



ÖKOLOGIE CONSULTING

Bushfire Management Statement

Briody Drive West Development

**Prepared for:
Briody Drive Projects Pty Ltd**



Document Information

Bushfire Management Statement for the Briody Drive West Development

Report prepared by Okologie Consulting Pty Ltd for Briody Drive Projects Pty Ltd

Okologie Consulting
32 Nicholson Crescent
Jan Juc, Victoria, 3228

ABN: 61 702 853 196
Web: www.okologie.com.au
Email: mark@okologie.com.au
Phone: 0419 786 533

Document Control

Version	Review	Author	Approval	Date
M737_BMS_BriodyDrive West_17022022_V3	Luke Hynes	Mark Stockdale		17/02/2022

Acknowledgements

Okologie Consulting acknowledges the following people in their contribution to this project:

- Naomi Scully (Development Manager) for project information.

© Okologie Consulting

This document was prepared for the sole use of the party identified on the cover sheet and may only be used for the purposes for which it was commissioned in accordance with the Terms of the Engagement. This document is subject to copyright and no section or element of this document may be removed, reproduced, electronically stored or transmitted in any form without the prior written permission of Okologie Consulting Pty Ltd.

Disclaimer

Okologie Consulting Pty Ltd has taken all necessary steps to ensure that an accurate document has been prepared in accordance with relevant legislation and current information. Okologie Consulting Pty Ltd accepts no liability for any loss, injury or financial damage incurred as a result of reliance placed upon the report content or for any purpose other than that for which it was intended. The requirements detailed in this report do not guarantee the survival of the buildings or the occupants during a bushfire event. The property resident is strongly encouraged to develop and practice a bushfire survival plan.



Table of Contents

Document Information	2
Document Control	2
Acknowledgements	2
Summary	4
1 Introduction	5
1.1 Background	5
2 Site Description	6
2.1 Site Details	6
Figure 1 – Location plan	7
3 Methodology	8
3.1 Desktop Assessment	8
3.2 Bushfire Hazard Site Assessment	8
3.3 Vegetation	9
3.4 Topography	10
3.5 Defendable Space	10
3.6 Construction Standards	10
3.7 Limitations	11
4 Bushfire Hazard Landscape Assessment	12
4.1 Site and Landscape Context	12
4.2 Vegetation Extent in the Locality	12
4.3 Recent Bushfire History	12
4.4 Potential Bushfire Scenario	12
4.5 Landscape Type	13
Figure 2: Bushfire Hazard Landscape Assessment	14
5 Bushfire Hazard Site Assessment	15
5.1 Vegetation	15
5.2 Bushfire Hazard Site Assessment	20
Figure 3 – Bushfire Hazard Site Assessment	21
6 Bushfire Management Statement	22
6.1 Application Requirements	22
Figure 4 – Bushfire Management Plan	25
7 Clause 13.05-1 Bushfire Planning	26
7.1 Application Requirements	26
8 References	30
Appendix 1: Vegetation management requirements	31
Appendix 2: Access Requirements	32



Summary

This Bushfire Management Statement has been prepared to inform the development plan amendment for the Briody Drive West Development area.

The Briody Drive West Development Plan was endorsed by Council in 2017. Sections of the northern development plan area are subject to the Bushfire Management Overlay, with the remaining land in a Designated Bushfire Prone Area. An amendment to the development plan is proposed which requires the application to address the implications of Clause 13.05-1 (Bushfire Planning), Clause 44.06 (Bushfire Management Overlay) and Clause 53.02 (Bushfire Planning) under the Surf Coast Planning Scheme.

The majority of the project area has been previously cleared for agricultural and residential use. The project area supports numerous existing dwellings and associated infrastructure, interspersed with planted vegetation and open grassland. Native vegetation was present along road reserves and across several properties. The surrounding land use includes agriculture, public utility and residential development.

One classifiable vegetation type (Woodland) was recorded within the 150-metre assessment area. The effective slope beneath Woodland vegetation was classified as 'All Upslopes and Flat Land 0 Degrees' category. Vegetation within assessment area also included Low-threat Vegetation consisting managed (slashed) grassland and landscaped gardens, and Modified Vegetation comprising planted vegetation and modified native vegetation.

The surrounding landscape was identified as Broader Landscape Type One. The potential bushfire scenario with the highest probable impact on the site involves Woodland vegetation to the north of the site. However, areas of managed vegetation and the local road network between the hazard and the site reduces this risk to the development.

The Bushfire Hazard Site Assessment identified the development area subject to the Bushfire Management Overlay is capable of achieving BAL-12.5 defensible space and construction in accordance with Column A of Table 2 to Clause 53.02-5. The defensible space requirements for each lot can be wholly contained within the boundary of the proposed subdivision.

The development plan area is bounded by Grossmans Road, Messmate Road, Briody Drive and Illawong Drive which has the same effect on perimeter road in this instance. This has the benefit of separating the bushfire hazard from lots and enables emergency services access to defend the subdivision from a bushfire event.

Access to the development plan area is less than 30 metres and will be designed for emergency service vehicles in accordance with Table 5 of Clause 53.02-5. Water supply for fire-fighting purposes will be achieved from hydrants in accordance with the specifications of Table 4 under Clause 53.02.



1 Introduction

1.1 Background

Okologie Consulting was engaged by Briody Drive Projects Pty Ltd to prepare a Bushfire Management Statement for the Briody Drive West Development area.

The Briody Drive West Development Plan was endorsed by Council in 2017. Okologie Consulting (2016) prepared a preliminary Bushfire Management Statement for the previous development area under Clause 52.47 *Planning for Bushfire*.

Sections of the northern development plan area are subject to the Bushfire Management Overlay, with the remaining land in a Designated Bushfire Prone Area. The Bushfire Management Statement has been prepared to inform the development plan amendment to facilitate future subdivision, which requires the application to address the implications under Clause 13.05-1 (Bushfire Planning) (DELWP 2018a) and Clause 44.06 (Bushfire Management Overlay) (BMO) (DELWP 2018b).

The relevant information provided with this application comprises:

- A bushfire hazard site assessment, which calculates the defensible space from the bushfire hazard as informed by the methodology of AS 3959-2018 *Construction of buildings in bushfire prone areas* (Australian Standard 2018).
- A bushfire hazard landscape assessment including a plan that describes the bushfire hazard of the general locality more than 150-metres from the site.
- Bushfire management statement that shows how the development responds to the bushfire hazard site assessment and applies the objectives and approved measures in Clause 53.02 and requirements of Clause 44.06.
- Review of Clause 13.05 to shows how the development responds to the identified bushfire risk.



2 Site Description

2.1 Site Details

The project area consists of the Briody Drive West Development Plan area, comprising numerous private properties bound by Briody Drive and private property to the north, Illawong Drive to the east, Grossmans Road to the south and Messmate Road to the west. The assessment area also included the adjacent road reserves along Briody Drive, Illawong Drive, Grossmans Road and Messmate Road and a Council reserve at Blackwattle Mews (Figure 1).

The majority of the project area has been previously cleared for agricultural and residential use. The project area supports numerous existing dwellings and associated infrastructure, interspersed with planted vegetation and open grassland. Native vegetation was present along road reserves and across several properties. The surrounding land use includes agriculture, public utility (Barwon Water facility) and residential development



The site occurs within the Surf Coast Shire municipality and is zoned General Residential Zone – Schedule 1 and Low-density Residential Zone (LDRZ). The development plan area is partially subject to the BMO, and covers the properties at 170 Briody Drive, 150 Briody Drive, 95 Briody Drive and 31 Illawong Drive. The remainder the development plan area occurs within a Designated Bushfire Prone Area under the Surf Coast Planning Scheme (DELWP 2022a).

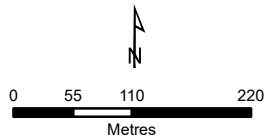
Figure 1

Site Location

Briody Drive West Development, Torquay

Legend

-  Subject Site
-  150m Assessment Area



Coordinate System: GDA 1994 MGA Zone 55
Map Scale when printed @ A4 1:7,000



ÖKOLOGIE CONSULTING

VicMap Data: The state of Victoria does not warrant the accuracy or correctness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.





3 Methodology

3.1 Desktop Assessment

The desktop assessment included review of relevant databases including:

- Planning Schemes Online for planning information (DELWP 2022a).
- NatureKit for modelled vegetation, topography and bushfire history (DELWP 2022b) of the surrounding area.
- Aerial photographs of the site and surrounding areas.

State planning provisions and relevant literature were also reviewed, including:

- State Planning Policy Framework 13.05-1 *Bushfire planning* (DELWP 2018a).
- Planning Permit Applications Bushfire Management Overlay. Technical Guide (DELWP 2017).
- Clause 44.06 *Bushfire Management Overlay* (DELWP 2018b).
- Clause 53.02 *Bushfire Planning* (DELWP 2018c).
- Practice Note 65: Preparing and Assessing a Planning Application Under the Bushfire Provisions in Planning Schemes (DTPLI 2014).
- CFA guideline 'Applying the Bushfire Hazard Landscape Assessment in Bushfire Management' (CFA 2015).
- Planning for Bushfire Victoria: Version 2 (CFA 2012).
- The Australian Standard: *AS 3959-2018 Construction of buildings in bushfire prone areas* (Australian Standards 2018).

3.2 Bushfire Hazard Site Assessment

A bushfire hazard site assessment was undertaken on 12 June 2020. The assessment involved determining the classifiable vegetation and effective slope within a 150-metre radius of the proposed development using the method described by AS3959-2018 (Australian Standards 2018). The Bushfire Attack Level (BAL) is calculated using Table 1 or 2 from Clause 53.02 and applying the classifiable vegetation type, the effective slope under classifiable vegetation and distances between vegetation (the hazard) and the proposed development.

The bushfire hazard site assessment process is used to determine how far away from unmanaged vegetation a building would need to be to receive less than a certain level of radiant heat (e.g. a building constructed to BAL-12.5 has been designed to withstand a radiant heat flux of 12.5 kW/m²). The higher the BAL, the higher the exposure to the effects of flame, radiant heat and ember attack from a bushfire (Plate 1).

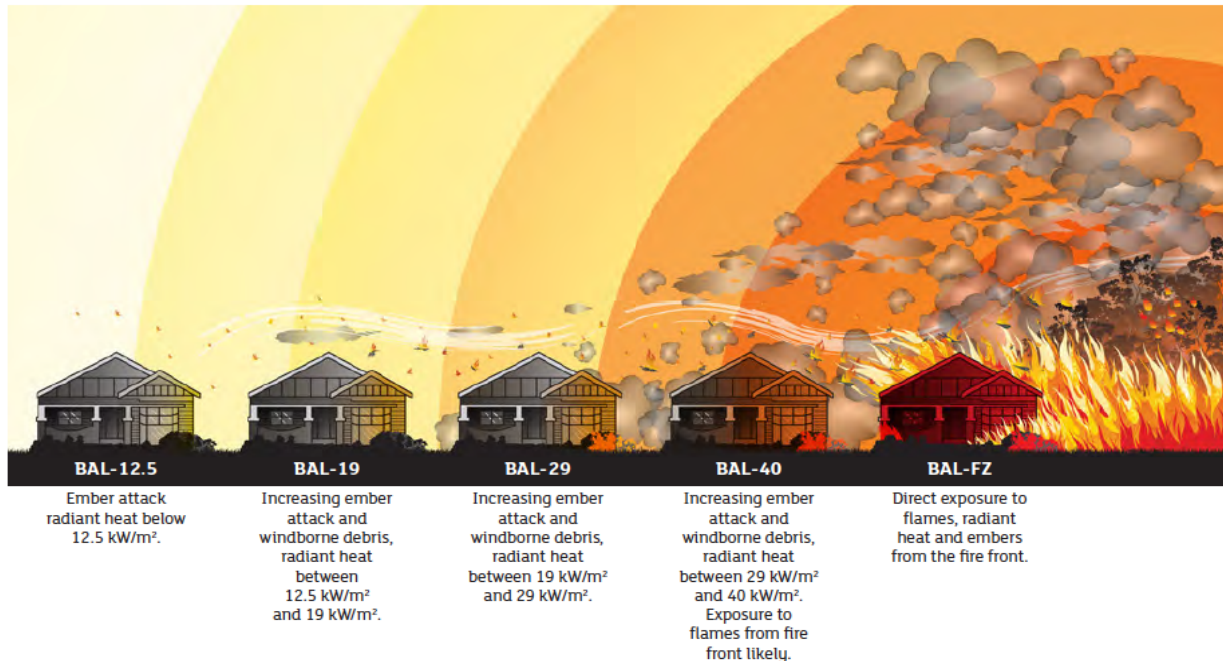


Plate 1. Bushfire Attack Levels and hazards associated with bushfire threats (Source: CFA 2012).

3.3 Vegetation

For the purposes of determining the defensible space and construction requirements, classified vegetation is vegetation that constitutes a bushfire hazard within 150 metres of the development in accordance with the classification system of AS 3959-2018 (Australian Standards 2018) and Table 1 or Table 2 of Clause 53.02 (DELWP 2018b). If more than one classified vegetation type is present the 'worst case scenario' is applied to determine the BAL (Standards Australia 2018).

Areas of low-threat vegetation are described as:

- Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.
- 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 (Standards Australia 2018).

Modified vegetation refers to vegetation that is different from the other vegetation classifications in AS3959-2018 (the standard) because it:

- Has been modified, altered or is managed due to urban development, or gardening;
- Has different fuel loads from those assumed in the standard;
- Has limited or no understorey vegetation; or



- Is not low-threat or low-risk vegetation as defined in the standard (DELWP 2018b).

3.4 Topography

The site topography was assessed within the 150-metre assessment area, to determine the effective slope under classified vegetation in accordance with AS 3959-2018 (Australian Standards 2018). For the landscape assessment, the effective slope is determined on worst case rather than an average (CFA 2015).

Topography (or slope) influences the rate of spread and intensity of a bushfire. Fire burns faster uphill as the slope increases so does the speed of the fire and its intensity. As a general rule, for every 10° slope, the fire will double its speed. Fires tend to move more slowly as the slope decreases, and for every 10° of downhill slope, the fire will halve its speed (CFA 2012).

3.5 Defendable Space

Defendable space is one of the most effective ways of reducing the impact of bushfire on a building. It comprises an area of land around a building (inner zone and outer zone) where vegetation is modified and managed to reduce the effects of flame contact, radiant heat and embers associated with bushfire (Plate 2) (CFA 2015).

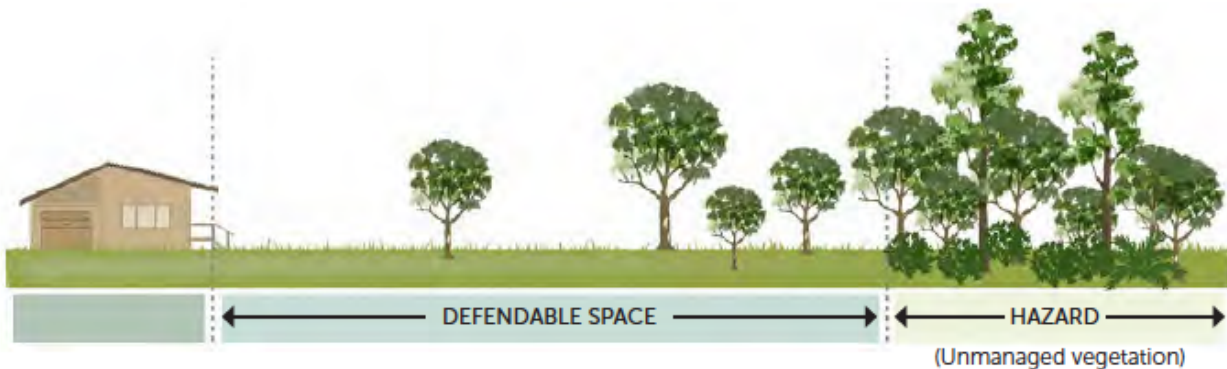


Plate 2. Defendable space around a building (Source: CFA 2015).

3.6 Construction Standards

Construction requirements for buildings relating to a calculated BAL are prescribed in AS3959-2018 (Standards Australia 2018). Building construction and design can be used to minimise the impacts of ember attack and radiant heat on a building. The materials and design of a building can be used to prevent the accumulation of debris and entry of embers. Appropriate construction helps the building to withstand the potential exposure from a bushfire as the fire front passes (CFA 2015).



3.7 Limitations

The information outlined in this report relies on the accuracy of GIS layers and spatial imagery. To minimise potential errors, the most current available data was obtained from relevant sources. The bushfire hazard within the local area was determined from interpretation of aerial photography, as access to all private property was not available. Determination of vegetation classification was based on relevant standards and guidelines, and vegetation condition and extent observed during the site assessment.



4 Bushfire Hazard Landscape Assessment

4.1 Site and Landscape Context

The project area is located within a General Residential Zone approximately three kilometres northwest of the Township of Torquay. Briody Drive is a two-way unsealed road that extends west to Messmate Road, which connects to Coombes Road to the north and Grossmans Road to the south. The Township of Torquay does not have a neighbourhood safer place; however, it contains areas of parkland and ovals that may provide protection from the impact of extreme fire conditions.

4.2 Vegetation Extent in the Locality

The project area has largely been cleared for residential development and agricultural use, comprising modified vegetation with planted trees and shrubs around dwellings and along windrows, interspersed with areas of open managed (slashed) grassland. Areas of woodland occur along sections of Messmate Road and Grossmans Road reserve and on private property to the north of the development area. The area south of Grossmans Road consists of open pasture.

4.3 Recent Bushfire History

NatureKit (DELWP 2021a) contains data on the bushfire history for the local area from 1970. The most recent wildfire occurred approximately nine kilometres west and seven kilometres south of the site during the 1983 Ash Wednesday fires. A prescribed burn was undertaken approximately 10 kilometres west of the site in 2012 (DELWP 2020a) (Figure 2).

4.4 Potential Bushfire Scenario

The bushfire risk to the site has been assessed at the landscape scale by identifying likely bushfire scenarios and mechanisms of a bushfire that may impact the proposed development. The mechanisms of bushfire attack on a building can be a combination of sparks and embers, direct flame contact or radiant heat (CFA 2012).

Bushfire Scenario 1

The potential bushfire scenario with the highest probable impact on the site involves areas of woodland, located approximately 200 metres north of the project area, which is contiguous with woodland vegetation north of Coombes Road (Figure 2). The effective slope under the woodland vegetation is upslope/flat land.



There is potential that bushfire could be driven towards the project area from a northerly direction. Northerly or northwesterly winds generally associated with high-threat or extreme bushfire conditions, and the area of woodland located to the north of the site represents a potential threat to the site under these conditions.

However, the fire runs in areas of woodland is less than 500 metres, and the presence of a road and managed vegetation in residential land moderates the bushfire threat to the site. This type of fire would most likely result from local ignition, and ember attack represents the greatest type of threat to the development under this bushfire scenario.

Bushfire Scenario 2

Grassland vegetation is located south/southwest of Grossmans Road and extends north towards the site. Strong wind changes from the southwest direction are associated with high bushfire risk weather. The site could potentially be impacted by a grassfire approaching from the southwest that would likely result from local ignition. Potential fire runs to the southwest exceed one kilometre; however, presence of roads and managed (low-risk) vegetation between unmanaged Grassland to the southwest and the site would reduce the potential for direct flame contact (Figure 2). Ember attack represents the main bushfire threat to the site under this bushfire scenario.

4.5 Landscape Type





The site corresponds to Broader Landscape Type One as specified in Practice Note 65 (DTPLI 2014).

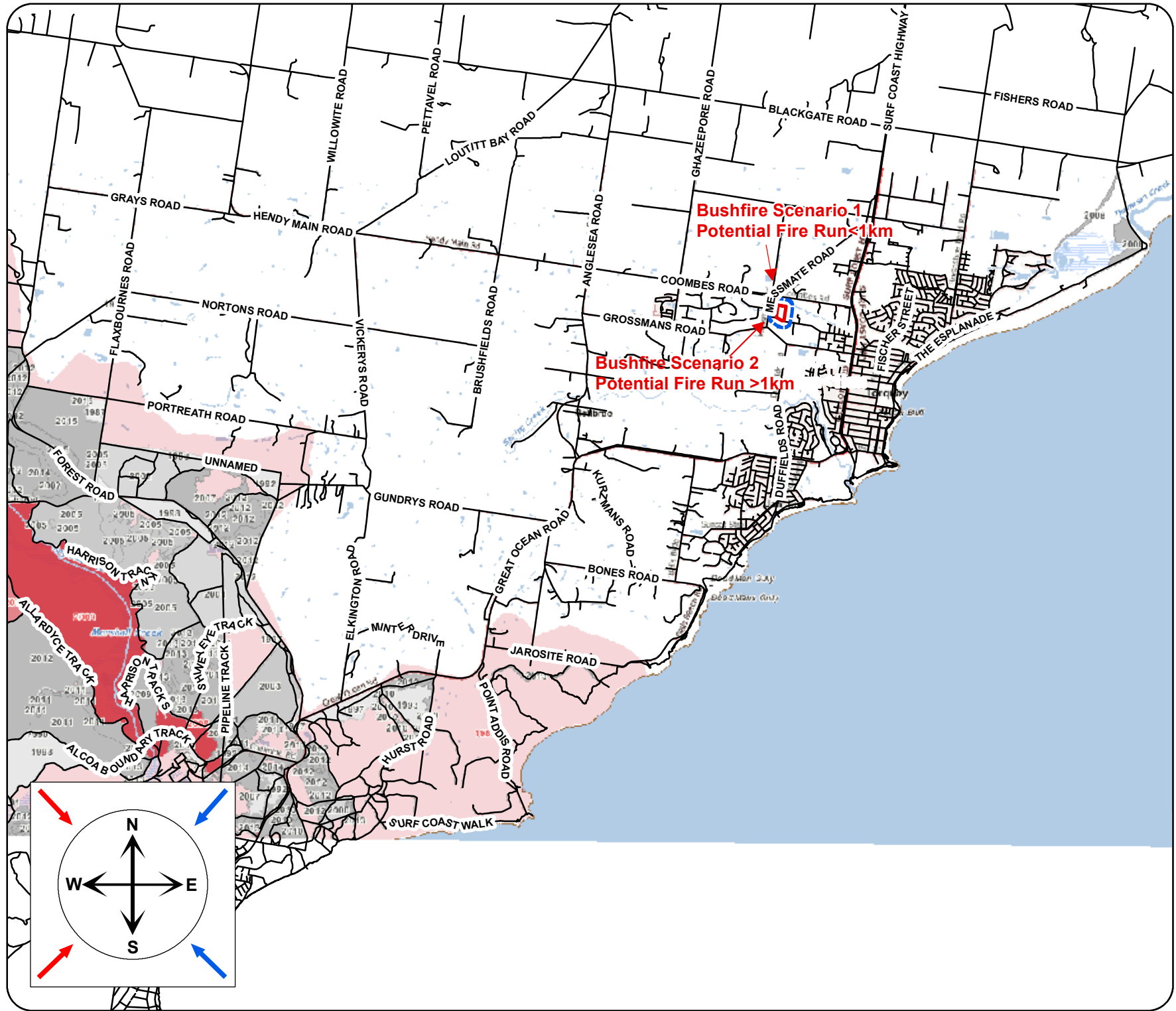
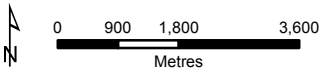
- There is little high-threat vegetation beyond 150 metres of the site (predominantly grasslands and low-threat vegetation, with modified patches of woodland).
- Extreme bushfire behaviour is not possible due the modified condition of the surrounding landscape.
- The type and extent of vegetation is unlikely to result in neighbourhood-scale destruction of property (predominantly grasslands and low-threat vegetation, with modified patches of woodland).
- Immediate access is available to a place that provides shelter from bushfire (parks, ovals and residential areas).

Figure 2

Bushfire Landscape Hazard Assessment Briody Drive Development area, Torquay

Legend

-  Subject Site
-  150m Assessment Area
-  Prescribed Burns
-  Bushfire Events





5 Bushfire Hazard Site Assessment

5.1 Vegetation

One classifiable vegetation type was recorded within the 150-metre assessment area, which met the AS 3959-2018 classification of 'Woodland' (Australian Standards 2018) (Figure 3). Vegetation within assessment area also included 'Low-threat Vegetation' that consisted of managed (slashed) grassland and landscaped gardens, and 'Modified Vegetation' comprising planted vegetation and modified native vegetation (Figure 3). A description of the vegetation types within the 150-metre assessment area is outlined below.

Woodland Vegetation

Native vegetation along Messmate Road, Grossmans Road and in private property in the northern section of the assessment area, meets the classification of Woodland under AS3959-2018 as the overstorey is between 10 to 30 metres high, the foliage cover between 10-30% dominated by eucalypts, with a grassy and shrubby understorey (Standards Australia 2018). The effective slope beneath Woodland vegetation was classified as 'All Upslopes and Flat Land 0 Degrees' category.

Woodland vegetation comprised a canopy of Manna Gum *Eucalyptus viminalis* and Messmate Stringybark *Eucalyptus obliqua* to 15 metres tall, with Swamp Gum *Eucalyptus ovata* also present. The shrub layer consisted of Golden Wattle *Acacia pycnantha*, Black Wattle *Acacia mearnsii*, Hedge Wattle *Acacia paradoxa* and Varnish Wattle *Acacia verniciflua*. The ground layer comprised indigenous ferns, grasses, sedges and herbs including Austral Bracken *Pteridium esculentum*, Weeping Grass *Microlaena stipoides*, Black-anther Flax-lily *Dianella admixta* and Kidney Weed *Dichondra repens* (Plates 3 and 6) (Figure 3).

Low-threat Vegetation

Low-threat vegetation comprised maintained lawn and planted trees and shrubs in windrows, and hardstand areas surrounding dwellings and non-vegetated areas (i.e. roads). The project area and surrounding assessment area to the north, south and west comprised exotic grassland that has been managed in a minimal fuel condition through slashing to 100mm. The majority of existing residential properties in the project area contains landscaped areas and planted windrows with a slashed or cleared ground layer (Plates 5 to 6). These areas were considered to meet the low-threat vegetation criteria (Standards Australia 2018) (Figure 3).

Modified Vegetation

Planted trees and shrubs were a dominant feature of the project area, which included native (non-indigenous) trees and shrubs such as Sugar Gum, Spotted Gum *Corymbia*



maculata, Red-flowering Yellow-gum *Eucalyptus leucoxylon* subsp. *rosea*, Giant Honey-myrtle *Melaleuca armillaris* and Sweet Hakea *Hakea drupacea* throughout private properties (Plates 11 to 13). Planted exotic Monterey Cypress *Cupressus macrocarpa* was present along windrows of numerous properties (Plate 14).

Modified patches of Messmate Stringybark and Manna Gum Swamp Gum, with a cleared understorey were present in the 150-metres assessment area (Plates 8 to 10). This vegetation was considered modified vegetation as it was sufficiently varied from vegetation classifications under AS3959-2018, as it comprised limited understorey cover, in a minimal fuel condition (DELWP 2018c).



Plate 1: Woodland vegetation on Messmate Road reserve



Plate 2: Woodland vegetation on Messmate Road reserve



Plate 3: Woodland vegetation on Grossmans Road reserve



Plate 4: Woodland vegetation in the northern section



Plate 5: Modified vegetation in the project area



Plate 6: Modified vegetation in the project area



Plate 7: Modified vegetation in the project area



Plate 8: Modified vegetation in the project area



Plate 9: Low-threat vegetation along Briody Drive road reserve



Plate 10: Low-threat vegetation – private property



Plate 11: Low-threat vegetation and planted windrows



Plate 12: Low-threat vegetation – private property



5.2 Bushfire Hazard Site Assessment

The results of the site assessment in conjunction with Table 2 under Clause 53.02 were used to determine the appropriate BAL and associated defensible space and construction standard.

The highest bushfire threat to the dwelling is from Woodland vegetation along Messmate Road, Grossmans Road and in private property in the northern section of the assessment area. Areas of Modified vegetation in the project area also represents a potential bushfire threat to the development, however, this vegetation is proposed for removal.

The development area subject to the BMO development is capable of achieving BAL-12.5 defensible space and construction requirement in accordance with Column A of Table 2 to Clause 53.02 (Table 1). The required defensible space can be achieved within the development area boundary in accordance with Table 2 and Table 6 to Clause 53.02-5 (Figure 3). The remaining land in the Designated Bushfire Prone Area can achieve BAL-12.5.

Table 1. Bushfire Hazard Site Assessment Results (BAL 12.5)






Orientation	Classified Vegetation	Effective Slope	Defensible Space	BAL
North	Woodland	Flat/Upslope	33 metres	12.5
East	Woodland	Flat/Upslope	33 metres	12.5
South	Low-threat vegetation	Flat/Upslope	Property boundary	12.5
West	Woodland	Flat/Upslope	33 metres	12.5

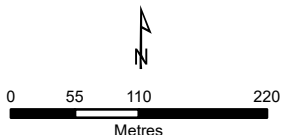
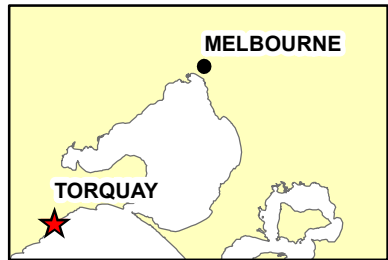
Figure 3

Bushfire Hazard Site Assessment

Briody Drive West Development, Torquay

Legend

-  Subject Site
-  150m Assessment Area
-  Woodland
-  Modified Vegetation
-  Low Threat Vegetation



Coordinate System: GDA 1994 MGA Zone 55
 Map Scale when printed @ A4 1:6,500



ÖKOLOGIE CONSULTING

VicMap Data: The state of Victoria does not warrant the accuracy or correctness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.





6 Bushfire Management Statement

6.1 Application Requirements

This bushfire management statement demonstrates the way in which the application meets the relevant objectives, approved measures, alternative measures and decision guidelines of Clause 53.02 and Clause 44.06. The application pathway follows Clause 53.02-4 Subdivision. The application requirements for subdivision are outlined in Table 2 and the response to the approved measures are outlined in Table 3.

Table 2. Clause 53.02 Requirements

Clause	Approved Measure	Application Requirement
Clause 53.02-3 Dwellings in existing settlements - Bushfire protection objective	AM 1.1	Not applicable
	AM 1.2	
	AM 1.3	
Clause 53.02-4.1 Landscape, siting and design objectives	AM 2.1	Addressed under AM 5.2
	AM 2.2	Addressed under AM 5.2
	AM 2.3	Not applicable
Clause 53.02-4.2 Defendable space and construction objectives	AM 3.1 AM 3.2	Not applicable
	AltM 3.3 to AltM 3.6	
Clause 53.02-4.3 Water supply and access objectives	AM 4.1	Addressed under AM 5.2
	AM 4.2	Not applicable
Clause 53.02-4.4 Subdivision objectives	AM 5.1	Addressed under AM 5.2
	AM 5.2	Applicable to this application
	AM 5.3	Applicable to this application
	AM 5.4	Applicable to this application
	AM 5.5	Not applicable as AM 5.2 can be met



Table 3. Response to Approved Measures of Clause 53.02

Approved Measure	Requirement	Response
Clause 53.02-4.4 Subdivision Objectives		
AM 5.2	<p>Approved Measure 5.2</p> <p>An application to subdivide land zoned for residential or rural residential purposes must be accompanied by a plan that shows:</p> <ul style="list-style-type: none"> • A building envelope for a single dwelling on each lot that complies with AM 2.2 and provides defensible space in accordance with: <ul style="list-style-type: none"> ○ Columns A or B of Table 2 to Clause 52.47-3 for a subdivision that creates 10 or more lots; or ○ Columns A, B or C of Table 2 to Clause 52.47-3 for a subdivision that creates less than 10 lots. • Defendable space wholly contained within the boundaries of the proposed subdivision. • Vegetation management requirements, including inner zone standards (as appropriate), to implement and maintain the defensible space required under this approved measure. • Water supply and vehicle access that complies with AM 4.1. 	<ul style="list-style-type: none"> • The development proposal is for a >10 lot residential subdivision. No detailed design of the subdivision (building envelopes or lot layouts) was available at the time of assessment. The Bushfire Hazard Site Assessment identified the development area subject to the BMO is capable of achieving BAL-12.5 defensible space and construction in accordance with Column A of Table 2 to Clause 53.02, in response to the bushfire threat from Woodland vegetation. • The defensible space requirements for each lot can be wholly contained within the property boundary of the proposed subdivision. A drainage basin is proposed for the northern section of the site, which will assist with defensible space (Figure 4). • Water supply to the subdivision will be achieved from hydrants as lot sizes will vary from <500sqm and between 500-1000sqm, in accordance with the specifications of Table 4 under Clause 53.02. • Access to the subdivision is less than 30 metres from Grossmans Road and Briody Drive, and will be designed in accordance with Table 5 of Clause 53.02-5 (Appendix 3).
AM 5.3	<p>Approved Measure 5.3</p> <p>An application to subdivide land to create 10 or more lots provides a perimeter road adjoining the hazardous vegetation to support fire fighting</p>	<p>The subdivision is bounded by Grossmans Road, Messmate Road, Briody Drive and Illawong Drive, which has the same effect on perimeter road in this instance. This has the benefit of separating the bushfire hazard from lots and enable emergency services access to defend the subdivision from a bushfire event.</p>
AM 5.4	<p>Approved Measure 5.4</p> <p>A subdivision manages the bushfire risk to future development from existing or proposed landscaping,</p>	<ul style="list-style-type: none"> • Proposed areas of public open space will be designed to manage the bushfire risk to these areas. The required vegetation management measures can be practically implemented with the ongoing use of the land.



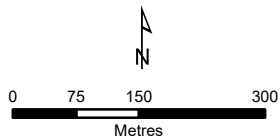
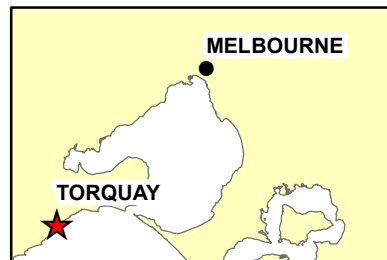
Approved Measure	Requirement	Response
	public open space and communal areas.	<ul style="list-style-type: none">Any future landscaping of the subdivision will conform to the CFA <i>Landscaping for Bushfire Guidelines</i> (CFA 2011) to reduce the bushfire risk.

Figure 4

Bushfire Management Plan Briody Drive West Development, Torquay

Legend

-  Subject Site
-  150m Assessment
-  Defendable Space - BAL 12.5 (33m)
-  Defendable Space to Property Boundary
-  Bushfire Management Overlay
-  Woodland
-  Modified Vegetation
-  Low Threat Vegetation

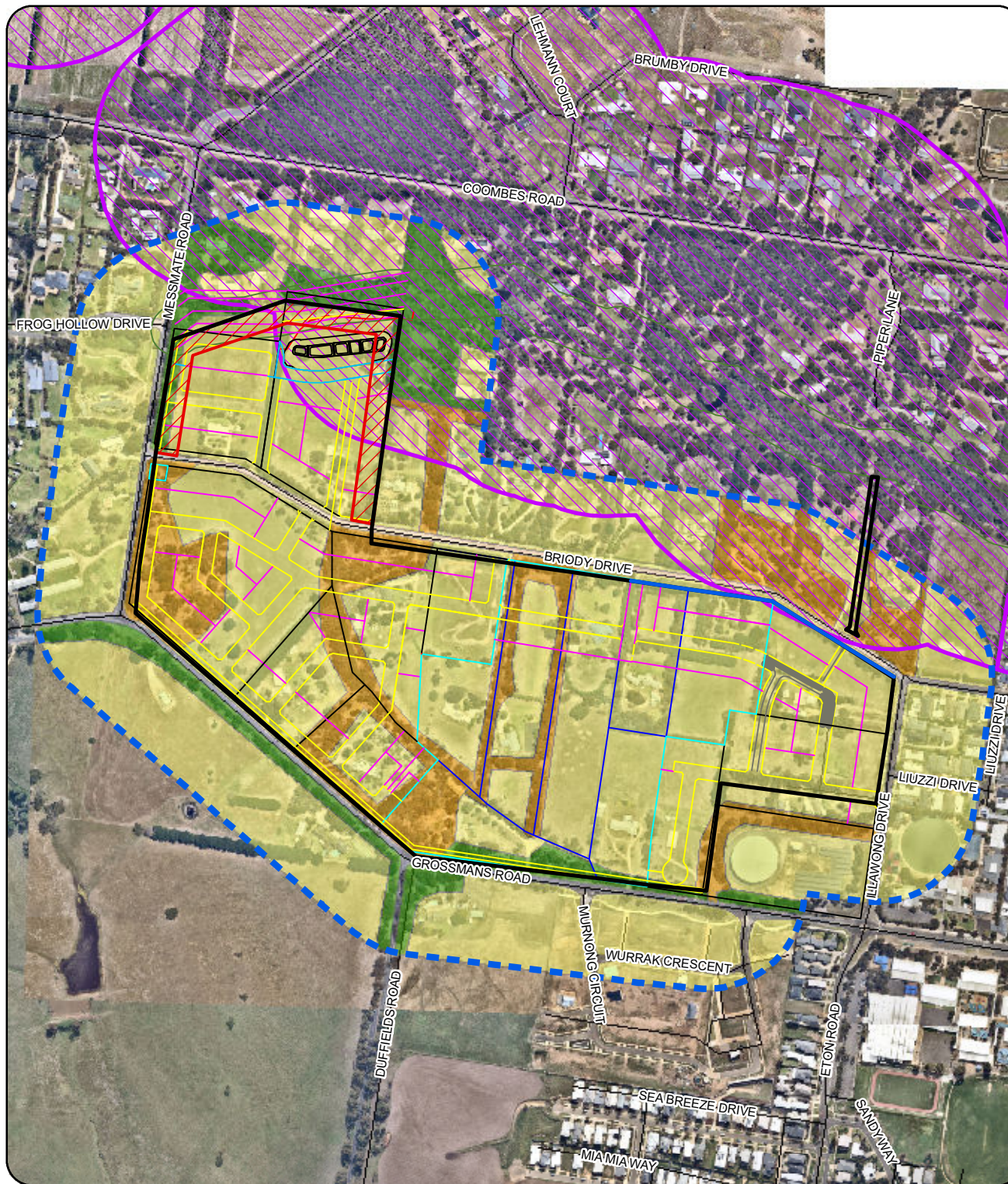


Coordinate System: GDA 1994 MGA Zone 55
Map Scale when printed @ A4 1:9,000



ÖKOLOGIE CONSULTING

VicMap Data: The state of Victoria does not warrant the accuracy or correctness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.



Defendable Space Management

- 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 3m 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 sq. 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 and Access

- Water supply for fire fighting will be from hydrants around the subdivision
- There are no access design and construction requirements as the length of access is less than 30 metres.

Construction Requirements

The dwellings on lots subject to the BMO area to be constructed to BAL-12.5

Landscaping

- Any landscaping will conform to the CFA Landscaping for Bushfire Guidelines to reduce the bushfire risk



7 Clause 13.05-1 Bushfire Planning

7.1 Application Requirements

Clause 13.05-1 (Bushfire Planning) requires development applications in bushfire prone areas to address the objectives and application requirements of this policy at the planning permit application stage. The objective of Clause 13.05 *is to strengthen the resilience of settlements and communities and prioritise protection of human life*. The relevant application requirements of Clause 13.05-1 are addressed in Table 3.

Table 3. Response to Clause 13.05-1

Protection of Human Life	
Strategy	Response
Prioritising the protection of human life over all other policy considerations.	<p>The project area occurs within the Torquay town boundary and is immediately adjacent to residential development to the north, east and south. Land use to the west and south of the development is predominantly agricultural.</p> <p>Areas of woodland vegetation to the north and grassland in agricultural land to the southwest of the development site represent a bushfire risk to the local area. However, the subdivision is located in an existing residential zone, adjacent to residential development, the local road network, town water supply and existing cleared areas.</p> <p>The bushfire risk to human life can be mitigated to an acceptable level through the layout, siting and design of the subdivision and implementation of bushfire protection measures.</p>
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.	<ul style="list-style-type: none"> The proposed subdivision is located within the Torquay town boundary, and immediately adjacent to residential development to the north, east and south. Access to the site is via Grossmans Road, Messmate Road, Briody Drive and Illawong Drive, which provides clear and ready access for residents and emergency services. Torquay does not have a neighbourhood safer place; however, it contains areas of parkland and ovals that may provide protection from the impact of extreme fire conditions.
Reducing the vulnerability of communities to bushfire through the consideration of bushfire risk in decision-making at all stages of the planning process.	<p>The development proposal is to amend the permitted residential subdivision lot sizes. The amendment to the subdivision will not increase the bushfire risk to the local community or the adjacent area.</p> <p>Implementing bushfire protection measures</p>



	may assist in reducing the risk to adjacent residential development in the local area.
Bushfire hazard identification and assessment	
Strategy	Response
Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard.	The bushfire hazard has been reviewed using the most current available vegetation, topographic and climatic data, GIS layers and spatial imagery.
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.	The subdivision is partially subject to the BMO and the remainder of the site and surrounding area is identified as a bushfire prone area.
Applying the Bushfire Management Overlay in planning schemes to areas where the extent of vegetation can create an extreme bushfire hazard.	The development plan area is located in a modified area, surrounded by agricultural land and residential development where the existing vegetation cannot create an extreme bushfire risk.
<p>Considering and assessing the bushfire hazard on the basis of:</p> <ul style="list-style-type: none"> • Landscape conditions - meaning the conditions in the landscape within 20 kilometres and potentially up to 75 kilometres from a site. • Local conditions - meaning conditions in the area within approximately 1 kilometre from a site. • Neighbourhood conditions - meaning conditions in the area within 400 metres of a site; and the site for the development. 	<ul style="list-style-type: none"> • The bushfire hazard landscape assessment has addressed the bushfire hazard of the locality approximately 20 km from the site (Figure 2). The highest bushfire risk within the broader landscape comprises grassland vegetation on agricultural land, and woodland and forest vegetation within the Great Otway National Park. • The bushfire risk within the local area comprises areas of unmanaged grassland vegetation on agricultural land and modified patches of woodland and forest on private property. However, areas of managed vegetation and the local road network between the hazard and the subdivision reduces this risk to the development. • The neighbourhood bushfire risk comprises areas of woodland vegetation to the north of the development and unmanaged grassland vegetation on agricultural land to the southwest. However, residential development, the local road network and area managed in minimum fuel condition between the hazard and the subdivision reduces this risk to 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.	Consultation was undertaken with CFA Fire Safety Officer Cindy Harrison-Roberts (Fire & Emergency Management).
Ensuring that strategic planning documents, planning scheme amendments, planning permit applications and development plan approvals	This application has assessed the bushfire risk through preparation of a bushfire hazard site assessment, landscape hazard assessment and



properly assess bushfire risk and include appropriate bushfire protection measures.	a bushfire management statement, which includes 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.	The required BAL 12.5 defensible space and construction for >10 lot subdivision can be met for the development area subject to the BMO as well as associated bushfire protection measures to reduce this risk to appropriate levels.
Settlement planning	
Strategy	Response
Directing population growth and development to low risk locations, being those locations assessed as having a radiant heat flux of less than 12.5 kilowatts/square metre under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009).	The Bushfire Hazard Site Assessment identified the development area subject to the BMO is capable of achieving BAL-12.5 defensible space and construction in accordance with Column A of Table 2 to Clause 53.02.
Ensuring the availability of, and safe access to, areas assessed as a BAL-Low rating under AS 3959-2009 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2009) where human life can be better protected from the effects of bushfire.	The Township of Torquay does not have a neighbourhood safer place; however, it contains areas of parkland and ovals that may provide protection from the impact of extreme fire conditions.
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	The Briody Drive West Development Plan was endorsed by Council in 2017. The proposal is to amend the permitted residential subdivision lot sizes. This change in lot size will not increase the bushfire risk to the local community or existing community infrastructure. Implementing bushfire protection measures may assist in reducing the risk to adjacent residential 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.	The subdivision is capable of managing the bushfire risk within the property boundary, as the defensible space can be wholly contained on the subject land. Implementing bushfire protection measures may assist in reducing the overall risk to adjacent residential development.
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.	The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level, as the required defensible space vegetation management measures will be implemented with the ongoing use of the land.
Assessing alternative low risk locations for settlement growth on a regional, municipal, settlement, local and neighbourhood basis.	The development area is located in an existing residential area within the town boundary. The development area is currently managed in a minimal fuel condition (around existing dwellings),



	which is considered a low risk location for settlement growth.
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.	The Bushfire Hazard Site Assessment identified the development area subject to the BMO is capable of achieving BAL-12.5 defensible space and construction in accordance with Column A of Table 2 to Clause 53.02.
Use and development control in a Bushfire Prone Area	
Strategy	Response
Consider the risk of bushfire to people, property and community infrastructure.	<p>The bushfire risk has been assessed through preparation of a bushfire hazard site assessment, landscape hazard assessment and a bushfire management statement, which includes appropriate bushfire protection measures.</p> <p>The development area subject to the BMO is capable of achieving BAL-12.5 defensible space and construction and is capable of managing the bushfire risk within the development area boundary, as the defensible space can be wholly contained on the subject land.</p>
Require the implementation of appropriate bushfire protection measures to address the identified bushfire risk.	The required defensible space vegetation management measures will be implemented with the ongoing use of the land (slashing) and the majority of planted vegetation on existing properties will be removed for the subdivision.
Ensure new development can implement bushfire protection measures without unacceptable biodiversity impacts.	The project area is highly modified as a result of existing residential development. Higher quality areas of indigenous vegetation are located along road reserve, which will be retained as far as practicable. The proposed development will not result in unacceptable impacts to biodiversity.



8 References

CFA 2011. *Landscaping for Bushfire: Garden design and plant selection*. Country Fire Authority.

CFA 2012. *Planning for Bushfire: Guidelines for meeting Victoria's bushfire planning requirements*. Country Fire Authority.

CFA 2015. *Guideline: Applying the Bushfire Hazard Landscape Assessment in a Bushfire Management. Version 2.1*. Country Fire Authority.

DELWP 2017. *Planning Permit Applications Bushfire Management Overlay. Technical Guide*. Department of Environment, Water, Land and Planning.

DEWLP 2018a. Clause 13.02 Bushfire Planning. Department of Environment, Water, Land and Planning: <http://planning-schemes.delwp.vic.gov.au/schemes/vpps>

DELWP 2018b. Clause 44.06 Bushfire Management Overlay. Department of Environment, Water, Land and Planning: <http://planning-schemes.delwp.vic.gov.au/schemes/vpps>

DEWLP 2018c. Clause 53.02 Bushfire Planning. Department of Environment, Water, Land and Planning: <http://planning-schemes.delwp.vic.gov.au/schemes/vpps>

DEWLP 2022a. *Planning Scheme Online*. Department of Environment, Water, Land and Planning: <http://mapshare.maps.vic.gov.au/>

DEWLP 2022b. *NatureKit*. Department of Environment, Water, Land and Planning: <http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit>

DTPLI 2014. *Practice Note 65: Preparing and Assessing a Planning Application Under the Bushfire Provisions in Planning Schemes*. Department of Transport, Planning and Local Infrastructure.

Standards Australia 2018. *Australian Standard: Construction of buildings in bushfire-prone areas AS 3959 – 2018*. Published by Standards Australia, Sydney, NSW.



Appendix 1: Vegetation management requirements

Defendable space is to be managed in accordance with the following requirements:

- 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 3m 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 sq. 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.

Unless specified in a schedule or otherwise agreed in writing to the satisfaction of the relevant fire authority (DELWP 2018a).



Appendix 2: Access Requirements

The proposed length of the driveways from the road to the development is less than 30 metres (Figure 4).

The minimum design requirements for driveways are:

- Curves in driveway must have a minimum inner radius of 10 metres.
- The average grade must be no more than 1 in 7 (14.4%) (8.1°) with a maximum of no more than 1 in 5 (20%) (11.3°) for no more than 50 metres.
- Dips must have no more than a 1 in 8 (12.5%) (7.1°) entry and exit angle.

The driveway must:

- Be designed, constructed and maintained for a load limit of at least 15 tonnes and be of all-weather construction.
- Be clear of encroachments at least 4 metres vertically.
- Provide a minimum trafficable width of 3.5 metres and be substantially clear of encroachments for at least 0.5 metres on each side (see Plate 7).

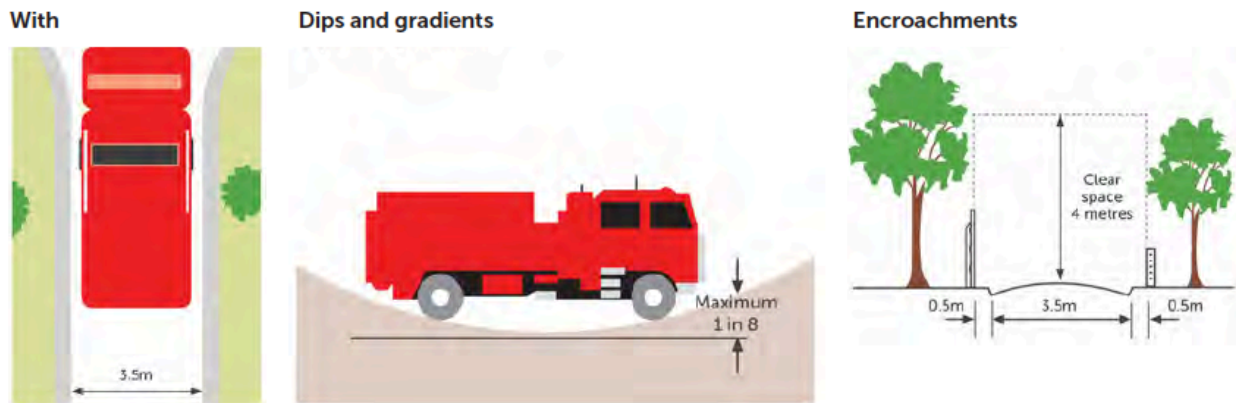


Plate 7: Vehicle clearance requirements (Source: CFA 2012)