



BUSHFIRE DEVELOPMENT REPORT

Corangamite Rural Living Strategy

March 2020

Prepared for Corangamite Shire Council

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Table of Contents

1	Introduction	1
2	Overview of the study area	2
2.1.	Camperdown	2
2.2.	Lismore	3
2.3.	Port Campbell	4
2.4.	Terang	5
2.5.	Timboon	6
3	Bushfire planning and building controls	7
3.1	Planning Policy Framework	7
3.2.	Bushfire Management Overlay (BMO)	9
3.3.	Bushfire Prone Area	10
3.4.	Other controls	12
4	Bushfire hazard assessment	13
4.1.	Vegetation	13
4.1.1	Woodland	13
4.1.2	Scrub	14
4.1.3	Grassland	14
4.1.4	Low-threat vegetation and non-vegetated areas	14
4.2	Study area vegetation profiles	15
4.2.1	Camperdown	15
4.2.2	Lismore	16
4.2.3	Port Campbell	17
4.2.4	Terang	18
4.2.5	Timboon	19
4.3	Topography	20
4.4	Study area typography profiles	21
4.4.1	Camperdown	21
4.4.2	Lismore	22
4.4.3	Port Campbell	23
4.4.4	Terang	24
4.4.5	Timboon	25

4.5	Fire weather	26
4.6	Landscape risk	27
4.7	Study area landscape risk profiles	28
4.7.1	Camperdown	28
4.7.2	Lismore	28
4.7.3	Port Campbell	28
4.7.4	Terang	28
4.7.5	Timboon	29
5	Planning and design response	30
5.1	Building setbacks	30
5.2	Study area building setback profiles	31
5.2.1	Camperdown	31
5.2.2	Lismore	32
5.2.3	Port Campbell	33
5.2.4	Terang	34
5.2.5	Timboon	35
5.3	Clause 13.02 Bushfire	37
5.3.1	Protection of human life strategies	37
5.3.2	Bushfire hazard identification and assessment strategies	38
5.3.3	Settlement planning strategies	42
6	Conclusion	45
7	Appendices	1
7.1	Maintenance Schedule	1
7.2	Static water supply requirements	1
7.3	Water tank requirements	2
7.4	Access requirements	3

1 Introduction

Corangamite Shire Council has prepared the Corangamite Rural Living Strategy to guide rural residential development across the shire.

The strategy recommends the staged rezoning of land at Camperdown, Terang, Timboon, Port Campbell, and Lismore to accommodate future rural residential needs. Corangamite Shire is identified as a location of extreme fire risk, with grassfire and bushfire being significant threats.

Areas proposed to be rezoned are predominantly used for grazing or rural lifestyle development and, with the exception of land at Port Campbell (Rural Conservation Zone), are contained in the Farming Zone. It is proposed to rezone these areas to a combination of Rural Living Zone (with a 2-hectare minimum lot size) and Low Density Residential Zone (4,000sqm minimum lot size). All areas to be rezoned are a designated Bushfire Prone Area (BPA).

This report has been prepared in accordance with guidance for the assessment of, and response to, bushfire risk, provided in:

- Local Planning for Bushfire Protection, Planning Practice Note 64;
- Strategic Assessment Guidelines for preparing and evaluating planning scheme amendments, Planning Practice Note 46;
- Planning Permit Applications – Bushfire Management Overlay, Technical Guide; and
- Bushfire State Planning Policy Amendment VC140, Planning Advisory Note 68.

It is noted, the Corangamite Rural Living Strategy recommends structure plans be prepared to guide future rural residential growth within some settlements (such as Noorat, Derrinallum and Simpson). The preparation of planning scheme amendments and/or structure plans for these settlements will need to include an assessment of bushfire risk consistent with this report and the requirements of Clause 13.02 - Bushfire.

2 Overview of the study area

2.1. Camperdown

The Rural Living Strategy identifies approximately 95 hectares of land to the west of Park Road and north of Gnotuk Road as the preferred location to accommodate long-term rural residential development in Camperdown. The strategy recommends these areas be zoned Rural Living with a 2-hectare minimum lot size for subdivision (yielding approximately 40 lots). Development of these areas will be staged following take up of existing rural residential land stocks.



Image 1. Camperdown Land Use Framework

2.2. Lismore

The Rural Living Strategy recommends approximately 53 hectares of land to the south-west of Lismore be rezoned to reflect existing rural residential development (currently within the Farming Zone). Existing lots range between 2 hectares to 4.6 hectares in area. Further subdivision within the area is restricted to a minimum of 4 hectares (i.e. no further subdivision is supported).



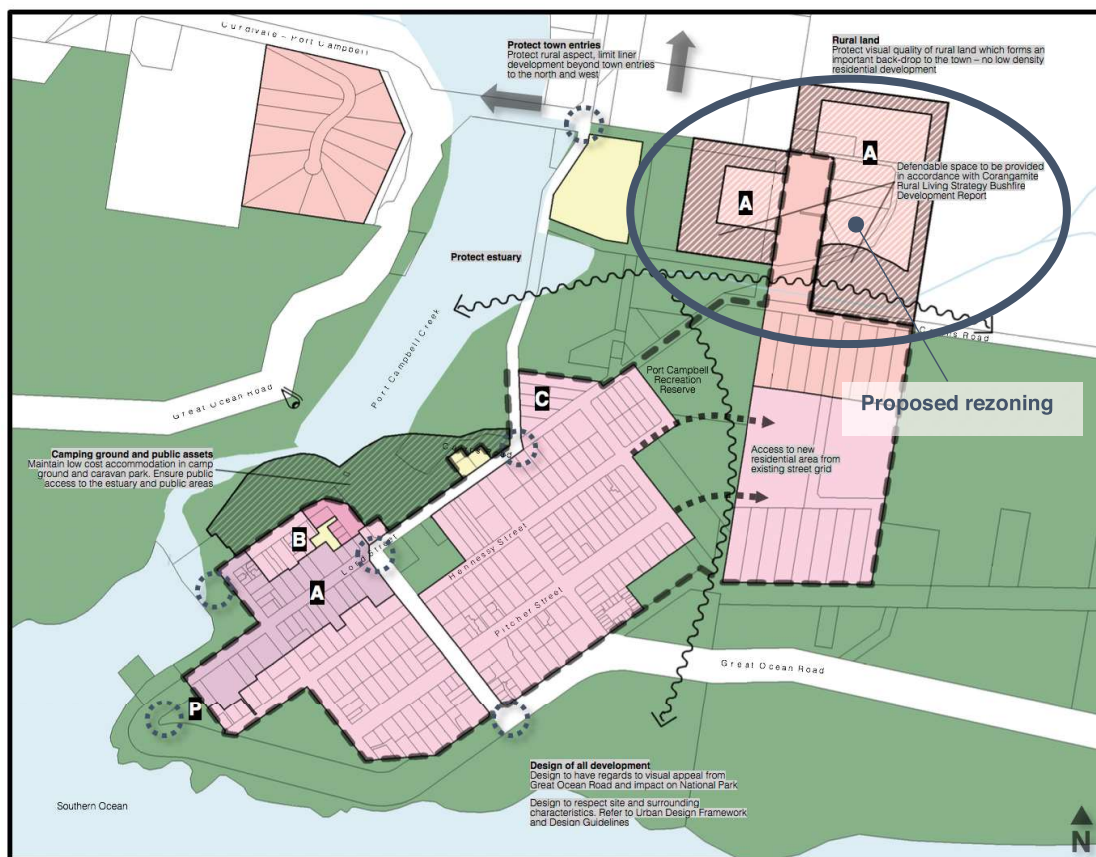
LEGEND

Settlement Boundary	Public Use / Community Assets	Recreational Facilities / Open Space
Gateway Nodes / Town Focal Points	Waterway / Lake	Rail Line
Residential Development	Commercial Centre Encourage well planned and designed highway commercial development. Limit linear commercial development.	Industrial Areas Promote and consolidate low impact industrial use and development.
Low Density Residential	Rural Living	

Image 2. Lismore Land Use Framework

2.3. Port Campbell

The Rural Living Strategy recommends approximately 11.5 hectares of land to the north-east of Port Campbell be rezoned to accommodate future rural residential development within Port Campbell, noting that part of this area has previously been subdivided and developed consistent with densities in the adjoining areas. The strategy recommends this area be zoned Low Density Residential with a minimum 4,000 square metre subdivision size (yielding approximately up to 12-14 lots).

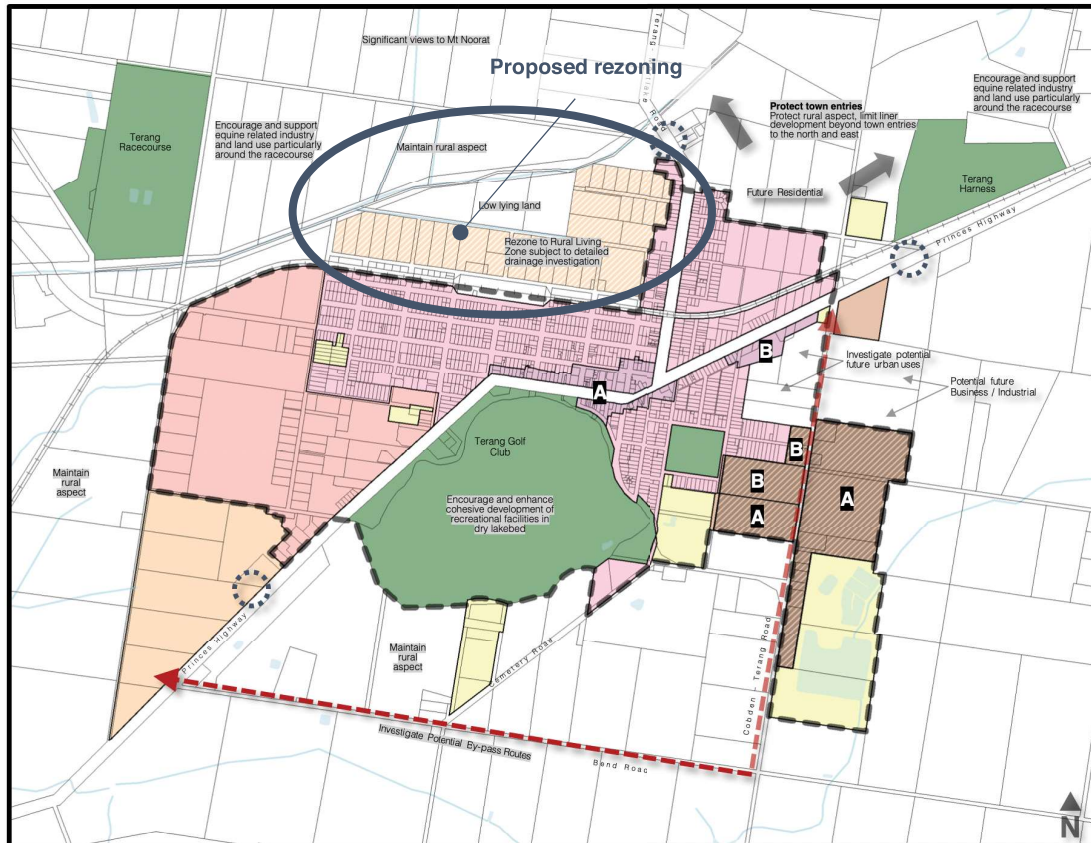


LEGEND					
	Settlement Boundary		Public Use / Community Assets		National Park / Recreation Facilities / Open Space Protect the environmental qualities of the National Park.
	Gateway Nodes / Town Focal Points		Waterway / Lake		Important View Point Manage access to viewing area protecting environmental qualities.
	Residential Development Infill residential development to be encouraged on vacant and large lots within settlement boundary. Ensure green landscaping between buildings.		Commercial Development Consolidate and enhance commercial centre Ensure adequate parking A Active frontages along Lord Street. B Long-term commercial development area. C Allow for the continuation of permissible commercial development.		Low Density Residential A Investigate potential rezoning to Low Density Residential with 0.4 Ha minimum lot size. Rezoning and/or subdivision must demonstrate defensible space can be provided to BAL12.5.
	Protect Linkage Protect environmental and habitat linkage between National Park and other environmental areas.				

Image 3. Port Campbell Land Use Framework

2.4. Terang

The Rural Living Strategy identifies approximately 56 hectares of land to the north of Black Street as the preferred location to accommodate long-term rural residential development within Terang. The strategy recommends these areas be zoned Rural Living with a 2-hectare minimum lot size for subdivision, effectively limiting subdivision to the existing lot pattern.



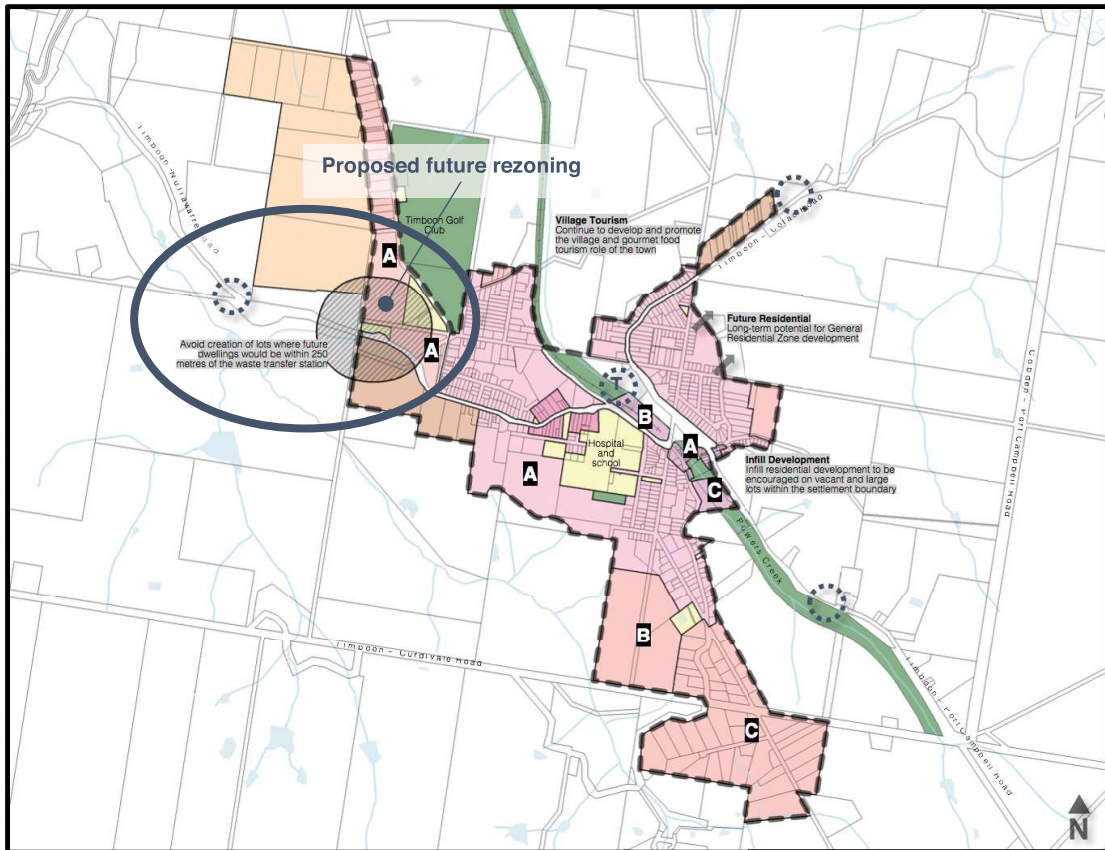
LEGEND

	Settlement Boundary		Public Use / Community Assets		Open Space and Tourism Facilities
	Gateway Nodes		Waterway / Dry Lakebed		Rail Line
	Residential Development		Commercial Development		Industrial Development
			Maintain strong main street focus		Protecting existing industrial development
			A Primary commercial precinct		A Provide for expansion of industrial development within town
			B Highway and larger scale business area		B Provide for higher amenity and interface industrial uses
	Low Density Residential		Rural Living		

Image 4. Terang Land Use Framework

2.5. Timboon

The Rural Living Strategy identifies approximately 20 hectares of land to the west of Curdies River Road as the preferred location to accommodate long-term rural residential development. The strategy recommends this area be zoned Low Density Residential with a minimum 4,000 square metre minimum lot size for subdivision, with a theoretical yield up to 30-40 lots.



LEGEND

	Settlement Boundary		Public Use / Community Assets		Recreation Facilities / Open Space Maintain and enhance landscaping and recreational facilities along Powers Creek. Improve landscaped linkages throughout the town and in particular to the railway and creek corridor.
	Gateway Nodes / Town Focal Points Encourage tourist related facilities and accommodation		Waterway / Lake		Rail Trail
	Residential Development A New residential area. Access from existing street grid. Southern boundary to be finalised via development plan details.		Commercial Development A Primary commercial precinct. B Potential expansion of commercial precinct to railway land. C Potential expansion of commercial precinct if pool relocated.		Mixed Use Area Maintain a mix of uses that complement, not compete, with the primary commercial precinct (e.g. light industry, bulky goods and community uses).
	Industrial Development Encourage coordinated development of industrial areas. Encourage back-yard industries to relocate to industrial areas.		Low Density Residential A Rezone to Low Density Residential with 0.4 Ha minimum lot size. Avoid creation of new lots where development would be within 250 metres of waste transfer station. B Consolidate existing low density development.		Rural Living

Image 5. Timboon Land Use Framework

3 BUSHFIRE PLANNING AND BUILDING CONTROLS

3.1 Planning Policy Framework

The Planning Policy Framework (PPF) seeks to ensure the objectives of planning in Victoria (as set out in Section 4 of the Planning and Environment Act 1987) are fostered through appropriate land use and development policies and practices. The PPF informs the preparation and implementation of local planning policy objectives and the introduction of zone and overlay controls. It seeks to integrate relevant environmental, social and economic factors in the interest of net community benefit and sustainable development.

Clause 13.02-1S Bushfire Planning has the objective ‘to strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.’ Strategies to achieve the objective include prioritising the protection of human life, identifying and assessing bushfire hazards, appropriate settlement planning, consideration to areas of high biodiversity conservation value, and use and development controls in a Bushfire Prone Area.

Clause 13.02-1S seeks to ensure priority is given to the protection of human life, and that bushfire hazards are identified and risk-assessed, by:

- Prioritising the protection of human life over all other policy considerations.
- Directing population growth and development to low risk locations and ensuring the availability of, and safe access to, areas where human life can be better protected from the effects of bushfire.
- Reducing the vulnerability of communities to bushfire through the consideration of bushfire risk in decision-making at all stages of the planning process.
- Not approving development where a landowner or proponent has not satisfactorily demonstrated that the relevant policies have been addressed, performance measures satisfied, or bushfire protection measures can be adequately implemented.

Key strategies are stipulated in Clause 13.02, which require regional growth plans, precinct structure plans and planning scheme amendments to assess the bushfire hazard and respond with appropriate bushfire protection measures. This also applies to planning permit applications for:

- Subdivisions of more than 10 lots;
- Accommodation;
- Child care centre;
- Education centre;
- Emergency services facility;
- Hospital;
- Indoor recreation facility;
- Major sports and recreation facility;
- Place of assembly; and
- Any application for development that will result in people congregating in large numbers.

This report assesses the hazard and identifies bushfire protection measures that will be required for future development in the identified areas. It is considered that development can appropriately prioritise the protection of human life, and meet the objectives of Clause 13.02, by ensuring future dwellings and other development will not be exposed to RHF above 12.5kW/m^2 , which is commensurate with a BAL12.5 construction standard.

The maximum 12.5kW/m^2 safety threshold is required in settlement planning as the upper limit for acceptable risk. Planning authorities must 'Not approve any strategic planning document, local planning policy, or planning scheme amendment that will result in the introduction or intensification of development in an area that has, or will on completion have, more than a BAL12.5 rating under AS 3959:2018' (Clause 13.02-1S Bushfire Planning).

A detailed response to the strategies in Clause 13.02 is provided in **Section 5**.

3.2. Bushfire Management Overlay (BMO)

The purposes of the Bushfire Management Overlay include:

- To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.
- To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented.
- To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.

Planning Advisory Note 46 Bushfire Management Overlay Mapping Methodology and Criteria outlines that the Bushfire Management Overlay generally applies to areas of significant bushfire hazard where head fire intensity is modelled to be 30,000 kW/m or more.

Under the Bushfire Management Overlay, a planning permit is required to construct a building or construct or carry out works associated with accommodation (including a dwelling).

The BMO requires a planning permit for all subdivision of land, and buildings and works associated with the following uses (some exemptions apply):

- Accommodation (including a dependent person's unit);
- Child care or Education centre;
- Hospital;
- Industry;
- Leisure and Recreation;
- Office;
- Place of assembly;
- Retail premises;
- Service station;
- Timber production; and
- Warehouse.

A planning permit application under the BMO must be accompanied by:

- A Bushfire hazard site assessment, including a plan that describes the bushfire hazard within 150m of the site in accordance with the site assessment methodology of AS 3959- 2009 Construction of buildings in bushfire-prone areas and Clause 44.06;
- A Bushfire hazard landscape assessment, including a plan that describes the bushfire hazard of the general locality more than 150m from the site; and
- A Bushfire management statement, detailing how the development responds to the bushfire risk and the requirements and objectives of Clauses 44.06 and 53.02.

Sections 4 and 5 of this report include a bushfire hazard site and landscape assessment in accordance with the BMO application requirements.

The provisions of Clause 53.02 contain:

- Objectives. An objective describes the outcome that must be achieved in a completed development.
- Approved measures (AM). An approved measure meets the objective.
- Alternative measures (AltM). An alternative measure may be considered where the responsible authority is satisfied that the objective can be met. The responsible authority may consider other unspecified alternative measures.
- Decision guidelines. The decision guidelines set out the matters that the responsible authority must consider before deciding on an application, including whether any proposed alternative measure is appropriate.

Section 5 of this report outlines how the proposed development responds to the requirements of Clause 53.02.

3.3. Bushfire Prone Area

Bushfire Prone Areas (BPAs) are those areas subject to or likely to be subject to bushfire, as determined by the Minister for Planning. All areas proposed to be rezoned are currently designated as a BPA.

Development in a BPA (through the Building Act 1993, associated Building Regulations 2018 and application of the National Construction Code) requires bushfire protection standards for Class 1, 2 and 3¹ buildings, 'Specific Use Bushfire Protected Buildings' and associated class 10A buildings or decks. The applicable performance requirement in the NCC is:

'A building that is constructed in a designated bushfire prone area must, to the degree necessary, be designed and constructed to reduce the risk of ignition from a bushfire, appropriate to the –

- (a) potential for ignition caused by burning embers, radiant heat or flame generated by a bushfire; and
- (b) intensity of the bushfire attack on the building'.

Compliance with AS3959:2018 Construction of buildings in bushfire prone areas (Standards Australia: Construction of buildings in bushfire-prone areas) is 'deemed-to-satisfy' the performance requirement.

Applicable classes of buildings in a BPA must be constructed to a minimum Bushfire Attack Level (BAL)12.5, or higher, as determined by a site assessment, planning permit, or planning scheme requirement. A BAL is a means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact. There are six BALs defined in AS 959:2018, which range from BAL-LOW, which has no bushfire construction requirements, to BAL-FZ (Flame Zone) where flame contact with a building is expected.

In a BPA not subject to the BMO, larger developments and certain vulnerable uses, including applications for subdivision of more than 10 lots, are required by Clause 13.02 to:

- 'Consider the risk of bushfire to people, property and community infrastructure.
- Require the implementation of appropriate bushfire protection measures to address the identified bushfire risk.
- Ensure new development can implement bushfire protection measures without unacceptable biodiversity impacts'.

¹ Class 1, 2 and 3 buildings are defined in the Building Code of Australia (BCA), and are generally those used for residential accommodation, including houses and other dwellings, apartments, hotels and other buildings with a similar function or use.

There are no significant obstacles to future development in the proposed rezoning areas of Camperdown, Lismore, Port Campbell and Terang complying with the applicable strategies at Clause 13.02 and the building regulations invoked in a BPA.

There is limited development in the proposed rezoning area of Timboon as discussed, which has been identified as having limited development potential due to slope, landscape classification (type 3) and proximity to hazardous vegetation.

3.4. Other controls

Zoning

A change in zoning from Farming Zone to Low Density Residential Zone or Rural Living Zone is unlikely to have any significant bushfire safety implications. Whilst it will facilitate more intensive development, this report identifies lots will be of sufficient size, so that future development will not be exposed to RHF above 12.5kW/m^2 , which is commensurate with a BAL12.5 construction standard.

Overlays

None of the existing or likely future overlay controls are anticipated to have any direct implications for bushfire safety.

4 Bushfire hazard assessment

One of the bushfire hazard identification and assessment strategies in Clause 13.02, is to use the best available science to identify the hazard posed by vegetation, topographic and climatic conditions. The basis for the hazard assessment should be:

- Landscape conditions - meaning the conditions in the landscape within 20 kilometres (and potentially up to 75 kilometres) from a site;
- Local conditions - meaning conditions in the area within approximately 1 kilometre from a site;
- Neighbourhood conditions - meaning conditions in the area within 400 metres of a site; and,
- The site for the development.

This section of the report includes a bushfire assessment at:

- The wider landscape scale, for up to 20 kilometres around each site;
- The local landscape scale extending up to 5 kilometres from each site; and
- The neighbourhood and site scale up to 400 metres each site.

The BPA invokes AS3959:2018 Construction of buildings in bushfire prone areas, which requires a site assessment of the vegetation and topography up to 100 metres around a building. In BMO areas the assessment zone extends up to 150 metres; and for vulnerable uses and larger developments in a BPA a 150 metre assessment zone may also be required.

4.1. Vegetation

Vegetation within 150 metres of the site has been classified in accordance with the descriptions contained in AS3959:2018 (Standards Australia: Construction of buildings in bushfire-prone areas) and the Country Fire Authority's (CFA) Vegetation Classes guide.

4.1.1 Woodland

Patches of remnant vegetation located within parts of the study area match the AS3959 Woodland vegetation group, which is broadly defined as having trees between 10 metres and 30 metres in height, 10-30% foliage cover, and includes understorey grasses and plants.

4.1.2 Scrub

Vegetation surrounding Port Campbell is considered to best meet the Scrub Classification which is broadly defined as having trees up to 6 metres in height, >30% foliage cover, and includes a mixture of native species.

4.1.3 Grassland

Grassland is defined as all forms of grassy vegetation (including cropping and pasture) including areas with shrubs and trees if overstorey foliage is less than 10% canopy cover.

4.1.4 Low-threat vegetation and non-vegetated areas

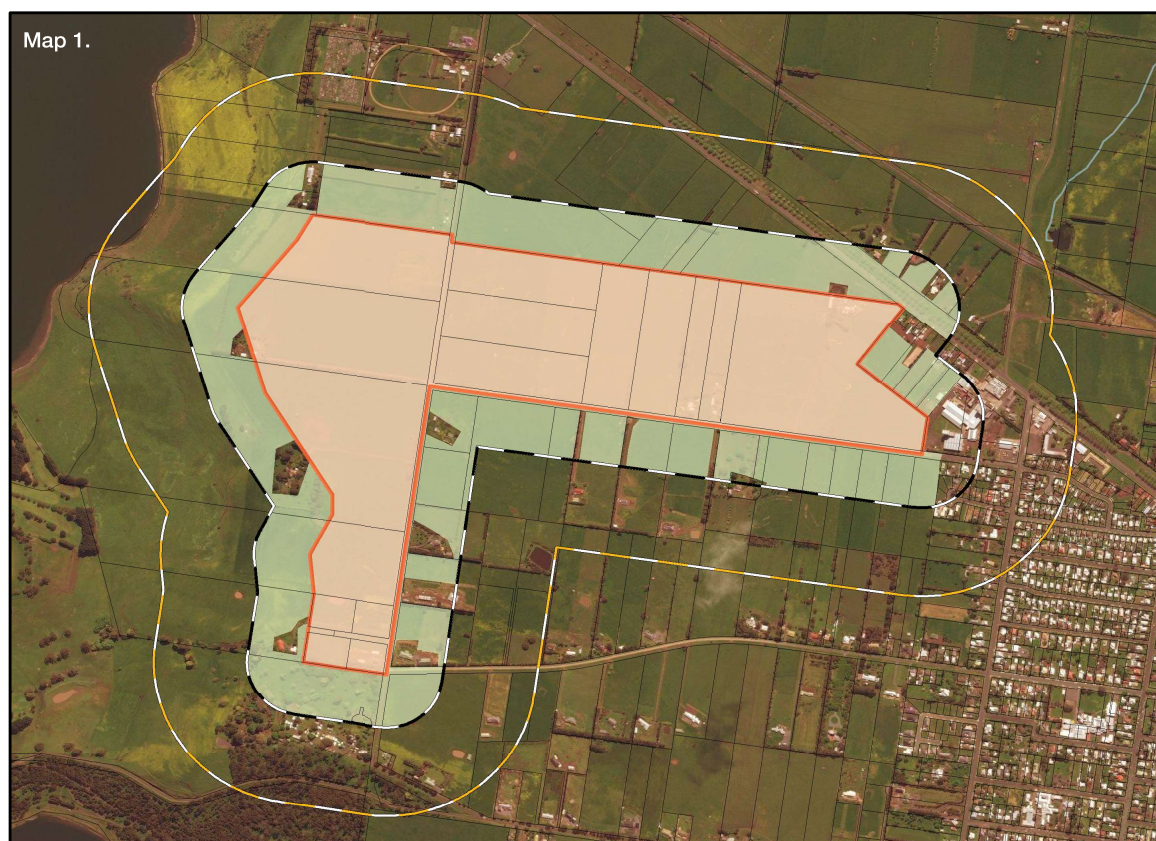
Areas of low threat vegetation and non-vegetated areas have been excluded under the following AS3959:2018 criteria:

- a) Vegetation of any type that is more than 100m from the site.
- d) Strips of vegetation less than 20m in width regardless of length and not within 20m of the site, or each other.
- e) Non-vegetated areas, including driveways, roads, footpaths, buildings and rocky outcrops.
- f) Low threat vegetation, including managed grassland, maintained lawns, golf courses, maintained public reserves and parklands, botanical gardens, vineyards, orchards, cultivated ornamental gardens, commercial nurseries, nature strips and wind breaks.

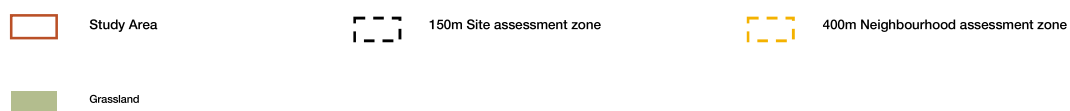
4.2 Study area vegetation profiles

4.2.1 Camperdown

Vegetation surrounding the area proposed to be rezoned is classified as 'Grassland'. For the purposes of this assessment a precautionary approach has been adopted and all areas shown as Grassland are assumed to be unmanaged and therefore potentially hazardous vegetation (for example, grass >100mm high).



Vegetation classification as per AS3959-009, Camperdown



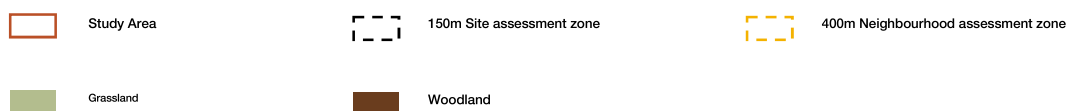
4.2.2 Lismore

Vegetation surrounding the area proposed to be rezoned is generally classified as ‘Grassland’. For the purposes of this assessment a precautionary approach has been adopted and all areas shown as Grassland are assumed to be unmanaged and therefore potentially hazardous vegetation (for example, grass >100mm high).

There are two stands of planted native vegetation, one to the south-east and one to the west, which have been classified as Woodland.



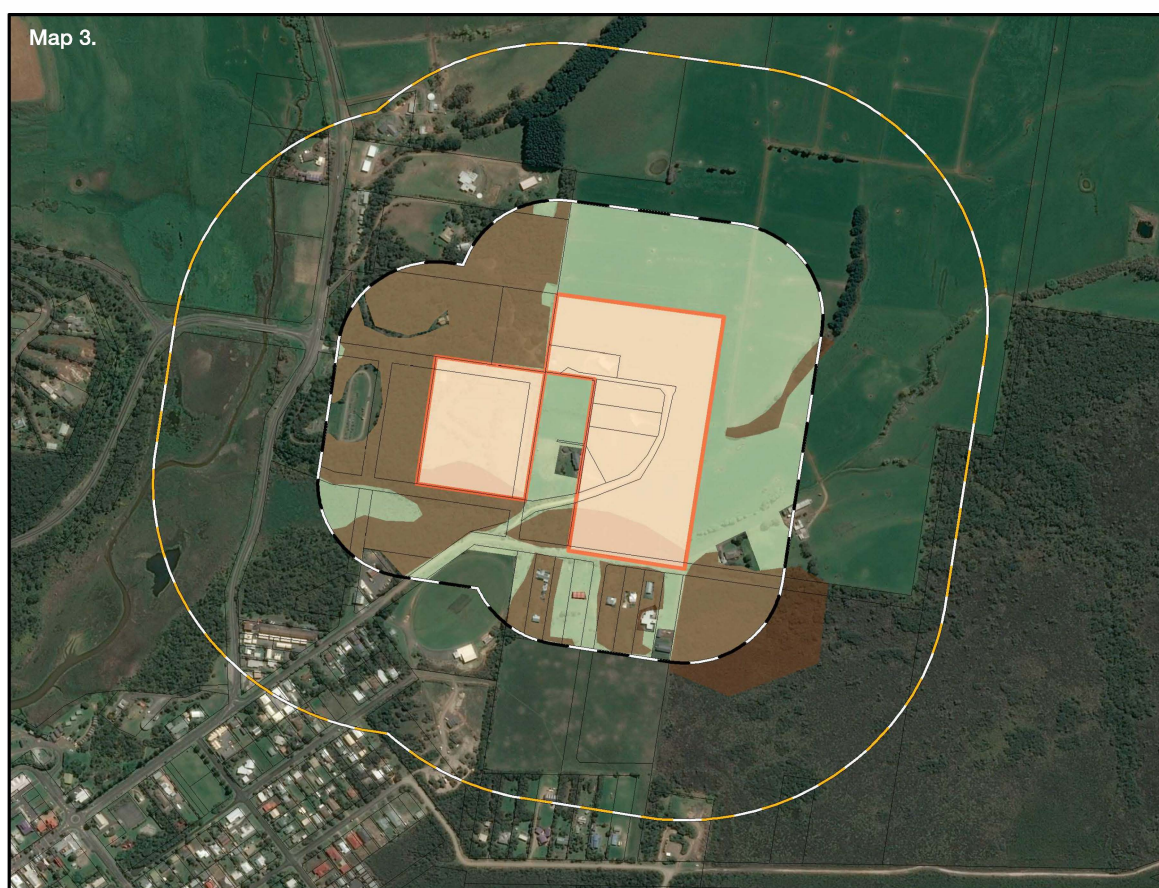
Vegetation classification as per AS3959-009, Lismore



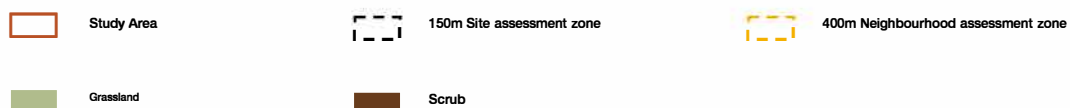
4.2.3 Port Campbell

Vegetation to the west and south/south-east is considered to best meet the Scrub Classification which is broadly defined as having trees up to 6 metres in height, >30% foliage cover, and includes a mixture of native species.

Vegetation in the remaining areas is classified as 'Grassland'. For the purposes of this assessment a precautionary approach has been adopted and all areas shown as Grassland are assumed to be unmanaged and therefore potentially hazardous vegetation (for example, grass >100mm high).

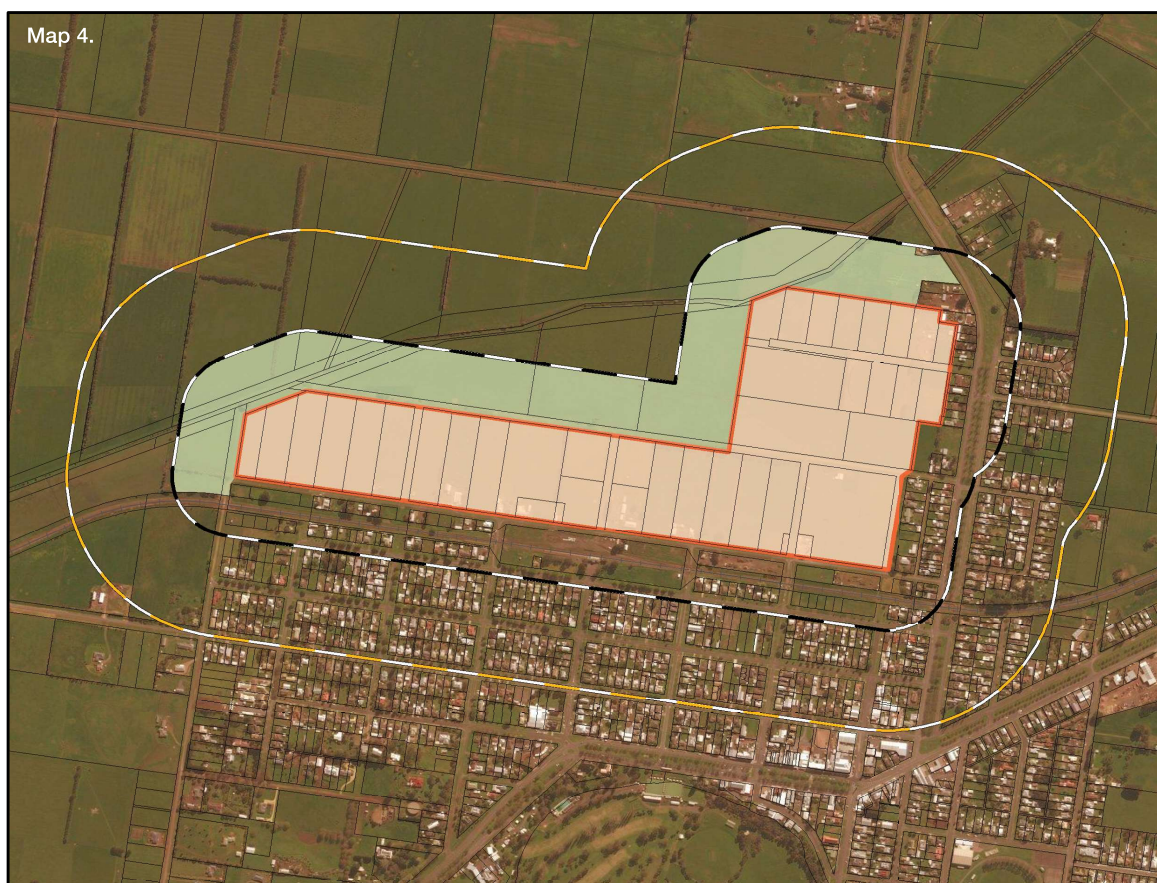


Vegetation classification as per AS3959-009, Port Campbell

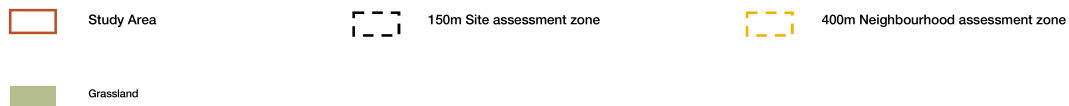


4.2.4 Terang

Vegetation surrounding the area proposed to be rezoned is classified as 'Grassland'. For the purposes of this assessment a precautionary approach has been adopted and all areas shown as Grassland are assumed to be unmanaged and therefore potentially hazardous vegetation (for example, grass >100mm high).



Vegetation classification as per AS3959-009, Terang

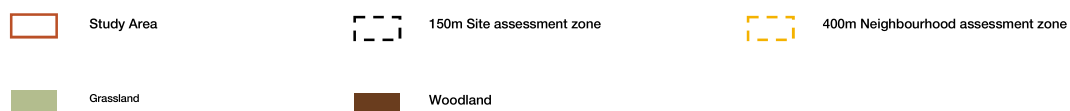


4.2.5 Timboon

Vegetation within the surrounding is classified as Woodland, which is broadly defined as having trees between 10 metres and 30 metres in height, 10-30% foliage cover, and includes understorey grasses and plants, and Grassland. For the purposes of this assessment a precautionary approach has been adopted and all areas shown as Grassland are assumed to be unmanaged and therefore potentially hazardous vegetation (for example, grass >100mm high).



Vegetation classification as per AS3959-009, Timboon



4.3 Topography

Australian Standard AS3959:2018 requires the 'effective slope' be identified to determine the BAL and applicable vegetation setback distances. This is the slope of the land under classified vegetation that will most significantly influence the bushfire attack on a building. Two broad types apply:

- Flat and/or Upslope - land that is flat or on which a bushfire will be burning downhill in relation to the development. Fires burning downhill (i.e. on an upslope) will generally be moving more slowly with a reduced intensity.
- Downslope - land under the classified vegetation on which a bushfire will be burning uphill in relation to the development. As the rate of spread of a bushfire burning on a downslope (i.e. burning uphill towards a development) is significantly influenced by increases in slope, downslopes are grouped into five classes in 5° increments from 0° up to 20°.

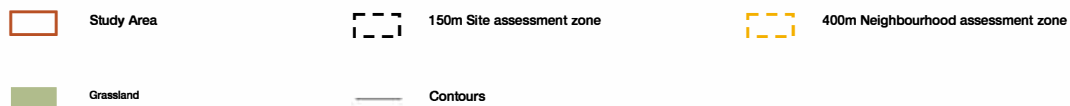
4.4 Study area topography profiles

4.4.1 Camperdown

Land within the study area to be rezoned is gently sloping with steep slopes to the west and south. For the purposes of determining BALs and defensible space / vegetation setback distances for future development, the applicable slope class for vegetation outside the rezoning area is 'Upslopes and flat land', Downslope >0 to 5 degrees' to the east, and 'Downslope >10 to 15 degrees' to the north west.



Elevation in and around Camperdown

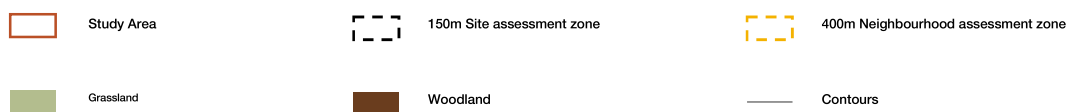


4.4.2 Lismore

Land within the study area to be rezoned is flat. For the purposes of determining BALs and defensible space / vegetation setback distances for future development, the applicable slope class for vegetation outside the rezoning area is 'Upslopes and flat land'.

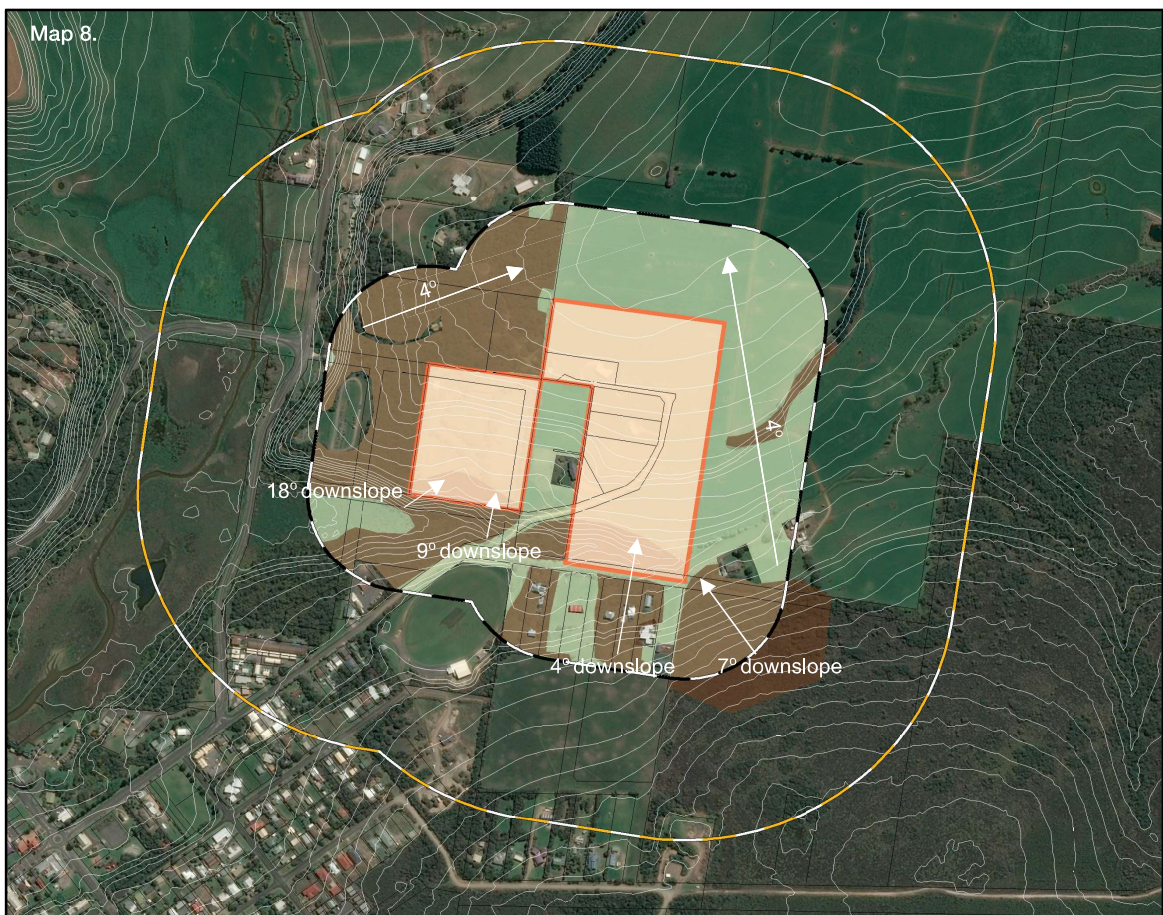


Elevation in and around Lismore

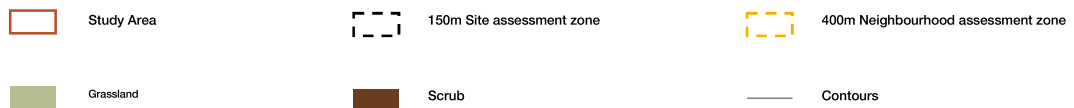


4.4.3 Port Campbell

Land within the study area to be rezoned is gently undulating. Land to the south has slope of between 4 and 7 degrees downslope of the area to be rezoned. Steeper slopes (up to 18 degrees downslope) are present to the south-west of the area. For the purposes of determining BALs and defendable space / vegetation setback distances for future development, the applicable slope class for vegetation outside the rezoning area is 'Downslope >0 to 5 degrees' to the south and east, 'Downslope >5 to 10 degrees' to the south-east, and 'Downslope >15 to 20 degrees' to the south-west.

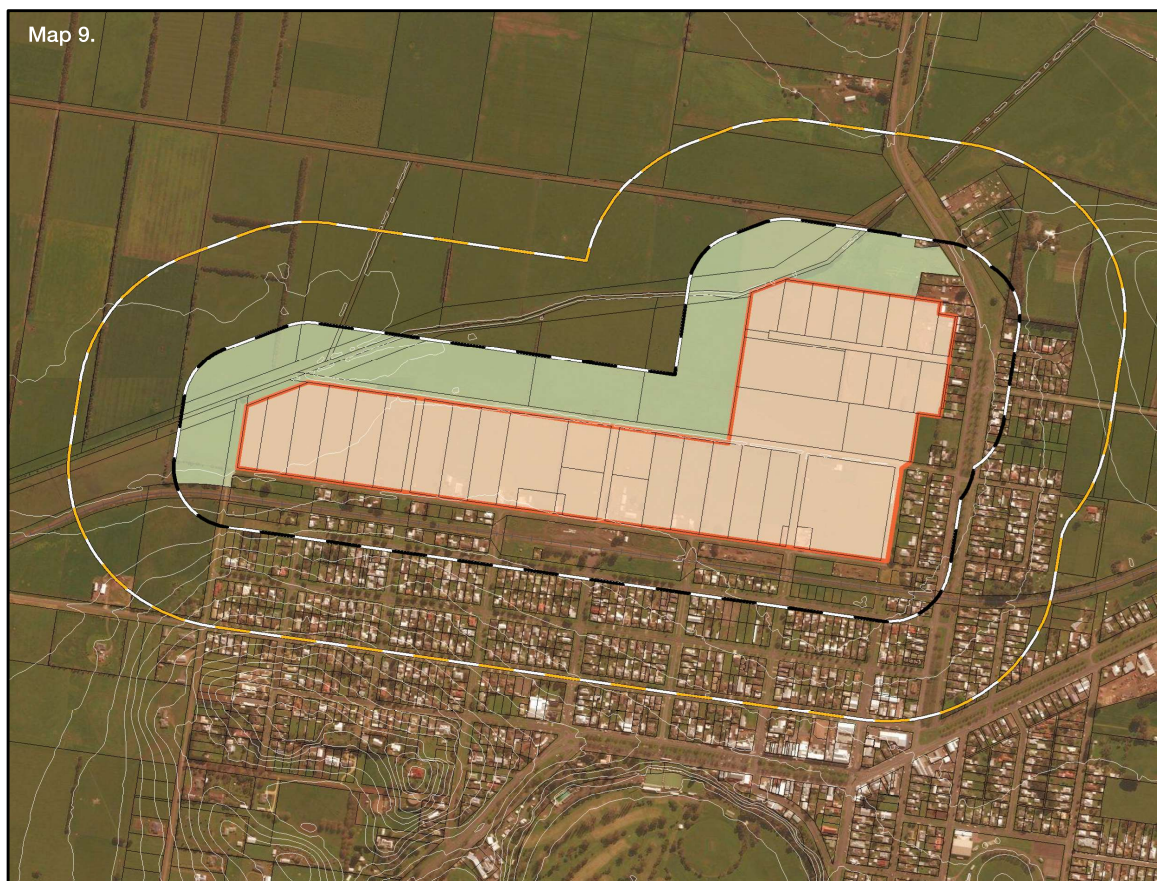


Elevation in and around Port Campbell

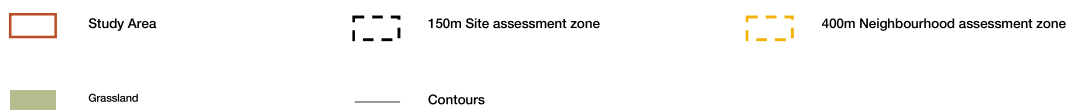


4.4.4 Terang

Land within the study area to be rezoned is flat. For the purposes of determining BALs and defensible space / vegetation setback distances for future development, the applicable slope class for vegetation outside the rezoning area is 'Upslopes and flat land'.



Elevation in and around Terang

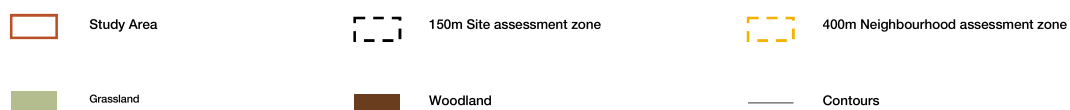


4.4.5 Timboon

Land within the study area to be rezoned is gently undulating. Land to the south has slope of between 5 and 9 degrees downslope of the area to be rezoned. Steeper slopes (up to 14 degrees downslope) are present to the south-west of the area. For the purposes of determining BALs and defendable space / vegetation setback distances for future development, the applicable slope class for vegetation outside the rezoning area is 'Upslopes and flat land' to the east, 'Downslope >0 to 5 degrees' to the south, 'Downslope >5 to 10 degrees' to the north and 'Downslope >15 to 20 degrees' to the south-west.



Elevation in and around Timboon



4.5 Fire weather

The Forest Fire Danger Index (FFDI) and the Grassland Fire Danger Index (GFDI) represent the level of bushfire threat based on weather (and fuel) conditions. An FFDI 100/GFDI 130 is applied in non-alpine areas of Victoria, by the building system, to establish building setback distances from classified vegetation in accordance with AS3959:2018.

It is noted that under various climate change scenarios, the frequency and severity of elevated fire danger days across south-east Australia is expected to increase (Lucas et al., 2007; Hughes and Steffen, 2013). The DELWP South Western Strategic Bushfire Management Plan notes that long-term records show an increase in bushfire danger and the length of the bushfire season for Victoria in recent decades. Projections for Victoria's future climate indicate that the frequency and intensity of bushfires in south-east Australia will continue to increase, with:

- Reduced average rainfall and stream flows;
- Fewer and heavier rainfall days and more consecutive dry days;
- An increase in the extent and frequency of droughts;
- More days over 35° and a higher annual mean temperature; and
- An increase in the number of extreme re danger days (with FFDI greater than 75), by between 15% and 70% by 2050.

Currently CFA and DELWP have no published policy on FFDI recurrence intervals. There is, therefore, no compelling reason to apply a different FFDI/GFDI from the FFDI 100/GFDI 130 threshold used throughout non-Alpine areas of Victoria in the planning and building system.

4.6 Landscape risk

The former Planning Practice Note 65 provides useful guidance on describing landscape typology. The landscape typologies outlined in Practice Note 65 range from low risk landscapes where there is little vegetation beyond 150 metres of the site and extreme bushfire behaviour is not possible, to extreme risk landscapes with limited or no evacuation options.

The four types range from low risk landscapes where there is little hazardous vegetation beyond 150m of a site and extreme bushfire behaviour is not credible, to extreme risk landscapes with limited or no evacuation options, and where fire behaviour could exceed AS3959:2018 presumptions.

Broader Landscape Type One	Broader Landscape Type Two	Broader Landscape Type Three	Broader Landscape Type Four
<ul style="list-style-type: none"> - There is little vegetation beyond 150 metres of the site (except grasslands and low-threat vegetation). - Extreme bushfire behaviour is not possible. - The type and extent of vegetation is unlikely to result in neighbourhood- scale destruction of property. - Immediate access is available to a place that provides shelter from bushfire. 	<ul style="list-style-type: none"> - The type and extent of vegetation located more than 150 metres from the site may result in neighbourhood-scale destruction as it interacts with the bushfire hazard on and close to a site. - Bushfire can only approach from one aspect and the site is located in a suburban, township or urban area managed in a minimum fuel condition. - Access is readily available to a place that provides shelter from bushfire. This will often be the surrounding developed area. 	<ul style="list-style-type: none"> - The type and extent of vegetation located more than 150 metres from the site may result in neighbourhood-scale destruction as it interacts with the bushfire hazard on and close to a site. - Bushfire can approach from more than one aspect. - The site is located in an area that is not managed in a minimum fuel condition. - Access to an appropriate place that provides shelter from bushfire is not certain. 	<ul style="list-style-type: none"> - The broader landscape presents an extreme risk. - Fires have hours or days to grow and develop before impacting. - Evacuation options are limited or not available.



Table 1 - Landscape Scenarios (Source: Former Planning Practice Note 65, DTPLI, 2014)

4.7 Study area landscape risk profiles

4.7.1 Camperdown

The landscape setting of Camperdown accords best with the low risk Landscape Type 1. Apart from small patches of Woodland scattered throughout the landscape, there is little hazardous vegetation beyond Camperdown, expect Grassland.

Access for people would be readily available to reliably low threat or non-vegetated areas in the study area that can provide shelter from bushfire.

4.7.2 Lismore

The landscape setting of Lismore accords best with the low risk Landscape Type 1. There is little hazardous vegetation beyond Lismore, expect Grassland.

Access for people would be readily available to reliably low threat or non-vegetated areas in the study area that can provide shelter from bushfire.

4.7.3 Port Campbell

The landscape setting of Port Campbell accords best with the higher risk Landscape Type 3. Vegetation surrounding the township (Coastal Scrub and Woodland) has potential has potential to cause neighbourhood-scale destruction. Bushfire can approach from more than one aspect.

Access for people would be readily available to reliably low threat or non-vegetated areas in the study area that can provide shelter from bushfire.

4.7.4 Terang

The landscape setting of Terang accords best with the low risk Landscape Type 1. There is little hazardous vegetation beyond Terang, expect Grassland.

Access for people would be readily available to reliably low threat or non-vegetated areas in the study area that can provide shelter from bushfire.

4.7.5 Timboon

The landscape setting of Timboon accords best with the higher risk Landscape Type 3. Vegetation surrounding the township (Grassland and Woodland) has potential to cause neighbourhood-scale destruction. Bushfire can approach from more than one aspect.

Access for people would be readily available to reliably low threat or non-vegetated areas in the study area that can provide shelter from bushfire.

5 Planning and design response

5.1 Building setbacks

Future dwellings, and other buildings requiring a BAL, will need to be sufficiently setback from classified vegetation to enable a BAL12.5 construction standard. The setbacks required for Grassland, Scrub and Woodland (based on the hazard assessment in **Section 4** and determined using the simple Method 1 procedure of AS3959-2009) are shown in the table below and illustrated in the following plans.

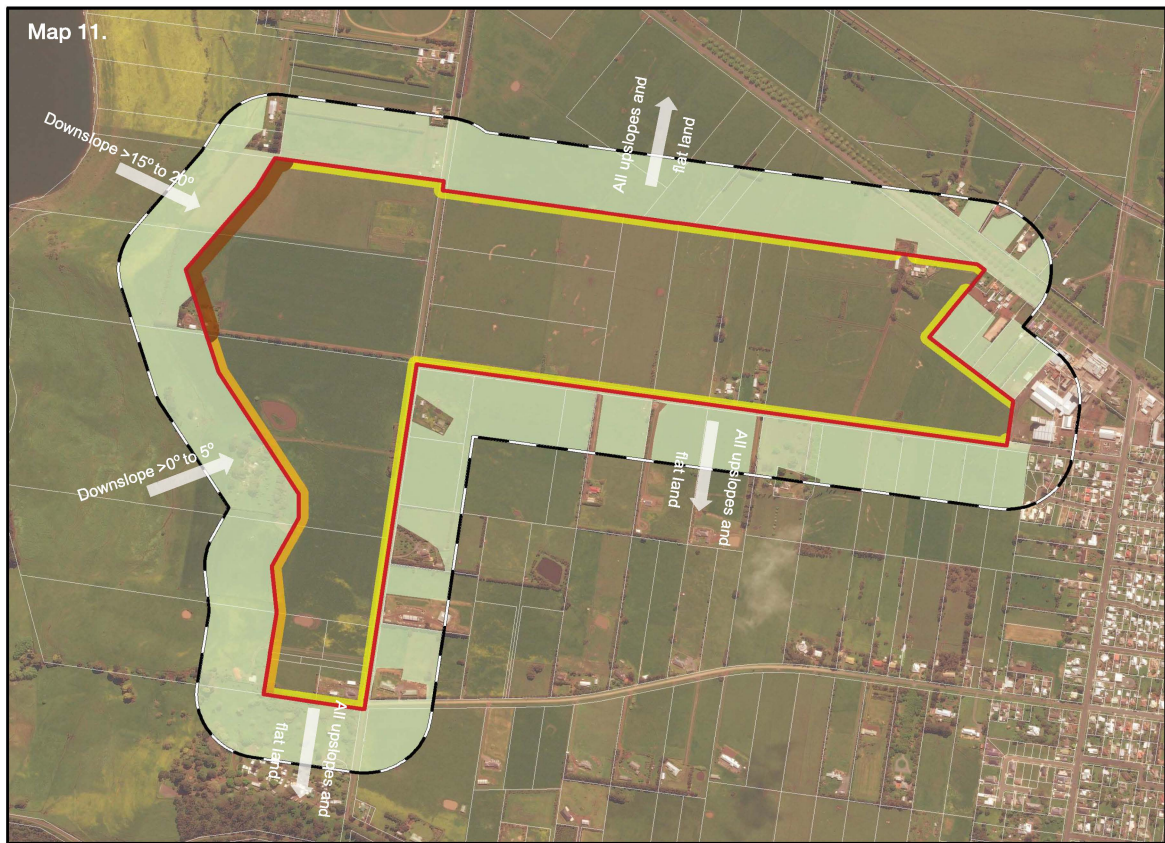
Slope Class	Vegetation	BAL12.5 setback distance (defendable space)
All upslopes and flat land	Grassland	19
	Scrub	27
	Woodland	33
Downslope >0 to 5 degrees	Grassland	22
	Scrub	31
	Woodland	41
Downslope >5 to 10 degrees	Grassland	25
	Scrub	35
	Woodland	50
Downslope >10 to 15 degrees	Grassland	28
	Scrub	39
	Woodland	60
Downslope <15 to 20 degrees	Grassland	32
	Scrub	43
	Woodland	73

5.2 Study area building setback profiles

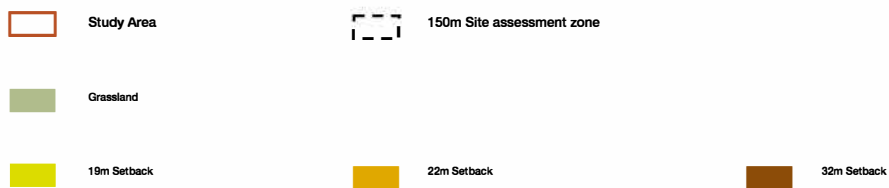
5.2.1 Camperdown

The study area is exposed to classified Grassland vegetation to the north, east, south and west. Development close to the perimeter of the study area will need to respond to classified vegetation beyond the area, including requisite setbacks to achieve BAL12.5.

The setbacks illustrated below will need to compromise low threat vegetation or non-vegetated areas. It is considered that future lots will be of a sufficient size to enable management of defensible space requirements within each title.



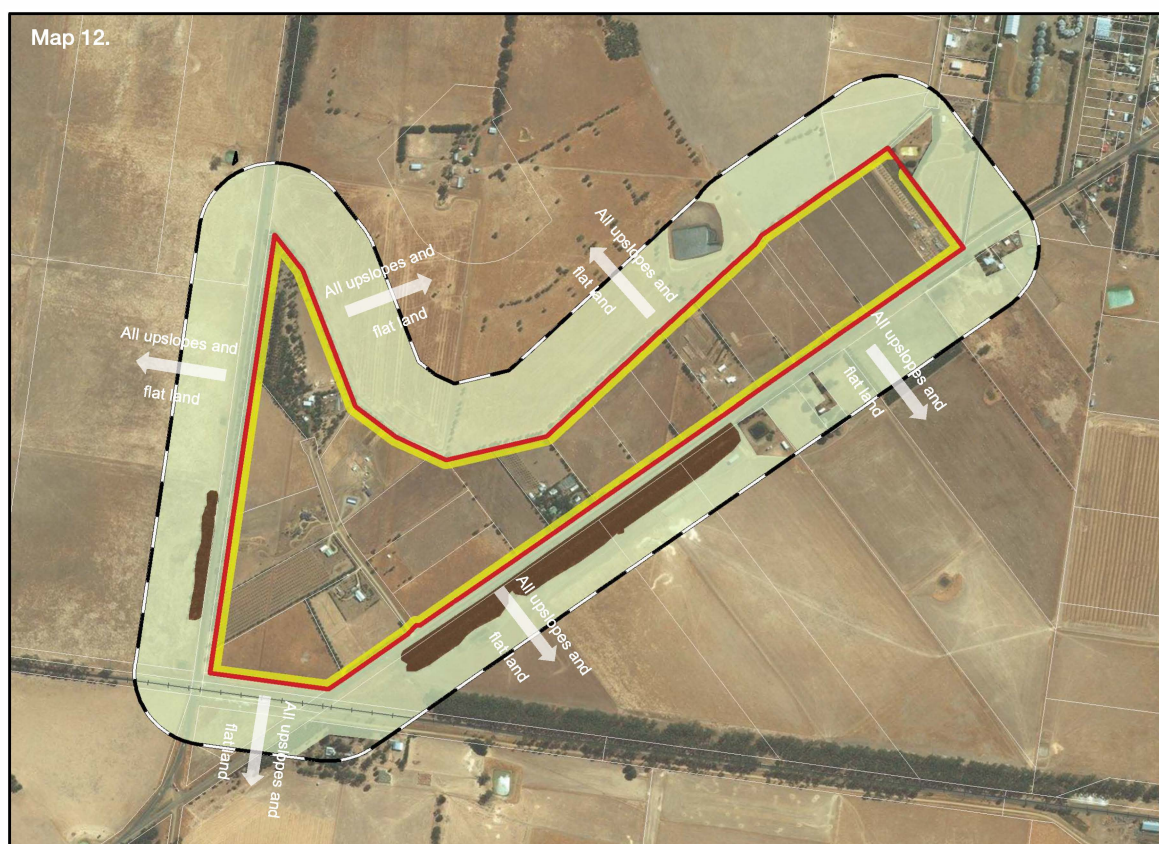
BAL12.5 Setbacks from classified vegetation



5.2.2 Lismore

The study area is exposed to classified Grassland vegetation to the north, east, south and west. Development close to the perimeter of the study area will need to respond to classified vegetation beyond the area, including requisite setbacks to achieve BAL12.5.

The setbacks illustrated below will need to compromise low threat vegetation or non-vegetated areas. All existing lots are of a sufficient size to enable management of defensible space requirements within each title.

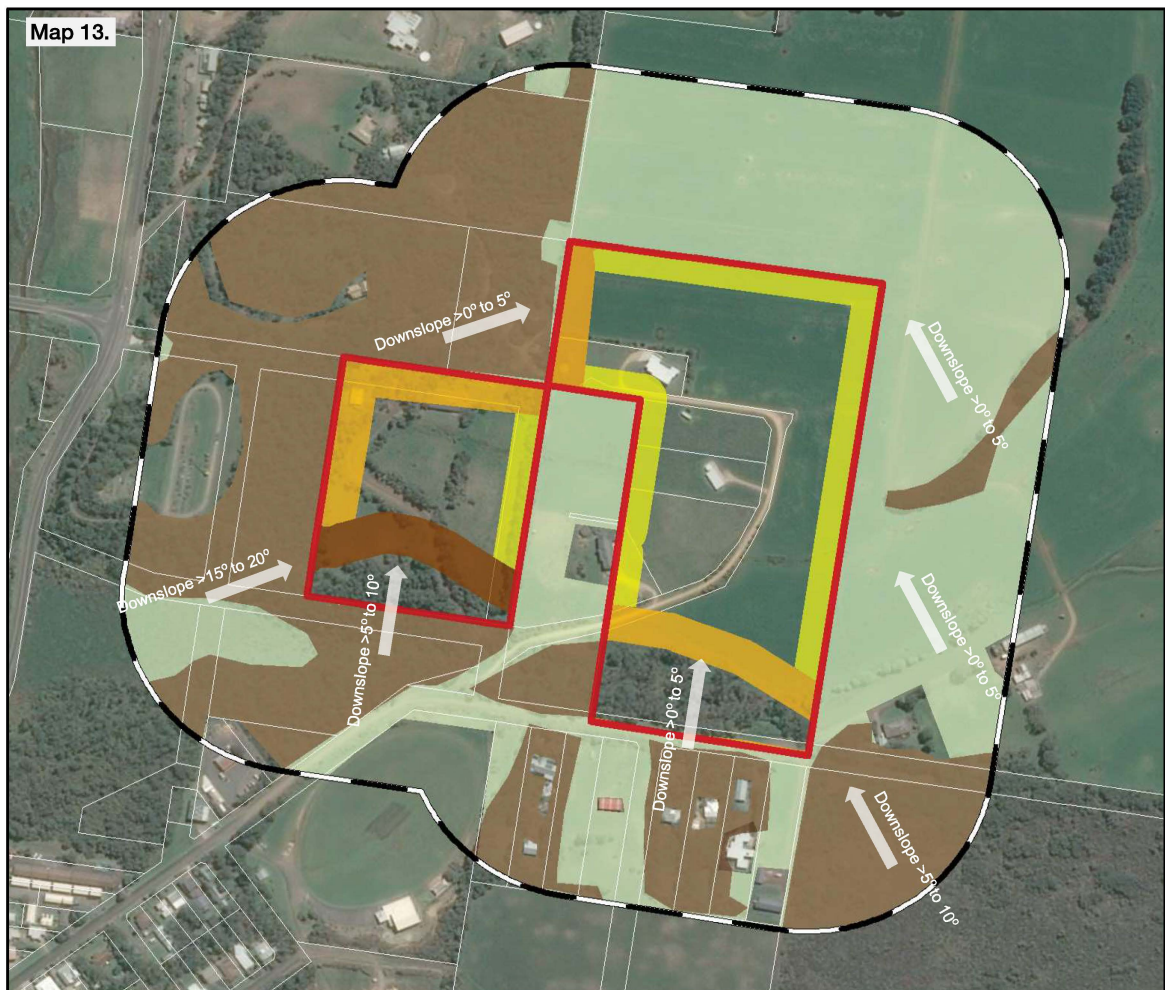


BAL12.5 Setbacks from classified vegetation



5.2.3 Port Campbell

The study area is exposed to classified Grassland vegetation to the north and east, and classified Scrub vegetation to the south and west. Development close to the perimeter of the study area will need to respond to classified vegetation beyond the area, including requisite setbacks to achieve BAL12.5. The setbacks illustrated below will need to compromise low threat vegetation or non-vegetated areas. It is considered that future lots will be of a sufficient size to enable management of defendable space requirements within each title.



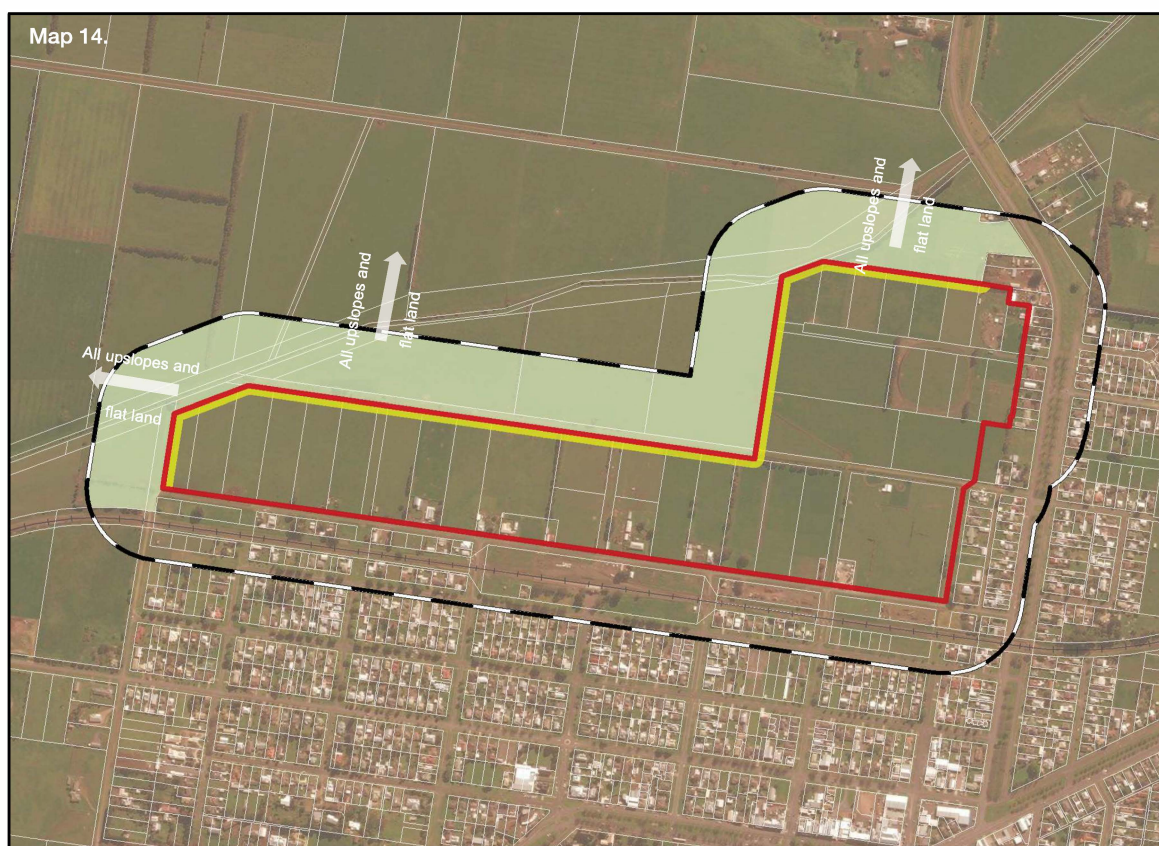
BAL12.5 Setbacks from classified vegetation



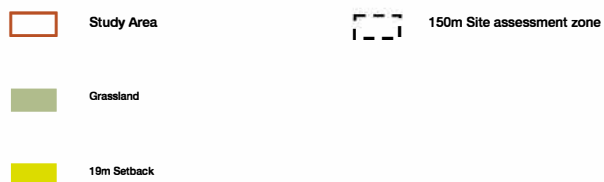
5.2.4 Terang

The study area is exposed to classified Grassland vegetation to the north and west. Development close to the perimeter of the study area will need to respond to classified vegetation beyond the area, including requisite setbacks to achieve BAL12.5.

The setbacks illustrated below will need to compromise low threat vegetation or non-vegetated areas. All existing lots are of a sufficient size to enable management of defensible space requirements within each title.



BAL12.5 Setbacks from classified vegetation



5.2.5 Timboon

The study area is exposed to classified Woodland vegetation to the east, south-east and north-east. Development within the study area will need to respond to classified vegetation beyond the area, including requisite setbacks to achieve BAL12.5.

The setbacks illustrated overleaf will need to compromise low threat vegetation or non-vegetated areas. It is considered there is limited subdivision potential within the area. Further subdivision should not be encouraged within the western part of the study area. Future lots within the balance of the study area will need to be of a sufficient size to enable management of defensible space requirements within each title.



BAL12.5 Setbacks from classified vegetation



Note: No setback will be needed from areas of unmanaged vegetation that meet one or more of the exclusion criteria for low threat vegetation, including:

- Single areas of vegetation less than 1ha in area and at least 100m from other areas of classified vegetation;
- Multiple areas less than 0.25ha (2,500m²) in area that are at least 20m from a building or each other; and
- Strips of vegetation less than 20m wide that are at least 20m from a building, other strips or any other area of classified vegetation.

5.3 Clause 13.02 Bushfire

The following sub-sections provide a summary response about how development in the areas proposed to be rezoned area can respond to the objectives and strategies for bushfire safety in the PPF at Clause 13.02.

5.3.1 Protection of human life strategies

Prioritising the protection of human life over all other policy considerations

The protection of human life can be prioritised by:

- Applying the existing building regulations for construction in a BPA; and
- Ensuring future dwellings and other buildings are located where a BAL-12.5 construction standard (or BAL-LOW) can be achieved (i.e. providing setbacks for future buildings from unmanaged vegetation, such that radiant heat impacting upon the buildings can be expected to be below 12.5kW/m^2).

Directing population growth and development to low risk locations and ensuring the availability of, and safe access to, areas where human life can be better protected from the effects of bushfire.

If future buildings are setback sufficiently from any hazardous vegetation such that they achieve a BAL-12.5, or lower, the risk can be deemed to be acceptably mitigated.

Reducing the vulnerability of communities to bushfire through consideration of bushfire risk in decision-making at all stages of the planning process

This report provides the basis for incorporating bushfire risk into decision making associated with planning for development in the proposed rural residential precincts.

The Country Fire Authority (CFA) consider community resilience to bushfire will be strengthened (and hence, presumably, to bushfire will be reduced) when a strategic planning proposal demonstrates that Clause 13.02 strategies have been applied, and where a proposal takes advantage of existing settlement patterns so that new development will not expose the community to increased risk from bushfire.

The CFA provide principles to respond to Clause 13.02 including that settlement planning decisions should:

- Direct development to locations of lower bushfire risk.
- Carefully consider development in locations where there is significant bushfire risk that cannot be avoided.
- Avoid development in locations of extreme bushfire risk.
- Avoid development in areas where planned bushfire protection measures may be incompatible with other environmental objectives (CFA, 2015).

It is considered that development within the proposed rezoning areas can appropriately implement the strategies in Clause 13.02 which aim to prioritise protection of human life and will, therefore, meet the CFA strategic planning principles for bushfire.

5.3.2 Bushfire hazard identification and assessment strategies

Clause 13.02-1 requires the bushfire hazard be identified, and appropriate risk assessment be undertaken.

Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard.

This report identifies the hazard in accordance with the commonly accepted methodologies of AS 3959-2009 and, as appropriate, additional guidance provided in Planning Practice Note 64 Local planning for bushfire protection (DELWP, 2015a), Planning Advisory Note 68 Bushfire State Planning Policy Amendment VC140 (DELWP, 2018a) and Planning Permit Applications – Bushfire Management Overlay, Technical Guide (DELWP, 2017b).

The type and extent of (hazardous) vegetation within and around each study area has been identified. Classification is based on the anticipated long-term state of the vegetation, EVC mapping, aerial imagery, site assessment, published guidance on vegetation assessment for bushfire purposes and experience with the fuel hazard posed by the vegetation types that occur within the region.

Publicly available contour data for the area was accessed which, along with the site assessment, determined that the study areas in Camperdown, Lismore, Port Campbell and Terang are relatively low-risk from a bushfire perspective. Timboon has been identified as having limited development potential due to slope, landscape classification (type 3) and proximity to hazardous vegetation.

In relation to climatic conditions and fire weather, the AS 3959-2009 default FFDI 100/GFDI 130 benchmark used in the Victorian planning and building system, has been applied as discussed in **Section 5.4**.

The best available information about bushfire hazard has been considered, including the map of designated bushfire prone areas prepared under the Building Act 1993 and regulations made under that Act.

The extent of BPA coverage has been considered (see **Section 4.4**), based on the most recent BPA mapping for the state.

Applying the Bushfire Management Overlay in planning schemes to areas where the extent of vegetation can create an extreme bushfire hazard.

BMO coverage reflects relatively recent BMO mapping introduced into the Corangamite Planning Scheme by Amendment GC146, which was gazetted on 7 November 2019.

Considering and assessing the bushfire hazard on the basis of:

- Landscape conditions - meaning the conditions in the landscape within 20 kilometres and potentially up to 75 kilometres from a site;
- Local conditions - meaning conditions in the area within approximately 1 kilometre from a site;
- Neighbourhood conditions - meaning conditions in the area within 400 metres of a site; and
- The site for the development.
- The hazard has been assessed and described at the regional, municipal and local (site and neighbourhood) scale.

At the local scale, this assessment follows the BMO methodology for classifying vegetation and topography within a 150m assessment zone, and for this study extending out to 400m around the site where appropriate.

Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.

The CFA have been engaged at key milestones of the project. The CFA were engaged as part of the public notification process for the Draft Corangamite Rural Living Strategy and provided a submission which raised the need to consider landscape scale fire events in considering land to be rezoned for rural residential purposes and to further consult with the CFA regarding the outcomes of the Rural Living Strategy.

Council adopted the Strategy with a recommendation that, prior to the rezoning of any additional land for rural residential development, an assessment of bushfire hazard would be undertaken at a landscape scale, local, neighbourhood and site scale (as recommended by the CFA).

This Bushfire Development Report has been referred to the CFA and a briefing was undertaken between four CFA Officers on 4 March 2020 and representatives from Myers Planning Group.

The CFA raised the following key items at the meeting, which were re-iterated by email following the meeting on 6 March 2020:

- The CFA have concerns about allowing any additional settlement (i.e. increasing settlement boundary) within Port Campbell and Timboon. The CFA expressed concern about any expansion of the settlement boundary (i.e. proposed Low Density Residential Zone areas) in Port Campbell and Timboon on the basis that:
 - o both townships are categorised as ‘Extreme’ areas on the Victorian Fire Risk Register (Human Settlement).
 - o achieving an average of a BAL LOW is the desirable standard for new settlement areas.
 - o achieving an average of a BAL LOW is a key factor in being able to demonstrate that no net increase in risk would result in any new settlement areas.
- CFA also raised concerns about the Lismore settlement based on the VFRR – Human Settlement Map for Lismore, which is categorised as ‘High’ and ‘Extreme’.
- The CFA were generally supportive of settlement in Terang and Camperdown and the proposed rezoning areas contained in these townships as part of Stages 1-3 of the Corangamite Rural Living Strategy.

These items have been further considered within the individual sections of this report in response to the requirements of Clause 13.02. Specifically, in **Section 5.3.3 Settlement planning strategies**, which outline ‘low risk locations’ within each of the identified areas for rural residential development following the assessments undertaken in **Sections 4.2-5.2** (inclusive).

A final copy of this report (this version) has also been circulated to the CFA.

Ensuring that strategic planning documents, planning scheme amendments, planning permit applications and development plan approvals properly assess bushfire risk and include appropriate bushfire protection measures.

DELWP advisory and practice notes, Clause 13.02, Clause 44.06, Clause 53.02 and the building regulations invoked by the BPA coverage, specify the general requirements and standards for assessing the risk. These have been used in this report as appropriate and bushfire protection measures have been identified commensurate with the risk. Relevant regional bushfire plans have been identified, reviewed and incorporated into this assessment as appropriate.

Not approving development where a landowner or proponent has not satisfactorily demonstrated that the relevant policies have been addressed, performance measures satisfied or bushfire protection measures can be adequately implemented.

The risk can be deemed to be acceptably mitigated such that development can proceed if the objectives and strategies of Clause 13.02 are successfully implemented as identified in this report, including BMO compliance where applicable and, in the BPA, the building regulations.

The CFA specify that areas where development should not proceed could include:

- Isolated settlements where the size and/or configuration of the settlements will be insufficient to modify fire behaviour and provide protection from a bushfire.
- Where bushfire protection measures will not reduce the risk to an acceptable level.
- Where evacuation (access) is severely restricted.
- Where the extent and potential impact of required bushfire protection measures may be incompatible with other environmental objectives or issues, e.g. vegetation protection, land subject to erosion or landslip (CFA, 2015).

None of these criteria or characteristics are applicable to townships within this assessment.

5.3.3 Settlement planning strategies

Clause 13.02 requires that settlement planning must strengthen the resilience of settlements and communities and prioritise protection of human life.

Directing population growth and development to low risk locations, being those locations assessed as having a radiant heat flux of less than 12.5 kilowatts/square metre under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009).

The applicable distances for dwellings or other buildings to be setback from classifiable vegetation, such that RHF is calculated to be below 12.5kW/m² and BAL 12.5 dwellings could potentially be sited, have been identified. Taking into consideration the assessment of landscape risk, implementation of these can be deemed to acceptably mitigate the risk.

See also the exclusion criteria and setback distances in **Section 5.1** that are necessary for small patches or strips of vegetation to be deemed low threat.

Ensuring the availability of, and safe access to, areas assessed as a BAL-LOW rating under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009) where human life can be better protected from the effects of bushfire.

The study areas for Camperdown, Lismore, Port Campbell and Terang contain the lowest risk locations, where BAL-LOW can be achieved (see Maps 11-14) on some areas of land. Limited parts of the Timboon study area contain BAL-LOW (see Map 15), with the majority of land within the area classed higher than a BAL12.5.

Ensuring the bushfire risk to existing and future residents, property and community infrastructure will not increase as a result of future land use and development.

Achieving no net increase in risk to existing and future residents, property and community infrastructure, through the implementation of bushfire protection measures and where possible reduce bushfire risk overall.

There will be no increase in risk to existing residents or community infrastructure if:

- future buildings are setback from hazardous vegetation to enable BAL-12.5 construction;
- an appropriate water supply for fire-fighting is provided via a conventional reticulated hydrant system; and
- appropriate access/egress for emergency vehicles and residents is provided via a conventional residential road network.

Development in the BMO can be supported and shown to comply with the applicable requirements of Clause 53.02 of the Corangamite Planning Scheme through:

- ensuring that any hazardous vegetation retained or re-established, does not create an increase in the hazard exposure for existing residents.
- the development of additional low threat or non-vegetated land associated with proposed future rural residential land uses, which will, in fact reduce the risk to existing residents.

- assessing and addressing the bushfire hazard posed to the settlement and the likely bushfire behaviour it will produce at a landscape, settlement, local, neighbourhood and site scale, including the potential for neighbourhood-scale destruction.
- assessing alternative low risk locations for settlement growth on a regional, municipal, settlement, local and neighbourhood basis.
- not approving any strategic planning document, local planning policy, or planning scheme amendment that will result in the introduction or intensification of development in an area that has, or will on completion have, more than a BAL-12.5 rating under AS 3959-2009.
- implementation of setback distances from hazardous vegetation, as identified in this report (see Maps 11-15), to achieve a BAL not exceeding BAL-12.5.
- excision of land within the study area from the BPA (should this ever arise) and subsequently buildings in non-BPA's.

6 Conclusion

The proposed rezoning proposals within the townships of Camperdown, Lismore, Port Campbell, Terang and Timboon have been assessed against the relevant bushfire policies contained in the Corangamite Planning Scheme and guidelines set out in PPN64 and PPN46. This report finds that:

- The study areas within or adjoining the townships of Camperdown, Lismore, Port Campbell, Terang and parts of Timboon can accommodate requisite setbacks to achieve a BAL12.5 and can accommodate lots of a sufficient size to enable management of defensible space requirements.
- While the rezoning of land within the above areas will facilitate more intensive residential development, lots within the townships of Camperdown, Lismore, Port Campbell and Terang and parts of Timboon:
 - o will be of sufficient size so that future development will not be exposed to RHF above 12.5kW/m², which is commensurate with a BAL12.5 construction standard.
 - o can appropriately prioritise the protection of human life, and meet the objectives of Clause 13.02, by ensuring future dwellings and other development will not be exposed to a RHF above 12.5kW/m², which is commensurate with a BAL12.5 construction standard.
- Further subdivision within the western part of the Timboon study area is discouraged as this area cannot accommodate the requisite setbacks to achieve a BAL12.5.
- Risk can be deemed to be acceptably mitigated such that development can proceed if the objectives and strategies of Clause 13.02 are successfully implemented as identified in this report, including BMO compliance where applicable and, in the BPA, the building regulations.

In light of the above, the proposed rezonings within or adjoining Camperdown, Lismore, Port Campbell, Terang and parts of Timboon can proceed to the next stage of the planning process.

It is recommended that changes be made to the draft Timboon Land Use Framework to remove any inference that land can be rezoned for rural residential purposes, where it cannot accommodate the requisite setbacks to achieve a BAL12.5. The results of this assessment should also be considered by Council in any future strategic plans for the Timboon township.

7 Appendices

7.1 Maintenance Schedule

Before the occupation of the building, defendable space must be implemented on the land and thereafter maintained as specified below:

- Grass must be short cropped and maintained during the declared fire danger period.
- All leaves and vegetation debris must be removed at regular intervals during the declared fire danger period.
- Shrubs must not be located under the canopy of trees.
- Individual and clumps of shrubs must not exceed 5 sq. metres in area and must be separated by at least 5 metres.
- The canopy of trees must be separated by at least 5 metres.
- There must be a clearance of at least 2 metres between the lowest tree branches and ground level.

Additional requirements within 10 metre management zone:

- Within 10 metres of a building, flammable objects must not be located close to the vulnerable parts of the building.
- Plants greater than 10 centimetres in height must not be placed within 3 metres of a window or glass feature of the building.
- Trees must be trimmed to provide a minimum 10 metre clearance from the building.
- Trees must not overhang or touch any elements of the building.

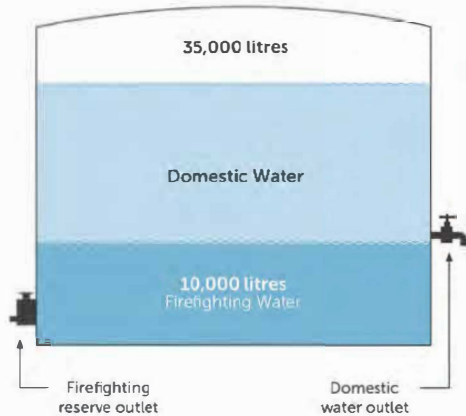
7.2 Static water supply requirements

The building must be provided with a static water supply (minimum 10,000 litres) for property protection purposes. The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for fire-fighting water supplies. The water supply must be an above ground water tank constructed of concrete or metal. All fixed above ground water pipes and fittings required for firefighting purposes must be made of corrosive resistant metal.

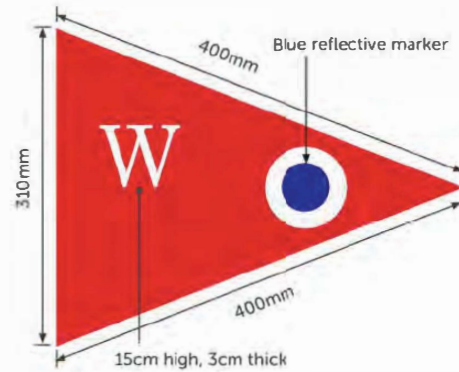
7.3 Water tank requirements

The water supply should be stored in an above ground water tank constructed of concrete, steel, or corrugated iron. The water supply should be identified.

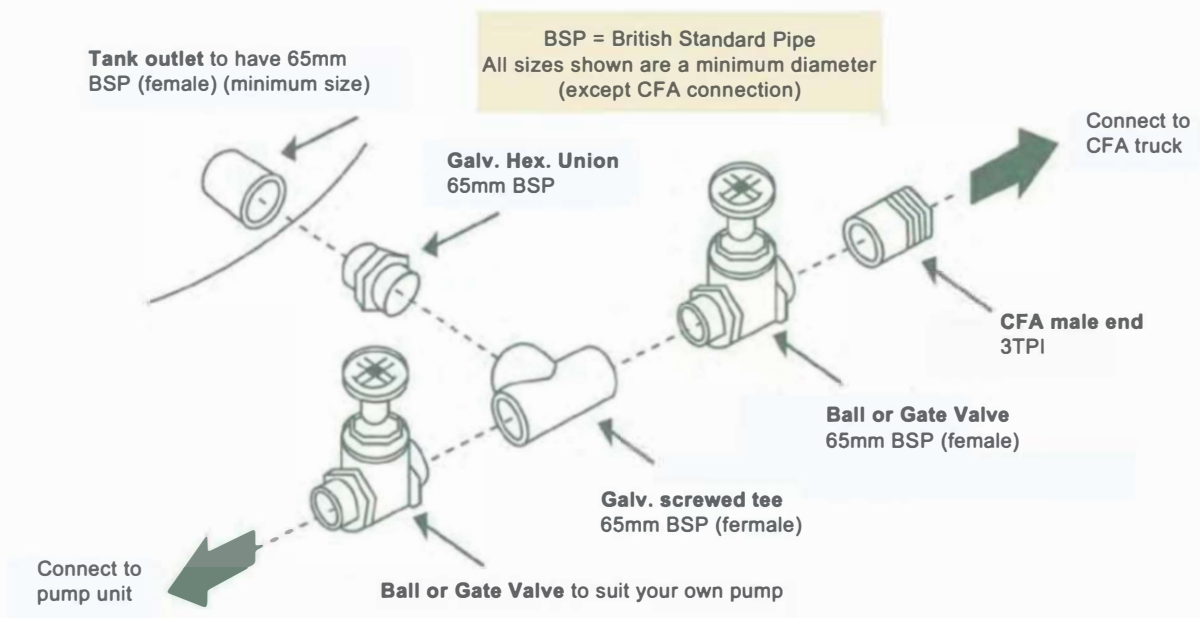
Shared water tank



Water supply identification



Water supply outlet, pipe work and valves



7.4 Access requirements

Where the length of access is greater than 200 metres the following design and construction requirements apply:

- All-weather construction.
- A load limit of at least 15 tonnes.
- Provide a trafficable width of 3.5 metres.
- Be clear of encroachments for at least 0.5 metres on each side and at least 4 metres vertically.
- Curves must have a minimum inner radius of 10 metres.
- The average grade must be no more than 1 in 7 (14.4%) (8.1°) with a maximum grade of no more than 1 in 5 (20%) (11.3°) for no more than 50 metres.
- Dips must have no more than a 1 in 8 (12.5 per cent) (7.1 degrees) entry and exit angle.
- A turning area for fire fighting vehicles must be provided close to the building by one of the following:
 - A turning circle with a minimum radius of eight metres.
 - A driveway encircling the dwelling.
 - The provision of other vehicle turning heads - such as a T or Y head - which meet the specification of Austroad Design for an 8.8 metre Service Vehicle.

Width



Dips and gradients



Encroachments

