Vernon Community Wildfire Protection Plan (CWPP)

Final Report

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Project 1242-1

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Acknowledgements

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- Cornelius Martens - Manager - Building and Inspections
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- Keith Green – Fire Chief
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This report dated July 2, 2014 has been prepared for the City of Vernon in support of community wildfire protection.

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List of Acronyms

BEC	Biogeoclimatic Ecosystem Classification
BCTS	British Columbia Timber Sales
CF	Community Forest
CFS	Canadian Forest Service
CoV	City of Vernon
CWPP	Community Wildfire Protection Plan
FDRS	Fire Danger Rating System
FLNRO	Ministry of Forests Lands and Natural Resource Operations
GW	Genetic Worth
GIS	Geographic Information System
LRMP	Land and Resource Management Plan
LU	Landscape Units
NDT	Natural Disturbance Type
WUI	Wildland Urban Interface

1 Introduction – The City of Vernon & Wildfire Protection Planning

Wildfire risks within southern B.C. and specifically within the Okanagan Valley have been well documented. Since the wildfires of 2003 (Kelowna, McLure and others), significant effort has been initiated and undertaken to increase awareness of these risks and develop planning and administrative tools to help local governments respond to this risk. The Community Wildfire Protection Plan (CWPP) process is one of those tools. Forsite Consultants Ltd. was retained in the fall of 2013 to assist the City of Vernon in developing a CWPP the results of which are reported here.

The project included the following key phases:

1. Project Initiation, Information Gathering and Compilation
2. Fuel Management Assessments and Delineation: assessment and verification of hazards
3. Develop Preliminary CWPP
4. Public Open House
5. Develop Draft and Final CWPP

Further detail on the approach used can be found in Section 2.

The focus of this CWPP is to provide the City of Vernon with a realistic plan that provides meaningful guidance to their operations and specifically the management and implementation of fire risk and wildfire protection across the community.

1.1 Project Objectives

The objectives of this Community Wildfire Protection Plan are:

- identify forestland wildfire threats that could impact development within the City of Vernon,
- map all possible eligible treatment areas within the city that that would assist in reducing the wildfire threat,
- identify treatment recommendations that would reduce the overall wildfire threats to the City of Vernon,
- provide recommendations to City of Vernon officials regarding OCP, zoning, and building bylaws as well as wildfire related city covenants.

1.2 CWPP Study Area

This Community Wildfire Protection Plan covers the City of Vernon, located in the North Okanagan. The City of Vernon is 11,833ha in size, with a perimeter of 113.15 kilometers. A 2 km perimeter buffer outside of the CoV boundary is included in the CWPP, excluding Okanagan and Kalamalka Lakes, to account for ignition sources and wildfire threats to the City of Vernon. The total project area, including the CoV and the 2 km buffer area (Figure 1) is approximately 20,400 ha in size.

1.3 Community Forestland Values and Description

Incorporated in 1892, Vernon has a rich history spanning from the settlement by Interior Salish peoples to the arrival of fur traders, ranchers, farmers and miners, all helping Vernon to grow into the diverse community it is today. A strong military presence since World War I is also very unique to Vernon. Overall, Vernon is a residential community with an outlying mixture of urban developments such as Sparkling Hills Resort and Predator Ridge combined with rural dwellings and high value waterfront properties.

It is also the largest settlement in the North Okanagan, with a population of 38,150 (2011 Census) (Table 1). The Greater Vernon Population is 58,055 and includes the District of Coldstream (pop 10,314), Electoral Areas “B” & “C” (pop 6,918) and Okanagan Indian Band Reserve No. 1 & No. 6 (pop 2,673). Vernon has experienced significant population growth with a continued growth trend of 1.37% per year (City of Vernon Official Community Plan, January 2014, pg 24). In addition, Okanagan Landing was annexed in 1993 and Foothills in 2008, each contributing population.

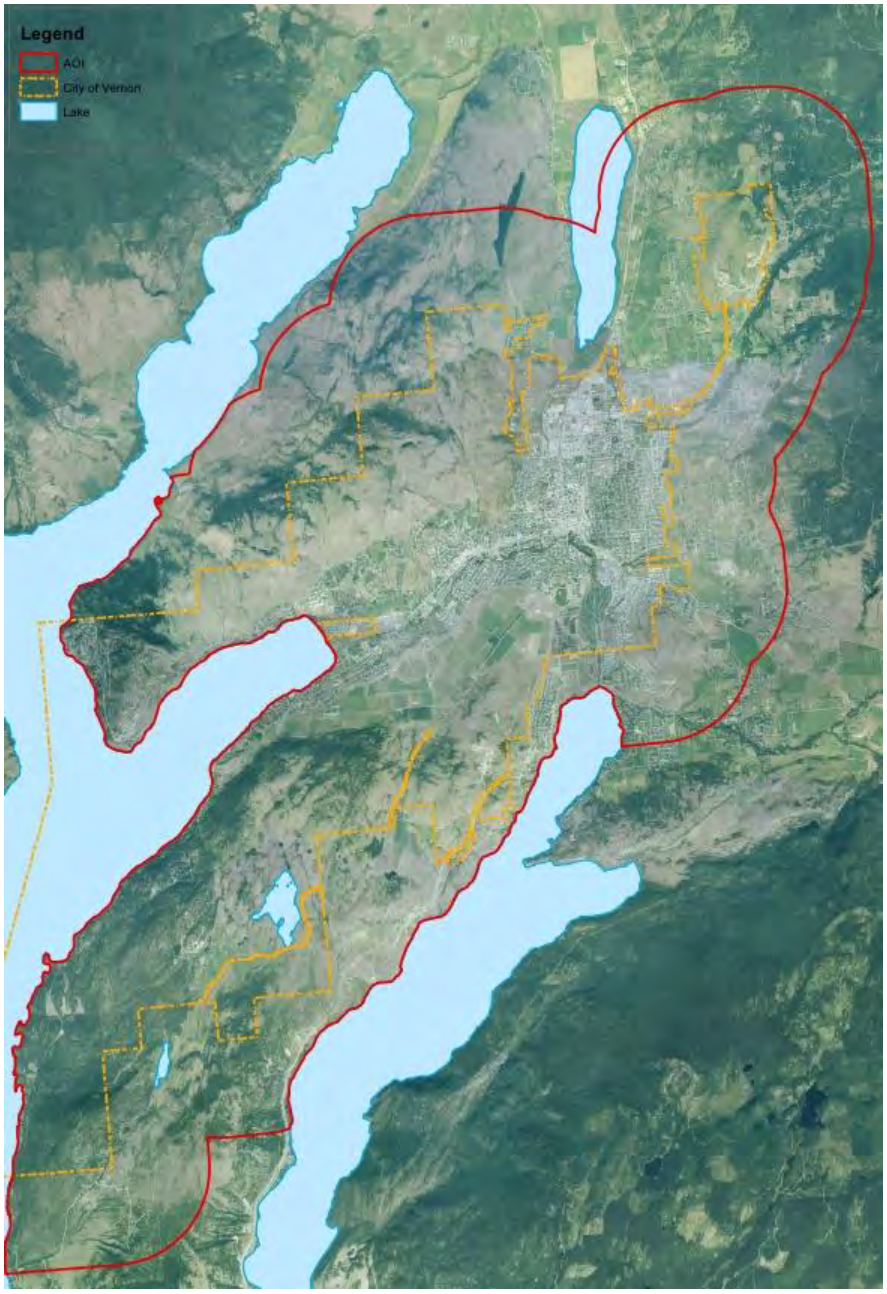

Figure 1. CWPP Study Area

Figure 1 – Population Growth, 1976 - 2011		
Year	**Population**	**5 Year Growth Rate**
1976	17,984	n/a
1981	20,500	2.8%
1986	20,962	0.5%
1991	24,112	3.0%
1996	32,165	7.4%
2001	33,542	4.1%
2006	35,944	6.7%
2011	38,150	6.1%

Table 1. City of Vernon Population Growth 2008 to 2011

Population growth within the CoV is resulting in new urban developments in the grassland and forested wildland areas located throughout the city, resulting in an increase in the wildland urban interface (WUI).

According to the 2011 National Household Survey, the largest employers in Vernon are retail trade, business services, health care and social services and accommodation and food services. These four sectors account for approximately 52% of the jobs in Vernon. According to the 2006 Census, these four sectors succeeded in keeping on the same portion with approximately 53% of the jobs in Vernon. Vernon's employment is higher than the provincial average in three sectors - the retail trade, health and social service and accommodation and food services. Of note is the decrease in the manufacturing sector, which since 1996, has shrunk by more than 30%. (City of Vernon Official Community Plan, January 2014, pg 26). The City of Vernon has approximately 3,360 total licensed businesses, including home-based businesses. (City of Vernon, 2012 Annual Report – Executive Summary).

Forestry has significant role within the City of Vernon, with the presence of a range of different organizations located within the city, including the Kalamalka Research Station and Seed Orchard, Ministry of Forest, Lands and Natural Resource Operations (FLNRO) District office as well as the head offices of the Interior Logging Association and Tolko Industries Ltd.

2 Approach

2.1 Project Initiation, Information Gathering and Compilation

Following project award, overall project objectives, timelines and key milestones were confirmed. Information was then secured from the CoV, the FLNRO Wildfire Management Branch (WMB) and other provincial government spatial data sources. This information was compiled into a working dataset that was then used to support all subsequent project activities. Existing plans across the project area were also secured to support the development of the CWPP.

2.2 Fuel Management Assessments and Delineation: assessment and verification of hazards

Office and field assessment techniques were used to develop an accurate understanding of the vegetative cover within the planning area. A preliminary understanding of this was gained through the analysis of base data and orthophotos. This information is used to stratify the project area in advance of field assessment. Field sampling was then be carried out to confirm current fuel levels, vegetative (fire hazard) conditions and wildfire threat within the CWPP area. Field sampling included the use of wildfire behavior threat worksheets that covered all fuel complexes in the City of Vernon area. Forest polygons not directly assessed with a threat plot were assessed using up-to-date ortho photos and interpolation of field data.

2.3 Preliminary CWPP and Public Open House

Following the completion of the office and field based fuel and wildfire hazard assessments, a preliminary CWPP was developed. This CWPP included the consideration of the city development and planning implications of the current wildfire threat and risks. The preliminary maps and guidelines where then presented to the community through a public open house. The public open house was advertised in the local papers, through Twitter and through the direct contact of known stakeholders. The open house was held at Vernon City Hall on March 13, 2014 with opportunity for comment at the meeting or in a two week timeframe following the event.

2.4 Final CWPP

Following the public open house, the final CWPP was developed, incorporating input from both the public and from the City of Vernon staff. The final plan was presented to the City of Vernon in support of ongoing consideration and management of wildfire risks in the city.

3 Forest, Fuel & Past Wildfire Information

The CoV CWPP builds upon the work that has been undertaken by the City regarding fire preparedness, risk management and municipal planning (i.e. OCP) in addition to work that has been undertaken in wildfire threat and wildfire risk planning in surrounding areas.

3.1 Topography

Most of the population and infrastructure associated with the City of Vernon is located in a valley bottom. A majority of the valley side hills have a western or southern aspect, the driest and warmest aspects. The lower slopes of the valley are rolling and dominated by grasslands. The steepest and most challenging terrain is located in the southwest and northeast coinciding with the densest forest cover. The southwest is the most difficult area to access with shallow soils and steep exposed rock and limited permanent access structures. The northeast is dominated by BX Creek which runs from Silver Star Mountain southwest into the City. This major valley acts as a funnel for the southwest winds which regularly blow in the area, creating a perfect channel to push wildfires uphill to the northeast.

3.2 Important Forest Health Issues

Infestation levels of Mountain and Western Pine Beetle populations peaked around 2010 and are now at traditionally normal and low rates of incidence. That said, the area was significantly altered because of the outbreak levels. It is common to have dead standing and fallen pine trees within the CWPP study area.

3.3 Biogeoclimatic and Fuels Information

The City of Vernon is located within the Interior Douglas Fir (IDF xh1) biogeoclimatic zone (See Appendix 1). The IDF biogeoclimatic zone is characterized by a warm, dry climate regime with a long growing season during which moisture deficits

are common. This is one of the driest forest ecosystems in B.C. The forest ecosystems in this area fall under the *Natural Disturbance Type 4*[1] ecosystem, where regular, low intensity, stand maintaining fires were the norm before European settlement and wildfire suppression activities. Coniferous stands with Douglas-fir and ponderosa pine leading species are classified at C7 fuel types (Canadian Forestry Service Fire Danger Rating System - CFFDRS).

The result of wildfire suppression in these areas is the accumulation of forest fuels over time as the wildfire return interval has been lengthened. These forest fuels include an increased number of conifer trees on site and a buildup of dead and dry surface fuels. The resulting fuel buildup creates the potential for more intense, stand replacement wildfires to occur. The additional trees also create more inter-tree competition for moisture and nutrients, creating increase risk of forest health issues such as defoliators, other insects and disease.

3.4 Impacts of Climate Change on City of Vernon Ecosystems and Forests

Forest and grassland conditions within and around the City of Vernon have been impacted by effective fire suppression for many years. Climate change is expected to also impact these ecosystems in ways that will influence (increase) wildfire hazards and elevate associated risks (Table 2).

Table 2. Predicted Impacts of Climate Change on Climate Variables and Forests in B.C. During the 21st Century

Expected Impact of Climate Change on Climatic Variables in B.C.
1 to 4 C increase in surface air temperature with winter temperatures most affected
10 to 20% increase in annual precipitation with less snowfall and more rainfall
Reduced snow depth and an increase in the length of the growing season
Increasing the risk of summer drought and decreasing soil moisture
More thunderstorm activity
Predicted Impacts of Climate Change on B.C. Forests
Increase in frequency and severity of forest damaging events including forest fires
Higher than present treeline and northward migration of treeline
Major expansions of grasslands and shrublands
Disappearance of wetlands, shrinking lakes and changing hydrology
Increase in incidents of insects, disease outbreaks and spread of invasive species
New assemblages of species occurring in time and space
Overall loss of biodiversity
Changes in disturbance regimes and forest productivity
Forest migration into previously treeless landscapes
Reduced access for winter logging

Source: Expected Impacts of Climate Change: Dery and Jackson 2006

Predicted impacts of CC on Forests: Ohlson et al; Hebda 2006; Gov't of B.C. 200c; Spittlehouse 2005.

Copied from BC Forest Professional May-June 2008

Specific to the study area, the impacts of climate change on Ponderosa Pine (PP) and Interior Douglas Fir (IDF) biogeoclimatic zones in the Northern Okanagan are likely to include the following changes or impacts:

- The conversion of valley bottom and lower slopes ponderosa pine forest to open grasslands. This could be described as an expansion of the Bunchgrass (BG) biogeoclimatic zone. The PP and IDF biogeoclimatic zones that we know of today may also be shifted upwards in elevation, although the different topography found at higher elevations in the Okanagan Valley will alter the nature of these ecosystems in different ways.

[1] More information on Natural Disturbance Types in B.C. and fire regimes can be found at; http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/biodiv/biotoc.htm

- Severe moisture stress and insect infestations. This will lead to increasing tree mortality on the lower slopes dominated by ponderosa pine and on the mid-slopes dominated by Douglas-fir.
- Climate change occurring at a rate faster than the forest can adapt. This could include high mortality of the present forest cover in a short period of time.
- Longer and more severe fire season.
- Increased wildfire starts from increased thunderstorm activity.
- Less available water for wildfire suppression activities.
- Stress on lakeshore deciduous trees due to changing hydrology.
- Loss/alteration of lakeshore habitat.
- Additional stress on Species at Risk Act (SARA) listed species and changes to other wildlife habitat (i.e. mule deer winter range).
- Less opportunity to utilize heavy equipment on frozen ground (to minimize site impacts) when implementing fuel management and timber harvesting.

3.5 Influences of Climate Change on Fuel Management/Wildfire Threat Reduction Activities in the City of Vernon

The following is a list of forecasted impacts from climate change as they relate to fuel management and wildfire threat reduction activities on the City of Vernon:

1. The loss of a majority of the ponderosa pine component of the forest on the lower slopes of the City of Vernon will continue until only isolated pockets of pine remain.
2. Planting of conifer seedlings to replace the pine trees is not likely to be successful due to moisture stresses during the growing season.
3. Expect decreased survival and productivity in the conifer plantations on the lower slopes of the City of Vernon.
4. The existing pines on the lower slopes are not likely to be replaced. The retention of large wildlife trees and large coarse woody debris must be a priority in fuel management operational plans.
5. The protection and enhancement of riparian/wetland areas must be a priority for any forest related activities on the lower slopes of the City of Vernon.
6. Tree mortality in the lower Douglas-fir stands can be expected to increase substantially.
7. Aggressive fuel management/wildfire threat reduction efforts will be necessary for the City of Vernon for the next decade at least, as the impacts of climate change and insect infestations affects the plant communities on the lower to mid-slopes in the Okanagan.
8. Management of forestland on the lower slopes of the Okanagan Valley should move towards non-timber priorities such as water quality, wildlife habitat, wetland/riparian enhancement, recreation, control of noxious weeds and other values best identified by the City of Vernon staff.

3.6 Fire Weather

Fire weather is tracked by the Ministry of Forests Lands and Natural Resources (FLNRO), Wildfire Management Branch. It is based on the Canadian Forestry Service Fire Danger Rating System (CFFDRS) that was developed to assess fire danger and potential fire behaviour. The southern Okanagan has one of the driest, hottest ecosystems in Canada. In the City of Vernon this is slightly moderated by the presence of Okanagan Lake along its western perimeters, Kalamalka Lake to the south-east, and to lesser extents Swan Lake (shallower) on the north end. Weather that will dry forest fuels and allow for wildfire spread regularly occurs from March through October. The summer winds in the valley typically have a western or southern component which ***will generally push wildfires north and east*** in the project area.

Based on historical fire weather data recorded at Fintry (nearest FLNRO weather station) over the last 18 years (1995 to 2013), the area can expect to see approximately 2.9 days of *Extreme* fire weather conditions and 46.7 days of *High* fire weather conditions, resulting in an average of 50 days annually that the City of Vernon area is exposed to high fire danger (Appendix 2).

Over the same 18 year time period, the average annual precipitation was 296mm.

3.7 The Wildland Urban Interface (WUI)

Typically each year between March and September there are significant risks of major WUI fires throughout the province. BC experiences an average of 2,000 wildfires annually and although only a small percentage of them are interface, there may be significant impacts to affected communities or associated infrastructure. For example, in 2010 there were 1,672 wildfires in BC

and approximately 27 of those were significant interface wildfires resulting in 11 evacuation orders and 16 evacuation alerts issued by local authorities and First Nations communities.

A WUI fire is a fire that is burning in wildland fuels or vegetation and has the potential to interface with urban or developed areas. There are three categories of WUI areas (British Columbia Provincial Coordination Plan for Wildland Urban Interface Fires, 2013):

1) The typical WUI exists where well-defined urban and suburban development presses up against open expanses of wildland areas;
2) The mixed WUI is characterized by isolated homes, subdivisions, infrastructures and small communities situated predominantly in wildland settings; and
3) The occluded WUI occurs where islands of wildland vegetation exist inside a largely urbanized area.

In general, *Low* and *Moderate* wildfire threat areas in the wildland/urban interface are considered acceptable[2]. High and extreme wildfire threat areas, adjacent to developments, are generally considered unacceptable and are the areas directly targeted for fuel management activities.

3.8 City of Vernon – Fire History

The City of Vernon tracks calls to the fire department and Table 3 includes those calls that are associated with the interface or grass/brush fires.

Table 3. Grass/Interface Related Calls to the Vernon Fire Department – 2006-2013

Year	Fire – Grass or Brush	Fire - Interface	Total
2006	52	1	53
2007	21		21
2008	52		52
2009	43	1	44
2010	21	1	22
2011	16		16
2012	25		25
2013	19	1	20
Total	249	4	253

3.9 Vernon Fire Zone - Wildfire History

The Vernon Fire Zone (FLNRO, Wildfire Management Branch) retains fire incidence information including cause, year and location (Table 4). A map of these incidents is found in Appendix 3.

Table 4. Wildfire Management Branch Fire Incidents – 1950 to 2014

Years	Area Burned By Cause (ha)		
	Lightning	Person	Total
1950-1959	1	71	72
1960-1969	1	132	133
1970-1979	1	129	131
1980-1989	1	24	24
1990-1999	47	36	83
2000-2009	1	40	41
2010-Present	0	94	94
Totals	**638**	**1,222**	**1,859**

3.10 Local Wildfire History – The Terrace Mountain Fire – What can we learn?

The Terrace Mountain fire started west of Terrace Mountain in July 2009. It burned aggressively for over three weeks and scorched approximately 9300 hectares under extremely dry conditions. This wildfire, although over ten kilometers from the Okanagan Indian Band lands (I.R. 1) and the City of Vernon, posed a very serious and direct threat. The wildfire was largely

[2] As per threat worksheet guide "*Wildland Urban Interface Wildfire Threat Assessments in B.C*". (July 31, 2012).

contained south of Shorts Creek. But the usual summer winds that come from the south or southwest could have easily pushed the wildfire directly towards the city.

The Terrace Mountain fire spread direction and behaviour can provide valuable lessons for the City of Vernon. The wildfire spread largely based in wind direction for the first runs of the fire. It spread east and north in the first few days. The lake effect in the evenings caused the eastern edge of the fire to burn aggressively downhill towards the lake and lakeside developments. This portion of the fire was very difficult to control due to poor access, steep slopes, high values adjacent and extremely dry conditions. The area was only accessible, and successfully contained above the homes, due to the old skid trail system that existed on the hillside. There is very little workable terrain between Shorts Creek and Whiteman's Creek to the north, on the southern edge of the reserve. If the fire had established itself on the east aspect north of Shorts Creek, the wildfire would have likely reached Okanagan Indian Band lands and possibly crossed the lake into Vernon.

Lessons learned from the Terrace Mountain fire include;

1. Wildfires have the capability to spread aggressively downhill along Okanagan Lake due to the downdraft lake effect in early evening (applicable to Kalamalka Lake too).
2. Fuel breaks or low fuel loading zones on the mid to upper slopes help to successfully combat a wildfire on the height of land above urban developments.
3. Wildfires spreading from the south, southwest and west pose the largest threat to the City of Vernon
4. The long term weather data suggests the weather event that helped create the Terrace Mountain fire are likely to be more common and the Okanagan can expect regular wildfire events like this one.

3.11 Adjacent CWPPs and Other Higher Level Plans

The following higher level plans were considered during the development of this CWPP:

1. The City of Vernon Official Community Plan (OCP), January 2014.
2. Predator Ridge Neighbourhood Plan, December 2011
3. Okanagan Indian Band – Community Wildfire Protection Plan, September 2009
4. The District of Lake Country – Community Wildfire Protection Plan, June 2010
5. A Community Wildland Fire Protection Plan for Regional District of North Okanagan, October 2008
6. LRMP Okanagan – Shuswap Land and Resource Management Plan, April 11, 2001; Section AIR 3-1 to 3-3 and CCI 4-1 to 4-9
7. British Columbia Provincial Coordination Plan for Wildland Urban Interface Fires – July 20, 2013

It is important to note that an '*All Things Considered*' approach is necessary when conducting forest management. Fuel management is no exception. Fuel management plans and prescriptions must address other forest values that could be impacted by the planned treatments. Examples of other values include; visuals, water, wildlife habitat, site stability, noxious weeds, access, biodiversity, endangered species.

3.12 Archeological Values

First Nations with traditional territory across the project area include, with evidence of the traditional and ongoing use of the land and its resources. Related to this, fuel management activities on crown land resulting from this plan, should consider these values, with specific assessment or archaeological resources that may be present. Where archaeological sites are noted, no work zones or modified management may be required in order to ensure preservation.

First Nations with traditional territory or aboriginal interests within the area including the City of Vernon could include the following:[3]

- Coldwater Indian Band
- Cook's Ferry Indian Band
- Lower Similkameen Indian Band
- Lytton First Nation
- Neskonlith Indian Band

[3] As queried from First Nations consultative areas webmap:
http://webmaps.gov.bc.ca/imfx/imf.jsp?site=imapbc&savessn=Corporate%20Applications/Consultative_Areas_Database_Public.ssn

- Nooaitch Indian Band
- Okanagan Indian Band
- Oregon Jack Creek Band
- Penticton Indian Band
- Secwepemc Nation
- Siska Indian Band
- Splats'in First Nation
- Upper Nicola Band

4 Results

The focus of new development within CoV is focused on the areas identified in the OCP as Neighbourhood 1 and Neighbourhood 2. The result of past growth trends, under previous OCPs, did not focus new developments. Several new urban developments, including large residential subdivisions with multiple phases, were developed within grassland or forested wildland, resulting in an increase in the wildland urban interface (WUI). In general, this expanded WUI is expected within three (3) geographic areas that will be referred to below in the discussion regarding current hazards, risks and strategies:

1. Northeast – with a focus on the Foothills area of the city.
2. Northwest – slopes above the city from downtown Swan Lake west along Tronson Road along the north shores of Okanagan Lake.
3. Southwest – grassland plateau and grassland/forested slopes west and south of downtown, south to Lake Country and west to Okanagan Lake.

4.1 Wildfire Threat Summary

The main commercial and residential portions of the City of Vernon are located in a valley bottom and are unlikely to be directly impacted by wildfires. The area adjacent to this developed landscape is largely unmanaged grasslands that will support continuous surface fires but very limited spotting. Unprotected structures can be directly threatened by this type of wildfire.

The highest risk wildfire areas in the City of Vernon are located in the forested areas, outside of the urban developed landscape. This is generally found in the southwest of the city, in the direction of Ellison Park, with some significant higher threat areas also located in the northeast and northwest portions of the city.

The highest threat areas in the southwest is a result of dry, hot summer winds which regularly blow from the south, continuous forest fuels and relatively significant populations south of the CoV (in Lake Country) area where an escaped wildfire would spread north with the wind into the City. There is also difficult topography and a multi-layered dense Douglas-fir forest that will support aggressive crown fires and private homes distributed through the area.

The second most serious wildfire threat area in the City of Vernon is in the northeast along Silver Star Road and BX Creek. Wildfires in the area will typically spread to the northeast, away from the most populated areas of the City. This area is dominated by forested 'ranchettes' and small acreages on a south and southwest aspect. The forest fuels in this area are continuous enough to allow continuous crown fires to develop. The wildfire threat increases the further up Silver Star Road where the more densely development areas are located.

4.2 Wildfire Behaviour and Wildfire Urban Interface Threat Mapping

Reducing the wildfire threat to existing communities and homes, and to future developments can be a very complex planning process. All plans or prescriptions for wildfire threat reduction should strive to be site specific, aesthetically pleasing, economically feasible and environmentally sensitive. The objective of wildfire threat reduction efforts should not be to stop all fires. Stopping all wildfires is not achievable. The objectives should be:

- to alter wildfire behaviour on the forested land adjacent to developments, through forest fuel management, to greatly reduce the potential for house and structure losses, and
- to construct and maintain houses that are designed to withstand a wildfire.

House construction materials and design are outside the scope of this report but are discussed in detail in the FireSmart manual, Chapter Three. Improving structure survivability through forest fuel management has two key components; separating

the structures from the forest with FireSmart landscaping, and reducing or modifying the forest fuels in the surrounding forest to reduce the wildfire behaviour.

4.2.1 Wildfire Behaviour Threat

As a part of the CWPP, a wildfire threat assessment was completed for the City of Vernon in the fall of 2013. This work was completed to identify and map all wildfire threat issues in the city. Specific attention was paid to areas with a pine tree component. The assessment was conducted to meet Fire Smart standards as recommended by the Ministry of Forests, Lands and Natural resource Operations – Wildfire Management Branch.

Further mapping of the forested land on the perimeter of the city was completed. This mapping was completed to identify areas of forestland on the perimeter, out to two (2) kilometers, which impacted on the wildfire threat to developments in the city. Because fire knows no boundaries, private and federal land was included in the mapping exercise to properly access the overall wildfire threat.

The project area was delineated into one of four wildfire threat classes; low, moderate, high or extreme. Due to the large project area, and concerns with entering private land, much of the threat assessment work was completed using up to date ortho photos. Field truthing of ortho-photography data was conducted whenever possible. Poor access to the Crown land past the private property also limited the on-site plot work. Mapping work was conducted mostly with orthos and long distance truthing. This system has worked very well providing a very accurate wildfire threat map. Threat plot information documented here include maps (Appendix 4) as well as plot cards and pictures (Appendix 6).

Table 5 describes the wildfire behavior threat class definitions developed for the City of Vernon. The four threat classes are adapted from the Fire Smart: Protecting Your Community from Wildfire, Second Edition, July 2003 publication.[4] The specific definitions for each threat class have been developed to clarify the wildfire threat definition and to provide a locally relevant written description of each threat class that is not available in the Fire Smart publication.

Table 5. Wildfire Behaviour Threat Class Definitions

Class	Description
Very Low (Blue)	Water bodies.
Low (Green)	Developed and undeveloped land that will not support wildfire spread. Examples: Irrigated and managed fields, heavily grazed fields, orchards, watered and mowed grass, gravel pits, severely disturbed land, fully developed residential and commercial areas not directly adjacent to forested or undeveloped land
Moderate (Yellow)	Developed and undeveloped land that will support surface fire spread only. Examples: Unmanaged fields with more than one year of matted grass. Open grassland ecosystems without significant forest cover. Grass fields with shrubs and a deciduous tree overstorey. Grass fields with coniferous shrubs and tree overstorey below 20% canopy coverage. Small patches, less than 0.5 hectares, of isolated coniferous stands. Forested land with over 60% deciduous forest cover and minimal coniferous understorey. Unmanaged Black Cottonwood stands along the lakeshore.
High (Brown)	Forested land that will support candling, intermittent crown and continuous crown fires. Examples: Unmanaged forested land with coniferous coverage exceeding 40% canopy closure. Continuous multi-aged Douglas-fir dominated stands. Open ponderosa pine stands with a red attack component of 10% or more. Open Douglas-fir stands on steep south facing slopes. Forested areas with houses and developments directly down slope.
Extreme (Red)	Forested land across contour or below developments that will support intermittent or continuous crown fires adjacent to and within communities, or surrounding individual homes. Examples: Forested land with relatively continuous coniferous canopy closure, in excess of 40%, within 300 meters of homes. Continuous dead pine within 300 meters of homes or developments. Areas of live and dead pine beetle attack of greater than 40% adjacent to structures. Partly developed subdivisions with unmanaged coniferous forest fuels on the undeveloped lots. Ribbon developments at the base of steep slopes with continuous coniferous overstorey.

[4]. Fire Smart: Protecting Your Community from Wildfire, Second Edition, July 2003 publication is endorsed by the B.C. Ministry of Forests and Range, Wildfire Management Branch as the standard for assessing wildfire threat in Wildland/Urban Interface (WUI) areas in B.C.

Fire Smart states that low and moderate wildfire threat areas in the wildland/urban interface are acceptable. High and extreme wildfire threat areas, adjacent to developments, are considered unacceptable. High and extreme wildfire threat areas are targeted for fuel management treatments in this plan.

Figure 2 displays the wildfire behaviour threat classes across the City of Vernon and the surrounding areas. This classification should be considered a base assessment of hazard that exists across the project area. This information is then

1. Combined with current structures/infrastructure to understand WUI Threat (Section 4.2.2)
2. Combined with land status to identify opportunities for treatments on crown land
3. Used to develop plan and and development related zones within the City to guide future development

4.2.2 Wildfire Urban Interface Threat

Following the delineation of wildfire behaviour threat, a Wildland Urban Interface (WUI) Wildfire Threat Rating was also developed. This assessment takes the wildlife behaviour threat areas (See Section 4.2.1) and examines the location of these areas relative to development, the type of development and the overall position of the development on the slope. Classifications of HIGH and EXTREME WUI wildfire threat are used (See Table 6), outlining where the present wildfire threat concerns are highest based on the forest fuels and the adjacent developments.

Table 6. City of Vernon WUI Threat Classes

Classification	Description
High	High WUI wildfire threat class areas are located in a high or extreme wildfire behaviour threat class area and within 200 meters above or 500 meters sidehill or below and interface community. These forest polygons can directly threaten adjacent structures and developments through radiant or convective heat of a candling and crowning wildfire within the polygon, or through ember spotting activity ahead of the main fire front
Extreme	Extreme WUI threat class areas are located in a high or extreme wildfire behaviour threat class area and within 200 meters sidehill or below a developed area. These forest polygons can directly threaten adjacent structures and developments through radiant or convective heat of a candling and crowning wildfire within the polygon, or through ember spotting activity ahead of the main fire front.

Figure 2 displays the WUI Threat Zones (High and Extreme) that exist within the City of Vernon. These areas should be considered high priority where funding and programs align. It is important to note that these threat zones, as they are related to the interaction of wildfire behaviour threat and current buildings and infrastructure, will change over time, in relationship to development.

4.3 Potential Fuel Management Treatment Areas

A Community Wildfire Protection Plan is designed to identify wildfire threat concerns within the project area and identify fuel management treatment locations on crown land. Outside funding is more likely available for treatments on crown land. Within the City of Vernon, crown land is limited (Table 7), and therefore treatment opportunities are also limited. Eligible lands include municipal, federal and provincial crown lands.

Table 7. Land Status within the City of Vernon and the overall project area.

Ownership	City of Vernon		Project Area	
	Area (ha)	%	Area (ha)	%
CoV Municipal	773	8%	773	4%
Federal - Indian Reserve	0	0%	2,465	12%
Federal – Military	401	4%	401	2%
Private	8,174	84%	14,761	72%
Provincial Crown/Park	369	4%	423	2%
Other		0%	1,591	8%
Total	**9,717**	**100%**	**20,416**	**100%**

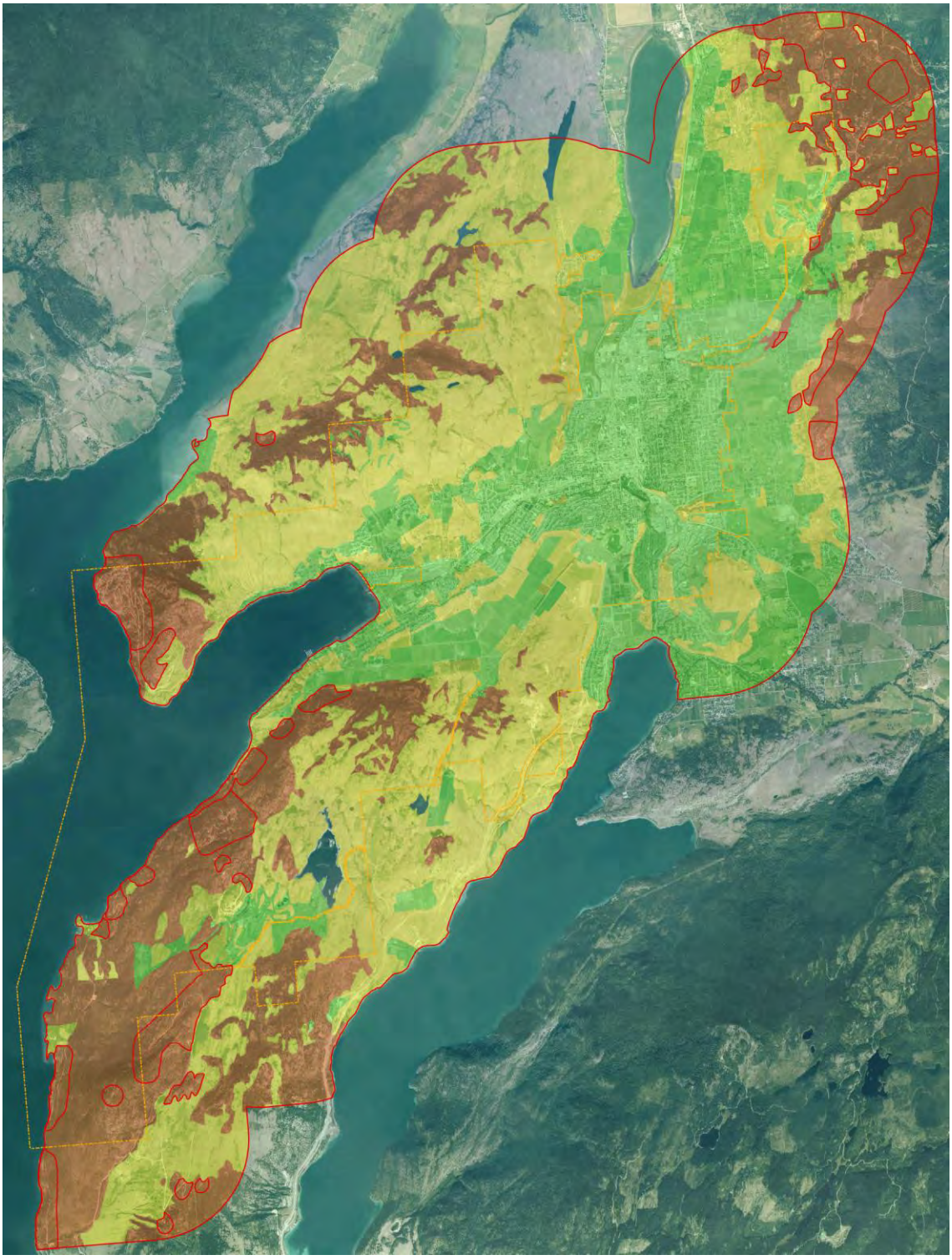

Figure 2. Wildfire Behaviour Threat and Wildfire Urban Interface Threat Zones

Wildfire Behaviour Threat – Green = Low, Yellow = Moderate, Brown = High[5]
Wildfire Urban Interface - Red hatch = High, Red Cross Hatch = Extreme

[5] No "Very Low" or "Extreme" areas are noted within the project area.

The High and Extreme WUI Threat areas (Section 4.2.2) as well as other crown land are considered as possible fuel management treatment sites. Where these areas represent an opportunity to significantly and positively influence wildfire behavior and reduce associated risks, Fuel Management Treatment Areas have been identified (Table 8 and Figure 3).

Table 8. Fuel Management Treatment Areas

Priority	Treatment Area	Area (ha)	Description
1	B	30.23	Ellison Park – Douglas-fir and mostly dead Ponderosa Pine forest with high surface fuel loads
2	A	13.44	Ellison Park – Douglas-fir and mostly dead Ponderosa Pine forest with high surface fuel loads
3	D	5.64	Sunset Properties - narrow strip of rocky Douglas-fir on steep slope on southern perimeter of community
4	D2	0.75	Sunset Properties - narrow strip of forest in northern portion of the community
5	C	7.52	Unmanaged Park space at Predator Ridge – Douglas-fir, ponderosa pine forest on the south edge of the community, partly cleared
6	E	5.84	Tronson Road – Strip for Douglas-fir on very steep slope between lakeshore and road, partly cleared, limited access
7	F	18.18	North side of Tronson Road development on Okanagan Indian Band I.R. #1 – steep Douglas-fir stand
8	G	6.76	Unmanaged park land – very steep Douglas-fir stand with high dead standing component
	Total	**88.36**	

Although fuel management treatment opportunities on crown land are limited across the City of Vernon, WUI threat levels associated with conditions on private land are still high and extreme in some areas. Given this, a key component of the City of Vernon's strategy should be related to working with private land owners and developers to address the risks across the city (See also Section 4.5).

Figure 3. Fuel Management Treatment Areas

(Black Polygons = Treatment Areas, Black Triangles = Fuel Plots)

4.4 Infrastructure At Risk

In addition to the general wildfire related risks to life, limb and property that exist for residents and business within the City of Vernon, specific care and attention should be given to community based infrastructure such as communications, water supply, sanitary, power, and access that may 1) be at significant risk due to wildfire or 2) impact the ability of emergency response organizations to respond to wildfire events.

The CWPP process included the general assessment of the possible risks of infrastructure to wildfire, with the results outlined below. A more structure by structure assessment should be carried out by the City of Vernon in concert with the owners and/or operators of the infrastructure to ensure that wildfire related risks are managed (See Section 5.3). Consideration of overall wildfire behavior hazards around the structures as well as access to the structures should be assessed and mitigated where necessary. Where this above ground infrastructure is a single point, building or structure, addressing risks is more specific and FireSmart guidelines can be used as a guide on this assessment and resulting treatments.

4.4.1 Water Related Infrastructure

Water Tanks and related infrastructure represent a key component of emergency response system and should be given specific attention in the understanding and management of wildfire related risks. Although each of these structures within and adjacent to the city should be assessed, specific care should be given to the water tanks that are within and adjacent to the HIGH Wildfire Behavior Threat Class (See Figure 4 and Figure 5).

Figure 4. A - Example of key water infrastructure points to be assessed to understand current risk from wildfire.

(Blue symbol = water tank, Brown shade = High Wildfire Behaviour Threat Class)

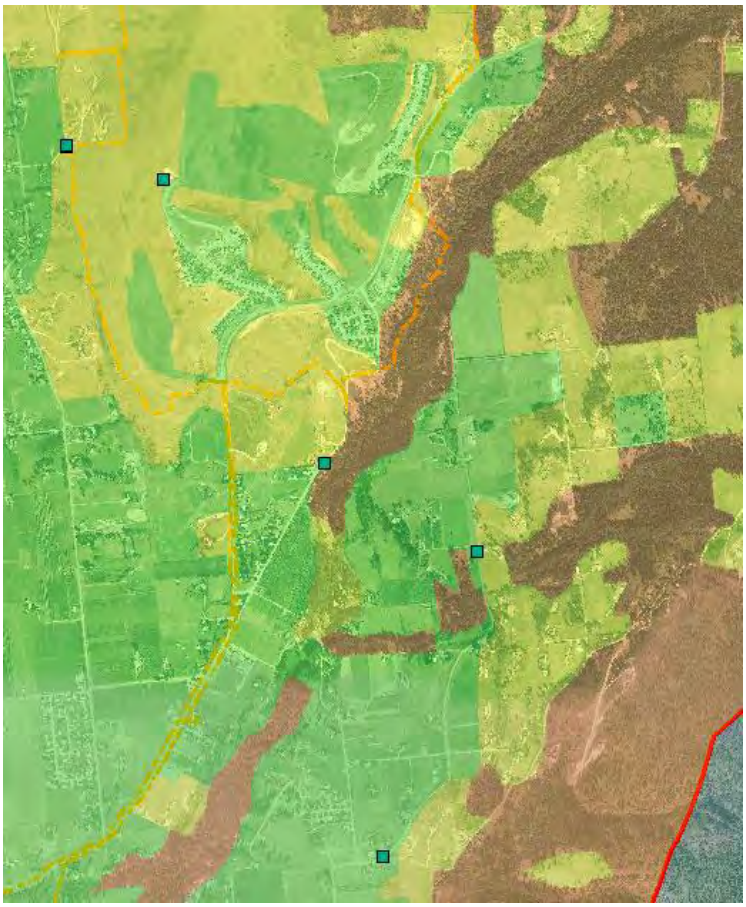

Figure 5. B - Example of key water infrastructure points to be assessed to understand current risk from wildfire.

(Blue symbol = water tank, Brown shade = High Wildfire Behaviour Threat Class)

The wildfire related risks to each of these water tanks and others within and supporting water supply in the city should be assessed. A larger scale map and street-view photo of one of the sites is included below as an example of the water infrastructure points and the situations that could be encountered (Figure 6 and Figure 7).

Figure 6. Example map and Street-view of Star Road Water Infrastructure

Figure 7. Example map and Street-view of Foothills Drive Water Infrastructure

4.4.2 Fire Halls

Fire Halls represent a key component of emergency response and should be given specific attention in the understanding and management of wildfire related risks. Although each of these structures within and adjacent to the city should be assessed, specific care should be given to the halls that are within and adjacent to the HIGH wildfire Behavior Threat Class areas.

4.4.3 Communications Towers

Communications Towers represent a key component of emergency response and should be given specific attention in the understanding and management of wildfire related risks. Although each of these structures within and adjacent to the city should be assessed, specific care should be given to the five towers that are within and adjacent to the HIGH wildfire Behavior Threat Class (See Figure 8).

Figure 8. Example of key communications towers to be assessed to understand current risk from wildfire.

(Pink symbol = communications tower, Brown shade = High Wildfire Behaviour Threat Class)

4.4.4 Sanitary Structures

Risks to sanitary structures, although not generally considered critical infrastructure, should also be understood given the potential implications of the loss of the efficacy of this sanitary system. Although each of these structures within and adjacent to the city should be assessed, specific care should be given to the structures that are within and adjacent to the HIGH Wildfire Behavior Threat Class (See Figure 9).

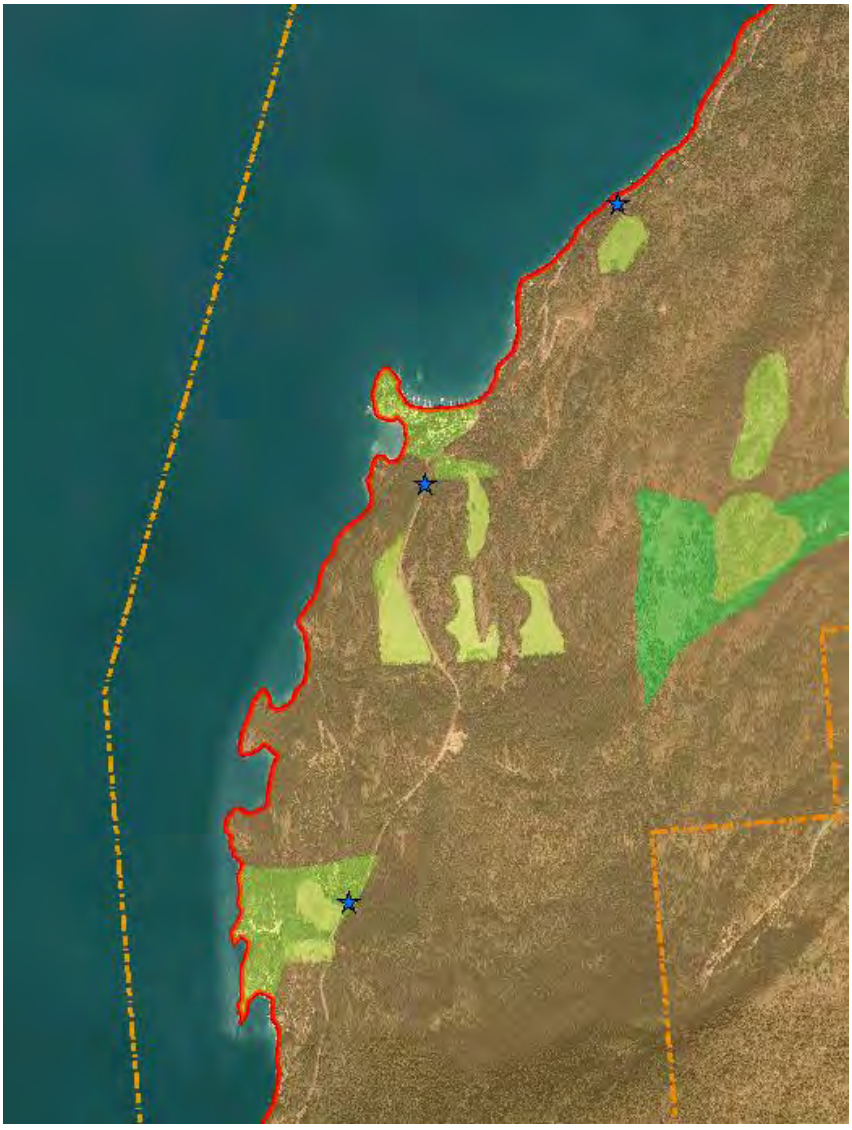

Figure 9. Example of key sanitary structures to be assessed to understand current risk from wildfire.

(Blue star = Sanitary Structures, Brown shade = High Wildfire Behaviour Threat Class)

4.4.5 Gasline/Structures

A main Fortis gas line passes through the City of Vernon. Although below ground infrastructure is not generally at risk from wildfire, risks to related above-ground infrastructure should be understood. Although each of these structures within and adjacent to the city should be assessed, specific care should be given to the structures that are within and adjacent to the HIGH Wildfire Behavior Threat Class (See Figure 10).

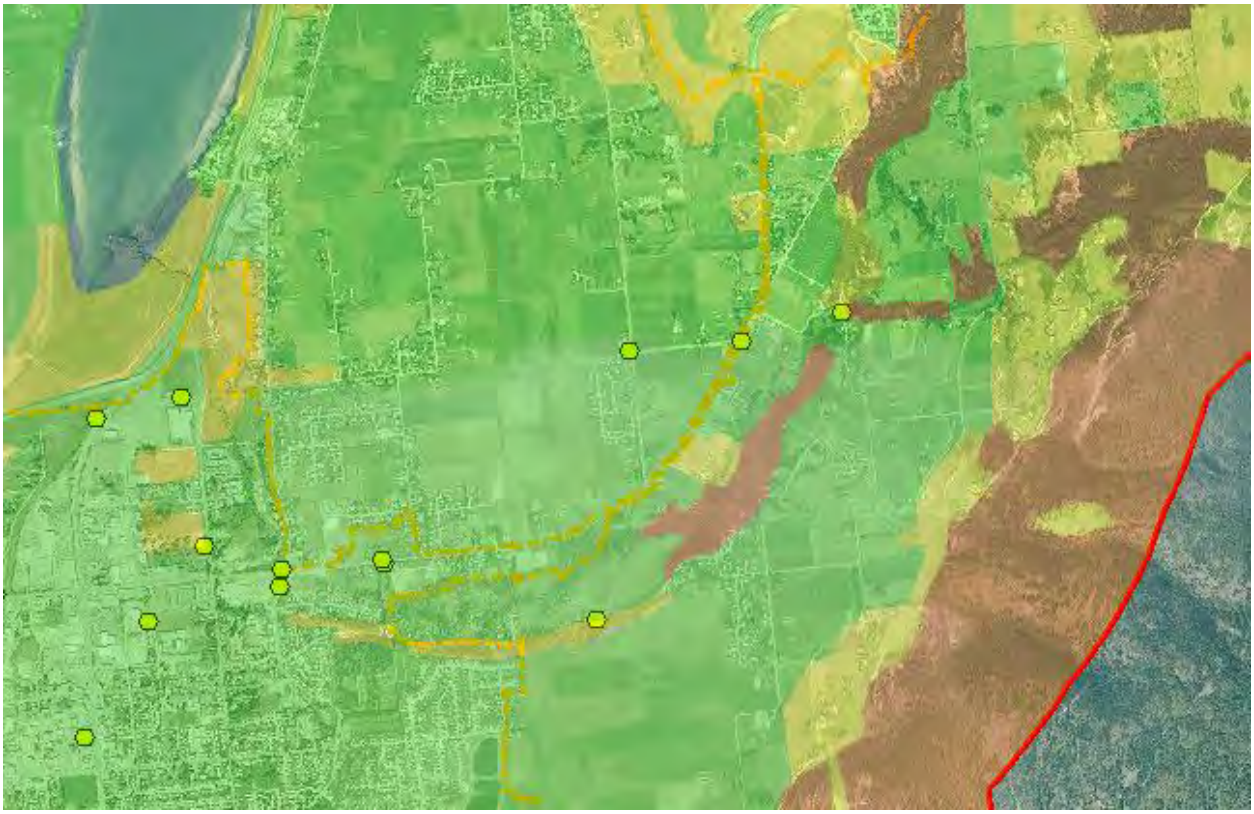

Figure 10. Example of key structures to be assessed to understand current risk from wildfire.

(yellow symbol = gasline infrastructure, Brown shade = High Wildfire Behaviour Threat Class)

4.4.6 Electrical Power

Transmission and distribution power lines are located through the City of Vernon and the project area. Of specific note should be the risks that wildfire may pose to maintaining power to critical infrastructure and related to this, where these lines are found within areas in which the Wildfire Behaviour Threat Class is High, with specific attention where wood power poles are used.

4.5 Interface Planning and Development Zones

4.5.1 Interface Zones

Based on the results of the wildfire behaviour and urban interface threat analysis, the City of Vernon has been divided into three *Interface* Areas (Figure 11).

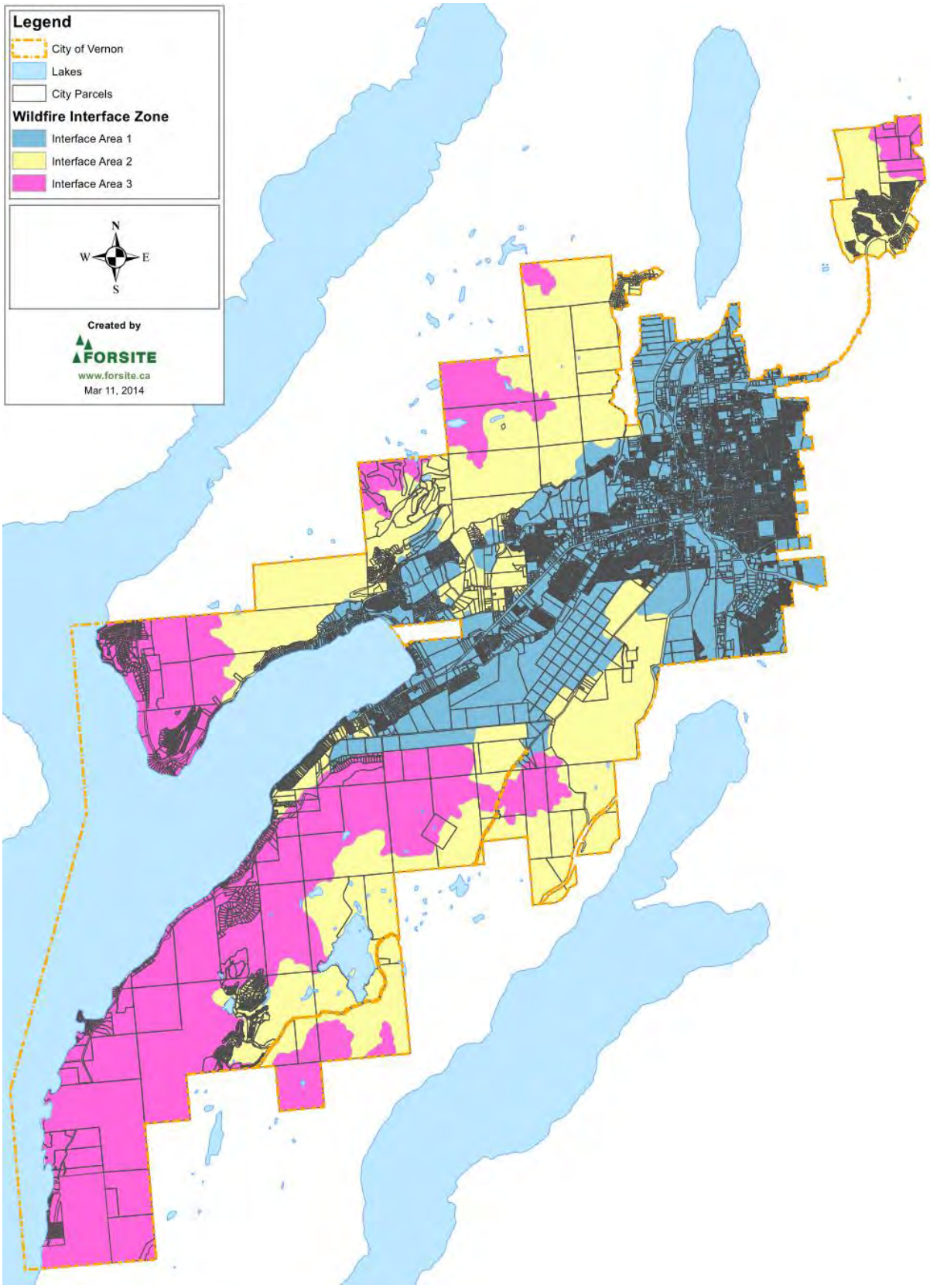

Figure 11. City of Vernon Interface Zones

Each of these areas has a different forest type or fuel complex and resulting wildfire threat potential. General descriptions of each of these zones are outlined below:

Interface Area 1 covers fully developed areas with irrigated and managed agricultural fields, or little or no forest fuels. Where present, the forest fuels are segmented into small patches and pose very low wildfire threat. These areas are not completely void of wildfire threats, there is still potential for airborne embers to spot into these areas and threaten individual structures but wildfires cannot spread through them in a consistent fashion. The wildfire spotting potential is very limited.

Interface Area 2 covers the grassland ecosystems within the City boundaries. These largely unmanaged grasslands are dominated by bunchgrass surface cover and scattered Ponderosa Pine and Douglas-fir trees. These ecosystems can support fast moving surface wildfires from shortly after snow free conditions (March and April) until green up, and then post-curing condition from July through October. These wildfires are generally low intensity surface fires and are spread by wind and slope. Any spotting is limited and short distanced. These surface fires can directly threaten unprotected structures if the fire can spread directly up to the building.

Interface Area 3 covers the conifer dominated forest ecosystems. Area 3 is located mostly in the southwest and northeast portions of the City. These Douglas-fir stands, with a minor Ponderosa Pine component, can create very intense, fast moving crown fires under regular summer weather conditions. The multi-layered, multi-aged forests have generally continuous surface fuels, a suppressed, poorly formed understory, heavy component of ladder fuels (lower branches), and a mature conifer component with a low live crown. This forest structure allows for regular candling and crowning conditions which can escape wildfire suppression capabilities. In addition, the forest health in these stands is poor, especially in the southwest portion of the City. A combination of poor soils, moisture and nutrient competition, defoliator pests, dwarf mistletoe and mountain and western pine beetles and other factors has resulted in extensive mortality in both the mature and immature trees in this area. Dead standing trees comprise 10% to 60% (average 15-20%) of the trees on site. In areas heavy to Ponderosa Pine, surface fuel loading can exceed 80 Tonnes/hectare where the trees have fallen and are on the surface or partly elevated on limbs. The high dead/danger tree component in this stand significantly increases the complexity and difficulty in conducting wildfire suppression. This increases the potential for wildfire escape and aggressive spread. To complicate this, there are numerous subdivisions and individual homes scattered through Area 3 which were constructed with little consideration for wildfire threats. All structures within and immediately adjacent to Area 3 can be directly threatened by wildfires due to the significant spotting from airborne embers as a result of crown fires. This spotting can easily carry 200 or more meters in front of a wildfire, threatening houses not directly adjacent to the fire front.

5 Recommendations

Based on the analysis and assessment carried out through the completion of the CWPP, the following recommendations are made in response to current wildfire risks:

- Implement a regular *Fire Smart*-based Public Communication and Education Program
- Implement Fuel Management Treatments
- Conduct Risk Assessment of Critical Infrastructure
- Implement recommended amendments to development bylaws to mitigate risks in area identified in each of the three Wildfire Interface Areas
- Develop a city planning/development regime that incorporates wildfire interface threat
- Consider wildfire behaviour threats and risks in emergency response plans

Strategies associated with each of these categories are included below.

5.1 Fire Smart-Based Communications and Education

The City of Vernon should embark on a communications and education effort to help educate current residents and stakeholders within the city and surrounding areas on the risks associated with wildfire and the role that each person or organization can play in collectively reducing the risks. This initiative could include the following components:

- FireSmart public open house – where the CWPP is presented to the community along with information on FireSmart practices, landscaping recommendations, etc.
- Expanded presence of wildfire risk and FireSmart based information on the city website
- Mail out of FireSmart information to residents, with a focus on residents of Interface Zones 2 and 3

- Presentations to local schools about current risks and what can be done "in your back yard" to help reduce fuel hazards
- Ongoing communications with the public about other initiatives that the city is involved in, including fuel management treatments, protection of infrastructure, development guidelines in response to wildfire threats, etc.
- Demonstrate what the Fuel Management program looks like to the public by hosting Open-to-the-Public Saturday events where citizens are invited and encouraged to come out to an actively managed area to meet the crews and see the kind of work being done (spacing, pruning, etc).
- Social Media postings: take your quarterly reports from your website and create/ schedule out weekly posts to the City of Vernon social media sites Facebook and Twitter (YouTube – where applicable). Use key words such as "Fuel Management" and "Community Wildfire Protection Plan."

5.1.1 FireSmart Landscaping

Separating homes and other structures from the forest environment involves establishing FireSmart landscaping around the structure so a wildfire cannot burn up to the structure. This surface can be a wide variety of plants and surface covers as long as they do not support combustion. FireSmart landscaping is referred to as **Priority Zone One** in the FireSmart manual and is discussed in detail in Chapter Three of that publication (See also Figure 12). A minimum of ten meters of FireSmart landscaping from the structure to forested land is recommended. This distance should be increased with increasing slopes and the extent of the wildfire threat in the adjacent forest. For example, a ten meter buffer would likely be sufficient on flat ground adjacent to an unmanaged field of matted grass. The distance should be increased greatly, or combined with other treatments in an area of continuous, dense, tall coniferous trees on a steep (greater than 20%) slope.

FireSmart landscaping alone is suitable for structures adjacent to Low and Moderate Wildfire Threat Class areas as identified on the maps attached to this report. FireSmart landscaping alone is not enough to increase house survivability in the areas identified as High and Extreme in this report. The High and Extreme Threat Class areas will need much wider FireSmart landscaping or some other type of forest fuel modification on the adjacent forest lands.

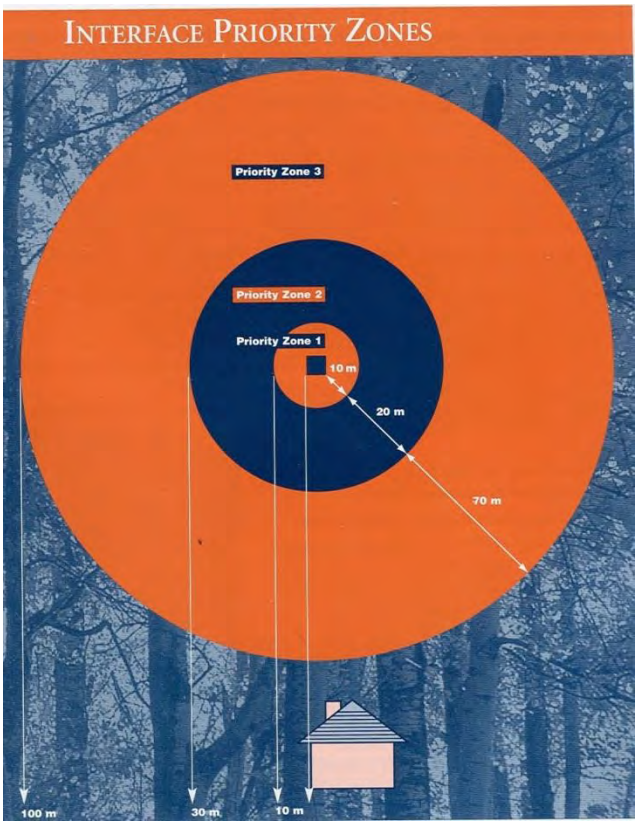

Figure 12. FireSmart Interface Priority Zones

5.2 Fuel Management

Wildfire behaviour is based on three factors.

1. Forest Fuel – the woody material available to burn, configuration and continuity
2. Weather – daytime temperature, the amount of drying and wind
3. Topography – the lay of the land, slope, aspect and terrain

Of these three factors, only the forest fuels are within our control. Reducing the volume and continuity of the forest fuels can reduce the intensity and the rate of spread of a wildfire, thus reducing the wildfire threat. The objectives for forest fuel management should be:

a) Reducing the crown fire potential, and

b) Reducing the surface fire intensity.

Other important benefits include easier access into an area, better firefighter safety and greater effectiveness of aerial wildfire suppression resources.

There are two basic approaches to wildfire threat reduction or forest fuel management: timber harvesting and non-harvesting related treatments. The chosen method will depend on numerous site-specific factors. Refer to Appendix 6 for detailed discussion of the operational issues associated with fuel management treatments.

Fuel management treatments within and adjacent to the community will generally take three forms:

1. Current landowners managing hazards on their own property (Section 5.1)
2. New development incorporating principles and treatments that help reduce fuels and associated hazards (See Section 5.5).
3. Fuel management treatments on specific sites in order to reduce hazards.

5.2.1 Generating Support for Fuel Management

Key to the success of a fuel management program is generating support both from within the community and outside. Public awareness is a great tool to garner support from within (Section 5.1). In addition, support for the fuel management program should also be sought for outside of the community.

Funding is always a key aspect of any program. As of the 2014 creation of this Community Wildfire Protection Plan, there is only one program available to cover the costs of fuel management projects on Crown land: Strategic Wildfire Prevention Initiative (SWPI) program. Through this program, the Union of BC Municipalities (UBCM) distributes fuel management funding provided by the Wildfire Management Branch to Regional Districts, Municipalities and First Nations on a first come first serve basis to plan and implement fuel management projects. The UBCM managed funding covers Community Wildfire Protection Plans (50% funded), operational planning (75% funded) and operational treatments (90% funded). This is provincial funding that must be spent on Crown or municipal land.

The future of this program is uncertain. A recent notification from the UBCM stated that funding for the April 2014 intake is very limited and no further funding announcements have been made. On top of a clear message from the City of Vernon to the provincial government, strategically aligning with other adjacent municipal or regional district governments to communicate the significant need for continued funding should be considered.

5.2.2 Fuel Management Treatments

The CWPP process has identified 88.36 hectares of crown land for potential treatments (Section 4.3 and Table 8). Treatment of some of these areas will provide direct local benefit associated with forest fuel reduction that would reduce risks and support opportunity for effective localized fire suppression (I.e. Site E, Tronson Road). In other cases, the benefits associated with treatments provide both local benefit (hazard reduction) as well as landscape benefit: treatment of Sites A and B in Ellison Park provide both reduced hazards within the park, but could also create landscape level fuel break that could alter the fire behaviour of a wildfire coming from the south, increasing opportunities for wildfire suppression.

Priorities are assigned to the treatment areas in order to support a focusing effort on securing funds and partners in the implementation of the fuel management treatments. All of the recommended treatment areas should be considered if possible.

5.2.3 Ellison Provincial Park

Ellison Provincial Park represents a unique opportunity and a critical site in an effort to manage wildfire behavior associated with fires that may come into the city from the south. In addition, the associated campground also represents and increased likelihood of wildfire ignition due the activities within the park. The opportunity for fuel management treatments within the park is also augmented by the fact that fuel management treatments may also meet ecosystem restoration goals that may be in place for the park.

5.3 Protection of Critical Infrastructure in the City of Vernon

Critical infrastructure information, when combined with current wildfire behavior threat can be used to identify where additional attention should be given in order to manage wildfire risks. An assessment of each component of that critical infrastructure should be assessed with a consideration of the following factors:

- Power lines required to maintain power to the critical infrastructure, including condition of the vegetation along the right-of-way (underneath the lines) and the threat those conditions pose to the lines.

- Condition of the adjacent landscape to ensure that adjacent forests, for example, do not pose significant threat to the infrastructure during of immediately following a wildfire. Where the lines traverse the area noted as High Wildfire Behaviour Threat Class could be used as a prioritization tool on this assessment.
- Development of management responses to risks as applicable, including but not limited to fuel management treatments, grounds maintenance and fire suppression strategies.

Specific attention should be given to critical infrastructure that is within *High* Wildfire Behaviour Threat areas, as noted in Section 4.4.

1) Communications Towers – where these structures may be at high risk to wildfire, as critical to ongoing emergency response
2) Water Tanks – where these structures or related buildings may be at high risk to wildfire
3) Sanitary Structures – where above ground infrastructure may be at high risk to wildfire
4) Gasline/Structures – where above ground structures exist and could be at high risk to wildfire
5) Power Lines – with specific attention to those that are powering critical infrastructure including emergency response infrastructure (i.e. water supply)

5.4 Open Burning

The City of Vernon should consider the more stringent regulation of open burning and camp fires within the Interface Areas 2 and 3 given the current hazards and associated risks that exist within these areas. In addition to concerns that generally arise from some neighbors and the impacts of smoke on local or region air quality, there is significant increase in the risk of wildfire with open burning and campfires, specifically within Interface Areas 2 and 3. All year bans, seasonal bans or more specific camp fire pit descriptions could be used by the city to reduce the risks associated with open burning and campfire caused wildfires. A range of options around who can burn and when, are available to the CoV. Caution should be taken when applying summer fire season-based burn bans, as the shoulder seasons, with specific mention of the later winter/early spring timeframe, can represent high hazard conditions in grassland and associated forested environments.

5.5 City Planning and Development Considerations

A key component to the reduction of risks to life, limb and property from wildfire within the City of Vernon is that future development incorporates wildfire hazards and risk considerations. Currently, the CoV has an interface zone defined with some building and development requirements. The completion of the CWPP provided an opportunity to, based on a current assessment of wildfire behavior and interface threats, recommend updated Interface Zones (Figure 11). Each of these zones represents generally consistent wildfire threat conditions and are therefore used as a base for planning, development and building considerations for the city.

The CoV needs to ensure any new developments or subdivisions are not established without adequate wildfire threat reduction efforts put in place. There are several tools available to local government that may be used as part of a comprehensive strategy to reduce wildfire interface threats and risks. Public education and community engagement around wildfire interface issues is the most effective tool in dealing with interface fire risk and prevention (refer to Section 5.1 for suggested strategies).

In addition to continual community engagement and education, the City of Vernon may make amendments to the current regulatory regime to ensure development is designed to mitigate risks associated with the urban wildfire interface. In support of this, three Interface Zones were developed (Figure 11).

5.5.1 Summary

The wildfire risk reduction strategies developed below are generally based around the following key points

1) managing for non-combustibles within 10 m buffer of buildings when surrounded by grassland or forested conditions (i.e. Interface Area 2 and 3)
2) managing for fuel reduction (surface fuels and trees) within at least 30m when within generally forested conditions (Interface Area 3)
3) management of these 10m and ≥30m[6] buffers only applies to the current property and is not intended to apply to adjacent properties

[6] All distances in this report are horizontal and would need to be adjusted for slope distance.

4) where multi-structure developments or sub-divisions are planned in Interface Area 2 or 3, the full width of the buffers could be applied to the exterior of the neighborhoods or sub-divisions as long as the conditions are met in the space between buildings. For example:
    a. if there is less than 10m between two homes in a new subdivision, this space should be all non-combustible materials.
    b. if there is 30 m between buildings in a new subdivision, 10m from each building should be managed as non-combustible materials with the remaining 10 m would be managed for fuel reduction (surface fuels and trees)
5) where these specifications are problematic or not desired within a future development, a Wildfire Interface Management and Mitigation Plan (WIP) can be completed.
6) landscaping plans that address landscaping establishment and maintenance are required in Interface Areas 2 and 3

Previous interface-based building specifications in the City of Vernon included internal building requirements - The wildfire threat assessment completed as a part of the CWPP, and the resulting Interface Zones do not specifically deal with internal building conditions, including internal sprinklers. The BC Building Code should be the source of direction for requirements associated with internal sprinklers and a wide range of internal (and external) building requirements that may be relevant for different parts of the city.

5.5.2 City Planning and Development Discussion & Recommendations

Regulatory tools associated with subdivision, rezoning and development permits, e.g. registration of covenants, development massing and detailed building design guidelines, can be used to influence development so as to reduce overall hazards within the city. For example, within the Interface Area 3, particularly in areas noted to be "high" or "extreme", larger scale development is challenged by topography and remoteness. Small scale development such as small building additions, secondary structures or development that only requires a Building Permit would be the type of development that would need to be addressed carefully through the Zoning Bylaw and Building Bylaw.

Strategies to reduce overall wildfire risks have been developed for consideration by the CoV. These strategies have been developed for each of the building permit, development permit, rezoning and subdivision processes, summarized in and also further discussed Table 9 in Appendix 7.

Key components of these planning and building strategies include Fire Smart principles, the Wildfire Interface Management and Mitigation Plan (WIP) and the Landscaping Plan:

Fire Smart Principles – Fire Smart principles (See Home Owners Fire Smart Manual – BC Edition, no date) are a base on which the strategies found in Table 9 are developed, including a 10m non-combustible zone (to reduce to risk of fire burning up against a building or close enough by which to cause significant radiant heating) and a 30 m fuel reduction zone to reduce the risk of significant crown fires that could engage primary buildings.

Wildfire Interface Management and Mitigation Plan (WIP) – The WIP is designed to address site specific development proposals and make recommendations regarding development massing, design and lot layout in conjunction with Fire Smart principles and other wildfire interface management theory. This should include the consideration of building materials, development clustering, trails that may be used as fire breaks, etc. The plan, to be completed by a qualified professional(s), must include the assessment of wildfire hazard, the influence of slope on wildfire hazard, water supply and the location of water sources to address wildfire response needs, and grades for access and egress to and within development in support of fire suppression activities. Exterior sprinklers may be considered if minimum buffers are not possible. The WIP is intended to be a site specific plan developed by a qualified professional as needed in a prescribed or where default strategies are not possible or not desired by the developer.

Landscaping Plan – The landscaping plan is a plan that documents the establishment and maintenance of materials surrounding buildings within the proposed development. The plan would be consistent with the Fire Smart principles. Highly volatile plants such as junipers and cedars are not to be used within this zone. Deciduous plants are generally all acceptable. Isolated coniferous trees are acceptable as long as they are not under the house eaves or touching the siding. Ground cover is to be non-combustible, bark mulch is not acceptable.

Table 9. Summary of wildfire hazard reduction strategies for City of Vernon consideration.

Development Stage	Wildfire Interface Area 1	Wildfire Interface Area 2	Wildfire Interface Area 3
Building Permit (Building Bylaw, Zoning Bylaw)	•No specific requirements. •Consider fire resistant exterior finishes and roofing materials; •Consider Fire Smart guidelines.	•10m non-combustible reduced fuel buffer from Primary or Secondary Structures to property line, or within minimum building setback area, whichever is the greater; •Fire resistant exterior finishes and roofing materials; •Landscaping plan utilizing Fire Smart principles to be submitted with Building Permit site plan. •Development variances may be considered with site specific **WIP**.	•10m non-combustible reduced fuel buffer from Primary or Secondary Structures to property line, or within minimum building setback area, whichever is the greater; •Additional (beyond the 10m non-combustible zone) fuel reduction zone of at least 20m •Fire resistant exterior finishes and roofing materials; •Landscaping Plan utilizing Fire Smart principles to be submitted with Building Permit site plan. •Development variances may be considered with site specific **WIP**.
Development Permit	•No specific requirements. •Consider Fire Smart guidelines as standard consideration.	•10m non-combustible reduced fuel buffer from Primary or Secondary Structures to property line, or within minimum building setback area, whichever is the greater; •Fire resistant exterior finishes and roofing materials; •Fire Smart Landscaping plan for individual homes •Site specific **WIP** for the proposed multi-structure developments if minimum buffers not met.	•Site specific **WIP** for the proposed development. •Fire Smart landscaping plan.
Rezoning	•No specific requirements. •Consider Fire Smart guidelines as standard consideration.	•Site specific **WIP**. Mitigation requirements not addressed by Zoning or Building Bylaw requirements would form part of a 219 covenant that would be registered on the title.	•Site specific Wildfire Interface Management and Mitigation Plan Qualified Professional. Mitigation requirements not addressed by Zoning or Building Bylaw requirements would form part of a 219 covenant that would be registered on the title.
Subdivision	•No specific requirements. •Consider Fire Smart guidelines as standard consideration.	•Site specific WIP. Design requirement not addressed by Zoning Bylaw requirements would form part of a 219 covenant that would be registered on the title.	•Site specific WIP. Design requirements not addressed by Zoning Bylaw requirements would form part of a 219 covenant that would be registered on the title.

5.5.3 Non-Combustible and Fuel Management Buffer Examples

The following examples are provided as a visual representation of the intent of the 10m non-combustible and 30 m fuel management buffers as they pertains to

1) the construction of a single home on an existing lot within the Interface Area 2 (Figure 13) and
2) a subdivision/neighborhood scenario within Interface Area 2 (Figure 14).

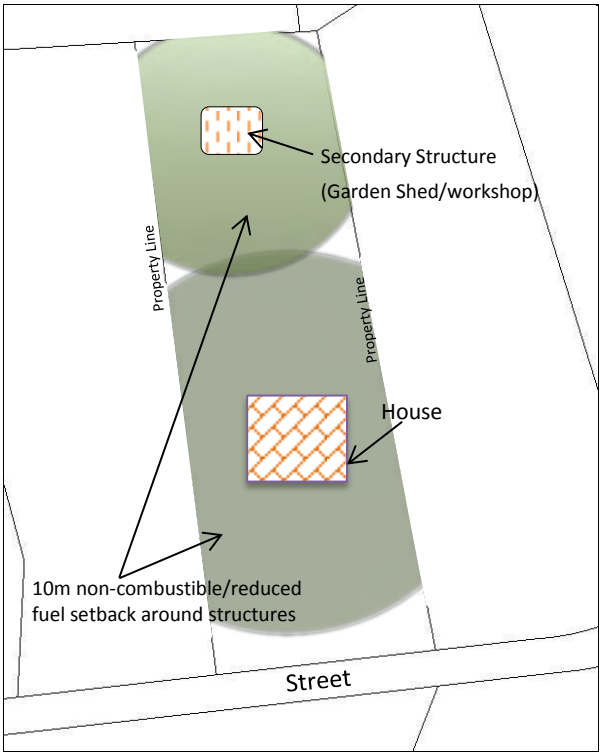

Figure 13. Example of non-combustible buffer around single home on existing lot in Interface Areas 2.

The intent of the 10 m (horizontal distance) non-combustible buffer around buildings within Interface Area 2, for example, is to reduce the risk of wildfire burning up to or close to the buildings. If a 10m non-combustible buffer is maintained around a house on a lot that abuts against an open grassland, a fire that is traveling across the grassland towards the house is not likely to cause the home to ignite due to the radiant heating from the fire (assuming proper exterior finishes on the house).

Figure 14. Example of non-combustible and fuel management buffers in and around homes within a proposed sub-division or neighborhood in Interface Area 2.

The example provided in Figure 14, is that of a subdivision planned within Interface Area 2 that abuts against grassland. Given the proposed building locations, the 10m non-combustible buffer is maintained along the northern boundary of neighborhood. The fact that less than 20m (10m buffer around each home) exists between these homes is acceptable as long as the area between the homes is in non-combustible condition. In the lots along the northern boundary, there may not be enough space to allow for additional outbuildings given the proximity to the external boundary of the subdivision. The location of the buildings on the eastern edge of the subdivision does not maintain a 10m non-combustible zone and therefor, a number of options are available:

1) move the buildings back from the eastern subdivision boundary in order to ensure the 10m non-combustible buffer can be maintained on the lots
2) maintain non-combustible conditions to the east of the subdivision to ensure a 10m buffer. Note – this need may be temporary if additional development is planned to the east of this proposed sub-division.
3) complete a Wildfire Interface Management and Mitigation Plan to support an alternative design to the recommended buffers.

The two examples above are provided to understand the overall intent of the 10m non-combustible buffer zones outlined in Table 9. The same general principles apply to the need to maintain a 30m buffer (20 m in addition to the 10 m non-combustible buffer) for development within Interface Areas 3.

It is important to note that in all of these situations opportunity is provided for a site specific Wildfire Interface Management and Mitigation Plan WIP) where alternatives to these buffers are desired.

In support of the recommendations outlined above, proposed amendments to the associated bylaws are included in Appendix 7 for CoV consideration.

5.6 Emergency Response Considerations

Based on the assessments completed through the CWPP, a number of factors or issues have been identified, that should be considered by organizations responsible for emergency response in and around the City of Vernon:

Emergency Response Infrastructure – As noted in Section 5.3, the assessment of critical emergency response infrastructure should be completed, with priority given to those sites that are within areas of *High* Wildfire Behaviour Threat.

Evacuation Routes/Access and Egress – Access for emergency responders as well as egress for those evacuating an area in the case of a wildfire needs to be continually reviewed throughout the city and the surrounding landscape as development and populations grow. Three situations are worthy of note as the top three priorities:

1. Southwest - Currently within the city, the highest risk situation exists within the south west. The only access into this area is from the north along Okanagan Lake. If a wildfire started south of the city (Lake Country) or the southwest corner of the city, it is likely to move north and east, which is generally favourable when it comes to an evacuation. Despite this, the single evacuation route from this area is relatively long and much of it traverses significant areas of *High* Wildfire Behaviour Threat, which may impact the effectiveness of evacuation.

   Short term strategies to reduce the associated risk could include effective water-based evacuation[7] Long term resolution of this risk could in part include the consideration of alternate routes being developed such as

   - Connecting road to the Predator Ridge Area
   - Connecting road south to Lake Country
2. Northwest – The neighborhoods on the western end of Tronson Road have a single point of access and egress. Despite this, much of that route is not located within a High Wildfire Behaviour Threat area and is therefore not considered as significant as the conditions within the south west corner of the city. Water based evacuation of the area may be considered a viable risk reduction strategy. The construction of alternate evacuation routes would likely involve a road being constructed north through Okanagan Indian Band lands and looping back within the city, both of which may not be practical given the topography.
3. Northeast – The limited evacuation opportunities in the Northeast are not associated with CoV lands but are associated with the travel corridor from the city up to Silverstar Mountain Resort. Prevailing winds and wildfire direction would be north and east, in direct conflict with the only evacuation route out of the Silverstar area.

[7] A water-based evacuation drill has been carried out in the past (Keith Green, City of Vernon Fire Chief, personal communication) and this need still exists and should be a key part of emergency preparedness for this portion of the city.

Combine this with the current Wildfire Urban Interface Threats in the area and it represents a high wildfire risk , albeit generally outside of the City of Vernon itself.

It is important to note that the CWPP did not include a detailed analysis of access and egress or population levels by area in relation to evacuation routes. The CoV will need to monitor this in the future to ensure adequate opportunities for evacuation as the city grows.

Gasline Crossings – In the event of wildfire response or evacuation across a main gasline, designated crossings need to be used. Not all of these designated crossings may be at public road locations. Alternate crossings may be needed to complete effective wildfire suppression activities or to evacuate residents. It is recommended that the City of Vernon work with Fortis to identify these crossings in and around the city in support of effective emergency response.

Appendix 1 – The Ecology of the Interior Douglas-fir and Ponderosa Pine Ecological Zones

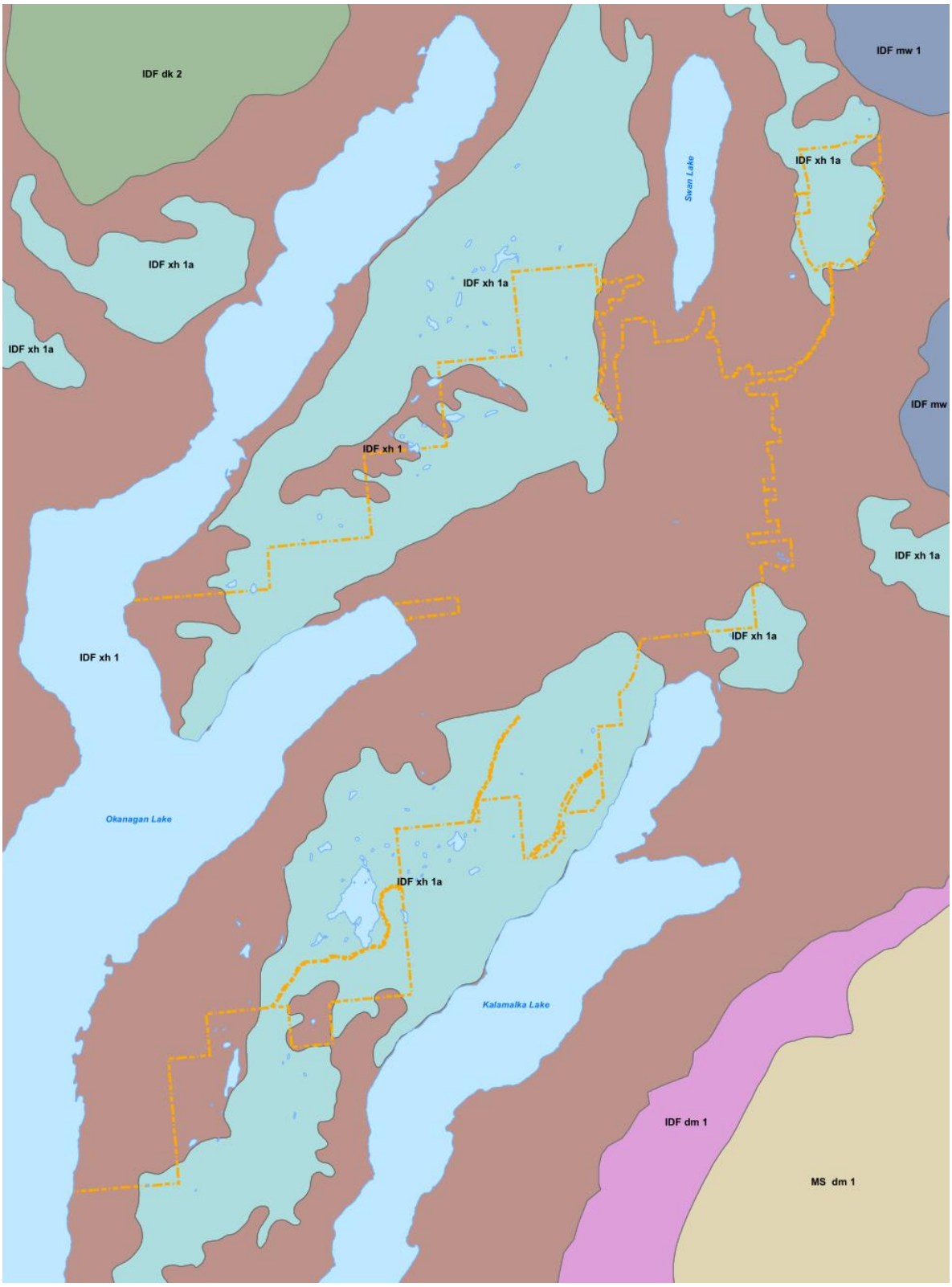

Figure 15. Biogeoclimatic Ecosystem Classification for the City of Vernon

Appendix 2 – Fintry Fire Weather Station Data

WxHist_Precip Page 1 of 1

OFTS Fire Weather Systems Efficiency

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Fire Weather System

Precipitation History

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total mm
21 FINTRY													
Average	25.61	18.80	14.95	16.46	34.00	37.04	17.76	21.94	19.83	34.68	29.12	25.92	296.11
1995					6.3	38.9	17.7	46.8	15.4	8.7			133.8
1996				24.5	94.2	17.2	17.9	18.5	60.4	63.8	4.9		301.4
1998					3.0	26.3	10.0	2.2	7.9	39.0	3.0	62.3	153.7
1999	39.6	41.3	24.2	14.6	35.4	41.1	29.1	44.6	8.1	36.1	46.5	29.6	390.2
2000	28.5	24.1	1.3	23.8	32.0	30.7	47.3	24.8	11.4	14.7	1.2	5.0	244.8
2001			14.4	13.4	27.0	45.2	24.7	44.3	17.0	49.6	24.0	13.5	273.1
2002	22.4	18.6	20.8	16.7	32.4	23.6	14.3	8.2	11.5	0.9	24.0	54.0	247.4
2003	62.9	12.0	11.0	24.5	25.1	23.3	4.1	1.0	19.8	41.8	54.0	12.2	291.7
2004	24.3	43.8	2.0	18.2	59.6	21.5	4.8	72.1	24.0	49.6	59.2	31.8	411.1
2005	36.8	5.2	20.2	9.4	38.2	79.4	11.2	13.0	19.4	56.8	20.0	15.0	324.6
2006	43.2	27.0	24.8	20.8	42.2	40.2	26.2	4.2	16.6	22.6	67.8	51.8	387.4
2007	22.0	31.2	16.2	7.2	17.2	93.6	31.8	5.4	27.2	48.0	21.0	57.4	378.2
2008	39.4	22.0	16.2	6.4	23.4	15.6	4.8	31.2	4.0	19.4	33.6	10.2	226.2
2009	32.8	13.2	14.4	16.6	18.2	9.8	19.0	53.6	16.2	75.2	13.8	22.2	305.0
2010	40.8	27.8	14.8	12.6	64.4	47.2	13.6	8.2	45.0	22.2	30.2	56.0	382.8
2011	36.0	16.6	30.0	14.8	39.6	18.6	40.0	5.2	4.6	52.2	29.6	20.0	307.2
2012	19.8	39.8	43.0	41.8	25.6	60.8	21.0	3.2	7.6	50.4	64.4	28.8	406.2
2013	33.8	14.6	30.6	47.4	62.2	70.8	0.0	30.4	60.6	8.0	56.0	22.8	437.2
2014	4.2	20.0											24.2

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http://fwxwww1.hpr.for.gov.bc.ca/Scripts/Public/Common/Results_WxHistory.asp 2014-03-27

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Danger History in the Forest

Year	Danger Class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total days
21 FINTRY														
Average	Extreme	0.00	0.00	0.00	0.00	0.00	0.33	1.50	1.00	0.11	0.00	0.00	0.00	2.94
Average	High	0.00	0.00	0.00	0.00	2.00	3.44	11.94	17.72	9.94	1.67	0.00	0.00	46.72
Average	Moderate	0.00	0.00	0.00	2.17	8.89	6.89	10.89	6.61	8.11	5.72	0.33	0.00	49.61
1995	Extreme													0
	High					4	5	11						20
	Moderate					12	7	17	4	18				58
1996	Extreme								1					1
	High							11	11	2				24
	Moderate						2	12	13	3				30
1998	Extreme							1	1					2
	High						1	14	29	21	1			66
	Moderate					1	21	10	1	6				39
1999	Extreme													0
	High							1	4					5
	Moderate				1	4	6	12	16	5	1			45
2000	Extreme													0
	High													0
	Moderate					2	5	12	18	8	14			59
2001	Extreme													0
	High							10	8	7				25
	Moderate					7	4	16	15	16	7			65
2002	Extreme													0
	High						7	12	26	23	8			76
	Moderate				2	6	13	11	5	5	22	6		70
2003	Extreme							5	2	1				8
	High						6	21	29	8				64
	Moderate					4	11	5		11	14			45
2004	Extreme													0
	High					2	1	20	8					31
	Moderate				4	17	11	11	7					50
2005	Extreme								4					4
	High					3		11	20					34
	Moderate				9	11		13	6	17	3			59
2006	Extreme								1					1
	High					4	2	20	28	13				67
	Moderate				1	9	5	8	2	10	14			49
2007	Extreme									1				1
	High					10	4	7	24	18				63

http://fwxwww1.hpr.for.gov.bc.ca/Scripts/Public/Common/Results_WxHistory.asp 2014-03-27

	Moderate	3	14	5	13	6	5		46
2008	Extreme				6	2			8
	High		2	12	23	12	17	2	68
	Moderate	5	18	7	2	8	13	11	64
2009	Extreme			6	8	1			15
	High		7	21	15	23	10	7	83
	Moderate	5	11	3	6	4	13	6	48
2010	Extreme				3	4			7
	High		2		13	24	6		45
	Moderate	7	9	6	11	3	5	2	43
2011	Extreme					1			1
	High			3	7	27	27		64
	Moderate	1	8	13	10	3	3		38
2012	Extreme					1			1
	High				8	29	27	12	76
	Moderate		12		15	1	3	9	40
2013	Extreme				4				4
	High		2		11	17			30
	Moderate	1	15	5	12	7	5		45

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Appendix 3 – Vernon Fire Zone – Map of Fire Incidents - 1954-Present

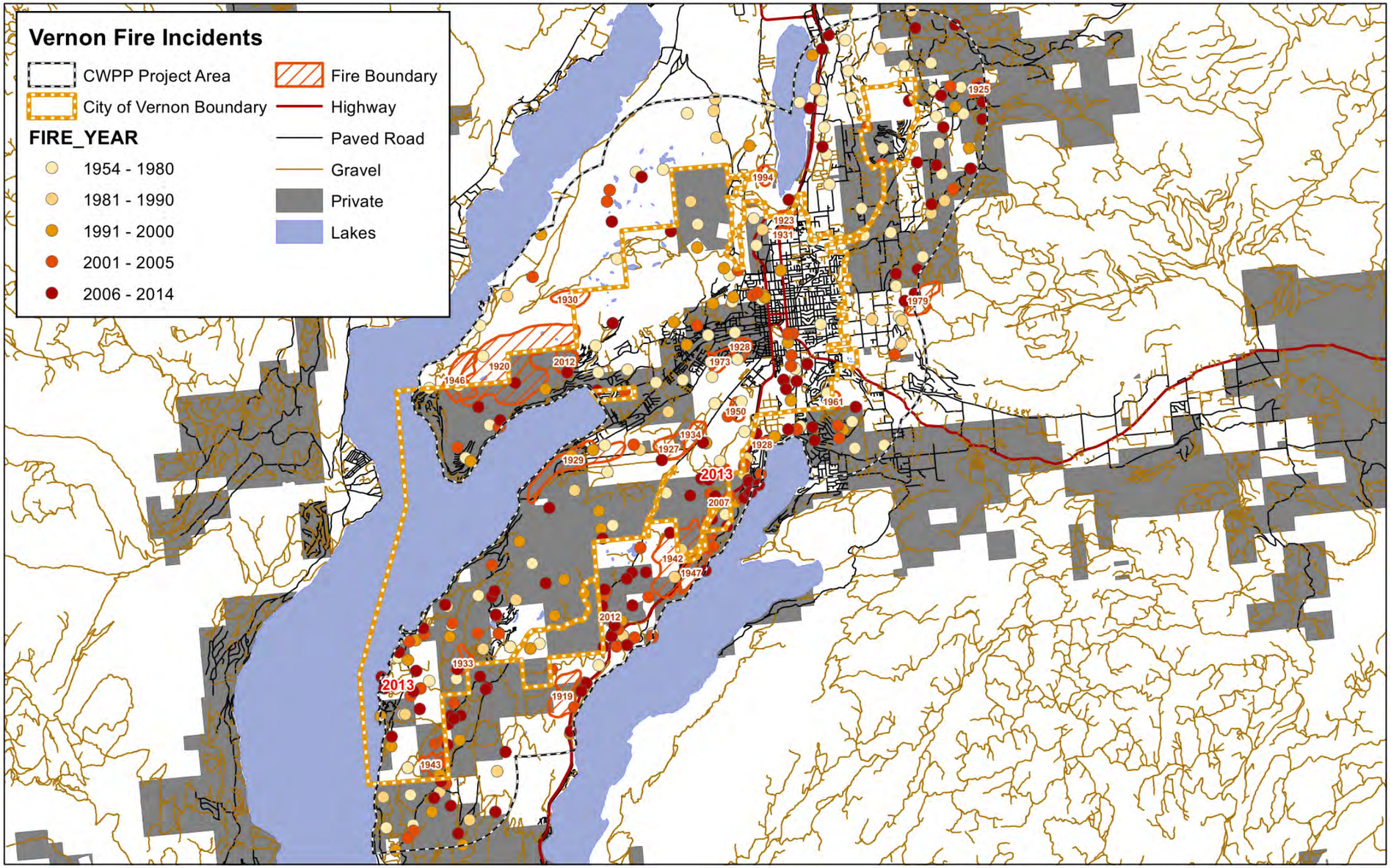

Figure 16. Vernon Fire Zone Map of Incidents – 1954 to Present

Appendix 4 – Wildfire Behaviour Threat Plots – Map

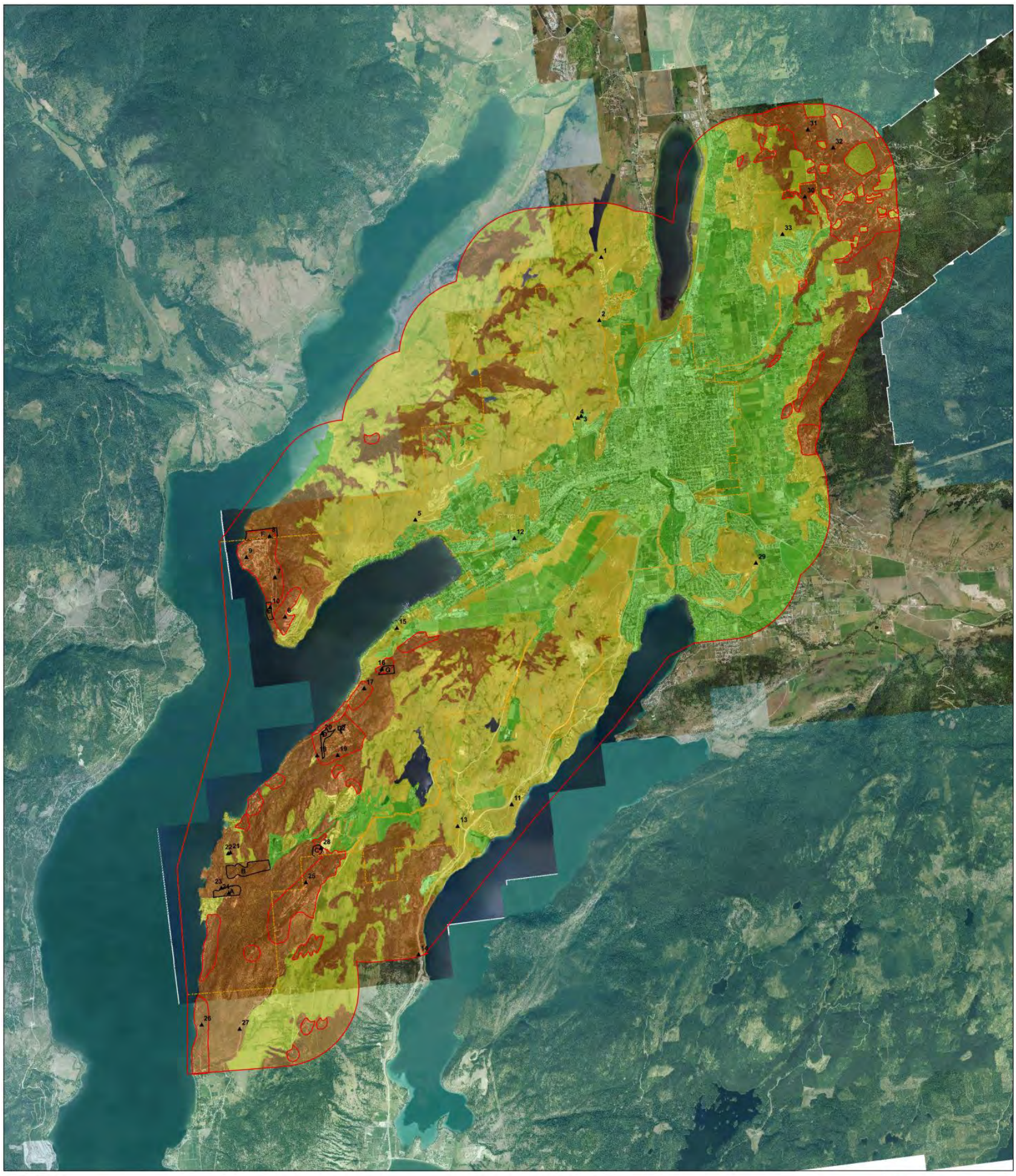

Figure 17. Wildlife Behaviour Threat Plot Map

Appendix 5 – Wildfire Behaviour Threat Plots – Plot Cards and Pictures

City of Vernon

Community Wildfire Protection Plan

Wildfire Threat Assessment Plots and Pictures

January 2014

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 1 | Community: Vernon

Assessor: B Morgan | Geographic Location/Street Name: N50° 18' 37" -119° 17' 2"

Date: Jan 7/14 | GPS/UTM: Goose Lk Rd

Photos: (Y) N #: 24 | Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

	COMPONENT /Subcomponent	A	B	C	D	E
	Fuel					
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Compositilen*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Buckhgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or >40% coniferous crown closure 0	61–80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	**/155***
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP-BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, Y5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	**/30**
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 3	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	**/55**
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	**/240****
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	**/55**
					TOTAL WILDFIRE THREAT SCORE	**/295**

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[X]
High	96-149	[ ]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[ ]

Last Updated: January 24, 2013

1

S14m

City of Vernon Wildfire Threat Plot 1

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #:	2	Community:	Vernon
Assessor:	B Marlow	Geographic Location/Street Name:	Blue Jay Rd
Date:	Jan 7/14	GPS/UTM:	N50 17' 4" W119° 17' 9"
Photos:	(Y) N #: 4	Land Ownership:	[ ] Crown [X] Private [ ] I.R. Other (specify)

	COMPONENT /Subcomponent	A	B	C	D	E
	Fuel	**LEVELS**				
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	19 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB Dry Zonal Wet 15 10 5	BP, PP 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	15 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	64 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with Inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

**Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[X]
High	96-149	[ ]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[ ]

Last Updated: January 24, 2013

2

City of Vernon Wildfire Threat Plot 2

3

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☐ Pre-treatment ☐ Post-treatment

Plot #: 3	Community: Vernon
Assessor: B Morrow	Geographic Location/Street Name: Turtle Mtn
Date: Jan 7 14	GPS/UTM: N50° 16' 16" W119° 17' 46"
Photos: (Y) N #: 4	Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 (5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom (5)
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 (2)	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure (0)	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure (0)	3–5 5	2–<3 7	1–<2 10	<1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	(0-500 2)	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha (0)	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	(0-20 0)	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	19 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	(PP, BG 15)
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	(South 15)
15	*Slope (%)*	<16 (1)	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
	FUEL, WEATHER AND TOPOGRAPHY				**Sub Total** **WILDFIRE BEHAVIOUR THREAT SCORE**	26 /55 75 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter interface, no inclusions 3	Perimeter interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☒
High	96-149	☐
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☐

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 3

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☒ Pre-treatment ☐ Post-treatment

4

Plot #:	4	Community:	Vernon
Assessor:	B Maxwell	Geographic Location/Street Name:	Turtle Mtn
Date:	Jan 7 14	GPS/UTM:	NAD
Photos:	8 N #: 4*	Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)	

	COMPONENT /Subcomponent	A	B	C	D	E
	Fuel	**LEVELS**				
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <10% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	15 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 3	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	24 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	53 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30

*Proceed only if Fuel sub total is >29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE /55

TOTAL WILDFIRE THREAT SCORE /295

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☒
Moderate	41-95	☐
High	96-149	☐
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☐

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 4

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☐ Pre-treatment ☐ Post-treatment

Plot #: 5	Community: Vernon		
Assessor: B Morrison	Geographic Location/Street Name: Okanagan Hills Blvd - The Bench GC		
Date: Jan 7th	GPS/UTM: N50° 15' 15" W119° 21' 26"		
Photos: Y N #: 2	Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)		

5

462m

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	10 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP-BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	15 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	15 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	225 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☒
High	96-149	☐
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☐

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 5

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☐ Pre-treatment ☐ Post-treatment

Plot #: 6	Community: Vernon		
Assessor: B. Morrow	Geographic Location/Street Name: Adventure Farm Campground		
Date: Jan 7/14	GPS/UTM: N50 14'5" W119 24' 24"		
Photos: ☒ N # 4x	Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)		

6

543m

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	> 25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–80 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or < 20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	5 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurreace (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	15 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	15 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	135 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% Slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	43 /55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☒

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 6

7

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 7	Community: [illegible]
Assessor: B Moran	Geographic Location/Street Name: [illegible] Rd
Date: Jan 7/14	GPS/UTM: N50 14' 41" W119° 24' 37"
Photos: (Y) N #: 43	Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 (6) 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	(>80 5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	(Pinegrass, Juniper 4)	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	(Scattered, <10 coverage 5)	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	(<1 coverage 1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	(41–60 10)	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	(<20 5)
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	(1–<2 10)	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	(501-1000 5)	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha (0)	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	(41-60 5)	61-80 7	>80 10
					Sub Total	56 **/155***
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	(PP, BG 15)
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
					Sub Total	30 **/30**
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	(West 12)	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes (5)	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	27 **/55**
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	113 **/240****
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope (12)	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 (25)	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	45 **/55**
					TOTAL WILDFIRE THREAT SCORE	**/295**

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[X]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 7

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☒ Pre-treatment ☐ Post-treatment

Plot #: 8 | Community: Vernon

Assessor: B Marrack | Geographic Location/Street Name: End of Tronson Rd

Date: Jan 7/14 | GPS/UTM: N50° 15' 58" W119 24' 36"

Photos: ☒ Y ☐ N | #: 44 | Land Ownership: ☐ Crown ☐ Private ☒ I.R. ☐ Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 (6) 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 (5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Jumper (4)	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage (5)	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 (10)	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 (5)
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 (10)	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 (5)	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down (5-25) 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 (7)	>80 10
					Sub Total	63 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB Dry Zonal Wet 15 (10) 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, C9, N1 (15)
					Sub Total	25 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West (12)	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 (10)	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies (7)	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	39 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	127 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope (12)	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 (25)	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 (15) 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	40 /55
					TOTAL WILDFIRE THREAT SCORE	167 /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☐

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 8

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

9

Plot #: 9	Community: Vernon
Assessor: B Morrow	Geographic Location/Street Name: Peregrine Estates / Tavlor Rd
Date: Jan 7/14	GPS/UTM: N50 15' 1" W119° 25' 3"
Photos: (Y) N #: 4	Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

COMPONENT /Subcomponent		LEVELS				
Fuel		**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 **(3)** 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 **(4)**	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper **(4)**	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage **(1)**	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage **(1)**	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 **(5)**	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 **(5)**
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 **(10)**	<1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 **(5)**	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 **(5)**	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 **(5)**	61-80 7	>80 10
					Sub Total	48 /155*
Weather		**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG **(15)**
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 **(15)**
					Sub Total	30 /30
Topography		**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West **(12)**	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 **(10)**	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies **(7)**	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies **(5)**	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	36 /55
FUEL, WEATHER AND TOPOGRAPHY					**WILDFIRE BEHAVIOUR THREAT SCORE**	114 /240**
Structural		**A**	**B**	**C**	**D**	**E**
18	Position of Structure/ Community on Slope	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope **(12)**	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha **(8)**	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area* Relative to Values	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 **(25)**	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	45 /55
					TOTAL WILDFIRE THREAT SCORE	159 /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[X]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 9

10

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 10	Community: Vernon
Assessor: B Morrow	Geographic Location/Street Name: Tronson Cl - Mun. Park
Date: Jan 7/14	GPS/UTM: N50 14' 15" W119° 24' 41"
Photos: Y N #: 4	Land Ownership: [X] Crown [ ] Private [ ] I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 (5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper (4)	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 (5)	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 (5)
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	<2 (10)	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 (2)	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha (0)	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 (5)	61-80 7	>80 10
					Sub Total	41 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	BP, BG, PP (15)
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	(West) 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45–54 (12)	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (3)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	36 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	107 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >16% slope (12)	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 (25)	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 (15) 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	47 /55
					TOTAL WILDFIRE THREAT SCORE	154 /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[X]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 10

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☒ Pre-treatment ☐ Post-treatment

Plot #: 11	Community: [illegible]
Assessor: B Murray	Geographic Location/Street Name: Kekuli Bay Prov Park
Date: Jun 7/14	GPS/UTM: N50 11' 17" W119° 20' 34"
Photos: (Y) N #: 45	Land Ownership: ☒ Crown ☐ Private ☐ I.R. Other (specify)

11

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 (5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper (4)	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 (2)	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure (0)	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure (0)	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 (2)	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha (0)	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 (5)	61-80 7	>80 10
					Sub Total	23 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	(PP, BG 15)
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, R2, N1 (15)
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	(East 5)	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 (10)	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	25 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	78 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/* Community on Slope	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area* Relative to Values	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☒
High	96-149	☐
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☐

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 11

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 12 | Community: Vernon

Assessor: B Morrow | Geographic Location/Street Name: Okanagan Landing Rd

Date: Jan 7/14 | GPS/UTM: N50° 14 49° W119° 19 32"

Photos: Y N #: 4 | Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

12

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 · 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	< coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	< coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	10 /155*

Full Development

	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	A1, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP-BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K9, N1 15
					Sub Total	15 /30

	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	39 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	/240**

N/A

	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[X]
Moderate	41-95	[ ]
High	96-149	[ ]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[ ]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 12

13

479m

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

(X) Pre-treatment ( ) Post-treatment

Plot #:	13	Community:	Winfield
Assessor:	B Morrow	Geographic Location/Street Name:	Bate Rd
Date:	Jan 7/14	GPS/UTM:	N50 11' 2" W119° 21' 9"
Photos: (X) N	#: 4	Land Ownership: ( ) Crown ( ) Private ( ) I.R. ( ) Other (specify)	

	COMPONENT /Subcomponent	A	B	C	D	E
	Fuel	**LEVELS**				
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Timothy 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down-< 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	20 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45–54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	20 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	170 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	( )
Moderate	41-95	(X)
High	96-149	( )
Extreme	>149	( )

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	( )
Moderate	14-26	( )
High	27-39	( )
Extreme	>39	( )

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 13

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 14 | Community: Vernon

Assessor: B Morrow | Geographic Location/Street Name: Hwy 97 South

Date: Jan 7/14 | GPS/UTM: N50 9' 37" W119° 22' 16"

Photos: [X] N #: 4* | Land Ownership: [X] Crown [ ] Private [ ] I.R. [ ] Other (specify)

	COMPONENT /Subcomponent	A	B	C	D	E
	Fuel	**LEVELS**				
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–30 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	30 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or steep gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	35 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	115 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	3 /55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[X]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[ ]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 14

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 15	Community: Vernon
Assessor: [illegible]	Geographic Location/Street Name: [illegible]
Date: [illegible]	GPS/UTM: N50 [illegible]
Photos: Y / N #: [illegible]	Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

15

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Coatinuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 0	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21–40 3	41–60 5	61-80 7	>80 10
					Sub Total	29 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	29 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	30 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area* Relative to Values	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	60 /55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[X]
High	96-149	[ ]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[ ]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 15

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☒ Pre-treatment ☐ Post-treatment

Plot #: 16	Community: [illegible]
Assessor: B Morris	Geographic Location/Street Name: Harbour Hts Rd
Date: Jan 8/14	GPS/UTM: 49° 13' 19" 119° 22' 33"
Photos: (Y) N #: 49	Land Ownership: ☒ Crown ☐ Private ☐ I.R. Other (specify)

COMPONENT /Subcomponent	LEVELS				
Fuel	**A**	**B**	**C**	**D**	**E**
1 *Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2 *Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	(>80 5)
3 *Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs (3)	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4 *Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage (5)	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5 *Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage (2)	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6 *Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	(41–60 10)	61–80 15	>80 10
7 *Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	(<20 5)
8 *Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	(2–<3 7)	1–<2 10	<1 15
9 *Live and Dead Suppressed and Understorey Conifers (stems/ha)*	(0-500 2)	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10 *Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down (5-25 5)	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11 *Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	(61-80 7)	>80 10
				Sub Total	54 /155*
Weather	**A**	**B**	**C**	**D**	**E**
12 *Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	(PP, BG 15)
13 *Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
				Sub Total	30 /30
Topography	**A**	**B**	**C**	**D**	**E**
14 *Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	(West 12)	South 15
15 *Slope (%)*	<16 1	16–29 and max score for North slopes 5	(30–44 10)	45-54 12	>55 15
16 *Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17 *Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
				Sub Total	32 /55
FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	116 /240**
Structural	**A**	**B**	**C**	**D**	**E**
18 Position of Structure/ Community on Slope	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope (10)	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19 *Type of Development*	No Structures Values within 2 km 0	Perimeter interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20 Position of Assessment Area Relative to Values	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 (20)	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
				WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	38 /55
				TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☒
Extreme	>39	☐

Last Updated: January 24, 2013

16

High [illegible]

City of Vernon Wildfire Threat Plot 16

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 1	Community: Vernon
Assessor: B Morrow	Geographic Location/Street Name: Fairlane Rd
Date: Jan 8/14	GPS/UTM: N50 13' 4" W119 22' 54"
Photos: Y N #: 4	Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 (5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs (3)	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage (3)	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage (3)	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 (5)	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 (5)
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 (7)	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 (2)	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 (5)	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 (7)	>80 10
					Sub Total	**/155***
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG (15)
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
					Sub Total	**/30**
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West (12)	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 (10)	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	**/55**
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	**/240****
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom (5)	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 (20)	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	**/55**
					TOTAL WILDFIRE THREAT SCORE	**/295**

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[X]
Extreme	>39	[ ]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 17

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

18

Plot #:	18	Community:	Vernon
Assessor:	JM Brown	Geographic Location/Street Name:	Sunset Properties
Date:	Jun 3/14	GPS/UTM:	N50 12' 3" W119° 23' 54"
Photos:	Y N #: 4	Land Ownership:	[X] Crown [ ] Private [ ] I.R. Other (specify) Park

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	50 **/155***
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	30 **/30**
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45–54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	27 **/55**
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	177 **/240****
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	15 **/55**
					TOTAL WILDFIRE THREAT SCORE	**/295**

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[X]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 18

19

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☐ Pre-treatment ☐ Post-treatment

Plot #: 19	Community: Vernon
Assessor: B Morrow	Geographic Location/Street Name: Sunset Properties –
Date: Jan 7/14	GPS/UTM: N50 17' 10" W119° 23' 43"
Photos: (Y) N #: 4	Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)

COMPONENT /Subcomponent	LEVELS				
Fuel	**A**	**B**	**C**	**D**	**E**
1 *Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 **(3)** 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2 *Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	**>80 5**
3 *Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper **4**	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4 *Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage **5**	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5 *Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage **1**	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6 *Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	**41–60 10**	61–80 15	>80 10
7 *Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	**<20 5**
8 *Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 **7**	1–<2 10	< 1 15
9 *Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 **5**	1001-2000 10	2001-4000 20	>4000 30
10 *Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha **0**	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11 *Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 **7**	>80 10
				Sub Total	52 /155*
Weather	**A**	**B**	**C**	**D**	**E**
12 *Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB Dry Zonal Wet 15 **(10)** 5	PP, BG 15
13 *Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 **15**
				Sub Total	25 /30
Topography	**A**	**B**	**C**	**D**	**E**
14 *Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	**West 12**	South 15
15 *Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 **10**	45-54 12	>55 15
16 *Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws **5**	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17 *Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies **5**	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
				Sub Total	32 /55
FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	109 /240**
Structural	**A**	**B**	**C**	**D**	**E**
18 *Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope **12**	Upper 1/3 of Slope 15
19 *Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha **8**	Intermix <1 structure/ha Infrastructure 10
20 *Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 **(20)**	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
				WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	40 /55
				TOTAL WILDFIRE THREAT SCORE	149 /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☒

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 19

20

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 20	Community: Vernon
Assessor: B Morrow	Geographic Location/Street Name: Sunset Properties
Date: Jan 9/14	GPS/UTM: N50° 12'29" W119° 23'55"
Photos: (Y) N #: 4	Land Ownership: [X] Crown [ ] Private [ ] I.R. Other (specify) Park

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	(>80 5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	(Pinegrass, Juniper 4)	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage (5)	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	(20–40 5)	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	(<20 5)
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	(1–<2 10)	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	(501-1000 5)	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down (5-25 5)	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	(61-80 7)	>80 10
					Sub Total	55 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 (10) 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
					Sub Total	25 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	(West 12)	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 (12)	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies (7)	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	36 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	116 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope (12)	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with Inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 (30)
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	30 /55
					TOTAL WILDFIRE THREAT SCORE	146 /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[X]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 20

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☐ Pre-treatment ☐ Post-treatment

Plot #: 21 | Community: Vernon

Assessor: BMorrow | Geographic Location/Street Name: N of Ellison Park

Date: Jun-8/14 | GPS/UTM: N 50 10 58" W119° 26' 2"

Photos: (Y) N #: 4+ | Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)

21
424m

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 (5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, (Juniper) 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage (3)	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage (2)	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 (5)	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 (5)
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 (10)	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 (5)	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 (5)	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 (7)	>80 10
					Sub Total	35 **/155***

	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG (15)
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
					Sub Total	30 **/30**

	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West (12)	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes (5)	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	24 **/55**
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	119 **/240****

	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom (5)	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter interface, no inclusions 3	Perimeter interface, with inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m (15) 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	74 **/55**
					TOTAL WILDFIRE THREAT SCORE	**/295**

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☒
High	27-39	☐
Extreme	>39	☐

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 21

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 22	Community: Vernon
Assessor: B Marrow	Geographic Location/Street Name: W of Ellison Park
Date: Jan 8/14	GPS/UTM: N 50° 10' 58" W119° 21' 2"
Photos: (Y) N #: 4	Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

COMPONENT /Subcomponent		LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	(>80 5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom (5)
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	(<1 coverage 1)	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	(<1 coverage 1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	(<20 2)	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure (0)	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure (0)	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	(0-500 2)	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha (0)	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	(61-80 7)	>80 10
					Sub Total	29 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	(PP, BG 15)
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, (K4, K2, N1 15)
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	(West 12)	South 15
15	*Slope (%)*	(<16 1)	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	(Flat 1)	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	19 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	78 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[X]
High	96-149	[ ]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[ ]

Last Updated: January 24, 2013

22

City of Vernon Wildfire Threat Plot 22

23

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 23	Community:
Assessor: [illegible]	Geographic Location/Street Name: [illegible]
Date: [illegible]	GPS/UTM: [illegible] 10 32 [illegible] 26 13
Photos: Y / N #: [illegible]	Land Ownership: [X] Crown [ ] Private [ ] I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Fiammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	<1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	/155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	/30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	/55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	/240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix < 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[X]
Extreme	>39	[ ]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 23

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

24

Plot #:	Community:
Assessor:	Geographic Location/Street Name:
Date:	GPS/UTM:
Photos: Y N #:	Land Ownership: [X] Crown [ ] Private [ ] I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	> 25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	<1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	61 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	15 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	12 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	73 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	55 /55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[X]
Extreme	>39	[ ]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 24

25

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 25	Community: Vernon
Assessor: B Morrow	Geographic Location/Street Name: Howards Rd
Date: Jan 9/14	GPS/UTM: N50 10' 26" W119° 24' 31"
Photos: (Y) N #: 4	Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	<1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	66 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	25 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	36 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	127 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	48 /55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[X]

Last Updated: January 24, 2013

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☒ Pre-treatment ☐ Post-treatment

26

Plot #: 26 | Community: Carrs Landing-Lake Country

Assessor: B Morrow | Geographic Location/Street Name: Juniper Cove Rd

Date: Jan 9/14 | GPS/UTM: N50 9' 20" W119° 26' 59.9"

Photos: (Y) N #: 4 | Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)

425m

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 (5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, (Juniper) 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage (5)	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 (10)	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 (5)
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 (10)	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 (5)	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 (5)	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	60 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	(West) 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45–54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	32 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	172 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom (5)	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 (30)
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	45 /55
					TOTAL WILDFIRE THREAT SCORE	164 /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☒

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 26

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☒ Pre-treatment ☐ Post-treatment

Plot #: 27	Community: Carrs Landing
Assessor: B Morrow	Geographic Location/Street Name: Commonage Rd
Date: June 2/14	GPS/UTM: N 50 9' 34" W 119° 26' 9"
Photos: (Y) N #: 7	Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)

COMPONENT /Subcomponent		LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	<1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	61 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	25 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor/low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	30 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	116 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix >1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	19 /55
					TOTAL WILDFIRE THREAT SCORE	135 /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☒
High	27-39	☐
Extreme	>39	☐

Last Updated: January 24, 2013

27

595m

28

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☐ Pre-treatment ☐ Post-treatment

Plot #: 28	Community: [illegible]
Assessor: B Marrow	Geographic Location/Street Name: Predator Ridge – [illegible]
Date: Jun 8/14	GPS/UTM: N5[illegible]° 10' 56" W119° 24' 5"
Photos: Y N #: 4	Land Ownership: ☒ Crown ☐ Private ☐ I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	(>80 5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper (4)	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 (5)	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	(<20 5)
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	(<1 15)
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	(501-1000 5)	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 (5)	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	(41-60 5)	61-80 7	>80 10
						Sub Total 55 /155*

	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 (10) 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
						Sub Total 25 /30

	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	(West 12)	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes (5)	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
						Sub Total 27 /55

FUEL, WEATHER AND TOPOGRAPHY — **WILDFIRE BEHAVIOUR THREAT SCORE** 107 /240**

	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope (10)	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with Inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 (20)	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30

WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE 38 /55

TOTAL WILDFIRE THREAT SCORE 145 /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☒
Extreme	>39	☐

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 28

29

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☒ Pre-treatment ☐ Post-treatment

Plot #: 29	Community: Vernon
Assessor: B Morrison	Geographic Location/Street Name:
Date: June 8/14	GPS/UTM: N50° 14' 11" W119° 14' 18"
Photos: (Y) N #: 4	Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10–25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10–25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61–80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	18 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	BP,BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	44 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	92 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☒
High	96-149	☐
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☐

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 29

30

826m

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 30	Community: Vernon
Assessor: B Morrow	Geographic Location/Street Name: Wildwood Rd
Date: Jan 9/14	GPS/UTM: N50 19' 9" W119 12' 33"
Photos: (Y) N #: 4	Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

COMPONENT /Subcomponent	LEVELS				
Fuel	**A**	**B**	**C**	**D**	**E**
1 *Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 (4)	>20 Dry Zonal Wet 15 10 5
2 *Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	(>80 5)
3 *Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	(Lichen, Conifer Shrubs 3)	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4 *Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	(Scattered, <10 coverage 5)	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5 *Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	(Scattered, <10 coverage 2)	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6 *Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	(41–60 10)	61–80 15	>80 10
7 *Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	(20–40 4)	<20 5
8 *Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	(2–<3 7)	1–<2 10	<1 15
9 *Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	(1001-2000 10)	2001-4000 20	>4000 30
10 *Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down (5-25 5)	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11 *Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	(41-60 5)	61-80 7	>80 10
					Sub Total 60 /155*
Weather	**A**	**B**	**C**	**D**	**E**
12 *Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 (5)	PP, BG 15
13 *Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
					Sub Total 20 /30
Topography	**A**	**B**	**C**	**D**	**E**
14 *Aspects (>15% slope)*	North 0	(East 5)	<16% slope all aspects 10	West 12	South 15
15 *Slope (%)*	<16 (1)	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16 *Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17 *Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total 16 /55

FUEL, WEATHER AND TOPOGRAPHY — **WILDFIRE BEHAVIOUR THREAT SCORE** 96 /240**

Structural	**A**	**B**	**C**	**D**	**E**
18 *Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope (10)	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19 *Type of Development*	No Structures Values within 2 km 0	Perimeter interface, no inclusions 3	Perimeter interface, with inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20 *Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 (25)	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30

WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE 43 /55

TOTAL WILDFIRE THREAT SCORE /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[X]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 30

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

Plot #: 31	Community: [illegible]
Assessor: B Morrow	Geographic Location/Street Name: [illegible] Rd
Date: Jan 9/17	GPS/UTM: N50° 20' 4" W119° 12' 24"
Photos: (Y) N #: 45	Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

COMPONENT /Subcomponent	LEVELS				
Fuel	**A**	**B**	**C**	**D**	**E**
1 *Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 (6) 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2 *Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	(>80 5)
3 *Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	(Pinegrass, Juniper 4)	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4 *Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	(Scattered, <10 coverage 5)	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5 *Large Woody Debris Continuity (>7cm) (% cover)*	(<1 coverage 1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6 *Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	(41–60 10)	61–80 15	>80 10
7 *Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	(<20 5)
8 *Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	(<1 15)
9 *Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	(1001-2000 10)	2001-4000 20	>4000 30
10 *Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha (0)	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11 *Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	(41-60 5)	61-80 7	>80 10
				Sub Total	60 /155*
Weather	**A**	**B**	**C**	**D**	**E**
12 *Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 (10) 5	PP, BG 15
13 *Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
				Sub Total	25 /30
Topography	**A**	**B**	**C**	**D**	**E**
14 *Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	(West 12)	South 15
15 *Slope (%)*	<16 1	16–29 and max score for North slopes (5)	30–44 10	45-54 12	>55 15
16 *Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17 *Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
				Sub Total	27 /55
FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	112 /240**
Structural	**A**	**B**	**C**	**D**	**E**
18 *Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope (12)	Upper 1/3 of Slope 15
19 *Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha (8)	Intermix <1 structure/ha Infrastructure 10
20 *Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 (25)	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
				WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	45 /55
				TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[ ]
High	96-149	[X]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[X]

Last Updated: January 24, 2013

31

891m

City of Vernon Wildfire Threat Plot 31

32

879m

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☒ Pre-treatment ☐ Post-treatment

Plot #: 32	Community: Vernon
Assessor: B Morrow	Geographic Location/Street Name: Wilson-Jackson Rd
Date: Jan 9/14	GPS/UTM: N50° 19' 43" W119° 11' 57"
Photos: Y N #: 4	Land Ownership: ☐ Crown ☒ Private ☐ I.R. Other (specify)

	COMPONENT /Subcomponent	LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 3 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 5
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper 4	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage 1	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 10	<1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	53 /155*

	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB Dry Zonal Wet 15 10 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 15
					Sub Total	25 /30

	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes 5	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws 5	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies 5	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	27 /55

FUEL, WEATHER AND TOPOGRAPHY — **WILDFIRE BEHAVIOUR THREAT SCORE** 110 /240**

	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix ≥ 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30

WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE 45 /55

TOTAL WILDFIRE THREAT SCORE 155 /295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☐
Extreme	>39	☒

Last Updated: January 24, 2013

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

[X] Pre-treatment [ ] Post-treatment

33

720m

Plot #: 33	Community: Vernon
Assessor: B Marrow	Geographic Location/Street Name: [illegible]
Date: Jan 9/14	GPS/UTM: N50 19' 35" W119° 13' 13"
Photos: (Y) N #: 4	Land Ownership: [ ] Crown [X] Private [ ] I.R. Other (specify)

COMPONENT /Subcomponent		LEVELS				
	Fuel	**A**	**B**	**C**	**D**	**E**
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–<5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	(>80 5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	(Pinegrass, Juniper 4)	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	(<1 coverage 1)	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 (2)	20–40 5	41–60 10	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure (0)	61-80 2	41–60 3	20–40 4	<20 5
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure (0)	3–5 5	2–<3 7	1–<2 10	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	(0-500 2)	501-1000 5	1001-2000 10	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha (0)	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down >25-50 10	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	(0-20 0)	21-40 3	41-60 5	61-80 7	>80 10
					Sub Total	18 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH ds1 & ds2, BWBS, SWB – Dry Zonal Wet 15 10 5	(PP, BG 15)
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
					Sub Total	30 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West 12	(South 15)
15	*Slope (%)*	<16 1	16–29 and max score for North slopes (5)	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
	FUEL, WEATHER AND TOPOGRAPHY				**Sub Total** **WILDFIRE BEHAVIOUR THREAT SCORE**	30 /55 78 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, <16% slope 10	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions 5	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 12 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	/55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	[ ]
Moderate	41-95	[X]
High	96-149	[ ]
Extreme	>149	[ ]

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	[ ]
Moderate	14-26	[ ]
High	27-39	[ ]
Extreme	>39	[ ]

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 33

WILDLAND URBAN INTERFACE WILDFIRE THREAT ASSESSMENT WORKSHEET

☒ Pre-treatment ☐ Post-treatment

Plot #:	34	Community:	City of Vernon
Assessor:	B Morrow	Geographic Location/Street Name:	Ellison Park
Date:	March 17/14	GPS/UTM:	N50° 10' 40" W119° 25' 55"
Photos: ☒ N	#: 4*	Land Ownership: ☒ Crown ☐ Private ☐ I.R. Other (specify)	

	COMPONENT /Subcomponent	A	B	C	D	E
	Fuel					
1	*Duff Depth and Moisture Regime (cm)*	1–<2 3	2–≤5 Dry Zonal Wet 5 (3) 1	5–<10 Dry Zonal Wet 10 6 2	10–20 Dry Zonal Wet 12 8 4	>20 Dry Zonal Wet 15 10 5
2	*Surface Fuels Continuity (% cover)*	<20 0	20–40 2	41–60 3	61–80 4	>80 (5)
3	*Vegetation Fuel Composition*	Moss, Herbs, Irrigated Crops, Low Flammability Weeds 1	Herbs, Deciduous Shrubs 2	Lichen, Conifer Shrubs 3	Pinegrass, Juniper* (4)	Sagebrush, Bunchgrass, Antelope Brush, Scotch Broom 5
4	*Fine Woody Debris Continuity (<=7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 5	10-25 coverage 7	>25 coverage, < 10 cm deep 10	>25 coverage, > 10 cm deep 15
5	*Large Woody Debris Continuity (>7cm) (% cover)*	<1 coverage (1)	Scattered, <10 coverage 2	10-25 coverage 5	> 25 coverage, not elevated 7	>25 coverage, partially elevated 10
6	*Live and Dead Coniferous Crown Closure (%)*	<20 2	20–40 5	41–60 (10)	61–80 15	>80 10
7	*Live Deciduous Crown Closure (%)*	>80 or <40% coniferous crown closure 0	61-80 2	41–60 3	20–40 4	<20 (5)
8	*Live and Dead Conifer Crown Base Height (m)*	5+ or <20% conifer crown closure 0	3–5 5	2–<3 7	1–<2 (10)	< 1 15
9	*Live and Dead Suppressed and Understorey Conifers (stems/ha)*	0-500 2	501-1000 5	1001-2000 (10)	2001-4000 20	>4000 30
10	*Forest Health (% of dominant and co-dominant stems)*	Standing Dead and Partly Down < 5 or <20 stems/ha 0	Standing Dead and Partly Down 5-25 5	Standing Dead and Partly Down 25-50 (10)	Standing Dead and Partly Down >50 - 75 20	Standing Dead and Partly Down >75 30
11	*Continuous Forest/Slash Cover within 2km (%)*	0-20 0	21-40 3	41-60 5	61-80 (7)	>80 10
					Sub Total	66 /155*
	Weather	**A**	**B**	**C**	**D**	**E**
12	*Biogeoclimatic Zone*	AT, Irrigated 1	CWH, CDF, MH Dry Zonal Wet 5 3 1	ICH, SBS, ESSF Dry Zonal Wet 10 7 3	IDF, MS, SBPS, CWH dk1 & dk2, BWBS, SWB Dry Zonal Wet 15 (10) 5	PP, BG 15
13	*Historical Wildfire Occurrence (by WMB Fire Zone)*	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7 1	G3, G8, R3, R4, V6, G1, G9, V8 5	G7, C5, G4, C4, V1, C1, N6 8	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2 10	N7, K4, K2, N1 (15)
					Sub Total	25 /30
	Topography	**A**	**B**	**C**	**D**	**E**
14	*Aspects (>15% slope)*	North 0	East 5	<16% slope all aspects 10	West (10)	South 15
15	*Slope (%)*	<16 1	16–29 and max score for North slopes (5)	30–44 10	45-54 12	>55 15
16	*Terrain*	Flat 1	Rolling 3	Sloped terrain, minor low relief draws (5)	Consistent slope, deep draws or shallow gullies 7	Consistent slope, deep gullies 10
17	*Landscape/ Topographic Limitations to Wildfire Spread*	< 5 ha isolated forest land 1	North and/or east aspects dominate, wildfire spread restricted from South and/or West 2	Mountainous terrain, broken topography, regular aspect and slope changes, multiple restrictions to wildfire spread large water bodies (5)	Rolling terrain, minor water bodies, minimal aspect and slope changes, minor restrictions to wildfire spread 10	Continuous, consistent topography No restriction to wildfire spread 15
					Sub Total	27 /55
	FUEL, WEATHER AND TOPOGRAPHY				**WILDFIRE BEHAVIOUR THREAT SCORE**	118 /240**
	Structural	**A**	**B**	**C**	**D**	**E**
18	*Position of Structure/ Community on Slope*	No Structures Values within 2 km 0	Bottom of slope, valley bottom 5	Mid-slope benchland, elevated valley, >16% slope (10)	Mid-slope continuous, >15% slope 12	Upper 1/3 of Slope 15
19	*Type of Development*	No Structures Values within 2 km 0	Perimeter Interface, no inclusions 3	Perimeter Interface, with inclusions (8)	Intermix > 1 structure/ha 8	Intermix <1 structure/ha Infrastructure 10
20	*Position of Assessment Area Relative to Values*	No Structures Values within 2 km 0	Above >500 200-500 <200 m 1 10 20	Sidehill >500 200-500 <200 m 1 (12) 25	Flat/Rolling >500 200-500 <200 m 1 12 25	Below >500 200-500 <200 m 1 15 30
					WILDLAND URBAN INTERFACE WILDFIRE THREAT SCORE	21 /55
					TOTAL WILDFIRE THREAT SCORE	/295

*Proceed only if Fuel sub total is>29.

** Proceed to Structural component only if Wildfire Threat Behaviour Score is >95 for untreated polygons.

Wildfire Behaviour Threat Class (check applicable class)

Low	0-40	☐
Moderate	41-95	☐
High	96-149	☒
Extreme	>149	☐

Wildland Urban Interface Threat Class (check applicable class)

Low	0-13	☐
Moderate	14-26	☐
High	27-39	☒
Extreme	>39	☐

Last Updated: January 24, 2013

City of Vernon Wildfire Threat Plot 34

Appendix 6 – Operational Fuel Management Discussion

Forest Fuel Modification

Wildfire behaviour is based on three factors.

1. Forest Fuel – the woody material available to burn, configuration and continuity
2. Weather – daytime temperature, the amount of drying and wind
3. Topography – the lay of the land, slope, aspect and terrain

Of these three factors, only the forest fuels are within our control. Reducing the volume and continuity of the forest fuels can reduce the intensity and the rate of spread of a wildfire, thus reducing the wildfire threat. The objectives for forest fuel management should be:

- Reducing the crown fire potential, and
- Reducing the surface fire intensity.

Other important benefits include easier access into an area, better firefighter safety and greater effectiveness of aerial wildfire suppression resources.

There are two basic approaches to wildfire threat reduction or forest fuel management. The chosen method will depend on numerous site-specific factors.

Timber Harvesting

Timber harvesting in interface areas can be very expensive. In large areas of commercially viable forest, a form of timber harvesting to remove a portion of the stand is the most logical option. The wildfire threat reduction work can be self-funding and a valuable resource gets properly utilized. The intensity and method of harvesting will depend on the topography, trees species, forest health, and degree of wildfire threat, community acceptance and a variety of other site-specific factors. Clearcut harvesting, while usually not a very popular option for any community, may be the only solution in pure pine forest stands decimated by pine beetles in the last decade.

Where necessary, a form of partial or selective harvesting is better accepted. Removal of targeted tree species, based on forest health, wind firmness and a wide assortment of other factors is a common practice.

Harvesting for fuel management, or wildfire threat reduction, is significantly different from conventional commercial harvesting. The emphasis should be directed towards the final product left behind in the forest, not necessarily the timber removed from the site.

Small scale timber harvesting of high visual, sensitive steep sites, close to developments has been deemed uneconomic at this time (March/April 2014). This is unlikely to change in the short term at least. It is unlikely that commercial timber harvesting of the ponderosa pine in the City of Vernon will ever prove to be a profitable venture (personal opinion, report author). The City of Vernon will not conduct timber harvesting at a loss. Timber harvesting must be part of a long-term wildfire threat reduction program, specifically if tree mortality increases in the mid-slope Douglas-fir stands.

In addition, timber harvesting treatments do not qualify for any sort of subsidy or fuel management funding. Although conducting fuel management post-harvesting can be funded through present sources. There is no timber harvesting recommendations associated with this CWPP.

Non-Timber Harvesting Fuel Management

In immature, inaccessible, sensitive and small patches of forestland where harvesting is not an option, wildfire threat reduction efforts can be completed without timber extraction. Treatments can be carried out by hand, with equipment or a combination of the two. These treatments are rarely self-funded and require a funding source for completion. Treatments vary in cost from $4000 to $10 000 per hectare.

Reducing the amount and configuration of the forest fuels consists of four basic activities.

1. **Danger Tree Removal**
   Trees considered dangerous to work around, dead trees that can reach private land or access roads must be removed before fuel management activities commence. Retention of high value wildlife trees must be considered.

2. **Spacing**
   Spacing, thinning or tree removal involves the reduction of the number of stems and associated branches and needles within the forest canopy. There are a number of different techniques. The spacing treatment necessary is dependent on many factors including; tree species, forest health, age of the stand, stand structure and other factors. Spacing treatments must be designed on a site-specific basis. In some cases, small scale forest harvesting may be the best method to space the area and cover the costs of the treatment. Any forest harvesting in interface areas must be well planned and supervised.
   One commonly used convention in relatively even aged stands is to space the trees so the crowns are at least one-half of the average tree crown diameter apart. This inter-crown distance should be increased on slopes. This spacing distance is also dependent on crown base height and the amount of surface fuel remaining after the site treatment. Multi-aged stands are often 'thinned from below'. The understorey, suppressed and/or co-dominant trees are targeted for removal. This usually increases the crown base height and creates a healthier, more vigorous forest. Caution must be taken to ensure the multi-aged characteristics of the stand are maintained.

3. **Pruning**
   Pruning involves the removal of the lower branches of coniferous tree species to separate the crown fuels from the surface fuels. By raising the Crown Base Height (CBH) within the stand, it will be more difficult for a surface fire to spread upwards into the tree canopy where it will spread quickly, greatly increase the wildfire intensity and create ember showers, or spotting, onto adjacent structures. The required height of the pruning is variable depending on; canopy closure, tree species, topography and amount of surface fuels remaining after the site treatment.
   One commonly used convention for pruning is a three meter crown base height. This is based as much on the crew's reach as on crown fire initiation concerns. Again, there is no one prescription to manage all situations. Pruning must take into account the tree height and amount of live crown. The tree must be left a certain portion of its live crown to remain healthy and vigorous.

4. **Surface Fuel Reduction**
   Surface fuel reduction involves the removal, chipping or burning of all spaced and pruned material, and sometimes additional downed and dead material that will contribute to wildfire spread. Removal of the fine (small diameter) fuels is the priority as these fuels dry out quickly, ignite easily and are the main contributor to surface fire spread on most sites.

Surface fuel treatments are often considered the most important component of any fuel modification activities and the most expensive. Overly aggressive surface fuel clean up can cause serious environmental impacts including erosion, introduction of noxious weeds and loss of wildlife habitat.

These techniques should be employed on the forested land adjacent to homes or new developments in all High and Extreme wildfire threat class areas to reduce the wildfire threat to Moderate or below.

No one prescription will solve all wildfire threat problems. All prescriptions must be site specific and developed by an experienced individual.

Figure 18. Example of a treated area that will not support a crown fire

Wildfire Threat Reduction Maintenance

Done properly, only the surface fuel treatment requires regular maintenance. Spacing and pruning treatments should last decades before further work is required. The amount of maintenance on the surface fuels will depend on tree species, mortality in the stand, tree ingress, grass growth and other factors that increase the amount of dead and down forest fuel.

Implications of Wildfire Threat Reduction Work

Reducing wildfire threats through the reduction of the forest fuels sounds simple enough, but forest fuel treatments can have a wide variety of implications. Fuel treatments can have both positive and negative effects on wildfire threats.

The application of spacing, pruning and surface fuel removal techniques creates a more open forest stand. Open forest stands;

- allows more light to reach the surface, often drying out the site or allowing more grass, herb and shrub growth,
- can lengthen the fire season on the site by allowing the site to dry up faster and stay dry longer,
- allows more wind to move through the stand and along the surface,
- possibly increasing the rate of spread of surface fires, and
- often have lower relative humidity in the summer months from the increased sunlight and temperatures.

The positive effects of wildfire threat reduction through forest fuel reduction include;

- lower probability of crown fires due to the more open forest canopy and higher crown base height,
- lower intensity surface fires from the reduced forest fuels,
- easier and safer access for wildland firefighters, and
- more effective aerial fire control efforts with air tankers.

In general, properly planned and implemented forest fuel reduction work reduces the crown fire potential and overall intensity of wildfires within the treatment area. This will increase the survivability of the trees in the stand and of adjacent homes and structures. Forest fuel reduction work can also increase the dryness on the site, and allow more wind to reach the surface, creating conditions for fast moving, low intensity wildfires to spread.

Landscape level fuel management activities include a combination of:

a. selective harvesting treatments with close attention paid to windfirmness of the retained trees,
b. appreciation for visual quality objectives along Okanagan Lake and major travel corridors in and out of the City of Vernon.,
c. fuel management considerations for slash and coarse woody debris retention in the harvested areas.
d. An accessible road system with wide right-of-ways to act as firebreaks,
e. identified and developed water resources for wildfire suppression, and
f. aggressive fuel management around culturally significant sites.

Effectiveness of Hand Fuel Management Treatments

Hand crew completed fuel management treatments usually consist of a combination of danger tree removal, spacing, pruning and surface fuel removal, at varying intensities. The main forest canopy is often kept in place. Much of the work on Crown land is often restricted by merchantable timber utilization standards, where only healthy trees below the utilization standards can be cut and removed.

This type of treatment can be very effective for small fires that start in the community or within the treatment area. Good visuals, reduced danger trees and ladder fuels can allow safe, fast, aggressive wildfire suppression action within the managed area. Initial attack success can be far higher under these circumstances. Hand crew treatments are far less effective in a landscape level wildfire event that sweeps into the treatment area from the unmanaged forestland. A well developed Rank 5 or 6 wildfire (continuous crown fire) that spreads into a hand treatment area surrounding a community, may easily spread quickly and aggressively through the hand treated fuel management treatment area, providing only minimal safety to the community.

Hand crew fuel management treatments are most effective when supported by forest harvesting along the treatment area perimeter. If the harvesting can reduce the wildfire intensity significantly before the wildfire enters the hand treatment areas, the effectiveness of the hand treatments is significantly increased.

Resource Issues and Operational Constraints

The recommended fuel management treatments are all suggested as hand crew work. A combination of danger tree removal, dead pine removal and spacing and pruning of the remaining stand to reduce the crown fire threshold and improve wildfire suppression access. The recommendations cover hand treatments only because;

- The funding sources available for fuel management do not allow harvesting as a fundable fuel management treatment. This is due to the concern over contravening the Canada-U.S. Softwood Lumber Agreement. Funding harvesting as a fuel management treatment might be considered a subsidy to the forest industry.
- The areas selected for treatment are all within highly visual, high use recreation areas. All sites are relatively steep. These sites require sensitive treatments that can only be carried out by hand crews.

Appendix 7 – CWPP City Planning and Development Considerations

Building Bylaw #4900 existing regulation:

14.4 Every owner shall ensure that when constructing a building that falls within the area identified in the plan attached as Schedule "3", Fire Limits and Interface Area that the building meets the following conditions:

14.4.1 be constructed with fire resistant exterior finishes and roofing materials and/or be sprinklered for fire protection;

14.4.2 and meets all of the requirements of the Provincial Ministry of Forests with respect to fire interface areas.

14.5 Without limiting Subsection 14.4, an addition or alteration to an existing building that falls within the area identified in the plan attached as Schedule 4, Fire Limits and Interface Area may be permitted, provided that as a result of the use of fire resistant finishes and roofing materials there is no net increase in combustible finishes when construction is completed.

Building Bylaw #4900 recommended amendments:

- Amend section 14.4 to reference revised Wildfire Interface Area Map
- All building permits for areas identified on the map must:
  a) be constructed with fire resistant materials;
  b) Area 2
     - identify 10m non-combustible buffer from the primary building to the property line on site plan drawings;
     - provide a Landscaping Plan for proposed building or structure
     - provide a site specific WIP if requirements (including 10m buffer) is not met.
  c) Area 3
     - identify 10m non-combustible buffer + ≥20m reduced fuel buffer from the primary building to the property line on site plan drawings;
     - provide Landscaping Plan for proposed building or structures
     - provide a site specific WIP if requirements (including 10m + ≥20m buffers) are not met
- Alternate structure materials may be considered provided the structure or building is beyond a 30m buffer of Area 3.
- Additions or alterations to structures or buildings must meet Fire Smart basic guidelines in Area 1.
- Site plans for structures, additions and buildings in Areas 2 and 3 would be required to demonstrate the extent and nature of existing and proposed landscaping details of trees and ground cover.

Zoning Bylaw #5000 existing regulations:

None

Zoning Bylaw #5000 recommended regulations:

Amend Section 4.0 Development Regulations under a new section (i.e. Section 4.16) to include "Development in Wildfire Urban Interface Area":

- Reference revised Wildfire Urban Interface Area Map
- Building Materials and finishes are to be FireSmart – including, eaves and vents must be closed in with metal screens and/or soffits and use of fire resistant materials for building exterior.

- Site specific Wildfire Interface Management and Mitigation Plan for proposed development in Areas 2 and 3 is completed by a certified professional at the time of subdivision, rezoning or development permit.
- Wildfire Interface Covenant may be required at the time of subdivision or rezoning.

Amend second 6.0 Landscape and Screening:

- include "Level 6" for development in Interface Areas 2 and 3 restricting the planting of juniper or other non-fire resistant plant materials.
- Additional landscaping requirements for Single Detached Dwelling development and maintenance regimes for each Interface Area 2 and 3.

Official Community Plan, 2013 #5151 existing regulations:

19.1 On all lands shaded on Map 11, the City shall require the property owner to provide a fire hazard assessment from a Registered Professional Forester (RPF) and a Section 219 wildfire covenant, approved by the Vernon Fire Chief, as conditions of approval for any subdivision or development permit. Boundary adjustments, party wall subdivisions and lease plans are exempt from this requirement. In addition, the Vernon Fire Chief may, following review of a subdivision or development permit application, waive the requirement for a fire hazard assessment and/or a wildfire covenant.

19.2 On all lands shaded on Map 11, the City shall require as condition of building permit approval, that the building comply with Fire Smart Practices.

19.3 Creation of a 10 metre fuel free space around new construction. Remove all flammable materialsincluding coniferous trees, flammable vegetation, deadfall, dry brush, ground litter and wood pileswithin this area.

19.4 Use of fire resistant roofing materials that meet Class A, B, or C rating as defined in the B.C. Building Code, such as metal, clay tile or asphalt shingle.

19.5 Use of fire resistant exterior building materials such as stucco, brick, metal, concrete, rock, logs, orheavy timbers. Vinyl and untreated wood are not permitted.

19.6 Eaves and vents must be closed in with metal screens and/or soffits.

19.7 All crawl spaces and the underside of porches and decks must be sealed.

19.8 On all lands shaded on Map 11, at the request of the Vernon Fire Chief, the City shall require property owners to remove flammable materials from lands that have been identified as presenting a high fire risk to the property or adjacent lands, building or structures.

19.9 The Vernon Fire Department shall formulate and implement a 'Fire Smart' program for owners and residents of lands shaded on Map 11. This program shall include the removal of materials that will become a source of fuel for a wildfire.

Official Community Plan, 2013 #5151 recommended guidelines:

In addition to the existing guidelines it is encouraged that the following components be included in the OCP under Section 19.0 Fire Interface:

- Amend OCP to reference Wildfire Urban Interface Map to revised map.
- Support the use of a Site Specific Wildfire Interface Management and Mitigation Plan when considering development proposals. This plan would address the site specific development proposal and make recommendations regarding development massing, design and lot layout in conjunction with FireSmart and other Wildfire Interface Management principles. This may include development clustering, trails that may be used as fire breaks, etc.
- A covenant to address building design, external watering system (for areas with only one access route), fire breaks, landscape maintenance and prohibiting outdoor burning is recommended for lands within Area 3 and strongly encouraged in Area 2.
- Development in Areas 2 and 3 encourage clustering.

- Encourage the development of trails around subdivisions or developments greater than 10 units to be designed as fire breaks.
- 10m non-combustible zones in Area 2 (plus ≥20m fuel reduction zone in Area 3) from buildings, including primary dwellings and secondary structures, should be identified on development and landscape plans submitted at building permit or development permit applications for proposed development in Areas 2 or 3.
- Creation of a 10 metre fuel free space around new construction. Remove all flammable materials including coniferous trees, flammable vegetation, deadfall, dry brush, ground litter and wood piles within this area.