approvals, as required, under purview of RDCO Parks Services; or,
- e. There is change of use or a alteration of an existing approved building or permanent structure in which the building or structure foundation is not altered or increased; or,
- f. The land is located within the Agricultural Land Reserve of the Province of BC and the activities are responsible, normal agricultural practices in accordance with the Farm Practice in BC Reference Guide and in accordance with the Farm Practices Protection Act or other applicable legislation. Interpretation or disagreements will be resolved through the provisions of the Act. Activities not covered by the Act or Guide will require a Development Permit; or,
- g. The activity involves in-stream and associated riparian water management works conducted by water purveyors (i.e. by Irrigation Districts) under the auspices of the Regional Water Manager as defined under the Water Act provided the works are addressed under relevant Provincial permitting and is conducted in a manner consistent with the Development Permit Guidelines; or,
- h. Environmentally sensitive removal of trees and shrubs designated as hazardous by a Professional Forester registered in BC in accordance with provincial “Firesmart” standards as outlined in a wildfire hazard report with provisions in place to ensure that tree removal is carried out in accordance with the report recommendations; or,
- i. Environmentally sensitive removal of trees and shrubs designated as host trees by the Sterile Insect Release Program as indicated in a report by a Qualified Environmental Professional (QEP) or an ISA Certified Arborist and experienced in standard agricultural practices; or,
- j. Environmentally sensitive removal of infested, diseased, or hazardous trees in accordance with the Best Management Practices for Tree Topping, Limbing, and Removal in Riparian Areas (http://www.env.gov.bc.ca/okanagan/documents/HazardTree_26May_09.pdf), as indicated in a report by a Qualified Environmental Professional (QEP) or an ISA Certified Arborist who are certified Wildlife/Danger Tree Assessors with provision of environmental monitoring to ensure that tree removal is carried out in accordance with the report recommendations; or,
- k. The activity involves timber harvest, forest road construction, open livestock range, grazing enhancement, forest recreation or other forest management activity on Crown land that is conducted under the authority and approval of the Province; or,
- l. There is a technical subdivision for lot consolidation or boundary adjustments; or

- m. The activity is conducted under direction of the Provincial Emergency Program.

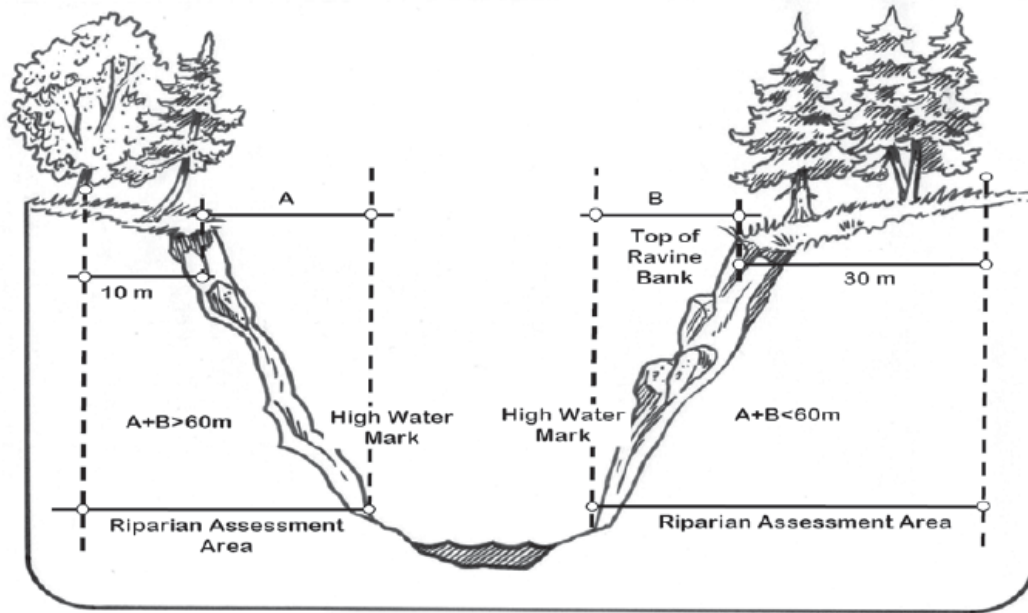
GUIDELINES

Development Permits issued in this area will be in accordance with the following guidelines:

- An environmental assessment is to be prepared in accordance with the RDCO Terms of Reference for Professional Reports as well as these guidelines and will (at a minimum) consider:
- The Sensitive Ecosystem Inventory (SEI) and Sensitive Habitat Inventory and Mapping (SHIM) Data and any other environmental information available from the RDCO or provincial ministries.
- Leave strips of sufficient width to accommodate the dynamic nature of the hydrologic system, maintain water quality, base flows and natural drainage patterns. A report prepared by a professional hydrologist may be required in circumstances where the hydrological condition has been or may be significantly disturbed.
- Provincial Best Management Practices Guidelines pertaining to aquatic habitats, groundwater management and drinking water protection.
- An indication of when monitoring of important environmental conditions by the professional will occur.
- Other studies may be required to address hazardous conditions or water management issues.
- The Assessment Area will include:
 - a. A 30–m band (horizontal plane) measured perpendicular from the mean annual highwater mark of the watercourse; For a ravine that is less than 60 m wide, from the top of the ravine to a spot 30 m beyond the top of the ravine; for a ravine that is more than 60 m wide, a strip that is 10 m wide from the top of the ravine.
 - b. Riparian, wetland, and other aquatic feature polygons identified in SEI mapping and corresponding Aquatic Development Permit Areas.
- Development permit conditions may include conditions that lands that must remain free of development; require specified natural features or areas to be preserved, protected, restored or enhanced in accordance with the permit.
- A leave strip for the protection and restoration of the riparian ecosystem is to remain undisturbed near watercourses and other aquatic features. The intention is that the leave strip will be untouched by development and left in its natural condition; or, if damaged by previous use or construction, the ecosystem restored or enhanced.
- The leave strip should be evaluated, established and monitored by a Qualified Environmental Professional (QEP), experienced in environmental assessment and design, registered in the Province of BC following evaluation of the leave strip requirements and recommendations.
- Leave strip widths will be determined based on the following factors:
 - a. If **fish bearing** or connected by surface water to a fish bearing water body:
 - For **creeks and wetlands**, the leave–strip area will be no less than 15–m (horizontal distance) from the bankfull level of the subject watercourse or

aquatic habitat feature. If the setback determined using the Detailed Assessment Methods of the Provincial Riparian Areas Regulation (RAR) exceeds 15-m, the leave strip area will then comply with the Setback under the RAR.

- For an **active floodplain**, the leave strip (determined from (a.)) will start at the outer edge of this feature. *Active floodplain areas are those that are flooded more frequently than 1 in 5 years.* Seasonally inundated channels are to be included in the active floodplain;
 - For **Okanagan Lake, (Brent Road Area)**, leave strips will be commensurate with the riparian and shoreline condition (i.e., adjacent ESAs) and aquatic habitat values. The benchmark condition will be that identified by the 2010 Okanagan Lake Foreshore Inventory and Mapping (FIM) and Aquatic Habitat Index (AHI) and 2011 Sensitive Ecosystem Inventory Mapping. Two shoreline (FIM) segments have been identified along the Brent Road area. Based on the 2010 AHI, these segments have been assigned Moderate index ratings and are No Colour Zones as per the Okanagan Large Lakes Protocol. Accordingly, the setback will be no less than 15-m. On Okanagan Lake, the setback will be measured from the highwater mark. Further setback refinements will be determined in accordance with the Riparian Areas Regulation Detailed Assessment Methods as carried out by a Qualified Environmental Professional. Permitted land use will be harmonized with protection of these areas.
- b. If **non-fish-bearing** and not connected by surface water to a fish bearing water body other considerations in determining an appropriate leave strip include:
- Whether the watercourse has downstream water intakes.
 - What the intended land use is within the property (both within and outside of the Development Permit Area).
 - Whether the land use includes livestock storage, on-site septic disposal, fuel storage, aggregate extraction, or other sources of potential surface or groundwater contamination.
 - Proximity to stream or shore spawning areas.
 - The location of the natural wetland, riparian and broadleaf woodland ecosystem communities.
 - The location of important denning or nesting habitat.
 - Ecosystem continuity off site and in the larger area.
 - The extent of land clearing, berming, or removal of vegetation and topsoil.
 - The timing of site work and rehabilitation.
 - The natural slope of the land and potential for geotechnical instability and/or soil erosion.
 - In consideration of the other guidelines of the development permit area.



- Networks of leave strips, open spaces and foreshore may provide for public access where such access is designed in a way that is not detrimental to the natural environment.
- Where temporary impact on the leave strip may be permitted during construction, provisions should be in place to rehabilitate the leave strip using native species. Rehabilitation is intended to restore or enhance the ecosystem in the leave strip.
- Should unpermitted damage occur to the leave strip during construction, the RDCO may require a professional assessment of the damage, a report on recommendations for rehabilitation, and rehabilitation completed.
- All leave strips are required to be identified along their perimeter during all phases of construction by means such as brightly coloured snow fencing in order to prevent any accidental disturbance.
- Active bird nests and the nests of eagles, peregrine falcons, osprey, burrowing owls or heron (whether occupied or not) are protected by the provincial Wildlife Act. The provincial Develop with Care: Guidelines for Urban and Rural Land Development document has suggested minimum buffer distances that are based on scientific research and professional observation.
- Avoid locating roads, driveways, and utility corridors within riparian ecosystems in order to maintain natural connectivity. Where it can be demonstrated that alternatives are not possible, design crossings that are narrow and perpendicular to riparian areas and elevated may be permitted in order to minimize the fragmentation of these habitats.
- Manage and minimize opportunities for livestock crossings and access to water.
- Maintain natural or pre-development hydrologic regimes. Changes to surface and ground water flow can negatively impact aquatic, riparian, and wetland ecosystems. Trails and road construction and development should be designed to maintain the hydrology of these ecosystems. Inflow and outflow streams should not be diked or dammed.

- Maintain normal wetland and water processes such as flooding, seasonal drawdown, and groundwater recharge.
- Maintain entire intact ecosystems wherever possible discouraging any disruptive uses. Damage from motorbikes, ATV's, unplanned and unmaintained trails, mountain bikes and vehicles can easily adversely alter sensitive ecosystems and water quality. Manage access actively with fencing and railings.
- In general, development design should reflect the objectives and guidelines of the Develop with Care document produced by the Province of BC.
- Riparian vegetation should be maintained where intact, or restored where disturbed or where invasive plants have intruded.
- On sites where the riparian setback has been degraded/modified with non-native species (e.g., urban shoreline area consisting of turf and horticultural plant varieties) restoration will occupy no less than 50% of the total setback area.
- The management of hazard trees within riparian setbacks, identified by a Qualified Environmental Professional (QEP) or an ISA Certified Arborist who are certified Wildlife / Danger Tree Assessors , will be in accordance with the Riparian Areas Regulation (RAR). Compensation for tree removal including dead or living hazard trees (from within specified riparian setbacks) will be in accordance with the Tree Replacement Criteria (DFO and MELP, 1996) as per Table 1 below. If tree replacement restoration is inconsistent with the natural habitat, the number of required trees can be amended by the QEP.

Table 1. Tree Replacement Criteria (Department of Fisheries and Oceans Canada and Ministry of Environment Lands and Parks. 1996)

Trees to be removed	Replacement/ Compensation tree requirements	
Diameter at Breast Height (DBH)	Quantity	Size (min. height)
DBH < 151 mm	2	1.5m or 4 shrubs
152 mm–304 mm	3	1.5m
305 mm–456 mm	4	2.0m
457 mm–609 mm	6	2.0m
610 mm–914 mm	8	2.0m
DBH > 914 mm	individual approval	individual criteria

- Where minor intrusions into the riparian setback are required development and mitigation planning will be in accordance with the Bend Option under the RAR. These instances will only apply to previously developed “brownfield” sites and will not apply to previously undeveloped “greenfield” sites. The adjusted setback boundary will be no less than 10m from the high water mark and the overall riparian setback area will be unchanged from the original specified setback. Thus there will be no net loss in the amount of riparian area. New areas added to the setback to make up for those shifted out must be contiguous with the original setback area.

SPECIFIC GUIDELINES

The following specific objectives and specific guidelines pertain to the riparian and wetland ecosystem as identified by the Sensitive Ecosystem Inventory. In some instances, these ecosystems may extend beyond the setback determined for a specific watercourse and thus may not be protected by this leave strip alone. These guidelines are therefore to be considered in addition to the Objectives and Guidelines for aquatic ecosystems and relate to the ecological significance of riparian and wetland ecosystems. Accordingly, specified watercourse setbacks/leave strips will be combined with riparian and wetland ecosystem areas/polygons to establish a no disturb zone complex. The identification and delineation of riparian and wetland ecosystems and subsequent Environmental Sensitivity Ratings will be determined by a QEP in accordance with the RDCO Terms of Reference for Professional Reports and these Guidelines.

Riparian Ecosystems

Riparian ecosystems are defined as ecosystems that are adjacent to, and significantly influenced by a water body. These sites are more moist, and have a plant community that is distinct from the surrounding upland.

Riparian and streambank vegetation maintains the cohesive nature of the stream bank, and reduces the power of the stream. During flood events, riparian vegetation catches fine nutrient-rich sediment, thus maintaining the productivity of the site. Without this vegetation, streambank destabilization and erosion may occur, resulting in loss of land and a wider shallow stream channel. The accumulation of sediments (from erosion) can harm fish and aquatic habitats and reduce water quality. It can take many decades to stabilize denuded stream banks and restore narrow, deep stream channels. Riparian vegetation also provides inputs of organic matter into soils, which increases their capacity to absorb and store water. Additionally, riparian vegetation moderates water temperatures, provides an important source of food for many aquatic organisms, and provides important wildlife cover for reproduction/nesting and feeding.

Riparian ecosystems are typically linear in nature. These ecosystems are also divided into distinct classes (bench, gully, and fringe) according to their environmental and vegetation characteristics:

- Bench riparian ecosystems are flood or fluvial ecosystems. They have distinct characteristics that are associated with moving water such as creeks, streams and rivers. Bench riparian ecosystems are rich in nutrients, species and vegetation structural diversity. Generally, these sites are productive and develop more quickly after disturbance than adjacent upland sites. Typically, these ecosystems occur as a band on either side of a creek and often form natural corridors through the landscape. Soils of this ecosystem type are typically sandy and gravelly, and poorly developed. They usually have a mix of coniferous and deciduous trees in the overstory, with shrubby understories.
- Gully riparian ecosystems occur at the base and lower slopes of moderate to steep-sided linear sites (small valleys or ravines) with significant moisture. These ecosystems have either permanent or intermittent surface water flow, or significant subsurface flow, but are usually not subject to flooding. These are also rich and productive sites, and they form natural corridors, providing habitat that is distinctly different from the surrounding

landscape. These ecosystems usually have a mixed coniferous and deciduous overstory with shrubby understories. Slopes are often steep, and soils are variable.

- Fringe riparian ecosystems are those that occur as a narrow band along the shorelines of lakes and ponds. Sandy, gravelly soils are common in these ecosystems and soils are often gleysols or mottled. This class also includes sites on fluvial fans, and sites with significant seepage that are sensitive to soil and hydrological disturbances; soils are typically medium-textured on these sites.

According to the Sensitive Ecosystem Inventory the importance of this ecosystem includes its rarity (most riparian plant communities as listed with the BC Conservation Data Center as rare), high biodiversity, fragility (sensitive to disturbance and changes in hydrology), aquatic habitat protection, water quality, wildlife corridors, flood protection and erosion reduction as well as social values.

Objectives specific to the riparian ecosystem:

- To conserve as much of the ecosystem as possible. Where there are changes intended, maintain the key characteristics of the ecosystem as much as possible including:
 - a. riparian vegetation;
 - b. large cottonwood trees;
 - c. threatened or endangered species or natural plant communities;
 - d. natural processes such as stream flow, flooding, and stream channel movement;
 - e. nesting or denning sites;
 - f. standing dead trees, and downed trees and logs; and
 - g. riparian corridors, and connectivity with upland communities.

Specific Riparian Guidelines:

- Discourage human settlement or other development within or adjacent to riparian areas.
- Riparian vegetation should be maintained where it is present, and restored with native plants where it has been lost.
- Manage access actively (e.g. with fencing and railings) to minimize the effects of recreation and other human uses.
- Where practical or necessary, restrict livestock access with fencing. To allow safe wildlife access, fences should be top-railed, page-wire should not be used, and bottom wires should be no less than 45cm above ground level.
- Control pets. Pets should be restrained and hunting dogs should be trained away from riparian areas during the spring and summer. Other disturbances to waterfowl during the nesting season should also be avoided.
- Protect structural features: Large trees, snags, logs provide critical nesting habitat for many species of birds and animals. Large, old cottonwood trees and snags are especially important for birds, bats and other animals.
- Eliminate use of pesticides in or near water and important foraging areas for wildlife. Pesticide use near foraging habitat for animals that feed on insects (e.g., Olive-sided Flycatcher and Common Night Hawk) should be avoided.

- Allow natural disturbances to occur. Flooding, windthrow, channel changes, slope failures and debris flows are recognized as important factors in the creation and maintenance of high diversity riparian habitats. These events and processes should be maintained within established no disturb zones unless they pose a threat to safety or property.
- Where hazardous natural processes occur in potential development areas, additional setbacks or other mitigation measures may be required.
- Where measures are required to reduce potential for property damage, work within the natural boundary of a watercourse will require a *Water Act* Approval issued by the Province. Protective works shall be designed and constructed in an environmentally sensitive manner that recognized and maintains the intrinsic ecological values inherent with riparian ecosystems.
- Minimize bank or flood protection. Development that requires channel stabilization, deposition of rip-rap, and vegetation removal reduces riparian diversity and habitats.
- Maintain natural hydrologic regimes. Deforestation, removal of vegetation, or increased impervious surfacing can result in significant increases in the size, duration, and frequency of surface runoff and floods. Bank erosion can also worsen.

Wetland Ecosystems

Wetlands occur on sites where the water table is at, near, or above the soil surface for a sufficient period of time to influence soil and vegetation development. Wetland ecosystems characteristically have plants that are adapted to growing on saturated soils with low oxygen levels. Wetlands are divided into distinct classes according to their environmental and vegetation characteristics. These classes included swamps, marshes, and shallow water ecosystems.

Wetlands are focal points for wildlife because of their infrequent occurrence in this landscape. Wetlands provide wildlife and biodiversity values that are disproportionate to the area they occupy on the land base. Wetland vegetation provides food, shelter, breeding habitat, and cover for many species of amphibians, reptiles, mammals, birds, and insects. Wetland vegetation provides food for many aquatic organisms. Ponds and shallow open water bodies are important watering sites for many species and provide painted turtle habitat, especially if floating logs are present. Wetlands are also sources of insects that provide food to birds and bats. Properly functioning wetlands store and filter water, and maintain water quality. They reduce the levels of sediment, nutrients, and toxic chemicals in outflow water.

According to the Sensitive Ecosystem Inventory the importance of this ecosystem includes its extreme rarity, high biodiversity, fragility, maintenance of water quality as well as social values.

Specific Wetland Guidelines:

- Discourage human settlement and other land developments within, or adjacent to, wetland areas. Such activities in and around wetlands should be avoided. Roads should not be built near wetlands as they can alter hydrology and lead to extensive mortality of wildlife species that use wetlands.
- Maintain wetland hydrology. Draining or ditching in or around wetlands, the filling in of wetlands, and the discharge of stormwater into such sites should be avoided. Vegetation

cover should not be removed as this increases surface runoff and reduces the amount of groundwater infiltration, thus reducing available summer moisture. Additionally, areas of impervious ground surfacing (i.e., pavement) should be minimized. Wetland hydrologists may need to be consulted to determine how to protect wetland hydrology.

- Maintain water quality. Wetlands store and filter water and provide water quality benefits. Therefore, the addition of urban storm drainage, agricultural runoff, and sediment from road building into wetlands should be prevented. Wetlands that have artificially high nutrient levels may experience algal blooms, and vegetation in some marshes may convert from sedges or rushes to cattails.
- Restrict recreational access. Intensive recreational use of shoreline areas can reduce plant cover, compact soil, and disturb wildlife. Roots of trees and shrubs can be easily damaged by trampling and trail development in the moist soils of wetlands. Trails often become wide in wet, muddy areas, and sediments from trail damage may affect amphibians and insects. Motorized recreation, mountain biking, and horseback riding should be excluded from wetlands. Many recreational activities can potentially introduce or spread invasive plant species. In areas where trails to viewpoints in wetlands are desired, raised boardwalks should be used (avoid using rock or bark mulch on trails).
- Manage livestock access. Livestock use of many wetlands and ponds for water has significantly altered these sites. Overuse of wetlands by livestock can lead to soil compaction, damage and loss of vegetation cover and structure, and introductions of invasive plant species. Shrub and graminoid vegetation on many sites quickly recovers, however, when cattle use is reduced. Alternative watering sites, and fencing to allow a single access point to the water source can be used to maintain wetland functions and values while allowing some cattle use.
- Prevent disturbance of nesting or breeding areas. Recreational activities along wetland edges and canoeing in wetlands can impact amphibians, nesting waterfowl, and other birds, and thus, should be avoided during the breeding season (May through August). Disturbance of soils around wetlands, especially sandy soils that might be used by painted turtles for egg-laying, should also be avoided.
- Allow natural wetland processes to maintain wetland functions and values. Beaver activity, flooding, seasonal drawdown, and groundwater recharge and discharge should be maintained. Inflow or outflow streams should not be diked or channelized.
- Eliminate use of pesticides in or near wetlands.
- Untreated stormwater should not be directed into natural wetlands. Natural wetlands should not be used to treat stormwater. However, transitional basins (previously vernal ponds) may be used as detention areas and if stormwater treatment occurs prior.

See Schedule E: Aquatic Ecosystem Development Permit Areas

Appendix II: Sensitive Terrestrial Ecosystem Development Permit Area & Guidelines

Designation

The Sensitive Terrestrial Ecosystem Development Permit Area is designated for the purpose of protection of the natural environment, its ecosystems and biological diversity and, protection of development from hazardous conditions. Sensitive Terrestrial Ecosystem Development Permit Areas include areas of land designated on “

See Schedule F: Sensitive Terrestrial Ecosystem Development Permit Area”.

The Development Permit Area is established to include Coniferous Woodland, Grassland, Sparsely Vegetated, and Mature Forest Ecosystems identified in the Sensitive Ecosystem Inventory: Central Okanagan, 2000–2001, published by Canadian Wildlife Service, Technical Report Series Number 399. This inventory was updated in 2009 and gaps filled in 2011 to more specifically delineate the sensitive ecosystems.

Justification

The Central Okanagan basin of British Columbia is an area of great ecological significance within both the Province of BC and Canada as a whole. It is an area with high biodiversity values, and many rare and endangered ecosystems, plant and animal species. A ‘sensitive’ ecosystem is one that is ecologically fragile and/or is recognized as rare in the provincial landscape. Rare ecosystems are those that are considered to be provincially rare either because of limited distribution or because disturbance has significantly limited their distribution. The Regional District of Central Okanagan is committed to the protection of identified areas of high ecological and natural value. Terrestrial ecosystems in the Central Okanagan support a number of Red and Blue-listed (rare and at-risk) species and are a critical component to the health, vitality and economy of the local community. Sensitive ecosystems may be severely influenced by development unless there is effective community stewardship and land use planning.

Landform characteristics such as ravines, steep slopes and proximity to fluctuating water levels, may also be a hazard to development. Development in sensitive ecosystems need to take natural hazards into consideration in order to protect development from environmental conditions such as flooding, erosion and land slip and ensure the safety of properties and residents,

This development permit area has the following objectives, with the overriding goal of conserving important natural environments for current and future generations:

- To ensure that sensitive environments are identified and protected.
- To encourage and support the rural use of the land in a way that best conserves important and vanishing environments. The Development Permit Area is established to

include Coniferous Woodland, Grassland, Sparsely Vegetated, and Mature Forest Ecosystems identified in the Sensitive Ecosystem Inventory (shown on Map 3).

- To protect the ecological attributes and socio–economic values that are common to all Sensitive Terrestrial Ecosystems.
- To conserve Sensitive Terrestrial Ecosystems in a relatively natural state while supporting rural land uses.
- To plan land development and new subdivisions carefully in a manner that protects Sensitive Terrestrial Ecosystems.
- To protect Sensitive Terrestrial Ecosystems through the use of buffers.
- To identify feasible habitat corridors connecting core conservation and significant habitat areas.
- Incorporate wildfire management in a way sensitive to the ecosystem that mimics the effect of the natural fire cycles that once occurred in the Okanagan and helped to shape and maintain the natural balance.
- Protection of development from hazardous conditions.

Further special conditions and objectives are in the specific section of the guidelines in relation to grassland ecosystems, sparsely vegetated cliff and rock ecosystems and coniferous woodlands mature forests. .

Exemptions

In Sensitive Terrestrial Ecosystem Development Permit Areas, a Development Permit must be approved before land is subdivided; construction of, addition to or alteration of a building or structure; or alteration or clearing of land (including but not limited to grading, blasting, preparation for the construction of services or roads). A Development Permit is required unless one of the following exemptions applies:

- a. A Development Permit of this type has already been issued or a covenant dealing with sensitive terrestrial ecosystem issues is registered on property title for the area in the past, and the conditions in the Development Permit or covenant have all been met, and the conditions addressed in the previous Development Permit or covenant will not be affected; or,
- b. Where there is a permanent protection of the Development Permit area by means such as a restrictive covenant, return to Crown land, provided as public park, or similar method acceptable to the Director of Development Services, (the Director of Development Services may require fencing to a standard satisfactory to the Regional District in order to prevent any accidental disturbance); or,
- c. Where, upon site specific review the identification and location of the sensitive terrestrial ecosystem within the Development Permit area is more precisely determined by a Qualified Environmental Professional (QEP) to the satisfaction of the Director of Development Services, and, there is a permanent protection of the identified area by means such as a restrictive covenant, return to Crown land, provided as public park, or similar method acceptable to the Director of Development Services (the Director of Development Services may require fencing to a standard satisfactory to the Regional District in order to prevent any accidental disturbance); or,

- d. The proposed works are site restoration, ecological enhancement, general parks maintenance and works in accordance with established Best Management Practices and Provincial approvals, as required, under purview of RDCO Parks Services; or
- e. There is change of use or alteration of an approved existing building or structure in which the building or structure “footprint” is not altered or increased or addition to buildings and structures that are less than 10 m² in area; or,
- f. There is placement of temporary construction and project sales offices, or storage of construction materials on a site provided that the use is removed within 20 days of completion of the project and does not have an impact on sensitive environmental values or critical habitat; or,
- g. The land is located within the Agricultural Land Reserve of the Province of BC and the activities are responsible, normal agricultural practices in accordance with the Farm Practice in BC Reference Guide and in accordance with the Farm Practices Protection Act. Interpretation or disagreements will be resolved through the provisions of the Act. Activities not covered by the Act or Guide will require a Development Permit; or,
- h. The activity involves replanting or replacement of agricultural crops on areas of a site that are currently in crop production; or,
- i. The activity involves in-stream and associated riparian water management works conducted by water purveyors (i.e. by Irrigation Districts) under the auspices of the Regional Water Manager as defined under the Water Act provided the works are addressed under relevant Provincial permitting and is conducted in a manner consistent with the Development Permit Guidelines; or,
- j. The activity involves the environmentally sensitive removal of trees and shrubs designated as hazardous by a Professional Forester registered in BC in accordance with provincial “Firesmart” standards as outlined in a wildfire hazard report, with provisions in place to ensure that tree removal is carried out in accordance with the report recommendations; or,
- n. The activity involves the environmentally sensitive removal of trees and shrubs designated as host trees by the Sterile Insect Release Program as indicated in a report by a Qualified Environmental Professional (QEP) or an ISA Certified Arborist and experienced in standard agricultural practices; or,
- l. The activity involves the environmentally sensitive removal of infested, diseased, or hazardous trees as indicated in a report by a Qualified Environmental Professional (QEP) or an ISA Certified Arborist who are certified Wildlife / Danger Tree Assessors with provision of environmental monitoring to ensure that tree removal is carried out in accordance with the report recommendations; or,
- m. The activity involves timber harvest, forest road construction, open livestock range, grazing enhancement, forest recreation or other forest management activity on Crown land that is conducted under the authority and approval of the Province; or,
- n. The activity is conducted under direction of the Provincial Emergency Program; or,
- o. There is a technical subdivision for lot consolidation or boundary adjustments; or
- g. The site has been assessed by a Qualified Environmental Professional (QEP) who has provided a report to the satisfaction of RDCO which concludes that the proposed development would not impact the values for which the Development

Permit Area was set or that the attributes on the site have been lost due to previously approved development.

OVERALL GUIDELINES

Environmental assessments will be required and must be prepared by a Qualified Environmental Professional (QEP) together with other professionals of different expertise, as the project warrants. Hydrologists and hydro-geologists should be consulted where wetlands, riparian areas, and broadleaf woodlands exist within the development area to ensure the proper hydrological function is maintained within these ecosystems. A professional geoscientist should be consulted where there are erosion potential or slope stability hazards. The consultant or team of consultants should have an understanding of wildlife biology, especially for Species At Risk, geomorphology, environmental assessment, and development planning in British Columbia. Specific expertise in Okanagan Valley wildlife species, wildlife habitat, and ecosystems is highly preferred. Other studies may be required to address hazardous conditions or water management issues.

The following general guidelines apply to development permit applications in all ecosystems within Sensitive Terrestrial Ecosystem Development Permit Areas:

- The identification and delineation of sensitive terrestrial ecosystems and subsequent Environmentally Sensitivity Area (ESA) ratings will be determined by Qualified Environmental Professional (QEP) in accordance with the RDCO Terms of Reference for Professional Reports and these Guidelines.
- Development permit conditions may include conditions that lands that must remain free of development; require specified natural features or areas to be preserved, protected, restored or enhanced in accordance with the permit.
- Discourage settlement, construction, land disturbance, and other development within or directly adjacent to sensitive terrestrial ecosystems.
- Review and adhere to the recommendations and guidelines of the Source to Tap Assessments for drinking water quality or other source water assessments and protection plans.
- Concentrations of high quality ecosystems and habitat for rare species should be prioritized for conservation.
- Delineate buffers around sensitive terrestrial ecosystems. Fencing may be necessary along some buffers where further adjacent development and activity is anticipated.
- Avoid the creation of isolated islands of ecosystems. Delineate corridors between sensitive terrestrial ecosystems to create interconnectedness especially for critical wildlife travel routes.
- Conserve snags and standing dead trees where safe to do so. Soft decaying wood is a valuable home and food source for many birds and animals. For some species it is essential. Standing dead trees are typically topped to within 6 meters of the ground in an area that is safe should it eventually fall. It is recognized that dead wood decays over time and the eventual removal of standing dead wood and snags is acceptable. Locate settlements, drives, construction and other development away from existing large, old trees and snags. Artificial snags can be located in safe areas to help improve habitat.
- Plan, design and implement land development and subdivision to protect endangered, threatened, or vulnerable species or plant communities. Avoid disturbance to sites where

rare plants are growing and where rare natural plant communities occur, and maintain critical habitat structures such as old trees, snags, trees with cavities, natural grasslands.

- Conserving trees in communities (groups of trees along with their associated understory) rather than isolating individual specimens is preferred. Groups of trees form a larger intact ecosystem and are more likely to maintain the important characteristics of the ecosystem over time than a few scattered trees. However, some ecosystems are characterized by or may contain some isolated trees and their conservation as well is important.
- The conservation of trees should extend beyond the drip line of the tree. The roots of established trees are very sensitive. A tree's root system on the surface and below ground may be larger than the part of the tree you see above ground. Damage to the roots (especially in mature trees) can impede the tree's ability to obtain water and nutrition and may eventually kill the tree. The drip line is an imaginary line drawn around the tree(s) outside the full extent of the branches.
- Maintain water quality. Water quality can be affected by excessive land alteration, erosion, and the improper use and storage of chemicals and hazardous materials.
- Prevent disturbance of nesting sites and breeding areas. It is important that animals have the habitat that supports their reproduction and so ensures future generations.
- Control invasive plant species.
- Restore native vegetation where it has been disturbed.
- Carry out erosion and sedimentation control measures to prevent ecosystem degradation.
- Restore the effects of the natural cycle of low intensity fire once common to the Okanagan. The suppression of fire by mankind has dramatically altered the ecology of the valley as well as increased the available fuel for wildfire. Wildfire hazard mitigation can happen in an environmentally sensitive way that restores ecosystems to the natural condition that would be expected if the normal cycle of fire was permitted to affect the environment.
- Prune lower branches and thin small-diameter trees in areas with high fire hazards (much of the IDFxh1 and cool slopes throughout) to reduce fuel loading and ladder fuels, while maintaining large diameter and wildlife trees
- Identify critical habitat. Where disturbance cannot be mitigated it may be acceptable, at the discretion of the, to do environmental improvements off the property in compensation for loss on-site with the intention of no net loss of critical habitat.
- Contain physical developments to as small an area as possible by restricting the amount of area that can be developed in a lot through restrictive covenants (this should be mapped when the lots are initially surveyed) and ensure that materials are not side-casted on exposed slopes.
- Post signs on wildlife trees so they can be retained, where possible.
- Conduct ecologically sound fuel reduction. Develop and follow prescriptions for fuel reduction that incorporates the fuel reduction in ESA.
- Determine where underpasses under new roads are required for small wildlife to avoid road mortality – these could be incorporated with surface water drainage plans.
- Promote good land stewardship (e.g. xeriscaping, problem wildlife management, weed control, pet management, water conservation) with residents and land users, through

developing neighbourhood stewardship guidelines – this is especially significant for the non-lethal and safe management of snakes.

- Ensure that sound management plans for natural lands, including wildlife corridors amongst developed areas, are prepared and implemented prior to the onset of development to prevent inappropriate and damaging uses of these sensitive areas, especially to deal with anticipated recreational uses and fire hazards.
- Fence the perimeter of the clusters or developable areas, especially in or adjacent to High Biodiversity Areas, or along covenanted areas, to ensure that impacts are contained – minimizing edge effects.
- Contain physical developments within lots. Where possible pair driveways between adjacent lots so they form a common, wider driveway until they must diverge to each building site.

Core Habitat Areas, Connectivity, and Buffer Considerations

- Proposed development will reflect the Biodiversity Conservation Strategy being conducted and the corresponding Conservation Analysis of the Central Okanagan.
- Core sensitive areas should be avoided wherever possible. If critical design considerations include encroachment into these areas, appropriate mitigation or compensation plans should be implemented.
- Habitat connectivity must be considered. This includes allowance of unimpeded movements for all native species. The retention of movement corridors in a native state is particularly important for smaller species, such as amphibians, that require vegetation cover to avoid desiccation during dispersal.

GUIDELINE FOR EXPECTED AREA RETENTION (OF POLYGONS) BASED ESA SCORES

The RDCO Environmental Advisory Commission (EAC) completed a review of Environmentally Sensitive Area (ESA) criteria and ranking to be used in the completion of Environmental Assessments required for Development Permit applications. The following criteria are intended to guide Qualified Environmental Professionals (QEPs) in determining ESAs within the study area for proposed development.

A fundamental task within the Environmental Assessment is the identification of sites within the study area that qualify as ESAs. Areas are considered to have some degree of environmental sensitivity if they fulfill one or more of the following criteria:

- Areas described according to the Standard for Terrestrial Ecosystem Mapping in British Columbia and qualifying as Sensitive or Other important ecosystems according to the regional Sensitive Ecosystem Inventory (SEI) or a similar evaluation protocol.
- Suitable habitat areas for threatened or endangered plant or wildlife species, so classified at the local, provincial or federal level.
- Natural areas that are known to be important in the life cycle of one or more indigenous plant, fish or wildlife species. This includes, but is not limited to, breeding/spawning areas, winter habitat, critical habitat features (e.g. hibernacula), wildlife corridors, or migration stop-over points.

ESAs differ in their biological value within the study area and within the context of their surrounding region. Their biological value at the time of assessment can be positioned along a continuum from very high to low biological value depending on a number of factors. The potential biological value must also be considered in ranking ESAs, particularly when considering areas to be avoided or mitigated and potential compensation areas.

ESA Stratification Criteria:

Several factors may contribute to an areas environmental sensitivity rating. The importance of various factors will vary from site to site. It is recognized that Qualified Environmental Professionals (QEPs) use a variety of methods to weight the various factors. The professional report must describe the rationale used to determine biological value and the methodology used to rank ecological sensitivity such that the rankings and weightings will be reproducible and is transparent. The current condition arising from previously approved development will be taken into account in the determination of ESA ranking; however, previous development not approved will consider habitat potential rather than current condition.

The four classes of ESA value will be called Very High (ESA 1), High (ESA 2), Moderate (ESA 3), and Low (ESA 4). The Qualified Environmental Professionals must utilize the best available local data for ecosystem mapping and biological values and are expected to refine the mapping to a suitable resolution appropriate to the size of the site. Smaller sites (e.g., single lots) require larger scales up to 1:200, while larger sites (e.g. sector plans, neighbourhood plans) require smaller scales as low as 1:5000. On small lots (e.g. less than 1 ha) it may not be possible to distinguish ESA rankings. In this case, the professional report will as a minimum identify important habitats/features for retention and mitigation for any proposed development.

At a minimum, the following factors are to be considered in assigning a value to ESA areas:

- Physical features
 - a) ecosystem inventories and mapping
 - *Biogeoclimatic Ecosystem Classification* (BEC) zone
 - Sensitive Ecosystem Inventory (SEI)
 - Foreshore inventory and Mapping (FIM)/Aquatic Habitat Index (AHI)
 - Sensitive Habitat Inventory and Mapping (SHIM)
 - Seral and structural stage
 - Biodiversity Conservation Strategy⁴
 - Conservation Analysis for the Central Okanagan Valley⁵
 - Any and all past environmental assessments on the property and adjacent lots
 - b) landscape context
 - contiguity to other ESAs (buffering function)
 - edge effects
 - cumulative impacts
 - relation / dependence of ecosystems beyond its boundaries. Examples include but are not limited to: water storage; recharge zones; range of lifecycle habitat requirements
 - c) unique or rare landforms or other aesthetic considerations
 - d) size of the lot under consideration

⁴ Forthcoming

⁵ Haney and Iverson, 2009

- Indigenous plant and animal species, and plant communities
 - a) suitability for rare species (red- and blue-listed species provincially and Species at Risk federally).
 - b) critical and specialized habitat features. Examples include but are not limited to:
 - breeding/ denning / roosting / nesting / spawning areas
 - migration routes / stop-over
 - hibernacula
 - connection / movement corridors/habitat connectivity
 - reported sightings of uncommon species and species at risk
 - winter range
 - wetland/aquatic habitats
 - fisheries sensitive zones
 - riparian communities
 - floodplains
 - c) species diversity / habitat complexity / habitat potential
 - d) rarity in the local / regional context

- Sensitivity
 - a) ability to tolerate anthropogenic disturbance,
 - b) resilience to imposed stresses on an ecosystem
 - c) current condition such as biological integrity
 - d) potential for rehabilitation or recovery after disturbance
 - e) long term impacts on habitat values and ecosystem functionality
 - f) severity or extent of the disturbance

The above factors shall be applied to the following four-class rating system and shall be applied to all ESA evaluations:

- **Very High (ESA – 1):** contain rare physical features, plants and animals or are ecologically functioning natural systems. Various types of habitat will qualify on the basis of sensitivity, vulnerability, connectivity and biodiversity. All wetlands, high value foreshore, locally/regionally rare plant communities, animals and habitats will be considered as Very High.

Areas given this rating are considered the highest priority for protection of ecosystem function and values and should be left undisturbed. Avoidance and conservation of Very High ESA designations should be the primary objective. If development is required and justified within these areas, mitigation to reduce or eliminate environmental impacts shall be required. Only when residual, permanent loss of habitat is unavoidable and after it proves impossible or impractical to maintain the same level of ecological function, will compensation be considered. It is expected that there will be 100% retention of Very High value habitat. A minimum of 80% of these ESAs are to be retained and the rest will be compensated.

- **High (ESA – 2)** contain physical features, plants, animals and habitat characteristics which contribute toward the overall diversity and contiguous nature of the surrounding natural features. These will include Sensitive Ecosystems (SEI) as refined according to the ESA stratification criteria at the appropriate scale for the site. These may also include areas used to buffer ecological functions of Very High ecosystems.

An area given this rank is of only slightly lower priority for protection of ecosystem function and values. Therefore, clear rationale and criteria for distinction between Very High and High values shall be provided. Some degree of development may be considered as long as this does not have any potential impact on Very High priority ESA's on the site. If development is pursued in these areas, portions of the habitat should be retained (40% – 80%) and integrated to maintain the contiguous nature of the landscape. Any loss over 20% to these ESAs will be offset by habitat improvements to the remaining natural areas found on property and must ensure habitat function is maintained or improved in the retention areas.

- **Moderate (ESA – 3)** contain important features or remnant stands/sites with ecological value that are not identified in the Sensitive Ecosystems Inventory as refined according to the ESA stratification criteria at the appropriate scale for the site and are not locally/regionally rare.

The moderate ESA still contributes to the diversity and connectivity of the landscape, and may contain natural habitats, and some features of interest (e.g. tree patches, rock outcroppings, drainages and corridors). Based on the condition and adjacency, portions of moderate ESA may have significant ecological functions within the landscape (e.g. buffers to ESA 1 or 2, corridors) that should be retained.

- **Low (ESA – 4)** polygons contribute little or no value to the overall diversity of vegetation, soils, terrain and wildlife characteristics of the area. These areas have generally experienced anthropogenic disturbances (e.g. a driveway or other approved land clearing but does not include land cleared for agriculture) with little or no possibility for recovery or rehabilitation.

Development is encouraged to be focused to these sites before consideration developing higher rated sites of the area. These areas shall not be considered as areas for restoration and enhancement or as recruitment as higher value ESA in offsetting development in other areas.

Roads Considerations

- Roads should follow natural topography and be as narrow as possible to reduce cut and fill. Wildlife conservation should also be incorporated into transportation planning. Future road development should avoid core wildlife habitats and Environmentally Sensitive Areas.
- Roadways should be designed to minimize impacts to wildlife when bisecting Environmentally Sensitive Areas and should incorporate bridges and box culverts to facilitate movement of wildlife.

Stormwater Management Considerations

- Streams, ponds, and wetlands provide critical habitat for fish, and species such as painted turtles, snakes, amphibians (such as Pacific chorus frogs and long-toed salamander), as well as a diversity of invertebrate fauna, which play an important role in ecological processes. Inputs of untreated stormwater to any watercourse may have negative effects on these communities. The ecological integrity of watercourses and

wetlands and water quality should be protected through proper stormwater management in accordance with integrated stormwater management guidelines. .

- Stormwater management plans should seek to maintain existing natural, or predevelopment drainage patterns, rates and flows and shall include measures to maintain or improve water quality before runoff flows are discharged to existing watercourses and wetlands.

Recreation Considerations

- Any park/trail systems proposed adjacent to or bisecting Environmentally Sensitive Areas or movement corridors, should be designed to include minimal lighting.
- Uncontrolled access to sensitive ecosystems may result in continuous operational impacts. Designated trails should be established with interpretive signage posted to educate residents regarding the significance of sensitive habitats. In addition, fencing should be erected to further control access to ESAs.⁶
- Interpretive signage should be posted at viewing areas and along trails to encourage environmentally responsible use of recreational trails, and to foster environmental stewardship to assist with the protection of neighbouring environmentally sensitive areas and wildlife habitat.

Wildlife Considerations

- Areas with multiple high habitat values may be covenanted or otherwise designated for conservation.
- The proposed development should be landscaped to emphasize natural features and to create additional habitat niches through diversification.
- Development within natural corridors (e.g. riparian areas) should be kept at a minimum as to minimize disturbance to natural movement and behaviour of wildlife. For instance, roads that bisect corridors should be designed such that movement into or off and within the subject property is not impeded. Bridges and large box culverts are options to maintain safe crossing for smaller wildlife.
- Connectivity must be maintained between important habitat areas (e.g. wetlands) and identified nesting areas.
- Reptile denning (security/thermal) habitats should not be developed.
- Recreational corridors should avoid these areas to minimize human–snake conflicts, including mortality from mountain bikes and vehicles.

SPECIFIC GUIDELINES

The following specific objectives and specific guidelines pertain the specific sensitive ecosystems as identified by the site-specific assessment or by the Sensitive Ecosystem Inventory. These are in addition to the Overall Objectives and Overall Guidelines and relate to the important characteristics of that particular ecosystem.

⁶ Fencing should be designed in such a way that connectivity, wildlife movement and other environmental factors are considered.

Grassland Ecosystems

Grasslands are dominated by bunchgrasses with scattered broadleaf perennials and wildflowers. Grasslands are found in dry areas where frequent, low intensity natural fires historically occurred. There are two categories of grassland. “Grassland” ecosystems are open and dominated by grasses and wildflowers with a surface mulch of decaying vegetation, lichens and mosses. “Shrubland” ecosystems are grasslands that contain shrubs such as snowberry, Saskatoon berry, and roses. This ecosystem is typically not as dry as the grassland ecosystem and so can sustain some scattered shrubs. The soils of the shrubland ecosystem are typically richer than open grasslands.

According to the Sensitive Ecosystem Inventory the importance of this ecosystem includes its rarity, high biodiversity, high sensitivity to disturbance (due to very fragile soils), as well as social and visual values.

Objectives specific to this ecosystem

- To conserve, intact, as much of the ecosystem as possible.
- Limit disturbance. Because of the lack of moisture and the poor nature of the soils disturbance in the grassland ecosystem can damage the thin crust of viable soil and recovery is very tenuous and slow.
- Where there are changes intended, maintain the key characteristics of the ecosystem as much as possible:
 - a. a predominance of native grasses and perennials (with some scattered shrubs on the moister sites with better soils); and
 - b. Conservation of the vital thin active surface soil layer.
- Remove invasive plant species and maintain a healthy ecosystem so that invasive plants cannot re-establish themselves.
- There is potential that changes may actually help improve and restore this ecosystem by removing the in-growth of young trees encroaching into the grasslands that natural fires would have normally periodically cleared out.

Grassland Guidelines

- Protect nesting and denning sites that were identified on site through an initial reconnaissance or in the ecological inventory. It is important for animals and birds to reproduce and ensure future generations. Many grassland birds are ground nesters.
- Manage access to minimize vehicular and livestock access. The root systems and thin soils of grasslands are sensitive to disturbance and rely on a very thin active layer of the soil. This ecosystem is one of the most sensitive to surface disturbance.
- Protect large old trees (and their root systems) and snags. Such isolated trees scattered through the grasslands provide shelter, nesting habitat, and food source for wildlife.
- Remove encroaching trees. Without the natural cycle of fire in the Okanagan, the forests that neighbour the grasslands eventually encroach and destroy this very rare ecosystem.
- Minimize soil disturbance.
- Manage livestock use. Overgrazing can seriously damage or destroy native grasslands. Also the poor timing of grazing can mean that native plants cannot reproduce or suffer

damage. Excessive or improper grazing can cause enough damage to allow invasive weeds (often detrimental to grazing animals) to colonize an area.

- Encourage the maintenance of natural sites and the planting of gardens with native, dry land species. This can actually extend habitat for native birds and animals into the backyard.

Sparsely Vegetated Cliff and Rock Ecosystems

Sparsely vegetated cliff and rock ecosystems occur on sites where rock, cliffs, or talus slopes only allow for discontinuous vegetation cover interspersed with bedrock or blocks of rock. This ecosystem provides protected shelves and crevices that are important for shelter, breeding, and overwintering for a variety of reptiles, animals and birds. Slopes with a warm orientation are especially important.

Extreme rarity (confirm abundance), high biodiversity, specialized habitat (a number of species including some threatened or endangered species are dependent on these habitats), as well as social and visual values.

Objectives specific to this ecosystem

- To conserve, intact, as much of the ecosystem as possible;
- Where there are changes intended, maintain the key characteristics of the ecosystem as much as possible;
- Exposed rough rock and its surrounding plant community;
- Talus slopes and debris accumulation at the base of cliffs and rock outcrops;
- Access to and from the area for wildlife that needs this as essential habitat; and
- Future protection from disturbance.

Sparsely Vegetated Cliff and Rock Ecosystem Guidelines

- Protect nesting and denning sites that were identified on site through an initial reconnaissance or in the ecological inventory. It is important for animals and birds to reproduce and ensure future generations. Important features include hibernacula (hibernation chambers) for snakes and reptiles, raptor nests or perch trees, nesting cavities, woodpecker cavities, and bat roosts.
- Manage access to minimize vehicular and livestock access. Avoid roads near hibernacula and prevent the disturbance of snake hibernacula. Manage road location to prevent snake mortality.
- Minimize soil disturbances and minimize disturbance of rock debris.
- Areas within the Sensitive Terrestrial Ecosystem Development Permit Area that are classified as Sparsely Vegetated Cliff and Rock ecosystems may be subject to rockfall hazard. Unless there is a threat to safety or property, disturbance to soil or rock debris (talus or scree) at the base of rock outcrops or steep slopes should be avoided.
- Where rock fall mitigation measures are required to improve safety, measures shall be designed and constructed in a manner that recognizes and maintains the ecological importance of these ecosystems. Special consideration for potential occurrences of

nesting, denning, or other features as determined by a Registered Professional Biologist may warrant scheduling and/or specific avoidance measures.

- Plan, design and implement land development and subdivision to protect endangered, threatened, or vulnerable species or plant communities. Avoid disturbance to sites where rare plants are growing and where rare natural plant communities occur, and maintain habitat structures such as talus slopes at the base of rock outcrops, steep faces or rock outcrops and cliffs, scattered large old trees and snags.
- Protect large old trees (and their root systems) and snags. Such isolated trees scattered through the sparsely vegetated areas provide shelter, nesting habitat, and food source for wildlife. Discourage rock climbing in areas that have not been assessed for important habitat considerations. Do not allow rock climbing in important nesting, denning and other habitat features when identified.

Coniferous Woodlands and Mature Forests

Coniferous woodland ecosystems in the study area have open coniferous tree canopies. They occur in drier climates, on rocky knolls, and on steep south-facing slopes where limited moisture or shallow soil limited tree establishment. These ecosystems have scattered ponderosa pine and interior Douglas-fir trees, and saskatoon growing in rock fractures with patches of grasses and forbs in shallow soil pockets. Historically, these ecosystems would have burned frequently, except on sites with minimal vegetation and lots of exposed rock. Fire exclusion has resulted in forest in-growth and encroachment (on grassland mosaics) on some sites.

Coniferous woodland ecosystems comprised the largest sensitive ecosystems category with the Central Okanagan Sensitive Ecosystem Inventory. Mature forests are a High Priority for conservation and preservation. Younger structural stages can be important in forming buffers and providing recruitment for older structural stages.

Objectives specific to this ecosystem

- Delineate buffers around coniferous woodland ecosystems;
- Avoid direct and indirect impacts; and
- Plan land development carefully.

Coniferous Woodlands and Mature Forests Guidelines

- Prevent the spread and establishment of invasive plant species and help maintain ecological viability and connectivity to other ecosystems.
- Discourage human settlement or development.
- Manage access.
- Prevent soil disturbance.
- Require an ecological inventory be conducted by qualified professional.
- Design and implement land development activities to protect the ecological integrity of these ecosystems.

See Schedule F: Sensitive Terrestrial Ecosystem Development Permit Area

Appendix III: Hillside Development Permit Area & Guidelines

Designation

The Hillside Development Permit Area is designated in accordance with the Local Government Act for the purpose of protection of the natural environment, its ecosystems and biological diversity and protection of development from hazardous conditions.

Hillside Development Permit Areas include areas of land designated on Schedule G. The Development Permit Area has been established through interpretation of provincial Terrain Resource Information Mapping and 1–m contour data and identification of lands containing slopes 30% or greater.

Justification

Hillsides are important, visually dominant features in the Okanagan. Hillside locations can also be subject to hazards and adverse impacts from land clearing, alteration, subdivision, construction and road building. It is important that future subdivision or proposed major landform changes on the OCP hillsides be undertaken sensitively, in consideration of environmental and visual impact, and also in consideration of the potential impact on neighbouring properties as well as development on subject properties. OCP Section 5.2 discusses the context of natural hazards in the area.

Hillside development is more difficult to construct and can have more prominent environmental, physical and visual impact than on flatter areas. All these factors mean that hillside development must be carefully designed and sensitive to its location.

The purpose of this development permit area is intended to support rural subdivisions, road building and construction on hillsides that:

- Protects and enhances the natural characteristics of the hillsides which are a significant component of the OCP area.
- Protect hillsides in a manner that minimizes damage to property and developments (both the property under application and neighbouring property) from erosion, soil instability, rock fall or other identified hazard.
- Are sensitive to natural topography and maximizes the retention of existing landscape, vegetation and soils.
- Are sensitive to the natural environment and drainage patterns.
- Prevent the substantial re-contouring of lands to facilitate development

Exemptions

In Hillside Development Permit Areas, a Development Permit must be approved before land is subdivided; construction of, addition to or alteration of a building or structure; or alteration or clearing of land (including but not limited to grading, blasting, preparation for the construction of services or roads). A Development Permit is required unless one of the following exemptions applies:

- a. A property is less than 1 hectare in area and less than 10% of the site contains slopes of greater than 30%; or
- b. It is shown, to the satisfaction of the Chief Building Inspector, that any proposed alteration or change to the land is not in a geotechnically sensitive area and will not affect geotechnical stability. A report prepared by a professional engineer experienced in geotechnical evaluation licensed in the Province of BC may be required at the discretion of the Chief Building Inspector; or,
- c. Construction of fences, solid screens less than two (2) meters in height or, construction of retaining walls less than 1.5 meter in height, or
- d. Alteration of land or construction is for a purpose other than human settlement and where a topographic survey is conducted by a BC Land Surveyor (or other person as permitted by the Land Surveyors Act) and submitted to the Director of Development Services and indicating that the development site area slopes are less than 30% slope, or
- e. A Development Permit of this type has been issued or a covenant has been or will be registered on property title identifying that areas greater than 30% slope will remain undisturbed, and the conditions in the Development Permit or covenant have all been met, and the conditions addressed in the previous Development Permit or covenant will not be affected; or,
- f. There is a change of use or alteration of an approved existing building or structure in which the building or structure footprint is not altered or increased or addition to buildings and structures that are less than 10 m² in area; or,
- g. There is placement of temporary construction and project sales offices, or storage of construction materials on a site provided that the use is removed within 20 days of completion of the project and does not have an impact on sensitive environmental values or critical habitat; or,
- h. The proposed works are site restoration, ecological enhancement, general parks maintenance and works in accordance with established Best Management Practices and Provincial approvals, as required, under purview of RDCO Parks Services; or,
- i. Timber harvest, forest road construction, open livestock range, grazing enhancement, forest recreation or other forest management activity on Crown land that is conducted under the authority and approval of the Province; or,
- j. The land is located within the Agricultural Land Reserve of the Province of BC and the activities are responsible, normal agricultural practices in accordance with the Farm Practice in BC Reference Guide and in accordance with the Farm Practices Protection Act. Interpretation or disagreements will be resolved through the provisions of the Act. Activities not covered by the Act or Guide will require a Development Permit; or,
- k. In-stream and associated riparian water management works conducted by water purveyors (i.e. by Irrigation Districts) under the auspices of the Regional Water

Manager as defined under the Water Act provided the works are addressed under relevant Provincial permitting and is conducted in a manner consistent with the Development Permit Guidelines ; or,

- l. Replanting or replacement of agricultural crops on areas of a site that are currently in crop production; or,
- m. Environmentally sensitive removal of trees and shrubs designated as hazardous by a Professional Forester registered in BC in accordance with provincial “Firesmart” standards as outlined in a wildfire hazard report, with provisions in place to ensure that tree removal is carried out in accordance with the report recommendations; or,
- n. Environmentally sensitive removal of trees and shrubs designated as host trees by the Sterile Insect Release Program as indicated in a report by a Qualified Environmental Professional (QEP) or an ISA Certified Arborist experienced in standard agricultural practices; or,
- o. Environmentally sensitive removal of infested, diseased, or hazardous trees as indicated in a report by a Qualified Environmental Professional (QEP) or an ISA Certified Arborist who are certified Wildlife / Danger Tree Assessors with provision of environmental monitoring to ensure that tree removal is carried out in accordance with the report recommendations; or,
- p. There is a technical subdivision for lot consolidation or boundary adjustments; or
- h. The activity is conducted under direction of the Provincial Emergency Program.

GUIDELINES

The general guidelines for issuing development permits for Hillside Development are set forth below, however not all guidelines will be applicable to all developments. Typically, an assessment report prepared by a qualified geotechnical professional in the relevant discipline and licensed to practice in British Columbia will be required. Where a report has been accepted by the Regional District, recommendations will be used to establish conditions for the Development Permit. Care will be taken that guidelines intended to mitigate hazardous conditions are implemented in a manner sensitive to the environmental protection and preservation guidelines.

The following guidelines apply within the Hillside Development Permit Area:

- Require all areas with slopes, greater than or equal to 30%, be investigated as hazardous as determined in a professional engineers report and that the findings of the report be conditions contained in the Development Permit as part of the zoning, subdivision and building permit approval process.
- No excavation or filling shall be undertaken, nor any building or permanent structure erected, constructed or placed in areas subject to hazardous conditions. Further, buildings and structures shall be sited in accordance with setbacks determined by the Regional District or a geotechnical report.
- Development permit conditions may include conditions that lands that must remain free of development; require specified natural features or areas to be preserved, protected, restored or enhanced in accordance with the permit.
- Development opportunities, constraints and conditions of design will be identified on the basis of a topographic and feature survey showing natural slope contours (in 2 to 5

meter contour intervals), spot elevations, swales, knolls, ridgelines, bedrock outcrops, cliffs and slope transitions, seasonal and permanent watercourses, drainage routes, vegetation, top of bank, and break lines.

- Development shall be set back a minimum of 10 metres from the top of ridgelines, cliffs or ravines. Variation of the setback may be considered if a geotechnical review can justify a reduced setback.
- The Regional District may request the registration of restrictive covenants for areas that have been identified as hazardous.
- Existing vegetation shall be maintained to control erosion and protect slopes.
- The topographic survey will include current and future roads (public, strata, and forest), site grading and post development contours (in 2 to 5 meter contour intervals), water intakes on or adjacent to the development site, prominent views, and will identify potential hazards to neighbouring properties from existing or future development.
- A plan of site remediation including but not limited to; sensitive grading, revegetation (reflecting the Okanagan landscape), erosion control, and soil amelioration, prepared by appropriate qualified professional (registered landscape architect, professional forester) should be provided in advance of any site grading or removal of forest vegetation.
- The pattern of development should be responsive to the varied topography and natural landscape. Changes to existing terrain should be kept to a minimum.
- Cluster developments on steep slopes in a manner which responds to the site's natural contours and preserves more unbuilt open space for conservation or recreation/amenity space.
- Roads, access, and driveways should follow topography and avoid excessive cut and fills. Roads are encouraged to incorporate gentle curves and avoid long stretches of straight road.
- A reduction of road widths for local roads in order to reduce construction impact may be considered subject to agreement by the road authority.
- The impact of road design on potential road access to neighbouring lands beyond should be considered in accordance with the principles of these guidelines.
- Fill or cut slopes exceeding 10 meters in vertical height should be graded to resemble naturally occurring terrain and revegetated.
- Cut and fill slopes and road construction should be safe and not create a hazard of debris torrent or landslide.
- Hillside development must preserve or protect unique or special natural features of the site, such as land forms, rock outcroppings, mature trees and vegetation, natural drainage, hilltops and ridge lines.
- Manmade storm drainage and retention ponds should have a natural appearance and be restored to the condition of natural environment. Drainage should be designed as natural environmental corridors wherever possible.
- Drainage flow rates offsite should be retained as close as possible to pre-development conditions and drainage retention and detention is encouraged.
- The protection of water quality should be ensured.

See Schedule G: Hillside Development Permit Area

Appendix IV: Wildfire Development Permit Area & Guidelines

Designation

The Wildfire Development Permit Area is designated for the purpose of protection of the natural environment, its ecosystems and biological diversity and protection of development from hazardous conditions. Overall guidelines and specific conditions guidelines are included here for building and construction materials, landscaping alternatives and developments.

Wildfire Development Permit Areas include areas of land designated on “See Schedule H: Wildfire Development Permit Area”. Using fuel typing and associated potential fire behaviour modelling, similar to that completed in the RDCO Community Wildfire Prevention Plan, this Development Permit Area has been established as indicated in Schedule H.

Justification

The Okanagan has a naturally dry climate and a community interface with large forested areas. Wildfire will be an ever present threat. The Okanagan Valley contains ecosystems within which wildfire is a natural disturbance agent, and since wildfire cannot be eliminated from these ecosystems, the threat of wildfire will always be present. However, the risk wildfire poses to urban development can be managed through appropriate development policies and continual management efforts.

Reducing wildfire hazard is a multilayered approach including education, larger community prevention activities, requirements at the time of rezoning or subdivision for new development, and changes in how residents build homes. These Development Permit Guidelines are considered a minimum and relate to the subdivision of land, construction of new homes, large additions and their immediate vicinity. Other community protection requirements may be determined and required through other development approval processes.

An important part of reducing risk and fuel wildfire hazard is modifying how individual homes are constructed and designed within proximity of forest or grass fuel type areas. . The accumulation of small choices such as siding material, building material, screening of soffits, screening the tops of chimneys, using non-combustible landscape mulch, and choosing plant material, can critically impact the survivability of a home or neighborhood.

There are two fuel types within the Development Permit Area: grass and forest fuel types. . The guidelines apply to all development within the fuel types with the exception of being those guidelines involving fuel management, which are only applicable to development and construction occurring within the forest fuel types or within 100m of these forest fuel types.

This development permit area has the following objectives:

- Reduce the susceptibility to wildfire of new construction or large additions;
- Address wildfire risk reduction at time of subdivision;
- Ensure important ecosystem values are addressed in wildfire mitigation recommendations and activities’.

Exemptions

In Wildfire Development Permit must be approved before land is subdivided; construction of, addition to or alteration of a building or structure; or alteration or clearing of land (including but not limited to grading, blasting, preparation for the construction of services or roads). A Development Permit is required unless one of the following exemptions applies:

- a. The construction or alterations in accessory buildings or structures are not in excess of 55 square meters, and additions to existing approved buildings that are not in excess of 25% of the existing gross floor area; or
- b. Where plans for construction are submitted for a building permit, and the plans show compliance with the guidelines “Wildfire Development Permit Design Guidelines”; and, a restrictive covenant is registered on the title of the property in order to ensure that future property owners are aware of and obligated to the wildfire risk and fuel hazard reduction measures, or
- c. A development permit of this type or a covenant registered on property title has already been issued for the area in the past, and the conditions in the development permit or covenant have all been met, and the conditions addressed in the previous development permit or covenant will not be affected.
- d. A Professional Forester registered in BC, specializing in wildfire and fuel hazard assessments and fuel management, has completed a report on the property or building in question that: indicates there is a low fire hazard; and has provided recommendations for mitigating any existing or potential risk associated with the new development with provisions in place to ensure that development is carried out in accordance with the recommendations; or
- e. There is a technical subdivision for lot consolidation or boundary adjustments; or
- f. The proposed works are site restoration, ecological enhancement, forest fuel management, general parks maintenance and works in accordance with established Best Management Practices, RDCO Parks Operational Wildfire Protection Plan and Provincial approvals, as required, under purview of RDCO Parks Services.

Guidelines Background and Applicability

The guidelines will be used in reviewing Development Permit applications. It is important that construction within the Wildfire Development Permit Area designated in the Official Community Plan demonstrate an application of these guidelines.

The basis for these Guidelines is the FireSmart Manual developed by Partners in Protection and adopted by the BC Wildfire Management Branch as well as the RDCO’s *Community Wildfire Protection Plan*.

These Design Guidelines do not cover all possible measures for wildfire risk reduction but should be considered minimum standards that focus mainly on new home construction, substantial additions, subdivisions and the immediately adjacent surroundings.

These guidelines will be used in reviewing Development Permit applications. While these guidelines only apply to WDP areas, flying embers can ignite structures several kilometers away

from the fire source, and the recommendations contained within this document would be wise consideration for many homeowners in the Regional District.

These guidelines are to be used in conjunction with the WDP area maps as designated within the OCPs or otherwise defined as any location within forest and grass fuel types for building construction and within or 100m from forest fuel types for subdivision.

Development permit conditions may include conditions that lands that must remain free of development; require specified natural features or areas to be preserved, protected, restored or enhanced in accordance with the permit.

INTERFACE PRIORITY ZONES

Interface Priority Zones have been developed to assist in the assessment and design of new and existing structures that may be threatened by wildfire in the wildland/urban interface. The priority zones are defined by a measured distance from the structure and there are specific guidelines that apply within each zone. The priority zones should be extended on downhill slopes and on windward exposures. The following descriptions for each zone are extracted directly from the FireSmart Manual and additional details on these Priority Zones, including objectives and specific vegetation management guidelines, are available in Chapter 3 of the manual.

Priority Zone 1 (0 – 10 meters)

This area is immediately adjacent to a given building and extends outward in all directions for a recommended minimum of 10 meters in flat terrain. The main objective of vegetation management in this zone is to create an environment that will not support fire of any kind. In some situations, this may be the only zone or area that homeowners need to manage.

Priority Zone 2 (10 – 30 meters)

This area begins 10 meters from the building and extends to 30 meters from the building. The main objective of fuel management within this zone is to create an environment that will only support fires of lower intensity and rate of spread.

Priority Zone 3 (30 –100+ meters)

This area begins 30 meters from the building and extends to 100 meters or farther from the building. Fuel management in this area may only be needed in specific cases, when high hazard levels resulting from heavy continuous forest vegetation and steep topography are not reduced enough by fuel management in Priority Zone 2.

SPECIFIC CONDITIONS GUIDELINES

It is not possible to entirely remove the threat of wildfire to a structure built within the wildland–urban interface. Instead, the design guidelines are intended to reduce the overall susceptibility of a structure to the threat of wildfire and thereby improve structure survivability.

Building Construction and Materials

1. Roofing

The roof coverings shall conform to Class A, B or C fire resistance as defined in the BC Building Code. Preferred roofing materials are metal, clay and asphalt shingles that meet the Class A, B or C requirements.

2. Exterior Wall Finishes

Any material used for exterior wall finishes should be fire resistant such as stucco, metal siding, brick, cement shingles, concrete block, poured concrete, rock and logs or heavy timbers as defined in the BC Building Code. If log or heavy timber materials are used, the property owner must have an approved development permit or covenant for fire resistant landscaping, concrete, rock material or irrigated lawn within 30m of the home (Priority Zone 2).

3. Chimneys

All chimneys should be constructed to meet BC Building Code requirements with an approved spark arrester consisting of 12 gauge welded or woven wire mesh screen with mesh openings 12 millimeters or less.

4. Eaves, Vents and Openings

All eaves, attic and under floor openings should be screened with corrosion–resistant, 3–millimeter non–combustible wire mesh.

5. Windows and Glazing

All windows must be double paned or tempered glass.

6. Balconies, Decks and Porches

All ground level decks, balconies and porches should be skirted with fire resistant materials as outlined in the Exterior Wall Finishes section above. These features should not be open to the environment such as to allow vegetation to grow beneath the feature or that allows combustible material to be stored beneath the feature (i.e. firewood, lumber, paint, etc).

Building Construction Alternatives

The following is an alternative to the *Building Construction and Material – Guideline # 6*:

- a) Balconies, decks and porches can be built with construction utilizing the following materials as a minimum equivalent to the requirements:
 - i. Wood columns – 6”x 6” minimum nominal dimension (solid sawn or built–up)
 - ii. Wood beams – 6”x 8” minimum nominal dimension (solid sawn or built–up)
 - iii. Exposed joists – 3”x 6” minimum nominal dimension (solid sawn or built–up)
 - iv. Joists – may be dimension lumber provided that the underside of the joists is clad with 1” lumber, ½ panel type sheathing or non–combustible finishes.

- b) As an alternative to the materials listed in a(i) the structures may be enclosed from the deck floor to the grade with wood frame wall or skirting construction clad.

Landscaping

Any combustible fuels surrounding the building within the Priority Zones may require modifications or removal. Managing these areas around the buildings is important for safe and successful fire protection. . Any landscaping work should also take into consideration ecosystem retention and restoration objectives and values. The guidelines below provide specific landscaping recommendations.

1. A fuel free space should be achieved in Priority Zone 1. This includes the removal of coniferous evergreen shrubs such as junipers, mugo pines, or coniferous evergreen hedges.
2. No additional evergreen trees are to be planted within Zone 1.
3. Forested areas within Zones 2 and 3 should be thinned to achieve 3–6 meter spacing between crowns.
4. Prune retained trees to a minimum height of 2 meters above the ground on flat terrain and 3 meters on slopes greater than 15%.
5. Less combustible or fire resistant plants and shrubs should be used during landscaping design (for example, deciduous shrubs, annuals, perennials and mowed grass)
6. Combustible landscaping materials, specifically mulch or wood chips should not be used in Zone 1.

Landscape Alternatives

It is not advisable to retain previously existing mature coniferous trees within 10 meters of a building. Any coniferous trees retained in Priority Zone 1 must:

- a. Have the branches pruned to 3 meters above the ground.
- b. Be spaced so that no tree crown, or group of tree crowns, is closer than 3 meters to the next trees crown or group of tree crowns.
- c. No branches be within 3 meters of the buildings or balconies.

Alternatives for Any Guidelines

Where a Development Permit is required, and subdivision of land, development or construction is proposed to vary from the Wildfire Interface Development Permit Design Guidelines, a report by a registered professional forester or other registered professional with wildfire management experience is required to ensure wildfire risk reduction is occurring.

Subdivision Guidelines

Subdivisions that are planned within 100m of the forest fuel types on the Development Permit Area maps must engage a registered professional forester with wildfire management experience to undertake a Wildfire Risk Reduction Report for the development prior to receiving a development permit.

This report should include, but not be limited to, the following contents:

- Interface Fuel Hazard Assessments for all proposed structures
- Fuel Management Treatment Recommendations for interface areas and natural area reserves
- Fuel Management Prescription to mitigate the existing fuel hazard in the above areas
- Community design guidelines as per the FireSmart Manual (road design, emergency vehicle access needs, bridge load limits, water supply, landscaping, building materials, etc)

Other Guidelines

- Improve access in areas of the community that are considered isolated and that have inadequate developed access for evacuation and fire control.
- Require access points suitable for evacuation and the movement of emergency response equipment are provided.
- Development shall be set back a minimum of 10 metres from the top of ridgelines, cliffs or ravines. Variation of the setback may be considered if a Professional Forester registered in BC specializing in wildfire risk and fuel hazard assessments and fuel management can justify a change in the setback distance.
- May request the registration of a restrictive to ensure long term wildfire risk reduction and that reflects the wildfire risk reduction guidelines and best practices included in this Development Permit Area.
- Encourage wildfire risk reduction through conducting fuel hazard abatement in a way that is supportive of retaining or restoring the natural environment.

See Schedule H: Wildfire Development Permit Area