Bushfire Planning Report V1.0
Including Bushfire Management Statement
Lot 175 Block C LP5417
14 Hull Street, South Dudley 3995
October 9th, 2019.
Euca Planning Pty Ltd

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  - Graduate Certificate in Public Sector Management – Flinders University
  - Bachelor of Science – University of Melbourne (1996)

Memberships

- Member of Planning Institute of Australia (MPIA)
- Corporate Bronze Member of Fire Protection Association of Australia

Disclaimer

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Requirements detailed in this document do not guarantee survival of the buildings or the occupants. The client is strongly encouraged to develop and practice a bushfire survival plan.

Information and assistance including a template for a Bushfire Survival Plan is provided as part of the ‘Fire Ready Kit’ available through the CFA website at www.cfa.vic.gov.au or through your local CFA Regional office.

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Version Control

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<th>Name</th>
<th>Date Completed</th>
<th>Comments</th>
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</thead>
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<tr>
<td>Field Assessment</td>
<td>Deanne Smith</td>
<td>10 September 2019</td>
</tr>
<tr>
<td>Mapping</td>
<td>Deanne Smith</td>
<td>4 October 2019</td>
</tr>
<tr>
<td>Final Report</td>
<td>Deanne Smith</td>
<td>9 October 2019</td>
</tr>
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Executive Summary

This report has been prepared to accompany a planning permit application for a two lot subdivision at 14 Hull Street, South Dudley. The site is within the Bushfire Management Overlay (BMO) and is required to demonstrate that the development has regard for the surrounding bushfire hazards.

This report presents a comprehensive assessment of the hazards and suggests mitigation measures to improve the protection of life and property for the proposed two lot subdivision at 14 Hull Street, South Dudley. The site is within the General Residential Zone – Schedule 1 (GRZ1) and is a subdivision so requires a Pathway 2 application to meet the objectives and approval measures of Clause 53.02 of the Bass Coast Planning Scheme. As such a Pathway 2 style response has been adopted for this report.

This report includes the following components:

- An Assessment against Clause13.02-1S of the Bass Coast Planning Scheme.
- A Bushfire Hazard Landscape Assessment that considers the landscape risk and whether the Clause 53.02 modelled fire assumptions are adequate.
- A Bushfire Hazard Site Assessment considering localised hazards, defendable space and the bushfire attack level.
- A Bushfire Management Statement that outlines the design response to the relevant approval measures in Clause 53.02 from the Bass Coast Planning Scheme.

The development site is in South Dudley, a part of Wonthaggi, the main town in the area. The site is located near other established dwellings, and currently has one dwelling. The land is accessed by a public road, Hull Street, with rear lane access. The proposed development is surrounded by low threat vegetation to the north, east and south; woodland to the south, and grassland to the west.

The Bushfire Management Statement demonstrates that the defendable space objectives can be met for Column A of Table 2 to Clause 53.02-5 with both lots managed as defendable space. Access will be provided for both lots directly from Hull Street. Water supply is not required to be provided until such time as a new dwelling is built, and a hydrant exists in the road reserve in front of Lot 1.

Due to the bark hazard of the woodland, the proposed development is expected to be affected by minor ember attack in the event of a bushfire, and radiant heat due to the proximity to the vegetation. A BAL of 12.5 is deemed appropriate considering the distance from the unmanaged vegetation, and the achievement of the Clause 13.02-1S benchmark of not creating lots where dwellings can experience a radiant heat flux of greater than 12.5kW/m².

The site is able to meet the approval measures within clause 53.02 for Column A separation, a BAL of 12.5, based on an FFDI of 100 and a flame temperature of 1090K.
1.0 Introduction

This Bushfire Management Statement (BMS) has been prepared to enable the applicants to respond to the requirements of Clause 44.06 Bushfire Management Overlay (BMO) (known from this point on as Clause 44.06), and in accordance with the application requirements of Clause 53.02– Bushfire Planning (known from this point on as Clause 53.02).

The statement contains four components:

1. An **assessment against Clause 13.02-1S** of the Bass Coast Planning Scheme.
2. A **bushfire hazard landscape assessment** including a plan that describes the bushfire hazard of the general locality more than 150 metres from the site.
3. A **bushfire hazard site assessment** including a plan that describes the bushfire hazard within 150 metres of the proposed development. The description of the hazard has been prepared in accordance with Section 2.2.3 to 2.2.5 of AS3959:2009 Construction of buildings in bushfire prone areas (Standards Australia) and is supported by photographs to assist in describing the bushfire hazard.
4. A **bushfire management statement** describing how the proposed development responds to the requirements of Clause 44.06 and 53.02.

1.1 Application Details

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Bass Coast Shire Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Description</td>
<td>Lot 175 Block C LP5417</td>
</tr>
<tr>
<td>Overlays</td>
<td>Bushfire Management Overlay (BMO)</td>
</tr>
<tr>
<td>Zoning</td>
<td>General Residential Zone – Schedule 1 (GRZ) Environmental Significance Overlay – Schedule 4 (ESO4)</td>
</tr>
</tbody>
</table>

1.2 Site Description

<table>
<thead>
<tr>
<th>Site shape</th>
<th>Rectangle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site area</td>
<td>715m²</td>
</tr>
<tr>
<td>Site Dimensions</td>
<td>The property has a road frontage to Hull Street of approximately 15.5 metres and the property has a depth of approximately 49 metres.</td>
</tr>
<tr>
<td>Existing use and siting of buildings and works on and near the land</td>
<td>Existing dwelling on the front portion of the land.</td>
</tr>
<tr>
<td>Existing vehicle arrangements</td>
<td>Access from Hull Street</td>
</tr>
<tr>
<td>Nearest fire hydrant</td>
<td>Hull Street immediately outside the property</td>
</tr>
<tr>
<td>Private bushfire shelter</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Any other site features relevant to bushfire risk</td>
<td>This site is a simple infill subdivision</td>
</tr>
</tbody>
</table>
1.3 Site Location

Figure One: Property Location – identified with the blue dashes central to the map (Planning Maps Online, DELWP, 2019)

Figure Two: Property Location (Google Earth, 2019)
2.0 Planning Policy Framework

2.1 Planning Policy Framework

Clause 71.02-3 (integrated decision making) of the Planning Scheme has been recently amended and provides that:

Planning authorities and responsible authorities should endeavour to integrate the range of policies relevant to the issues to be determined and balance conflicting objectives in favour of net community benefit and sustainable development for the benefit of present and future generations. However in bushfire affected areas, planning authorities and responsible authorities must prioritise the protection of human life over all other policy considerations.

Clause 13.02-1S (Bushfire) of the Planning Scheme applies to all decision making and seeks to:

To strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.

[Emphasis added]

Clause 13.02-1S includes a number of strategies to achieve that objective. Broadly these strategies include:

- prioritising the protection of human life;
- requiring a robust assessment of the bushfire hazard and risk assessment before any strategic or statutory decision is made; and
- directing population growth and new settlements to low risk locations.

Importantly in relation to the protection of human life, clause 13.02-1S includes the following requirements:

Give priority to the protection of human life 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.

In relation to Bushfire hazard identification and assessment, clause 13.02-1S includes the following relevant requirements:

Identify bushfire hazard and undertake appropriate risk assessment by:

- Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard.
- Considering the best available information about bushfire hazard including the map of designated bushfire prone areas prepared under the Building Act 1993 or
regulations made under that Act.

- Considering and assessing the bushfire hazard on the basis of:
  - Landscape conditions - meaning conditions in the landscape within 20 kilometres (and potentially up to 75 kilometres) of a site;
  - Local conditions - meaning conditions in the area within approximately 1 kilometre of a site;
  - Neighbourhood conditions – meaning conditions in the area within 400 metres of a site; and
  - The site for the development.

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

- 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.

- 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.

Importantly in relation to settlement planning, clause 13.02-15 includes the following requirements:

Plan to strengthen the resilience of settlements and communities and prioritise protection of human life by:

- 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 metres under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009).

- 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.

- 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.

- Assessing and addressing the bushfire hazard posed to the settlement and the likely bushfire behaviour it will produce at a landscape, settlement, local, neighborhood and site scale, including the potential for neighborhood-scale destruction.

- Assessing alternative low risk locations for settlement growth on a regional, municipal, settlement, local and neighborhood 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.**

In relation to use and development control in a Bushfire Prone area, clause 13.02-1S includes the following relevant requirements:

**Use and development control in a Bushfire Prone Area** In a bushfire prone area designated in accordance with regulations made under the Building Act 1993, bushfire risk should be considered when assessing planning applications for the following uses and development:

... Subdivisions of more than 10 lots
....Accommodation

*When assessing a planning permit application for the above uses and development:*

- 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.

The use and development control does not specifically apply to this proposal as the subdivision is only 2 lots, and no dwelling is proposed. However, the ultimate intent of the new lot will be to develop a dwelling and this report demonstrates that the lot meets Clause 13.02-1S including the long-term intent of the use and development control without jeopardization of the safety of the existing dwelling.

When these strategies are read together it is clear that any future development would be required to provide a considered assessment of the bushfire risk. As such, the development must ensure it responds to bushfire risk. The purpose of this report is to undertake such an assessment for the site including an assessment of the likely fire behaviour and the risk to future residents. It is acknowledged that this site is subject to the Bushfire Management Overlay and Parts 3 to 5 of this report specifically address the application requirements of Clause 44.06 and 53.02 of the Bass Coast Planning Scheme.

In the context of strategic planning decisions, these strategies need to be read as on balance and consider the ‘net increase in risk to existing and future residents’. As it relates to the objectives at Clause 13.02-1S of the Planning Scheme, it is necessary to ensure that the protection of human life is prioritised when decisions are made. However the strategies listed at Clause 13.02-1S in the Planning Scheme are not ‘mandatory requirements’ and it is not necessary to ‘tick every box’. It is more important to ensure that decisions are consistent with the State policy objectives and build resilient communities.
2.2 Planning Policy Framework Assessment

2.2.1 Objective

Clause 13.02-1S seeks to ‘strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life’.

2.2.2 Application

The policy must be applied to all planning and decision making under the Planning and Environment Act 1987 relating to land which is within a designated bushfire prone area; or subject to a Bushfire Management Overlay.

Bushfire Prone Area and Bushfire Management Overlay

The planning proposal area is included in the Bushfire Prone Area (BPA). As described in Planning Advisory Note 46 (2013), the BPA is a building regulation tool that identifies where moderate bushfire hazard can be expected. It applies to areas subject to the BMO, and to areas that experience a lower head fire intensity modelled to be between 4,000kW/m and 30,000kW/m. This level of hazard informs areas declared as bushfire prone in the building system. Areas at the upper end of the bushfire intensity range (that is 28,000kW/m and above and referred to as BHL1b) are considered, where appropriate, for applying the BMO based on the advice of the relevant fire authority. The land is contained in the BMO. The entire planning proposal site is subject to the BPA and the BMO. The greater area in Wonthaggi is also in the BPA and BMO reflecting the moderate to high bushfire hazard that can be expected from the vegetation connecting to and distributed through the area, particularly along the coastal interface.

In December 2017, Clause 13.02-1S of the Bass Coast Planning Scheme was amended to specifically refer to Bushfire Prone Areas and to strengthen the consideration of bushfire risk in all planning decisions. As the site is fully contained within the Bushfire Prone Area, the minimum level of construction for all dwellings is BAL 12.5, and this bushfire risk must be considered.

2.2.3 Strategies

Protection of human life

<table>
<thead>
<tr>
<th>Give priority to the protection of human life by:</th>
<th>Response</th>
</tr>
</thead>
</table>
| Prioritising the protection of human life over all other policy considerations | - This proposal provides for a new lot that can accommodate a dwelling that responds to the risk of bushfire through siting and construction in an urbanised area.  
- The proposal can be undertaken in a manner that will improve the safety of the existing residents in the established lots with the establishment of defendable space across the land. |
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.

- The lot has existed for many years and is part of an estate with many lots containing established dwellings.
- Existing dwellings exist adjacent to this development and the dwelling is sited in an area of the site that is substantially cleared.
- The overall design can respond to the vegetation corridor to the south-west.
- The existing road network facilitates safe egress towards Wonthaggi Township.
- Access and egress is facilitated from Hull Street.

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

- An application to develop land needs to articulate how the design responds to the identified bushfire risk.
- The subdivision has considered fire brigade access to the rear lot. A fire hydrant is located at the frontage of Lot 1 to the lot and the driveway length is kept to less than 30 metres.
- Any future dwelling on Lot 2 will be designed and sited to respond to bushfire.
- The vegetation is expected to yield less than 12.5kW/m² of radiant heat.

### Bushfire hazard identification and assessment

<table>
<thead>
<tr>
<th>Identify bushfire hazard and undertake appropriate risk assessment by:</th>
<th>Response</th>
</tr>
</thead>
</table>
| Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard. | - The Bass Coast Planning Scheme relies on the planning proposal to respond to bushfire based on current assessment methods.  
- Clauses 13.02-1S, 44.06 and 53.02 are to be considered for proposal.  
- Clause 71.02-3 *Integrated Decision Making* strengthens the importance of bushfire planning as an appropriate tool to reconcile potential conflicts in design and vision.  
- The assessment method aligns with AS3959, and is provided in this report (see Section 4). |

| Considering the best available information about bushfire hazard including the map of designated bushfire prone areas prepared under the Building Act 1993 or regulations made under that Act. | - Consistent with the revised Clause 13.02-1S, the planning proposal responds to the Bushfire Prone Area and the Bushfire Management Overlay.  
- This report demonstrates that sufficient setbacks from the vegetation can be achieved to meet Column A of Table 2 of |
<table>
<thead>
<tr>
<th><strong>Applying the Bushfire Management Overlay in planning schemes to areas where the extent of vegetation can create an extreme bushfire hazard</strong></th>
<th><strong>Clause 53.02 in all directions. This is an appropriate benchmark for this development given the increase in safety it delivers for the existing residents.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Considering and assessing the bushfire hazard on the basis of:</strong></td>
<td><strong>The BMO does apply to the south-western portion of this land recognising that the land is in an area of high bushfire hazard. The BMO is addressed in Sections 3 to 5 of this report.</strong></td>
</tr>
<tr>
<td>• Landscape conditions - meaning the conditions in the landscape within 20 kilometres and potentially up to 75 kilometres from a site;</td>
<td>- In light of the recent changes to Clause 13.02 and the addition of this assessment requirement, an assessment is provided in Section 3.0 of this report.</td>
</tr>
<tr>
<td>• Local conditions - meaning conditions in the area within approximately 1 kilometre from a site;</td>
<td>- As it is a two-lot subdivision in the BMO four scales of consideration are applied - Landscape conditions and local site conditions within Section 3.0 of this report.</td>
</tr>
<tr>
<td>• Neighbourhood conditions - meaning conditions in the area within 400 metres of a site;</td>
<td>- Neighbourhood and local conditions are considered in Figure 3(a) and Figure 3(b).</td>
</tr>
<tr>
<td>• The site for the development</td>
<td>- The site conditions are considered through the Bushfire Hazard Site Assessment within Section 4.0 of this report.</td>
</tr>
<tr>
<td><strong>Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.</strong></td>
<td><strong>It is expected that this development would be referred to CFA for consideration as it is in the Bushfire Management Overlay.</strong></td>
</tr>
<tr>
<td><strong>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</strong></td>
<td>- The content of this report provides a solid foundation for the design and subsequent approval of the planning proposal, with regard to bushfire risk.</td>
</tr>
<tr>
<td><strong>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.</strong></td>
<td>- Assessing the site-based bushfire risk and including appropriate bushfire protection measures (e.g. managed land, BALs, separation from the hazard) enables the achievement of the direction of the Planning Scheme.</td>
</tr>
<tr>
<td></td>
<td>- This element of the revised Clause 13.02-15 is the most important element and empowers the Responsible Authority to not approve a permit application until it is satisfied with the bushfire protection measures being implemented.</td>
</tr>
<tr>
<td></td>
<td>- This report demonstrates that the risk of bushfire should not be a reason for refusal.</td>
</tr>
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</table>
Settlement Planning

<table>
<thead>
<tr>
<th>Plan to strengthen the resilience of settlements and communities and prioritise protection of human life by:</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directing population growth and development to low risk locations, being those locations assessed as having a radiant heat flux of less</td>
<td>- Recognising the land is an established lot in an area that is at high risk from bushfire, development of land by</td>
</tr>
<tr>
<td>Requirement</td>
<td>Subdivision Guidelines</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>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</td>
<td>Subdivision should only proceed where all elements of the BMO are achieved. - This report demonstrates that this goal is achieved including the provision of the greatest separation from the hazard and an increased level of construction. - The new lot has a siting that has been assessed as having a radiant heat flux of less than 12.5 kW/m² under AS 3959.</td>
</tr>
<tr>
<td>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.</td>
<td>The nature of the settlement of South Dudley provides ready access with a 5 minute drive to areas of the Wonthaggi township that constitute BAL-LOW.</td>
</tr>
<tr>
<td>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.</td>
<td>The establishment and maintenance of defendable space will accompany the build of any dwelling on either lot. The increased level of vegetation management will reduce the risk of bushfire to the existing residents.</td>
</tr>
<tr>
<td>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</td>
<td>In light of the recent changes to Clause 13.02 and the addition of this assessment requirement, an assessment is provided in Section 3.0 and 4.0 of this report. - As it is an existing dwelling and a two lot subdivision in the BMO, four scales of consideration are applied: and contained in this report. - The site conditions are best considered through the Bushfire Hazard Site Assessment methodology.</td>
</tr>
<tr>
<td>Assessing alternative low risk locations for settlement growth on a regional, municipal, settlement, local and neighbourhood basis.</td>
<td>The proposal is an existing lot in an established urban area. - This proposal increases the resilience by providing two smaller developments both likely to being developed with new resilient dwellings, and provides for a more managed area of land.</td>
</tr>
<tr>
<td>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.</td>
<td>The proposal is a statutory planning application only.</td>
</tr>
</tbody>
</table>
Areas of high biodiversity conservation value

Ensure settlement growth and development approvals can implement bushfire protection measures without unacceptable biodiversity impacts by discouraging settlement growth and development in bushfire affected areas that are of high biodiversity conservation value.

Assessment of the development

- The land is already used in an urban environment.
- The dwelling is existing and would be able to exercise the 10/50 rule.

Use and development control in a Bushfire Prone Area

In a bushfire prone area designated in accordance with regulations made under the Building Act 1993, bushfire risk should be considered when assessing planning applications for accommodation, and for subdivisions of 10 or more lots. Neither of these apply to this situation. This report does provide evidence that the proposal achieves no net increase in bushfire risk.

2.2.4 Policy Guidelines

<table>
<thead>
<tr>
<th>Planning must consider as relevant:</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any relevant approved State, regional and municipal fire prevention plan.</td>
<td>Fire prevention measures of the Bass Coast Shire Municipal Fire Prevention Plan ensure the roadside of the Hull Street and the neighbourhood are managed.</td>
</tr>
<tr>
<td>AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009).</td>
<td>This is relevant through the derivation of Bushfire Attack Levels, and is considered when referring to the BAL. Current standard is AS3959-2018.</td>
</tr>
<tr>
<td>Building in bushfire-prone areas - CSIRO &amp; Standards Australia (SAA HB36-1993, May 1993).</td>
<td>This is the handbook to AS3959 and does not need to be considered directly by the planning proposal.</td>
</tr>
<tr>
<td>Any Bushfire Prone Area map prepared under the Building Act 1993 or regulations made under that Act.</td>
<td>The updated Bushfire Prone Area map has been considered in this report.</td>
</tr>
</tbody>
</table>

3.0 Bushfire Hazard Landscape Assessment

The Bushfire Hazard Landscape Assessment includes a plan that describes the bushfire hazard of the general locality surrounding the site (Figure Three, additionally a copy is provided in Appendix One).
**Figure Three – Bushfire Hazard Landscape Assessment**

The landscape risk of a site is an important consideration when mitigating bushfire hazards. The landscape risk is the combination of several elements in the surrounding landscape. These relate to the vegetation extent, the area available to a landscape bushfire, the orientation of the ridgelines and the steepness of the terrain, the accessibility to low threat areas and the quality of the road networks surrounding the site.

This site is positioned in South Dudley, north-west of Wonthaggi near a main road. The topography of the surrounding landscape will experience some coastal winds from the west and south-west with the undulations providing shelter from winds in those directions. Spotting in this environment is naturally limited by the type of vegetation present, but is expected to emanate from the ignition of scattered trees beyond the coastal vegetation. Ember attack is the predominant fire risk to be addressed in this landscape. The terrain is not sufficiently rugged, and forest tracts not sufficiently large to provide landscape runs of fire. An interrupted fire run will occur in the area due to the grassland being interspersed with small patches of forest and woodland.

The site is considered ‘**Landscape Type 1**’ as defined by DELWP guidance:

- 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.
The site will experience landscape fire scenarios that are within the assumptions of the Bushfire Management Overlay.

3.1 Regional Bushfire Planning Assessment
The Regional Bushfire Planning Assessment (RBPA) for the Gippsland Region (2012) provides a high-level analysis of locations where the bushfire hazard may impact on planning objectives. The RBPA provides information where a range of land use planning matters intersect with a bushfire hazard to influence the level of risk to life and property from bushfire. This information is required to be used as part of strategic land use and settlement planning at the regional, municipal and local levels.

“The RBPA is not a statutory planning provision and does not directly translate into planning schemes. However, it complements planning scheme provisions such as the Bushfire Management Overlay (BMO) by providing spatial and qualitative information from a variety of sources which together can inform considerations about where bushfire should be assessed early in the strategic planning process.” RBPA – Gippsland Region (2012)

After review of the RBPA, it is noted that the proposal falls in an area identified as:

4-009 Wonthaggi / South Dudley - South Dudley and the western edge of Wonthaggi interface with an area containing vegetation.

3.2 Vegetation Extent in the Broader Landscape
The vegetation in the broader landscape is woodland, scrub and grassland. The scrub and woodland occurs in patches in public and private ownership. The scrub is primarily along the coastal dunes. The grassland occurs as dryland grazing and rural lifestyle properties. The woodland varies from having understorey to being quite disturbed. An indication of the Ecological Vegetation Classes in the landscape is provided below (site left of central to image).

Figure Four – Biodiversity Map showing Damp Sands Herb-rich Woodland/Swamp Scrub Mosaic (olive green), Coast Banksia Woodland/Coastal Dune Scrub Mosaic (pale blue), Sand Heathland/Wet Heathland Mosaic (red) and Grassy Woodland/Swamp Scrub Mosaic (orange) (NatureKit, 2019).
3.3 Topography
The topography of the surrounding landscape is typical of this area of Wonthaggi. The land gently slopes towards the coast with hills to the north and grassland plains throughout. Based on the topography, and the interrupted short runs of fire, a landscape bushfire scenario is not expected to occur.

Figure Five – Topography of surrounding landscape (VicPlan, 2019)

3.4 Surrounding Road Network
The planning proposal site has frontage to Hull Street, with rear lane access. The road is sealed road with vegetated verge to the west. It connects to the broader street network providing egress to Wonthaggi.

3.5 Bushfire History of the Area
There is limited historical bushfire analysis for this area. This is typical given the large expanses of grazing and cultivated land and the high population of people moving around the area who are able to alert fire authorities and enable quick suppression. However, it is noted that there are fires that occur within the nature reserve, in particularly the Wonthaggi Heathlands Nature Conservation Reserve (1997).
3.6 Bushfire Scenarios
The site is at an increased risk from bushfire due to the scattering of vegetation, and the age of some of the homes. Consideration of the potential bushfire behaviour local to the site has been undertaken in refining the options and to inform the building envelopes location, siting, extent of vegetation management and building construction levels.

Scenario 1 – Bushfire from the west
A fire approaching from the north has the potential for an interrupted fire run through grassland, woodland and scrub. This fire would impact Hull Street. A fire from this direction can bring embers to the site and ignite localised fuels providing radiant heat. This fire is not a landscape fire, and may block the egress from the site. Early evacuation is recommended.

Scenario 2 – Bushfire from the south
A fire approaching from the south has the potential for an interrupted fire run through the State Coal Mine Reserve before impacting on the aged dwellings. Fire is more likely to spread from structure to structure than any other mechanism. As lots are redeveloped, this risk will reduce.

4.0 Bushfire Hazard Site Assessment
The Bushfire Hazard Site Assessment includes a plan that describes the bushfire hazard within 150 metres of the proposed development. The description of the hazard is prepared in accordance with AS 3959:2009 Construction of buildings in bushfire prone areas (Standards Australia) excluding paragraph (a) of section 2.2.3.2 (Vegetation exclusions). Refer to Figure Six and a larger copy is provided in Appendix Two. Distances are detailed in Table 1 and Table 2.

Figure Six – Bushfire Hazard Site Assessment – Overall subdivision level
4.1 Vegetation

The vegetation within the 150-metre assessment area was classified according to AS 3959:2009, Technical Guide (DELWP, 2017) and the Overall Fuel Hazard Assessment Guide (DSE, 2010).

The AS 3959:2009 approach uses a generalised description of vegetation based on the AUSLIG (Australian Natural Resources Atlas” No.7 Native Vegetation) classification system. According to this method, vegetation can be classified into seven categories. Each category indicates a fire behaviour and these categories or classifications are then used to determine bushfire intensity. Information gained from the Ecological Vegetation Classes informs the vegetation classification chosen.

The land is currently one parcel with an existing dwelling. Access is currently into the proposed Lot 1 from Hull Street. To the north, east and south of the parcel are established dwellings managed as ‘low threat vegetation’. To the west is land classified as grassland.

The forms of classifiable vegetation identified for this site are described below.

**Vegetation Classification:** Grassland

**AS3959:2009 Definition:**

*All forms, including situations with shrubs and trees, if the over storey foliage cover is less than 10%.*

**Site Description:**

The proposed subdivision has grassland in the west associated with small grazing paddocks. The grassland is essentially flat.

Image – Grassland, photo taken looking south from Alexander Road
Vegetation Classification: Woodland

AS3959:2009 Definition:

Low woodland or Low open woodland or Open shrubland – Low trees and shrubs 2-10 m high; foliage cover less than 10%. Dominated by eucalypts and Acacias. Often have a grassy understorey or low shrubs. Acacias and Casuarina woodlands grade to Atriplex shrublands in the arid and semi-arid zones.

Site description:

The site has woodland located to the south and south-west, at a distance of 121 metres from the site. The woodland is flat and is associated with the rail trail and coal reserve.

Image – The area of the Woodland to the south of the site

Vegetation Classification: Low threat vegetation

AS3959:2009 Definition:

Low threat vegetation, including grassland managed in a minimal fuel condition, maintained lawns, golf courses, maintained public reserves and parklands, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and windbreaks. Note: Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognisable as short-cropped grass for example, to a nominal height of 100mm).
Site Description:

The majority of the lots adjacent to the development are intensely managed and built on, meeting the definition of low threat vegetation. Additionally, the lots in the area are actively being subdivided or redeveloped. Hull Street and the local roads are sealed and considered non-vegetated.

Image – Low threat vegetation to the east.

4.2 Topography

The topography of the site and the surrounding area is characterised by the settlement of the area and the rail trail to the south-west (Figure Seven). The subject land and immediate vicinity is flat.

Figure Seven – Topography of the site
4.3 Separation from the Hazard and Bushfire Attack Level for the Proposed Development

The bushfire attack level (BAL) is a means of measuring the severity of a building’s potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per metre squared. The BAL is also the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire.

The highest BAL determines the construction requirements for the dwelling. A reduction of one BAL level may be applied if facades of the house are shielded from the bushfire hazard. In this case, it is not appropriate to apply a reduction as no facades are entirely shielded from the bushfire hazard. The BAL for this site has been calculated using a Forest Fire Danger Index (FFDI) of 100 and a Flame Temperature of 1090K. These parameters are in accordance with the risk parameters set in Clause 53.02.

An assessment of the site conditions without modification was made and informs the BAL assessment. As this is a two-lot subdivision, the ability for each site to achieve a dwelling site with a BAL29 defendable space, is required by Clause 44.06 however cognoscente of the intent of Clause 13.02-1S it is demonstrated that no future dwelling will be exposed to a radiant heat of greater than 12.5kW/m². The defendable space required extends across all the land, thus ensuring that the land is maintained in a low threat vegetation state into the future benefiting each lot and the surrounding lots.

Table 1 – Separation from the Hazard Assessment (without modification)

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Highest threat vegetation</th>
<th>Average slope under classifiable vegetation</th>
<th>Separation distance</th>
<th>Bushfire Attack Level (BAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>Low threat Vegetation</td>
<td>Flat</td>
<td>0 metres</td>
<td>BAL12.5</td>
</tr>
<tr>
<td>East</td>
<td>Low threat Vegetation</td>
<td>Flat</td>
<td>0 metres</td>
<td>BAL12.5</td>
</tr>
<tr>
<td>South</td>
<td>Woodland</td>
<td>Flat</td>
<td>121 metres</td>
<td>BAL12.5</td>
</tr>
<tr>
<td>West</td>
<td>Grassland</td>
<td>Flat</td>
<td>37 metres</td>
<td>BAL12.5</td>
</tr>
</tbody>
</table>

Assumptions:

- The adjacent lots will remain managed as Low Threat Vegetation

Table 2 – Defendable Space determination (Column A, BAL12.5)

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Highest threat vegetation</th>
<th>Average slope under classifiable vegetation</th>
<th>Separation distance currently</th>
<th>Defendable space required</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>Low threat Vegetation</td>
<td>Flat</td>
<td>0 metres</td>
<td>To the property boundary</td>
</tr>
<tr>
<td>East</td>
<td>Low threat Vegetation</td>
<td>Flat</td>
<td>0 metres</td>
<td>To the property boundary</td>
</tr>
<tr>
<td>South</td>
<td>Woodland</td>
<td>Flat</td>
<td>121 metres</td>
<td>33 metres</td>
</tr>
<tr>
<td>West</td>
<td>Grassland</td>
<td>Flat</td>
<td>37 metres</td>
<td>19 metres</td>
</tr>
</tbody>
</table>
5.0 Bushfire Management Statement

Refer to Appendix Three for the proposed Plan of Subdivision. Below is an image of the proposed Plan of Subdivision.
5.1 Design Response Against Clause 53.02

In accordance with Clause 44.06 Bushfire Management Overlay a response is provided against Clause 53.02. A selection of the sub clauses and associated objectives, approved measures (AM), alternative measures (AltM) and decision guidelines applies to this application. Table 3 details which clauses are relevant to this application and the following pages demonstrate how the requirements have been met for each relevant standard.

Table 3 Specification of relevant clauses

<table>
<thead>
<tr>
<th>Clause</th>
<th>Approved Measure</th>
<th>Achieved</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clause 53.02-3 Dwelling in existing settlements – Bushfire protection objective</td>
<td>AM 1.1</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AM 1.2</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AM 1.3</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Clause 53.02-4.1 Landscape, siting and design objectives</td>
<td>AM 2.1</td>
<td>Applicable</td>
<td>Subdivision</td>
</tr>
<tr>
<td></td>
<td>AM 2.2</td>
<td>Applicable</td>
<td>As required by AM5.2</td>
</tr>
<tr>
<td></td>
<td>AM 2.3</td>
<td>Not applicable</td>
<td>Subdivision only, no new buildings</td>
</tr>
<tr>
<td>Clause 53.02-4.2 Defendable space and construction objectives</td>
<td>AM 3.1</td>
<td>Not applicable</td>
<td>Addressed through AM5.1</td>
</tr>
<tr>
<td></td>
<td>AM 3.2</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AltM 3.3</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AltM 3.4</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AltM 3.5</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AltM 3.6</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Clause 53.02-4.3 Water supply and access objectives</td>
<td>AM 4.1</td>
<td>Applicable</td>
<td>As required by AM5.2</td>
</tr>
<tr>
<td></td>
<td>AM 4.2</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Clause 53.02-4.4 Subdivision objectives</td>
<td>AM 5.1</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AM 5.2</td>
<td>Applicable</td>
<td>General Residential Zone (GRZ)</td>
</tr>
<tr>
<td></td>
<td>AM 5.3</td>
<td>Not applicable</td>
<td>Less than 10 lots</td>
</tr>
<tr>
<td></td>
<td>AM 5.4</td>
<td>Applicable</td>
<td>Limited relevance</td>
</tr>
<tr>
<td></td>
<td>AltM 5.5</td>
<td>Not applicable</td>
<td>Less than 10 lots</td>
</tr>
</tbody>
</table>

The following part of the application outlines each of the relevant clauses and provides justification as to how this design responds to the requirements.

Clause 53.02-4.1 Bushfire Protection objective

Landscape, siting and design objective

Development is appropriate having regard to the nature of the bushfire risk arising from the surrounding landscape.

Development is sited to minimise the risk from bushfire.

Development is sited to provide safe access for vehicles, including emergency vehicles.

Building design minimises vulnerability to bushfire attack.
<table>
<thead>
<tr>
<th>Approved Measure</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM 2.1</td>
<td>The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level.</td>
</tr>
</tbody>
</table>

**Response:** This site is positioned to the west of South Dudley and north-east of Wonthaggi, and represents a simple infill subdivision in an established settlement. The subdivision increases the opportunity for two dwellings to be located in close proximity to existing dwellings. The site will experience minor ember attack, radiant heat and localised ignitions associated with interrupted runs of fire and scattered vegetation. These scenarios are detailed earlier in this report, and will bring fire to the locality however fire at the site is unlikely to be of a landscape scale, rather from localised neighbourhood fires particularly from the west and south. It is noted that site has reasonable access, an ability to achieve a separation from the hazard commensurate to Column A of Table 2 to Clause 53.02-5, and has proximity to a township settlement and clear farming and lifestyle land. The landscape bushfire scenarios are within the scope of the Bushfire Management Overlay assumptions.

<table>
<thead>
<tr>
<th>AM 2.2</th>
<th>A building is sited to ensure the site best achieves the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• The maximum separation distance between the building and the bushfire hazard</td>
</tr>
<tr>
<td></td>
<td>• The building is in close proximity to a public road</td>
</tr>
<tr>
<td></td>
<td>• Access can be provided to the building for emergency services vehicles</td>
</tr>
</tbody>
</table>

**Response:** There is an ability to locate buildings to achieve maximum separation distance from the hazard. The siting opportunity on each lot to site a building that achieves Column A of Table 2 to Clause 53.02-5, is able to be achieved. All lots have defendable space to be provided across their entirety in recognition of proximity to low threat vegetation, thus separating the bushfire hazard from the buildings, and improving the existing situation for adjacent lots. Lots 1 and 2 directly access a public road. As access is less than 30 metres and there is no requirement for fire brigade access to the firefighting water supply, no specification for the construction of the access is required.

---

**Clause 53.02-4.3 Water supply and access objectives**

A static water supply is provided to assist in protecting property.

Vehicle access is designed and constructed to enhance safety in the event of a bushfire.

<table>
<thead>
<tr>
<th>Approved Measure</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM 4.1</td>
<td>A building used for a dwelling (including an extension or alteration to a dwelling), a dependant person’s unit, industry, office or retail premises is provided with:</td>
</tr>
<tr>
<td></td>
<td>• A static water supply for fire fighting and property protection purposes specified in Table 4 to Clause 53.02-5.</td>
</tr>
</tbody>
</table>
• Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02-5.

The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for firefighting water supplies.

Response: Both lots require a non-combustible water tank containing a minimum of 2,500 litres of water to be provided at the time of building a dwelling. These requirements will be achieved through the required Section 173 agreement relating to bushfire protection measures. Both lots directly access a public road. As access is less than 30 metres and there is no requirement for fire brigade access to the firefighting water supply, no specification for the construction of the access is required.

The subdivision meets the approved measures AM4.1 and the water supply and access objective (Clause 53.02-4.3) as required by Clause 53.02-4.4 AM5.2.

Clause 53.02-4.4 Subdivision objectives

To provide lots that are capable of being developed in accordance with the objectives of Clause 53.02.

To specify at the subdivision stage bushfire protection measures to develop a lot with a single dwelling on land zoned for residential or rural residential purposes.

<table>
<thead>
<tr>
<th>Approved Measure</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM 5.2</td>
<td>An application to subdivide land zoned for residential or rural residential purposes must be accompanied by a plan that shows:</td>
</tr>
<tr>
<td></td>
<td>• Each lot satisfies the approved measure in AM2.1</td>
</tr>
<tr>
<td></td>
<td>• A building envelope for a single dwelling on each lot that complies with AM2.2 and provides defendable space in accordance with:</td>
</tr>
<tr>
<td></td>
<td>• Columns A or B of Table 2 to Clause 53.02-5 for a subdivision that creates 10 or more lots; or</td>
</tr>
<tr>
<td></td>
<td>• Columns A, B or C of Table 2 to Clause 53.02-5 for a subdivision that creates less than 10 lots.</td>
</tr>
<tr>
<td></td>
<td>The bushfire attack that corresponds to the defendable space provided in accordance with Table 2 to Clause 53.02-5 must be noted on the building envelope.</td>
</tr>
<tr>
<td></td>
<td>• Defendable space wholly contained within the boundaries of the proposed subdivision. Defendable space may be shared between lots within the subdivision. Defendable space for a lot may utilise communal areas, such as roads, where that land can meet the requirements for defendable space.</td>
</tr>
</tbody>
</table>
- Vegetation management requirements in accordance with Table 6 to implement and maintain the defendable space required under this approved measure.
- Water supply and vehicle access that complies with AM4.1.

Response: Both lots can provide separation from the hazard in accordance with Column A of Table 2 to Clause 53.02-5, as detailed earlier in this report. It should be noted that low threat vegetation has been used to apply defendable space to the entire lot. It is demonstrated that a future dwelling site on either lot is able to be achieved and be exposed to a radiant heat flux of less than 12.5kW/m². Defendable space is wholly contained within the boundaries of the proposed subdivision due to the presence of low threat vegetation. Hull Street and the managed dwellings to the south provide land commensurate to defendable space ensuring setback from grassland and woodland. Whilst there is no formal sharing of defendable space between the lots, it is acknowledged that each lot benefits from the defendable space created on the neighbouring lot.

The vegetation management requirements for the subdivision are detailed and apply to the property boundary.

Water supply and vehicle access

Both lots require a non-combustible water tank containing a minimum 2,500 litres of water to be provided at the time of building a dwelling. These requirements will be achieved through the required Section 173 agreement relating to bushfire protection measures. Both lots directly access a public road. As access is less than 30 metres and there is no requirement for fire brigade access to the firefighting water supply, no specification for the construction of the access is required.

The subdivision meets the approved measures AM4.1 and the water supply and access objective (Clause 53.02-4.3) as required by Clause 53.02-4.4 AM5.2.

AM5.4 A subdivision manages the bushfire risk to future development from existing or proposed landscaping, public open space and communal areas.

Response: This subdivision improves the current situation to the surrounding lots as it provide ongoing requirements for management of the vegetation. Under current conditions, the site has the potential to be overgrown with vegetation. The common property will be managed in a low threat manner. Each lot will be able to be landscaped as the owner chooses, provided the vegetation management requirements for the areas of defendable space are undertaken.
5.2 Expected Planning Permit Conditions

The following are expected to be the planning permit conditions:

**Bushfire Management Plan not altered**

The Bushfire Management Plan (Version 1, dated 4/10/19) must be endorsed to form part of the permit and must not be altered unless otherwise agreed in writing by the CFA and the Responsible Authority.

**Matters to be set out in Section 173 Agreement**

To give effect to the requirements of Clause 44.06-4 of the Bass Coast Planning Scheme, and the above condition, the section 173 Agreement prepared in accordance with Clause 44.06-4 must specify the following:

- The occupation of a dwelling or dependent person’s unit must not start on any lot until all of the bushfire mitigation measures specified on the Bushfire Management Plan endorsed under this permit have been implemented on the relevant lot to the satisfaction of the Responsible Authority.
- The bushfire mitigation measures which form part of the Section 173 Agreement and the planning permit and endorsed plans, including those relating to construction standards (BAL), defendable space, water supply and access must be maintained to the satisfaction of the Responsible Authority.

The Bushfire Management Plan endorsed under this permit must be included as an annexure to the agreement.

**Maintenance of defendable space**

Before the Statement of Compliance is issued under the Subdivision Act 1988 defendable space on every lot in the subdivision must be implemented and maintained as specified on the Bushfire Management Plan, unless otherwise agreed in writing by the CFA and the Responsible Authority.

5.3 Bushfire Management Plan

Refer to Appendix Four for the proposed Bushfire Management Plan. Below is an image of the proposed Bushfire Management Plan.
5.0 References


The State of Victoria Department of Planning and Community Development (2012) Regional Bushfire Planning Assessment – Gippsland Region.

6.0 Appendices

Appendix One – Bushfire Hazard Landscape Assessment
Appendix Two – Bushfire Hazard Site Assessment
Appendix Three – Proposed Plan of Subdivision
Appendix Four – Proposed Bushfire Management Plan
Appendix Three – Proposed Plan of Subdivision
Bushfire Management Plan
14 Hull Street South Dudley 3955
Version 1, 4/20/19 Eucaly Planning Pty Ltd

Firefighting water supply
At the time of building, each lot must provide a minimum of 2,500 litres effective water supply for firefighting purposes.

Each water supply must meet the following requirements:
- Be stored in an above-ground water tank constructed of concrete or metal.
- Have all internal above-ground water pipes and fittings made of non-conductive or resistant metal.
- Include a separate outlet for occupant use.

Defendable space
At the time of building, each lot must provide defendable space for the entire lot surrounding the dwelling modified and managed in accordance with the following requirements:
- All trees and vegetation debris must be removed at regular intervals during the declared fire danger period.
- All dead or dying vegetation (leaves, branches, etc.) must be removed at regular intervals during the declared fire danger period.
- All vegetation at least 10 meters from a building, all flammable objects must be kept located close to the washable parts of the building.
- Plants greater than 10 cm in height must not be placed within 1m of a window or glass feature of the building.
- Shrubs must not be located under the canopy of trees.
- Individual clumps of shrubs must not exceed 35cm in size and must be separated by at least 50cm.
- Trees must not overhang or touch any elements of the building.
- The canopy of trees must be separated by at least 5m.
- There must be a clearance of at least 2m between the lowest tree branches and ground level.

Bushfire Construction Level
All construction works need to comply with a minimum BAL of BAL25 from AS 3959.