

25 September 2026

Our Ref: A23.118-RPT-BAL-STG5B_0_FINAL



Bushfire Attack Level (BAL) Assessment Report

Site details

Address: Stage 5B Claravale The Brook Estate

Suburb: Hilbert

State: Western Australia

Local Government Area: City of Armadale

Description of Building Works: Class 1a dwellings

Report details

Project number A23.118

Report version

0 FINAL

Assessment date 15/09/2026

Report date

25/09/2026

Author

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Review

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L3 BPAD 37802



Purpose of this BAL Assessment Report

The purpose of this BAL assessment report is to provide the methodology and justification in support of the individual lot BAL certificates for lots within Stage 5B of Claravale The Brook Estate, Hilbert (the subject site). The BAL certificates have been prepared to support building licenses on lots within Stage 5B and are valid for approximately 12 months.

Site Assessment and Site Plan

The assessment of 49 lots within Stage 5B was undertaken on 15/09/2026 for the purpose of determining the Bushfire Attack Level (BAL) in accordance with *Australian Standard AS 3959: 2018 Construction of Buildings in Bushfire Prone Areas* (AS 3959: 2018; SA, 2018) Simplified Procedure (Method 1). An overview of the subject site is presented in Figure 1.

Vegetation Classification

All vegetation within 100 m of Stage 5B was classified in accordance with Clause 2.2.3 of AS 3959: 2018. Each distinguishable vegetation class with the potential to determine the BAL is identified in Table 1 and presented in Figure 2.



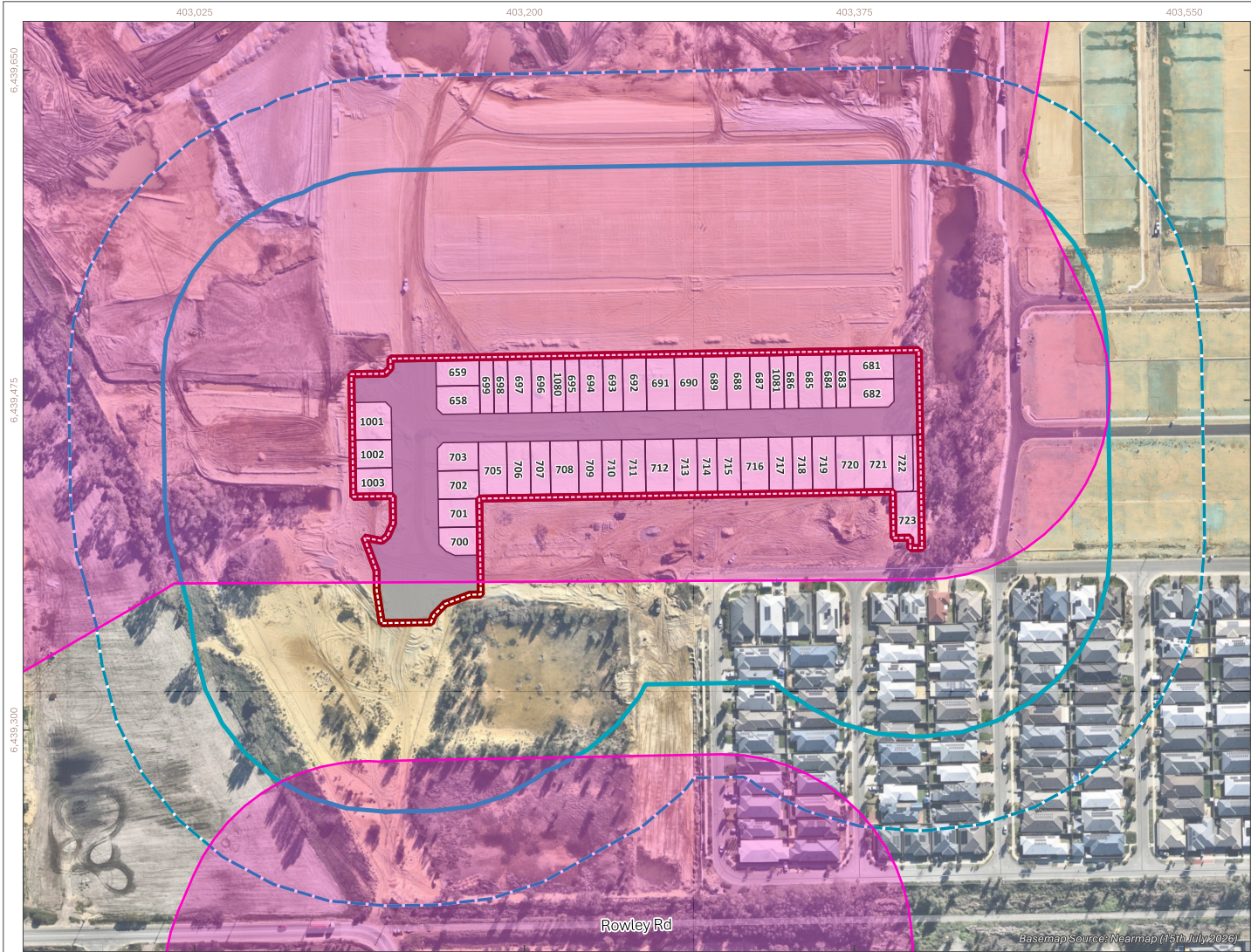
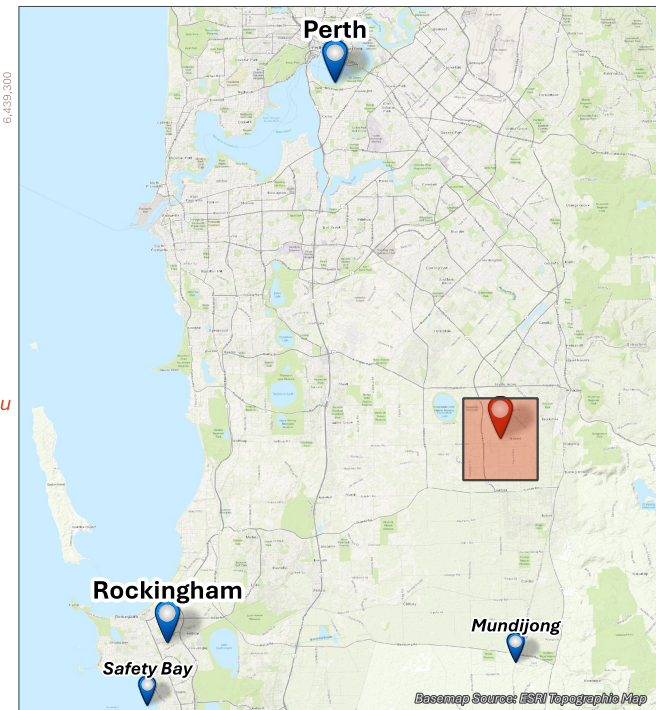
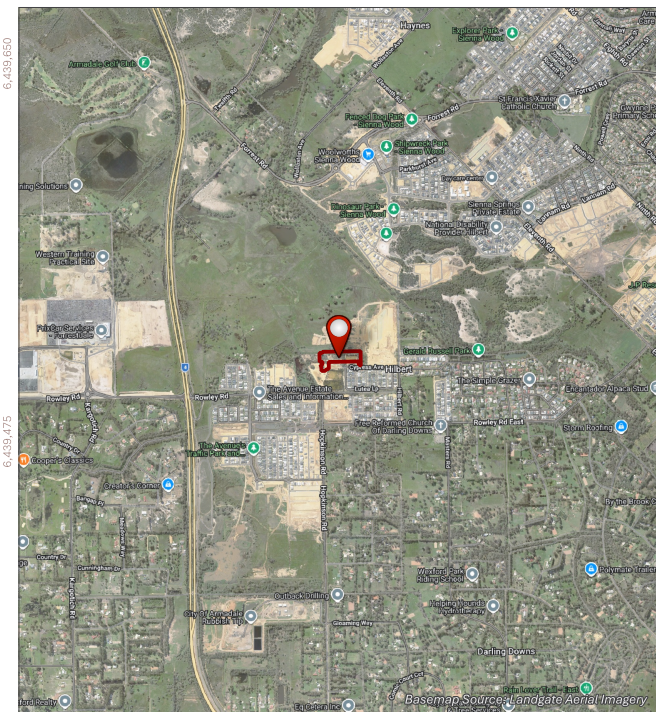


Figure 1: Site Overview

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Bush Fire Prone Area Planning (OBRM-023)

Bushfire Prone Area 2

Table 1: Vegetation Classification

Plot 1	Class F Rainforest
Photo 1 Existing trees which have been retained as part of the approved Landscape Plan (Appendix B) for the subject site. This vegetation has been classified in accordance with its assumed mature state informed by the Landscape Plan. The Class F Rainforest classification was agreed upon between the bushfire planning practitioner and the City of Armadale (the City) given the City's desire for the vegetation in the Public Open Space (POS) reserve to be classified as Class B Woodland or Class A Forest. Given the linear nature of the reserve, Class B Woodland and Class A Forest likely overestimate bushfire risk posed to surrounding lots and, as such, Class F Rainforest has been adopted as a more realistic model of bushfire behaviour associated with the proposed vegetation. Although Class A Rainforest vegetation does not typically occur with Western Australia, this methodology aligns with the Rural Fire Service's <i>Planning for Bush Fire Protection</i> (RFS, 2019). This approach is detailed further in the rainforest technical note (Appendix B).	 15 Sept 2026 1:30:28 pm 32°10'40.36866" S 115°58'32.20492" E ±3.00m 8° N
Plot 2	Class G Grassland
Photo 2 The area pictured has been previously cleared for development, with a grass dominant understorey reoccupying the space since the time it was cleared. Few trees and sparse shrubs exist in the future Hopkins Road reserve which constitute less than 10% canopy cover throughout the plot. The slope under this vegetation was assessed to be upslope/flat land.	 15 Sept 2026 1:19:44 pm 32°10'40.27391" S 115°58'17.50252" E ±3.00m 200° S
Plot 3	Excluded - clause 2.2.3.2 (a)
Photo 3 (vegetation in background of photo) This plot is excludable under clause 2.2.3.2 (a) of AS 3959: 2018 given it is more than 100m from the subject site. The vegetation structure is therefore irrelevant to this assessment.	 15 Sept 2026 1:41:38 pm 32°10'34.54084" S 115°58'18.26896" E ±3.00m 85° E



Plot 4	Excluded - clause 2.2.3.2 (c)
Photo 4 This plot is less than 0.25 ha in size and more than 20 m from the nearest plot of classifiable vegetation. As such, this vegetation has been excluded from classification under clause 2.2.3.2 (c) of AS 3959: 2018.	
Plot 5	Excluded - clause 2.2.3.2 (e)
Photo 5 Areas surrounding the subject site which have been cleared for development and are devoid of vegetation.	
Plot 5	Excluded - clause 2.2.3.2 (e)
Photo 6 Areas surrounding the subject site which have been cleared for development and are devoid of vegetation.	

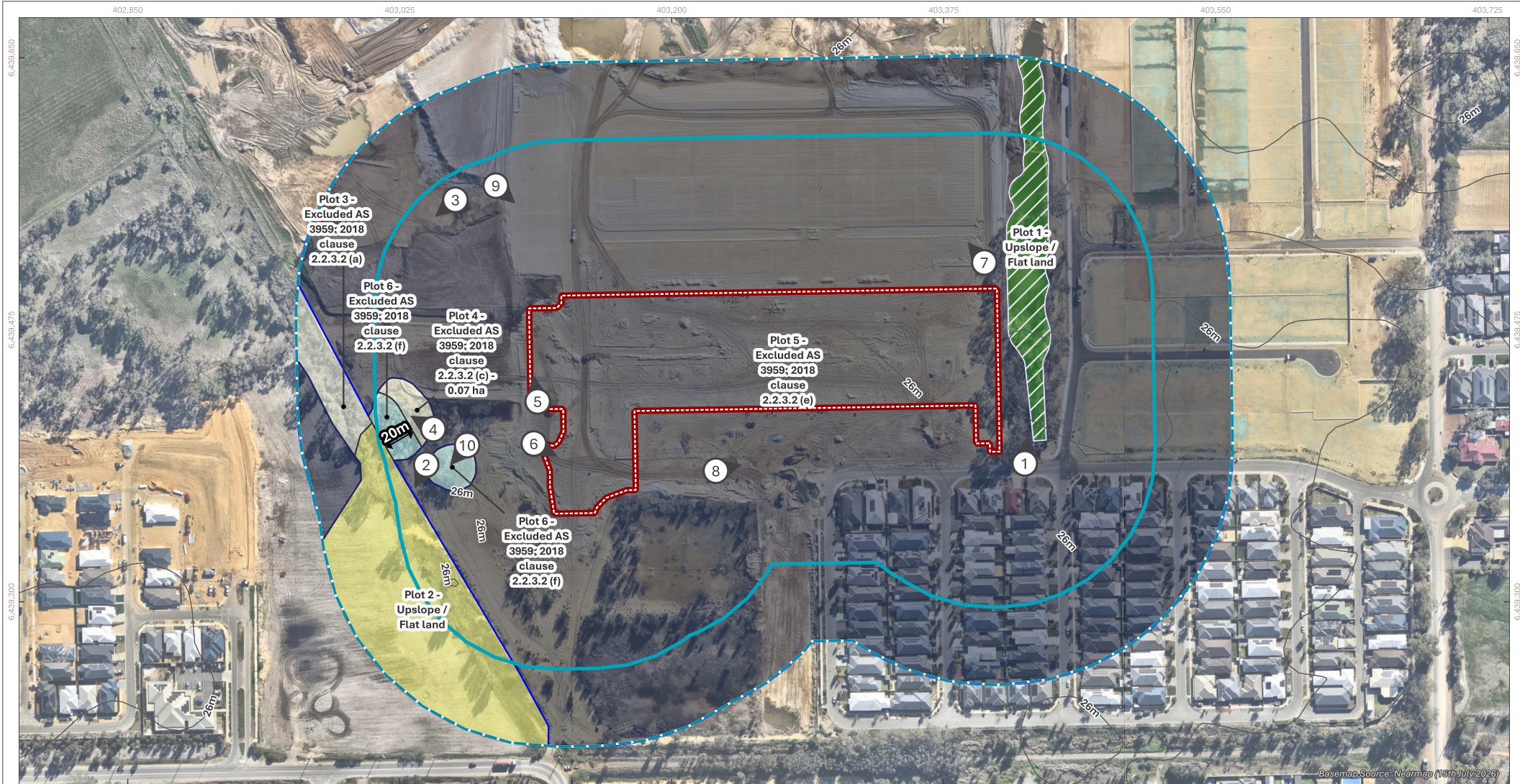
Plot 5	Excluded - clause 2.2.3.2 (e)
Photo 7 Areas surrounding the subject site which have been cleared for development and are devoid of vegetation.	 15 Sept 2026 1:25:08 pm 32°10'36.16108"S 115°58'31.25773"E ±3.00m 322° NW
Plot 5	Excluded - clause 2.2.3.2 (e)
Photo 8 Areas surrounding the subject site which have been cleared for development and are devoid of vegetation.	 15 Sept 2026 1:29:46 pm 32°10'40.46084"S 115°58'24.61534"E ±3.00m 76° E
Plot 5	Excluded - clause 2.2.3.2 (e)
Photo 9 Areas surrounding the subject site which have been cleared for development and are devoid of vegetation.	 15 Sept 2026 1:41:18 pm 32°10'34.32298"S 115°58'18.33052"E ±2.50m 131° SE



Photo 10

Retained trees over a grassy understorey which has been slashed and is being maintained to a low-threat state by the Developer.





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0 20 40 60 80 m

COORDINATE REFERENCE SYSTEM:
GDA2020 / MGA Zone 50

SCALE: 1:3,500 PROJECT NUMBER: A23.118

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Figure 2: Vegetation Classification

Relevant Fire Danger Index

The Fire Danger Index for this site has been determined in accordance with Table 2.1 of AS 3959: 2018 and is presented in Table 2.

Table 2: Fire Danger Index (FDI)

Relevant Fire Danger Index			
FDI 40 ☐	FDI 50 ☐	FDI 80 ☒	FDI 100 ☐
Table 2.4.5	Table 2.4.4	Table 2.4.3	Table 2.4.2

Potential Bushfire Impacts

The potential bushfire impact to the subject site / proposed development from each of the identified vegetation plots are identified below in Table 3.

Table 3: Method 1 BAL Calculation (BAL Contours)

Plot	Vegetation classification	Effective slope	Separation distances required (m)				
			BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
1	Class F Rainforest*	All upslopes and flat land (0 degrees)	<6	6 - <9	9 - <13	13 - <19	19 - <100
2	Class G Grassland	All upslopes and flat land (0 degrees)	<6	6 - <8	8 - <12	12 - <17	17 - <50
3	Excluded - clause 2.2.3.2 (a)	-	No separation distances required - BAL-LOW				
4	Excluded - clause 2.2.3.2 (c)	-	No separation distances required - BAL-LOW				
5	Excluded - clause 2.2.3.2 (e)	-	No separation distances required - BAL-LOW				
6	Excluded - clause 2.2.3.2 (f)	-	No separation distances required - BAL-LOW				

*This vegetation classification has been determined in accordance with the Landscape Plan prepared for the Estate (Appendix B).

Determined Bushfire Attack Level (BAL)

The determined Bushfire Attack Level (highest BAL) for the proposed works has been determined in accordance with Clause 2.2.6 of AS 3959: 2018. Implications for each of these BAL ratings is contained within Appendix C. Relevant data from the subject site assessment is shown in Figure 3 and Table 4.

Table 4: BAL Assessment Summary

Affected Lot	BAL Rating	Construction sections to be consulted in AS 3959: 2018
658	BAL-LOW	4
659	BAL-LOW	4
681	BAL-12.5	3 and 5
682	BAL-12.5	3 and 5



Affected Lot	BAL Rating	Construction sections to be consulted in AS 3959: 2018
683	BAL-12.5	3 and 5
684	BAL-12.5	3 and 5
685	BAL-12.5	3 and 5
686	BAL-12.5	3 and 5
687	BAL-12.5	3 and 5
688	BAL-12.5	3 and 5
689	BAL-LOW	4
690	BAL-LOW	4
691	BAL-LOW	4
692	BAL-LOW	4
693	BAL-LOW	4
694	BAL-LOW	4
695	BAL-LOW	4
696	BAL-LOW	4
697	BAL-LOW	4
698	BAL-LOW	4
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700	BAL-LOW	4
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708	BAL-LOW	4
709	BAL-LOW	4
710	BAL-LOW	4
711	BAL-LOW	4
712	BAL-LOW	4
713	BAL-LOW	4
714	BAL-LOW	4
715	BAL-LOW	4
716	BAL-12.5	3 and 5
717	BAL-12.5	3 and 5
718	BAL-12.5	3 and 5
719	BAL-12.5	3 and 5
720	BAL-12.5	3 and 5



Affected Lot	BAL Rating	Construction sections to be consulted in AS 3959: 2018
721	BAL-12.5	3 and 5
722	BAL-19	3 and 6
723	BAL-12.5*	3 and 5
1001	BAL-LOW	4
1002	BAL-LOW	4
1003	BAL-LOW	4
1080	BAL-LOW	4
1081	BAL-12.5	3 and 5

*While a portion of the lot is subject to BAL-19, this only applies to the battle-axe access leg. Accordingly, the lot has been assessed as BAL-12.5.

Note: This BAL rating is based on the information current at the date of this document and is valid for 12 months.



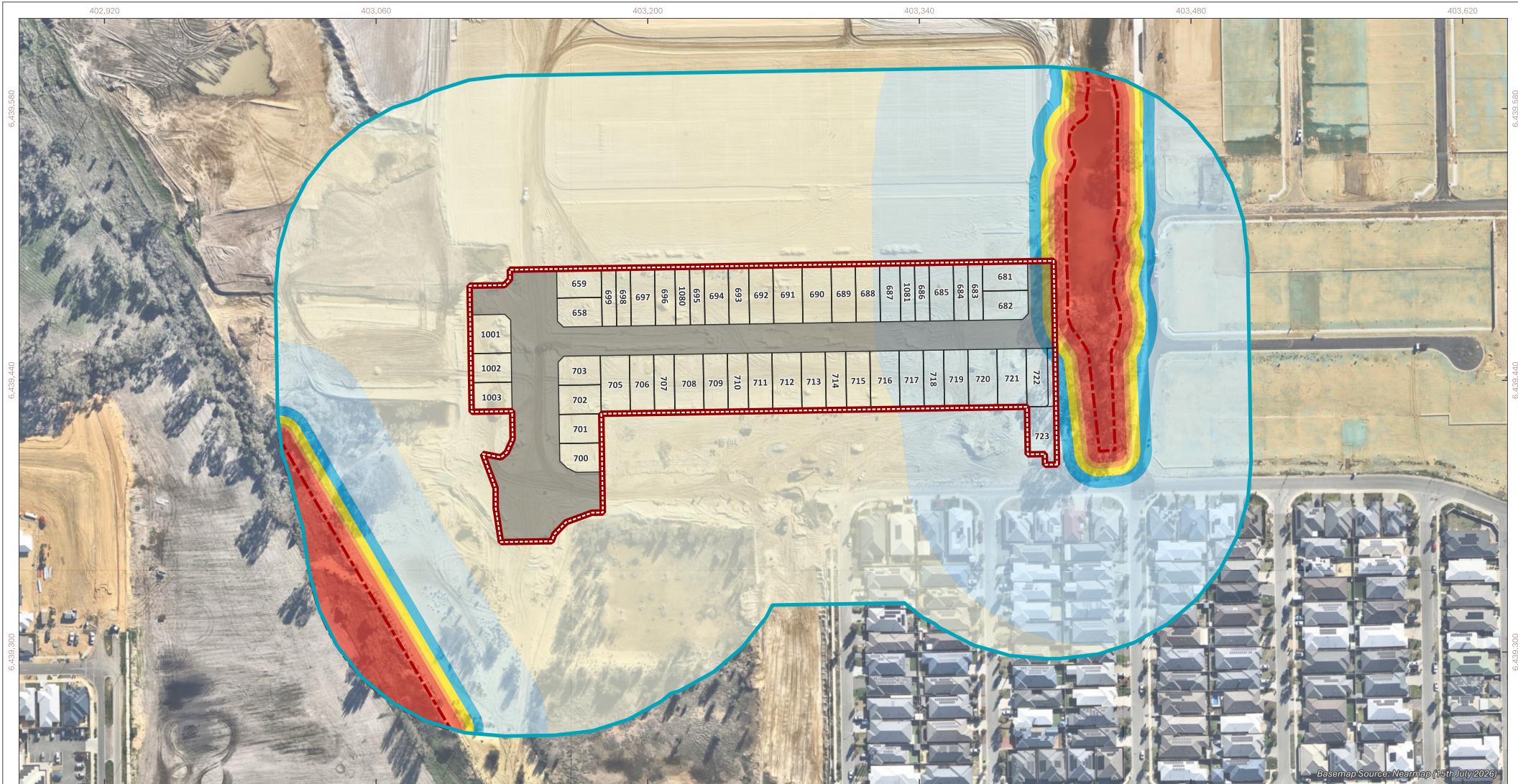
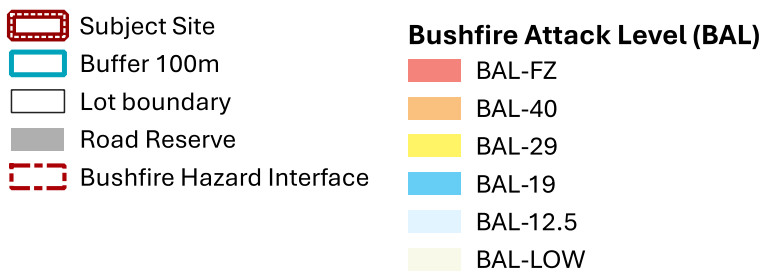


Figure 3: Bushfire Attack Level (BAL) Contours

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COORDINATE REFERENCE SYSTEM:
GDA2020 / MGA Zone 50

SCALE:
1:2,800

DRAWN BY / REVIEWED BY:
SC / BG

PROJECT NUMBER:
A23.118

25/9/2026



References

Rural Fire Service (RFS). (2019). *Planning for Bushfire Protection: A guide for councils, planners, fire authorities and developers*.

Standards Australia (SA). (2018). *Construction of buildings in bushfire-prone areas (AS 3959: 2018)*.

Datasets Used

Department of Fire and Emergency Services (DFES). (2025). *Bush Fire Prone Area Planning (OBRM-023)*. Retrieved on 17/6/26 from: <http://www.dfes.wa.gov.au/regulationandcompliance/bushfireproneareas/Pages/default.aspx>.

Department of Primary Industries and Regional Development (DPIRD). (2019). *2 metre contours (DPIRD-072)*. Retrieved on 17/6/26 from <https://catalogue.data.wa.gov.au/dataset/dpird-2-metre-contours>.



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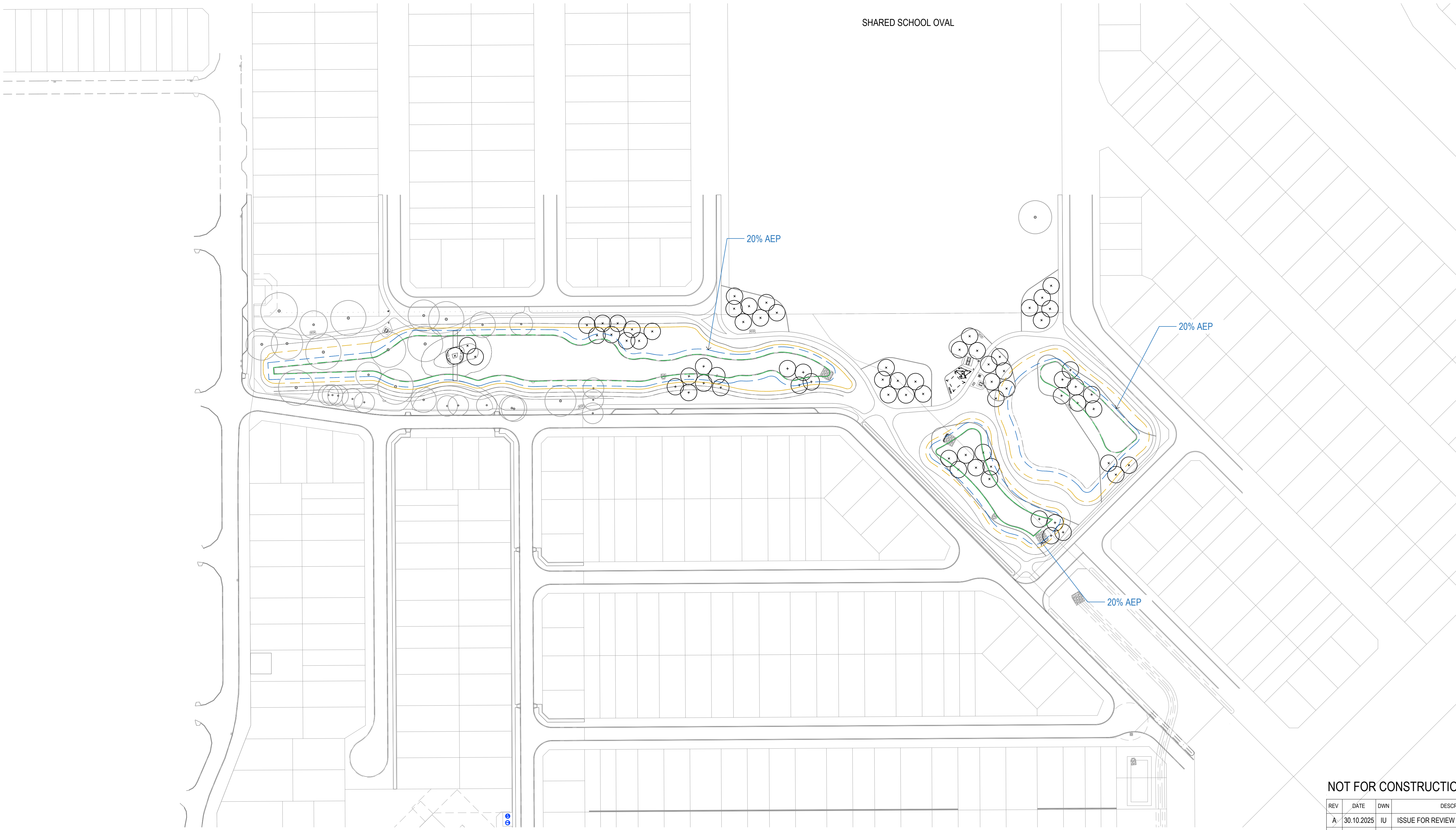
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Appendix A: Landscape Plan



NOT FOR CONSTRUCTION

REV	DATE	DWN	DESCRIPTION
A	30.10.2025	IU	ISSUE FOR REVIEW
B	03.11.2025	SP	ISSUE FOR REVIEW
C	06.11.2025	IU	ISSUE FOR REVIEW
D	12.11.2025	SP	20% AEP LINES



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PROJECT:
Claravale The Brook - POS 3
CLIENT:
Parcel Property
TITLE:
Landscape Concept

PROJECT NO	10.7275	DRAWN BY	IU	APPROVED BY	SP	REV	D
SCALE	1:1000	SHEET NO	301	SHEET SIZE	A1		

\\server\h\landscapes\POS3\PROJECT\The Brook\10.7275 POS 301.dwg 12/11/2025

Appendix B:

Rainforest Classification

Drainage basin areas are intended to be planted with a mixture of native species as per the landscape plan in Appendix A. This structure could be considered low threat vegetation; however the City of Armadale has expressed the desire to plant trees within these areas in the future. As such, a detailed review of the structure, shape and size of these basins has been considered below.

The revegetated areas of the basins form a sinuous pattern in the landscape, presenting as a living stream that runs parallel to proposed lots. The restricted size and parallel orientation of the basins to proposed lots will likely limit bushfire behaviour and associated risk to proposed built assets. Therefore, the vegetation classification of the basins needs to consider this reduced bushfire threat.

Western Australia does not currently have a consistent approach to classifying small areas of remnant bushland and narrow vegetation corridors outside of AS 3959: 2018. However, NSW RFS (2019) and ACT Government (2023) outline a clear and well-thought-out simplified methodology for assessing these areas. This simplified approach provides an acceptable method for assessing remnant vegetation (defined as a parcel of vegetation with a size of less than 1 ha or a shape that provides a potential fire run that could threaten buildings not exceeding 50 m). The second definition relates to riparian corridors etc. that are <50 m wide. These areas are considered a low hazard and can be classified as Class F Rainforest under AS 3959: 2018. CFA (2017) supports this ‘low hazard’ categorisation and states, *‘riparian land can be expected to have only a limited influence on bushfire spread at a landscape scale. In addition, if spotting is limited, a fire burning in a forested riparian area is expected to be slower and therefore less likely to contribute to fire spread at a landscape scale than a fire burning in grass or crops.’*

The Class F Rainforest classification in AS 3959: 2018 uses the same rate of spread model as is used for Class A Forest and Class B Woodland classifications, with a modified (reduced) fuel load that results in a slower rate of spread and consequently, lower radiant heat flux impacts. Given the restricted size and parallel orientation of the basins to proposed lots, a Class F Rainforest classification in line with the approach outlined in NSW RFS (2019) and ACT Government (2023) is considered appropriate for use at The Brook, Claravale.

Appendix C:

Additional Information / Advisory Notes

This assessment was undertaken as per AS 3959: 2018. It is important that the current version of AS 3959, is consulted for construction purposes.

This BAL rating is based on the information current at the date of this letter and is valid for 12 months from the date of this letter.

Bushfire Attack Level (BAL) as set out in the *Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas* (AS 3959), as referenced in the Building Code of Australia.

Bushfire Attack Level (BAL)	Classified vegetation within 100 m of the subject site and radiant heat flux exposure thresholds	Description of predicted bush fire attack and levels of exposure	Construction Section as per AS 3959
BAL-LOW		There is insufficient risk to warrant specific construction requirements.	4
BAL-12.5	$\leq 12.5 \text{ kW/m}^2$	Ember attack	3 and 5
BAL-19	$> 12.5 \text{ kW/m}^2 \leq 19 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux.	3 and 6
BAL-29	$> 19 \text{ kW/m}^2 \leq 29 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux	3 and 7
BAL-40	$> 29 \text{ kW/m}^2 \leq 40 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux with the increased likelihood of exposure to flames.	3 and 8
BAL-FZ	$> 40 \text{ kW/m}^2$	Direct exposure to flames from fire front in addition to radiant heat flux and ember attack	3 and 9

Source: "AS 3959: 2018 Construction of buildings in bushfire-prone areas" published by Standards Australia, Sydney.