

# BUSHFIRE PLANNING REPORT – 6 SUTLEJ COURT, PETERBOROUGH

REF: 2024-210

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South Coast Bushfire Consultants

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**Version Control**

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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 <http://www.cfa.vic.gov.au> or through your local CFA Regional office.

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## DEFINITIONS, ABBREVIATIONS AND ACRONYMS

AS 3959-2018	Australian Standard AS 3959 -2018 Construction of buildings in bushfire-prone areas
CFA	Country Fire Authority
Clause	A clause relates to a specific piece within the planning scheme
Clause 44.06	Bushfire Management Overlay
Clause 53.02	Planning for Bushfire
Clause 13.02-1S	Environmental Risk – Bushfire
DEECA	Department of Energy, Environment and Climate Action
BAL	Bushfire Attack Level
BPA	Bushfire Prone Area
BMO	Bushfire Management Overlay
BPR	Bushfire Planning Report
FRV	Fire Rescue Victoria
Method 1	refers to methodology in AS 3959-2018 for determining a BAL with a number of predetermined inputs
Method 2	refers to methodology in AS 3959-2018 for determining a site specific BAL
Pathway 1	refers to an application pathway in Clause 53.02 of the planning scheme
Pathway 2	refers to an application pathway in Clause 53.02 of the planning scheme
Planning Practice Note	a guide for using various sections of the planning scheme prepared by DELWP
RA	Responsible Authority
SCBC	South Coast Bushfire Consultants
Total Fire Ban Day	is declared by CFA on days when fires are likely to spread rapidly and could be difficult to control

# Bushfire Planning Report – 6 Sotlej Court, Peterborough

## 1. INTRODUCTION

This report has been prepared to accompany a planning permit application for a new dwelling at 6 Sotlej Court, Peterborough. The site is within the Bushfire Management Overlay (BMO) and as such needs to demonstrate that the development has regard for the associated bushfire risk.

This report presents a comprehensive assessment of the hazards and suggests mitigation measures to improve the protection of life and property for the proposed development.

The report includes the following components:

- A site analysis considering localised hazards, defensible space and the bushfire attack level.
- Assessment of the landscape risk.
- The bushfire management plan.
- The sites response to the relevant approval measures in Clause 53.02 from the Moyne planning scheme.
- The development's response to Clause 13.02-1S Bushfire Planning.

The development can demonstrate compliance with the objectives of the BMO and associated Clause 53.02 Bushfire Planning, including defensible space within the property boundary, the provision of a 5,000L static water supply and provide access for emergency services. The dwelling was found to have a BAL of 29 and will be constructed in accordance with AS 3959-2018.

## 2. SUMMARY

This Bushfire Planning Report (BPR) has been prepared to enable the applicant to respond to the requirements of Clause 44.06 *Bushfire Management Overlay (BMO)* (known from this point on as Clause 44.06), and associated Clause 53.02 *Bushfire Protection: Planning Requirements* (known from this point on as Clause 53.02).

The mitigation measures associated with the proposed development include the following:

Mitigation Measure	Site Response
<b>Defendable Space</b>	The proposed development will manage defendable space to the property boundary to achieve a BAL of 29.  The defendable space will be managed in accordance with table 6 to Clause 53.02-5.
<b>Construction Standard</b>	All construction will be compliant with a BAL of 29.
<b>Static Water Supply</b>	The site will provide 5,000L of static water. The static water will be compliant with table 4 and the 'Fire Authority Requirements' from Clause 53.02-5.
<b>Access</b>	The access enables emergency service vehicles access to the site.

## 3. METHODOLOGY

The methodology used to satisfy the requirements of the BMO include the following:

- A Bushfire Hazard Landscape Assessment
- A Bushfire Hazard Site Assessment
- A method 1 BAL Assessment
- A Bushfire Management Plan
- A Bushfire Management Statement:
  - Sites Responses to applicable sub clauses of 53.02
- Response to Clause 13.02-1S.

## 4. PLANNING AND BUILDING CONTROLS

### 4.1 Planning zones and overlays

Clause Number	Name	Purpose
<b>MOYNE PLANNING SCHEME</b>		
<b>Planning Policy:</b>		
13.02-1S	Bushfire Planning	To strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.
13.01-1S	Natural Hazards and Climate Change	<p>To minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning.</p> <p><u>Strategies:</u></p> <ul style="list-style-type: none"> <li>- Consider the risks associated with climate change in planning and management decision making processes.</li> <li>- Identify at risk areas using the best available data and climate change science.</li> <li>- Integrate strategic land use planning with emergency management decision making.</li> <li>- Direct population growth and development to low-risk locations.</li> <li>- Develop adaptation response strategies for existing settlements in risk areas to accommodate change over time.</li> <li>- Ensure planning controls allow for risk mitigation or risk adaptation strategies to be implemented.</li> <li>- Site and design development to minimise risk to life, property, the natural environment and community infrastructure from natural hazards.</li> <li>- Site and design development to minimise risk to life, property, the natural environment and community infrastructure from natural hazards.</li> </ul>
<b>Planning Zone:</b>	To implement the Municipal Planning Strategy and the Planning Policy Framework.	
32.08	General Residential Zone (GRZ)	To encourage development that respects the neighbourhood character of the area.
	Schedule 1	<p>To encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport.</p> <p>To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.</p>
<b>Planning Overlay:</b>	To implement the Municipal Planning Strategy and the Planning Policy Framework.	
43.02	Design and Development Overlay (DDO)	To identify areas which are affected by specific requirements relating to the design and built form of new development.



	Schedule 24	
42.01	Environmental Significance Overlay (ESO)  Schedule 2	<i>To identify areas where the development of land may be affected by environmental constraints.</i>  <i>To ensure that development is compatible with identified environmental values.</i>
42.03	Significant Landscape Overlay (SLO)  Schedule 2  Schedule 3	<i>To identify significant landscapes.</i>  <i>To conserve and enhance the character of significant landscapes.</i>
44.06	Bushfire Management Overlay (BMO)	<i>To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.</i>  <i>To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented.</i>  <i>To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.</i>
<b>Planning Provisions</b>		
53.02	Bushfire Planning	<i>To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.</i>  <i>To ensure that the location, design and construction of development appropriately responds to the bushfire hazard.</i>  <i>To ensure development is only permitted where the risk to life, property and community infrastructure from bushfire can be reduced to an acceptable level.</i>  <i>To specify location, design and construction measures for a single dwelling that reduces the bushfire risk to life and property to an acceptable level.</i>

## 5. BUSHFIRE HAZARD LANDSCAPE ASSESSMENT

The Bushfire Hazard Landscape Assessment includes a plan that describes the bushfire hazard of the general locality surrounding the site (Map 1).

The landscape risk of a site is an important consideration when mitigating bushfire hazards. The landscape risk is the combination of a number of elements in the surrounding landscape. These include 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 a site.

### 5.1 Vegetation extent in the broader landscape

The unmanaged vegetation in the surrounding landscape to the north and east is dominated by grassland on farming properties. Grassland fires have the potential to have long fire runs, particularly from the north.

There are fragmented areas of shrubland and scrub along the coastal interface that would enable short sharp fire runs.

North east of the site is the tip and this site is surrounded by shrubland vegetation.

The coastal scrub and shrubland is impacted by harsh coastal winds that impact the growing conditions. The harsh impacts from coastal winds affect the growth of the shrubs and thus reduces the fuel load.

The fire runs through the coastal vegetation is also limited along this stretch of coast.

Extreme fire behavior is generally consistent with a northerly or northwesterly wind direction. The vegetation to these aspects is largely dominated by grassland vegetation.

Fires can also be correlated by a southwesterly wind direction when a cold front is introduced onto an existing fire footprint. This scenario is not possible in this location due to the location of the ocean to the south and south west.

### 5.2 Surrounding Road Network

The road network at this location consists of a newly developed residential area that connects to Loch Ard Street, which in turn connects to Macgillivray Road, ultimately joining Great Ocean Road.

Travel to a safer location such as the beach or township area of Peterborough requires travel through scrub and grassland vegetation types.

### 5.3 Bushfire History of the Area

The Forest Fire Management Victoria (FFM) map in Appendix 1 provides the bushfire history since 1939 and indicates that there have been no fires in Peterborough as such since 1970.

The Ash Wednesday fires affected areas to the north west of Port Campbell around Allansford and in 1984 there were bushfires in the Kennedy Creek area.

The Ash Wednesday fires were the last large bushfires in south western Victoria.

Historically, landscape bushfires within these vegetation types have been uncommon. However, due to climate change, some areas of Australia, such as the western forests of Tasmania, have experienced recent destruction from large landscape bushfires.

## 5.4 Landscape Type

This report uses landscape types to respond to the objectives of *Clause 53.02 and 13.02-1S Bushfire Planning*. The methodology to determine the landscape risk is described in *Planning Permit Applications Bushfire Management Overlay Technical Guide (DELWP 2017)*. Landscape types range from 1 to 4, and consider the likely bushfire scenarios, the potential for neighbourhood scale destruction and the availability and access to safer areas.

**Table 1 - Landscape Type Description**

<b>Description of Landscape Types (DELWP 2017)</b>		<b>Response</b>
<p>The broader landscape and the potential size or scale of a bushfire is an important consideration in the assessment of a planning application. The likelihood of a bushfire, its severity and intensity, and the potential impact on life and property varies depending on where a site is located in the surrounding landscape. To determine these requirements models are used to predict radiant heat from a fire front based on specific inputs and assumptions. Considering the surrounding landscape in bushfire decisions is important because the accuracy of the models in reflecting bushfire exposure on a particular site, varies in different landscapes. This is because the scale of a bushfire and its potential destructive power is driven by the characteristics of broader landscape, rather than those characteristics within 150 metres of the site.</p>	<p><b>Broader Landscape <u>Type One</u></b></p> <ul style="list-style-type: none"> <li>• There is little vegetation beyond 150 metres of the site (except grasslands and low threat vegetation).</li> <li>• Extreme bushfire behaviour is not possible.</li> <li>• The type and extent of vegetation is unlikely to result in neighbourhood-scale destruction of property.</li> <li>• Immediate access is available to a place that provides shelter from bushfire.</li> </ul>	<b>Not applicable</b>
	<p><b>Broader Landscape <u>Type Two</u></b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Access is readily available to a place that provides shelter from bushfire. This will often be the surrounding developed area.</li> </ul>	<b>Not applicable</b>
	<p><b>Broader Landscape <u>Type Three</u></b></p> <ul style="list-style-type: none"> <li>• The type and extent of vegetation located more than 150 metres from the site may</li> </ul>	<b>The site was found to have a landscape type 3.</b>

	<p><i>result in neighbourhood-scale destruction as it interacts with the bushfire hazard on and close to a site.</i></p> <ul style="list-style-type: none"> <li>• <i>Bushfire can approach from more than one aspect and the site is located in an area that is not managed in a minimum fuel condition.</i></li> <li>• <i>Access to an appropriate place that provides shelter from bushfire is not certain.</i></li> </ul>	<p>The site is exposed to grassfires to the north and east.</p> <p>Neighbourhood scale destruction is possible in the old township areas of Peterborough where the housing stock has not been constructed in accordance with AS 3959.</p> <p>Bushfires impacting the proposed development are likely to come from the north.</p> <p>Impacts from the south or southwest would only have a short fire run and are not likely to have a significant impact on the proposed dwelling.</p> <p>The central township area of Peterborough and Port Campbell are likely to offer shelter from a grass fire impacting the townships.</p>
	<p><b><u>Broader Landscape Type Four</u></b></p> <ul style="list-style-type: none"> <li>• <i>The broader landscape presents an extreme risk.</i></li> <li>• <i>Fires have hours or days to grow and develop before impacting.</i></li> <li>• <i>Evacuation options are limited or not available.</i></li> </ul>	<p><b><i>Not applicable</i></b></p>

### 5.5 Map 1 - Bushfire Hazard Landscape Assessment



## 6. 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 3959-2018 Construction of buildings in bushfire prone areas (Standards Australia) excluding paragraph (a) of section 2.2.3.2 (Vegetation Exclusions).

### 6.1 Site Details

Address:	6 Sotlej Court, Peterborough 3270
Lot and Plan Number:	Lot 31 PS604232
Municipality:	Moyne
BMO Schedule:	N/A
Existing Dwellings:	Vacant
Private Bushfire Shelter:	N/A
Application Pathway:	Pathway 2
Directory Reference:	Vicroads 512 C3
Site Area:	685 sq.m

## 6.2 Map 2 – Bushfire Hazard Site Assessment



### 6.3 Vegetation

The vegetation within the 150 metre assessment area was classified according to AS 3959-2018, ‘Practice note 65 (DTPLI 2014) and the ‘Overall fuel hazard assessment guide’ (DSE 2010).

The AS 3959-2018 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 particular type of fire behavior and these categories or classifications are then used to determine bushfire intensity.

**Table 2 – Vegetation Assessment**

Vegetation Classification	Vegetation Type (AS 3959-2018 Description)	Site Description
<p><b>Low Threat</b></p>	<p><i>The following vegetation shall be excluded from a BAL assessment:</i></p> <ul style="list-style-type: none"> <li>(a) <i>Vegetation of any type that is more than 100m from the site.</i></li> <li>(b) <i>Single areas of vegetation less than 1 ha in area and not within 100m of other areas of vegetation being classified.</i></li> <li>(c) <i>Multiple areas of vegetation less than 0.25ha in area and not within 20m of the site, or each other of other areas of vegetation being classified vegetation.</i></li> <li>(d) <i>Strips of vegetation less than 20m in width (measured perpendicular to the evaluation exposed to the strip of vegetation) regardless of length and not within 20m of the site or each other, or other areas of vegetation being classified.</i></li> <li>(e) <i>Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.</i></li> <li>(f) <i>Vegetation regarded as low threat due to factors such flammability, moisture content or fuel load. This includes grassland managed in a</i></li> </ul>	<p>The vegetation surrounding the newly developed residential area to the north, east, and west is managed to a low-threat condition as can be seen in Figures 1 and 2.</p> <p>There is an area of coastal scrub to the south of the allotment. This vegetation is narrow in area and is approximately 0.44ha.</p> <p>In accordance with AS 3959-2018 areas of vegetation less than 1ha in area are not required to be classified. Strips of vegetation less than 20m are also not required to be classified. This vegetation is approximately 27m in width, however, this is only for a very short distance (less than 30m).</p> <p>The shrubland vegetation is located to the south of the site and is not connected to other larger areas of unmanaged vegetation.</p> <p>The shrubland in the coastal reserve, is highly fragmented by walking tracks and carparks and would not enable a fire front as assumed by AS 3959-2018.</p>



*minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.*

Figure 1 – Low threat vegetation to the front of the site



Figure 2 – Low threat vegetation in the surrounding township area.




		<p>Figure 3 – Shrubland vegetation to the south.</p> 
<p><b>Grassland</b></p>	<p><u><i>Open Woodland/Low Open Woodland/Open Shrubland/Low Open Shrubland/Hummock Grassland/Closed Tussock Grassland/Tussock Grassland/Open Tussock/Sparse Open Tussock/Dense Sown Pasture/Sown Pasture/Open Herbfield/Spare Open Herbfield:</i></u> All forms (except tussock, moorlands), including situations with shrubs and trees, if the overstorey foliage cover is less than 10%. Includes pasture and cropland.</p>	<p>Grassland vegetation is located to the north of the settlement area. It is likely this vegetation will be maintained to a low threat condition as it is close to the interface of the settlement.</p>

Figure 4 – Grassland to the north.



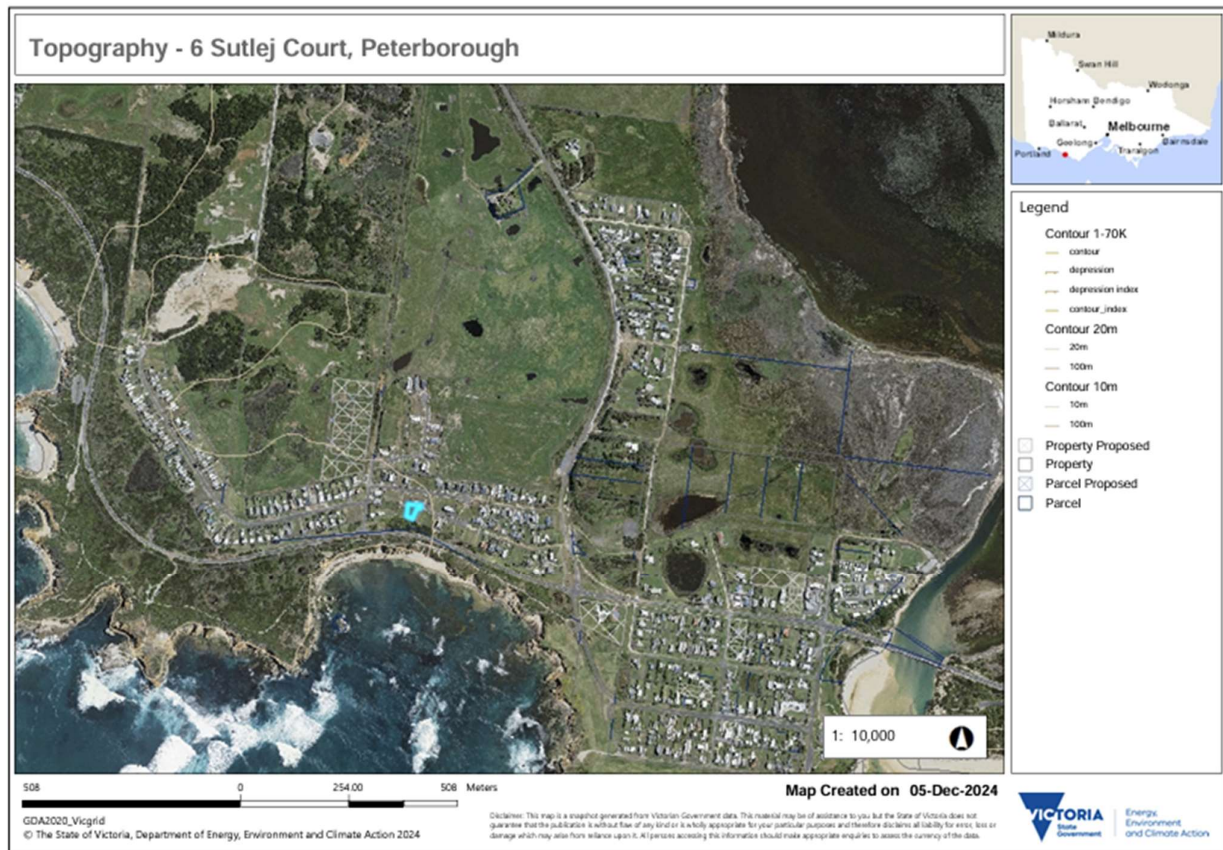
## 6.4 Topography

Topography of the land surrounding a site is particularly important as the topography influences the rate of spread and intensity of a fire. Fire burns faster uphill, as the slope increases so does the speed of the fire and its intensity. As a general rule for every increase 10° up a slope, the fire will double its speed and conversely down a slope. Fires tend to move more slowly as the slope decreases.

The surrounding landscape is undulating grasslands and areas of coastal shrubland that fringe the coastline. The surrounding landscape would not influence a landscape bushfires ability to impact the township and the proposed development.

There are steep cliffs to the south down to the ocean, however, these cliffs are not vegetated.

**Map 3 - Topography of the surrounding area**



## 6.5 Bushfire Attack Level (BAL) 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 meter squared. The BAL is also the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire.

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.

The shrubland vegetation to the south of the development and the shrubland vegetation in the coastal reserve are both areas of vegetation that are very constrained and would not enable a fire front as assumed by AS 3959-2018. The vegetation has been classified as low threat due to the limited fire run potential.

A large landscape scale fire is also unlikely from the south.

Due to the highly flammable nature of coastal shrubland vegetation and the remote location of the township of Peterborough a construction standard to a BAL of 29 is recommended.

**Table 3 – BAL determination**

Orientation	Highest threat vegetation	Slope under classifiable vegetation	Distance to classifiable vegetation	Defendable Space	Bushfire Attack Level (BAL)	Construction Standard
North	Grassland	Flat	>100m	Property Boundary	BAL 12.5	BAL 29
East	Low-threat vegetation	Flat	-	Property Boundary	BAL 12.5	BAL 29
South	Shrubland	Flat	45m	Property Boundary	BAL 12.5	BAL 29
West	Low-threat vegetation	Flat	-	Property Boundary	BAL 12.5	BAL 29

## 7. BUSHFIRE MANAGEMENT PLAN AND STANDARD PERMIT CONDITIONS

### Bushfire Management Plan – 6 Sutlej Court, Peterborough

Prepared By SCBC – 6<sup>th</sup> December 2024, Version 1



Note – Tank location is indicative.

#### Construction Standards

All construction works need to comply with a **BAL 29**. All construction will be compliant with AS 3959-2018.

**Defendable space will be managed to the property boundary to all aspects.**

**Vegetation Management within the defendable space area is required to be managed in accordance with the following conditions:**

- 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.
- 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.
- Shrubs must not be located under the canopy of trees.
- Individual and clumps of shrubs must not exceed 5 square metres in area and must be separated by at least 5 metres.
- Trees must not overhang or touch any elements of the building.
- 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.

#### Water Supply

The site is required to have **5,000 Litres** of water supply for fire fighting purposes which meets the following requirements:

- Is stored in an above ground water tank constructed of concrete or metal.
- All fixed above-ground water pipes and fittings required for fire fighting purposes must be made of corrosive resistant metal.
- Include a separate outlet for occupant use.

#### Access

The access is less than 30 metres and access is not required to be provided to access the static water supply.

## 8. BUSHFIRE MANAGEMENT STATEMENT – SITES RESPONSE TO APPLICABLE SUB CLAUSES OF 53.02

Clause 53.02 contains a range of sub clauses with objectives, approved measures (AM), alternative measures (AltM) and decision guidelines. The table below details which clauses are relevant to this application. The following section demonstrates how the requirements have been met for the relevant standards.

8.1 53.02-3 Dwellings in existing settlements – Bushfire protection objective		
<i>To specify bushfire design and construction measures for a single dwelling or alteration and extension to an existing dwelling that reduces the risk to life and property to an acceptable level.</i>		
Measure	Requirement	Response
AM 1.1	<p><b>A building is sited to ensure the site best achieves the following:</b></p> <ul style="list-style-type: none"> <li>• <b>The maximum separation distance between the building and the bushfire hazard.</b></li> <li>• <b>The building is in close proximity to a public road.</b></li> <li>• <b>Access can be provided to the building for emergency service vehicles.</b></li> </ul>	Not applicable.
AM 1.2	<p><b>A building provides the defensible space in accordance with Table 1 Columns A, B, C, D or E and Table 6 to Clause 53.02-5. Adjoining land may be included as defensible space where there is a reasonable assurance that the land will remain or continue to be managed in that condition as part of the defensible space.</b></p> <ul style="list-style-type: none"> <li>• <b>A building is constructed to the bushfire attack level:</b></li> <li>• <b>That corresponds to the defensible space provided in accordance with Table 1 to Clause 53.02-5, or</b></li> </ul>	Not applicable.

	<p>The next lower bushfire attack level that corresponds to the defensible space provided in accordance with Table 1 to Clause 53.02-5 where all of the following apply:</p> <ul style="list-style-type: none"> <li>- A private bushfire shelter (a Class 10c building within the meaning of the Building Regulations 2006) is constructed on the same land as the dwelling.</li> <li>- A minimum bushfire attack level of BAL12.5 is provided in all circumstances.</li> </ul>	
AM 1.3	<p>A building is provided with:</p> <ul style="list-style-type: none"> <li>• A static water supply for fire fighting and property protection purposes specified in Table 4 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 fire fighting water supplies.</li> <li>• Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02-5</li> </ul>	Not applicable.
<p><b>8.2 53.02-4.1 Landscape, siting and design objectives</b></p> <p><i>Development is appropriate having regard to the nature of the bushfire risk arising from the surrounding landscape.</i></p> <p><i>Development is sited to minimise the risk from bushfire.</i></p> <p><i>Development is sited to provide safe access for vehicles, including emergency vehicles.</i></p> <p><i>Building design minimises vulnerability to bushfire attack.</i></p>		
Measure	Requirement	Response
AM 2.1	The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level.	This report provides a comprehensive report on the bushfire hazards associated with the development site at 6 Sutlej Court, Peterborough.



		<p>The site is in a newly developed residential area and surrounding properties are compliant with AS 3959-2018.</p> <p>The site is considered to have a low exposure to bushfire due to the limited areas of fire run in high fuel load vegetation. The dominant hazard in the surrounding landscape is grassland.</p>
<b>AM 2.2</b>	<p><b>A building is sited to ensure the site best achieves the following:</b></p> <ul style="list-style-type: none"> <li>• <b>The maximum separation distance between the building and the bushfire hazard.</b></li> <li>• <b>The building is in close proximity to a public road.</b></li> <li>• <b>Access can be provided to the building for emergency service vehicles.</b></li> </ul>	<p>The site has a building envelope and the site is a small residential allotment. The building has been sited centrally within the site.</p> <p>The dwelling will have access to the main residential area of the township.</p> <p>Access to the site can be provided for emergency service vehicles.</p>
<b>AM 2.3</b>	<p><b>A building is designed to be responsive to the landscape risk and reduce the impact of bushfire on the building.</b></p>	<p>The building is proposed to be clad in a mixture of building products including:</p> <ul style="list-style-type: none"> <li>- Hardies Oblique Vertical Cladding.</li> <li>- Burnt Sho Sugi Ban Timber</li> <li>- Krause Brickwork</li> <li>- Aluminum window and door frames.</li> </ul> <p>The roofline of the building is a combination of gable and flat roofs, the complexity in roof line is deemed acceptable in this location due to the relatively low risk landscape and the absence of vegetation that would create embers.</p> <p>Grassland does not create embers that would impact the proposed dwelling and the coastal shrubland to the south is also not a large producer of embers.</p>

		<p>The southern façade of the building that faces of the shrubland will be clad in Hardies Oblique Vertical Cladding.</p> <p>The building has some small deckings and these will be constructed from BAL 29 rated materials.</p>
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### 8.3 53.02-4.2 Defendable space and construction objective

*Defendable space and building construction mitigate the effect of flame contact, radiant heat and embers on buildings.*

Measure	Requirement	Response
<p><b>AM 3.1</b></p>	<p><b>A building used for a dwelling (including an extension or alteration to a dwelling), a dependent person’s unit, industry, office or retail premises is provided with defendable space in accordance with:</b></p> <ul style="list-style-type: none"> <li>• <b>Table 2 Columns A, B or C and Table 6 to Clause 53.02-5 wholly within the title boundaries of the land; or</b></li> <li>• <b>If there are significant siting constraints, Table 2 Column D and Table 6 to Clause 53.02-5.</b></li> </ul> <p><b>The building is constructed to the bushfire attack level that corresponds to the defendable space provided in accordance with Table 2 to Clause 53.02-5.</b></p>	<p>The site is able to meet defendable space objectives and can meet setbacks for low threat vegetation. The assessment has been undertaken in accordance with the methodology in AS 3959-2018.</p> <p>The dwelling will be constructed to a BAL of 29 in accordance with AS 3959-2018.</p>
<p><b>AM 3.2</b></p>	<p><b>A building used for accommodation (other than a dwelling or dependent person’s unit), a child care centre, an education centre, a hospital, leisure and recreation or a place of assembly is:</b></p>	<p>Not applicable.</p>

	<ul style="list-style-type: none"> <li>• Provided with defensible space in accordance with Table 3 and Table 6 to Clause 53.02-5 wholly within the title boundaries of the land.</li> <li>• Constructed to a bushfire attack level of BAL 12.5.</li> </ul>	
AltM 3.3	<p>Adjoining land may be included as defensible space where there is a reasonable assurance that the land will remain or continue to be managed in that condition as part of the defensible space.</p>	Not applicable.
AltM 3.4	<p>Defensible space and the bushfire attack level is determined using Method 2 of AS3959:2018 <i>Construction of buildings in bushfire prone areas</i> (Standards Australia) subject to any guidance published by the relevant fire authority.</p>	Not applicable.
AltM 3.5	<p>A building used for a dwelling (including an extension or alteration to a dwelling) may provide defensible space to the property boundary where it can be demonstrated that:</p> <ul style="list-style-type: none"> <li>• The lot has access to urban, township or other areas where: <ul style="list-style-type: none"> <li>- Protection can be provided from the impact of extreme bushfire behaviour.</li> <li>- Fuel is managed in a minimum fuel condition.</li> <li>- There is sufficient distance or shielding to protect people from direct flame contact or harmful levels of radiant heat.</li> </ul> </li> <li>• Less defensible space and a higher construction standard is appropriate having regard to the bushfire hazard landscape assessment.</li> <li>• The dwelling is constructed to a bushfire attack level of BAL FZ.</li> </ul>	Not applicable.

	<p><b>This alternative measure only applies where the requirements of AM 3.1 cannot be met.</b></p>	
<p><b>AltM 3.6</b></p>	<p><b>A building used for accommodation (other than a dwelling or dependent person’s unit), child care centre, education centre, hospital, leisure and recreation or place of assembly may provide defendable space in accordance with Table 2 Columns A, B or C and Table 6 to Clause 53.02-5 where it can be demonstrated that:</b></p> <ul style="list-style-type: none"> <li>• <b>An integrated approach to risk management has been adopted that considers:</b> <ul style="list-style-type: none"> <li>- <b>The characteristics of the likely future occupants including their age, mobility and capacity to evacuate during a bushfire emergency.</b></li> <li>- <b>The intended frequency and nature of occupation.</b></li> <li>- <b>The effectiveness of proposed emergency management arrangements, including a mechanism to secure implementation.</b></li> </ul> </li> <li>• <b>Less defendable space and a higher construction standard is appropriate having regard to the bushfire hazard landscape assessment.</b></li> </ul>	<p>Not applicable.</p>
<p><b>8.4 53.02-4.3 Water supply and access objectives</b></p> <p><i>A static water supply is provided to assist in protecting property.</i></p> <p><i>Vehicle access is designed and constructed to enhance safety in the event of a bushfire.</i></p>		

Measure	Requirement	Response
<p><b>AM 4.1</b></p>	<p><b>A building used for a dwelling (including an extension or alteration to a dwelling), a dependent person’s unit, industry, office or retail premises is provided with:</b></p> <ul style="list-style-type: none"> <li>• <b>A static water supply for fire fighting and property protection purposes specified in Table 4 to Clause 53.02-5.</b></li> <li>• <b>Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02-5.</b></li> </ul> <p><b>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.</b></p>	<p>The site will need to provide a static water supply of 5,000L in accordance with Table 4 to Clause 53.02-5 as detailed in the Bushfire Management Plan (Section 8).</p> <p>The site is able to provide access for emergency service vehicles.</p>
<p><b>AM 4.2</b></p>	<p><b>A building used for accommodation (other than a dwelling or dependent person’s unit), child care centre, education centre, hospital, leisure and recreation or place of assembly is provided with:</b></p> <ul style="list-style-type: none"> <li>• <b>A static water supply for fire fighting and property protection purposes of 10,000 litres per 1,500 square metres of floor space up to 40,000 litres.</b></li> <li>• <b>Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02-5.</b></li> <li>• <b>An integrated approach to risk management that ensures the water supply and access arrangements will be effective based on the characteristics of the likely future occupants including their age, mobility and capacity to evacuate during a bushfire emergency.</b></li> </ul> <p><b>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.</b></p>	<p>Not applicable.</p>

## 9. RESPONSE TO CLAUSE 53.02 – DECISION GUIDELINES

### 9.1 53.02-4.5 Decision guidelines

*Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider:*

Consideration	Response
<b>The Municipal Planning Strategy and the Planning Policy Framework.</b>	The planning policy framework and its requirement to address bushfire risk has been addressed through this response to Clause 44.06 and Clause 53.02 from the local planning scheme.
<b>The bushfire hazard landscape assessment, the bushfire hazard site assessment and the bushfire management statement submitted with the application.</b>	This report includes: <ul style="list-style-type: none"> <li>- Bushfire hazard landscape assessment</li> <li>- Bushfire hazard site assessment</li> <li>- Bushfire Management Plan</li> <li>- Bushfire Management Statement</li> </ul>
<b>The impact of any State, regional or local bushfire management and prevention actions occurring around the site and in the wider area on the bushfire hazard and the level of risk to the proposed development.</b>	The impacts of any state, regional or local bushfire mitigation works have not been considered in determining the appropriateness of this application.
<b>Whether the proposed development meets the objectives of Clause 53.02-4 regardless of other measures which may be available, including private bushfire shelters, community shelters and the presence of places of last resort.</b>	The proposed development can meet the objectives of Clause 53.02-4 and does not propose to rely upon a bushfire shelter, community shelter or the presence of places of last resort.
<b>Whether the proposed measures can be practically implemented and maintained in conjunction with the ongoing use of the land.</b>	The proposed bushfire mitigation measures can be practically implemented and maintained.

<p><b>Whether the use of an alternative measure meets the relevant objective having regard to the bushfire hazard and the nature of any constraint that prevents the applicable approved measure from being implemented.</b></p>	<p>An alternative measure to increase the construction standard to a BAL of 29 is proposed for the development due to the remote location of the property and the proximity to small areas of shrubland vegetation.</p>
<p><b>If one or more of the objectives in Clause 53.02-4 will not be achieved in the completed development, whether the development will, taking all relevant factors into account, reduce the bushfire risk to a level that warrants it proceeding.</b></p>	<p>The development is able to mitigate the surrounding risk to a level that warrants the development proceeding.</p>
<p><b>Whether the risk arising from the broader landscape can be mitigated to an acceptable level or warrants the development not proceeding.</b></p>	<p>The risk from the broader landscape can be reasonably mitigated through meeting the approval measures of Clause 53.02.</p>

## 10. RESPONSE TO CLAUSE 13.02-1S – BUSHFIRE PLANNING

<p><b>10.1 Policy Application</b></p> <p>Clause 13.02-1S must be applied to all planning and decision making under the Planning and Environment Act 1987 relating to land that is:</p> <ul style="list-style-type: none"> <li>• Within a designated bushfire prone area,</li> <li>• Subject to a Bushfire Management Overlay, or</li> <li>• Proposed to be used or developed in a way that may create a bushfire hazard.</li> </ul>	
<p><b>10.2 Objective</b></p> <p>To strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.</p>	
<p><b>10.3 Strategies: Protection of human life</b></p> <p>Give priority to the protection of human life by:</p>	
Strategy	Consideration
<b><i>Prioritising the protection of human life over all other policy considerations.</i></b>	The protection of human life has been prioritised.
<b><i>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.</i></b>	The development is in a newly developed residential subdivision.
<b><i>Reducing the vulnerability of communities to bushfire through the consideration of bushfire risk in decision making at all stages of the planning process.</i></b>	This report responds to bushfire risk at the planning stage.



<b>10.4 Strategies: Bushfire Hazard Identification and Assessment</b>	
<i>Identify bushfire hazard and undertake appropriate risk assessment by:</i>	
<b>Strategy</b>	<b>Consideration</b>
<b><i>Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard</i></b>	The best available science has been applied to this application.
<b><i>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</i></b>	The site is within the Bushfire Prone Area of the state.
<b><i>Applying the Bushfire Management Overlay in planning schemes to areas where the extent of vegetation can create an extreme bushfire hazard</i></b>	The BMO is applied to the site.
<b><i>Considering and assessing the bushfire hazard on the basis of:</i></b> <ul style="list-style-type: none"> <li>• <b><i>Landscape conditions – meaning conditions in the landscape within 20 km (and potentially up to 75km ) of a site.</i></b></li> <li>• <b><i>Local conditions – meaning conditions in the area within approximately 1km of a site.</i></b></li> <li>• <b><i>Neighbourhood conditions – meaning conditions in the area within 400m of a site.</i></b></li> <li>• <b><i>The site for the development.</i></b></li> </ul>	Section 5 and 6 of this report address the landscape, local and neighbourhood conditions.
<b><i>Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.</i></b>	Emergency services have not been consulted at this stage.
<b><i>Ensuring that strategic planning documents, planning scheme amendments, planning permit applications and development plan</i></b>	The application includes appropriate bushfire protection measures.

<i>approvals properly assess bushfire risk and include appropriate bushfire protection measures.</i>	
<i>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.</i>	The objectives of the BMO have been met and the dwelling will be constructed in accordance with the performance measures in AS 3959-2018.
<p><b>10.5 Strategies: Settlement Planning</b></p> <p><i>Plan to strengthen the resilience of settlements and communities and prioritise protection of human life by:</i></p>	
<b>Strategy</b>	<b>Consideration</b>
<i>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 3959-2018 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2018).</i>	The development is in a newly developed residential subdivision.
<i>Ensuring the availability of, and safe access to, areas assessed as a BAL-LOW rating under AS 3959-2018 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009) where human life can be better protected from the effects of bushfire.</i>	Areas of BAL – Low are located in the central residential areas of Peterborough.
<i>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.</i>	The proposed development will not increase the risk to future residence.
<i>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 reducing bushfire risk overall.</i>	There is no net increase in risk associated with this development.

<p><b>Assessing and addressing the bushfire hazard posed to the settlement and the likely bushfire behavior it will produce at a landscape, settlement, local, neighbourhood and site scale, including the potential for neighbourhood-scale destruction.</b></p>	<p>The bushfire hazards to the proposed site have been addressed through the BMO.</p>
<p><b>Assessing alternative low risk locations for settlement growth on a regional, municipal, settlement, local and neighbourhood basis.</b></p>	<p>Not applicable.</p>
<p><b>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 3959-2018 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2018).</b></p>	<p>Not applicable.</p>
<p><b>10.6 Strategies: Areas of biodiversity conservation value</b></p>	
<p><b>Strategy</b></p>	<p><b>Consideration</b></p>
<p><b>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 important areas of biodiversity.</b></p>	<p>There are no significant biodiversity impacts associated with this development.</p>
<p><b>10.7 Use and development control in a Bushfire Prone Area</b></p> <p><i>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:</i></p>	

- 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.

Any application for development that will result in people congregating in large numbers. When assessing a planning permit application for the above uses and development:

Strategy	Consideration
<b>Consider the risk of bushfire to people, property and community infrastructure.</b>	Bushfire risk has been considered in addressing the BMO.
<b>Require the implementation of appropriate bushfire protection measures to address the identified bushfire risk.</b>	Bushfire protection measures have been proposed in addressing the BMO.
<b>Ensure new development can implement bushfire protection measures without unacceptable biodiversity impacts.</b>	The biodiversity impacts of the proposed development have not been considered as part of this report.

## 10.8 Policy Guidelines

Consider as relevant:

- Any applicable approved state, regional and municipal fire prevention plan.

## 10.9 Policy Documents

Consider as relevant:

- *AS 3959-2018 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2018).*
- *Building in bushfire-prone areas – CSIRO and Standards Australia (SAA HB36-1993, 1993)*
- *An bushfire prone area map prepared under the Building Act 1993 or regulations made under the Act.*

## 11. REFERENCES

CFA (2011). FSG LUP 0003 Assessing vegetation in a bushfire management overlay (BMO). Country Fire Authority, Burwood East, Victoria.

CFA (2011). Landscaping for Bushfire: Garden design and plant selection. Country Fire Authority, Burwood East, Victoria.

CFA (2012). FSG LUP 0002 Requirements for water supply and access in the Bushfire Management Overlay (BMO). Country Fire Authority, Burwood East, Victoria.

Department of Transport, Planning and Local Infrastructure (2014) Planning Practice Note 65 – Preparing and Assessing a Planning Application under the Bushfire Provisions in Planning Schemes. Victorian Government, Melbourne

Department of Environment, Land, Water and Planning. 2015. Interactive Mapping Tool – EVC mapping and Bushfire History Mapping.

Leonard, J. and Blanche, R. (2005) Investigation of bushfire attack mechanisms involved in house loss in the ACT bushfire 2003. Bushfire CRC report CMIT©-2005-377

Leonard, J. (2009). Report to the 2009 Victorian Bushfires Royal Commission Building performance in Bushfires. CSIRO Australia.

Standards Australia (2007) Australian Standard AS 1530.8.2 Methods for fire tests on building materials, components and structures – Tests on elements of construction for buildings exposed to simulated bushfire attack – Large flaming sources AS 1530.

Standards Australia (2018). AS 39359-2018 Construction of Buildings in Bushfire Prone Areas. Standards Australia, North Sydney, New South Wales.

## 12.APPENDICES

### 12.1 Appendix 1 – Bushfire History

Forest Fire Management Victoria (FFM). Natural Bushfires in the area since 1939.

