

Bushfire Attack Level (BAL) Assessment Report

Site details

Address: Stage 3 Indi Estate

Suburb: Yanchep

State: Western Australia

Local Government Area: City of Wanneroo

Description of Building Works: Construction of Class 1a dwellings

Report details

Project number	A24.012	Report version	0 FINAL
Assessment date	6/08/2025	Report date	30/09/2025
Author	Bridie Farrar Bushfire Consultant	Review	<div>Daniel Panickar L3 BPAD 37802</div> <div><div><div><div></div></div><div>BPAD</div><div>Bushfire Planning & Design</div><div>Accredited Practitioner Level 3</div></div></div>

Site Assessment and Site Plan

The assessment of 57 lots (subject lots) within Stage 3 Indi Estate (subject site) was undertaken on 6/08/2025 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 the 57 lots within Stage 3 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.

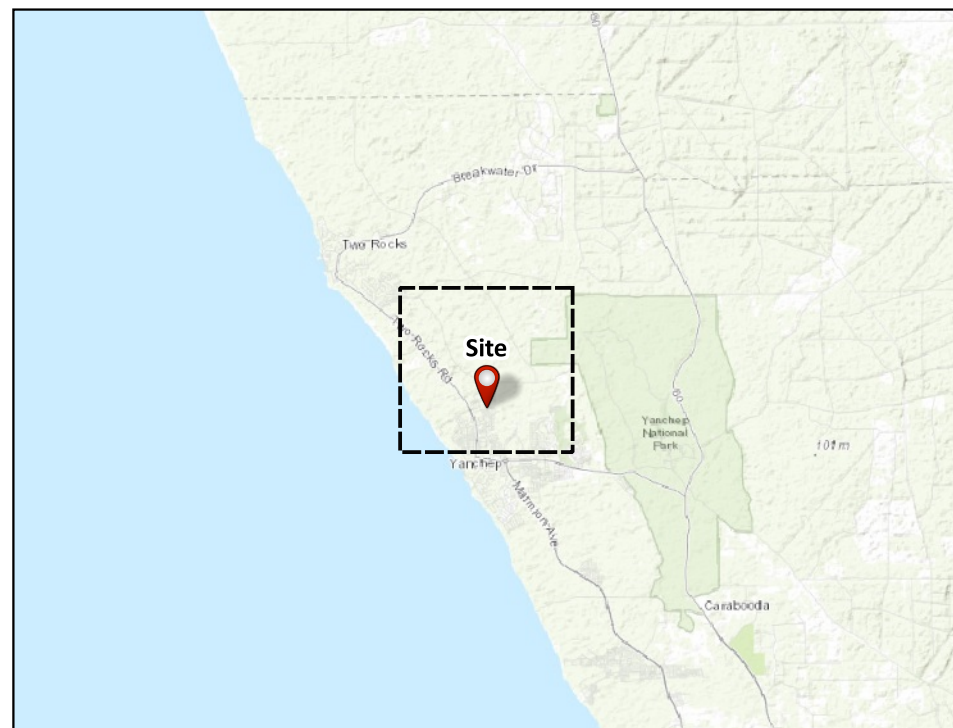
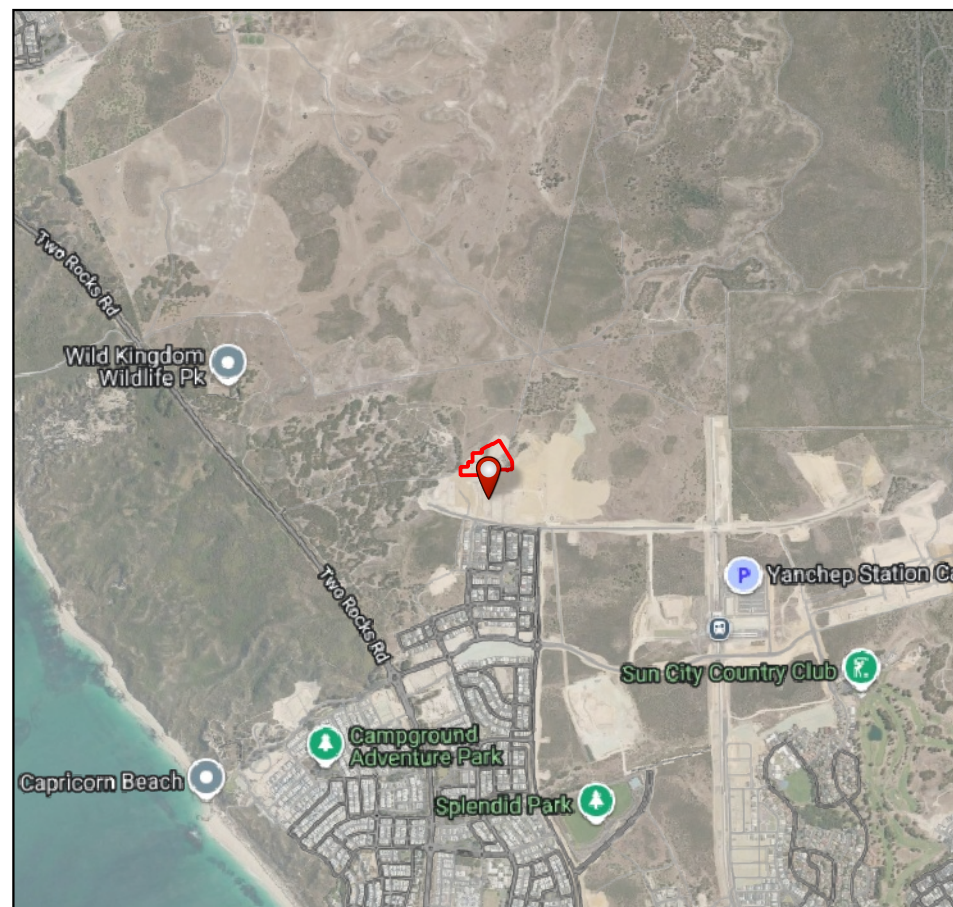
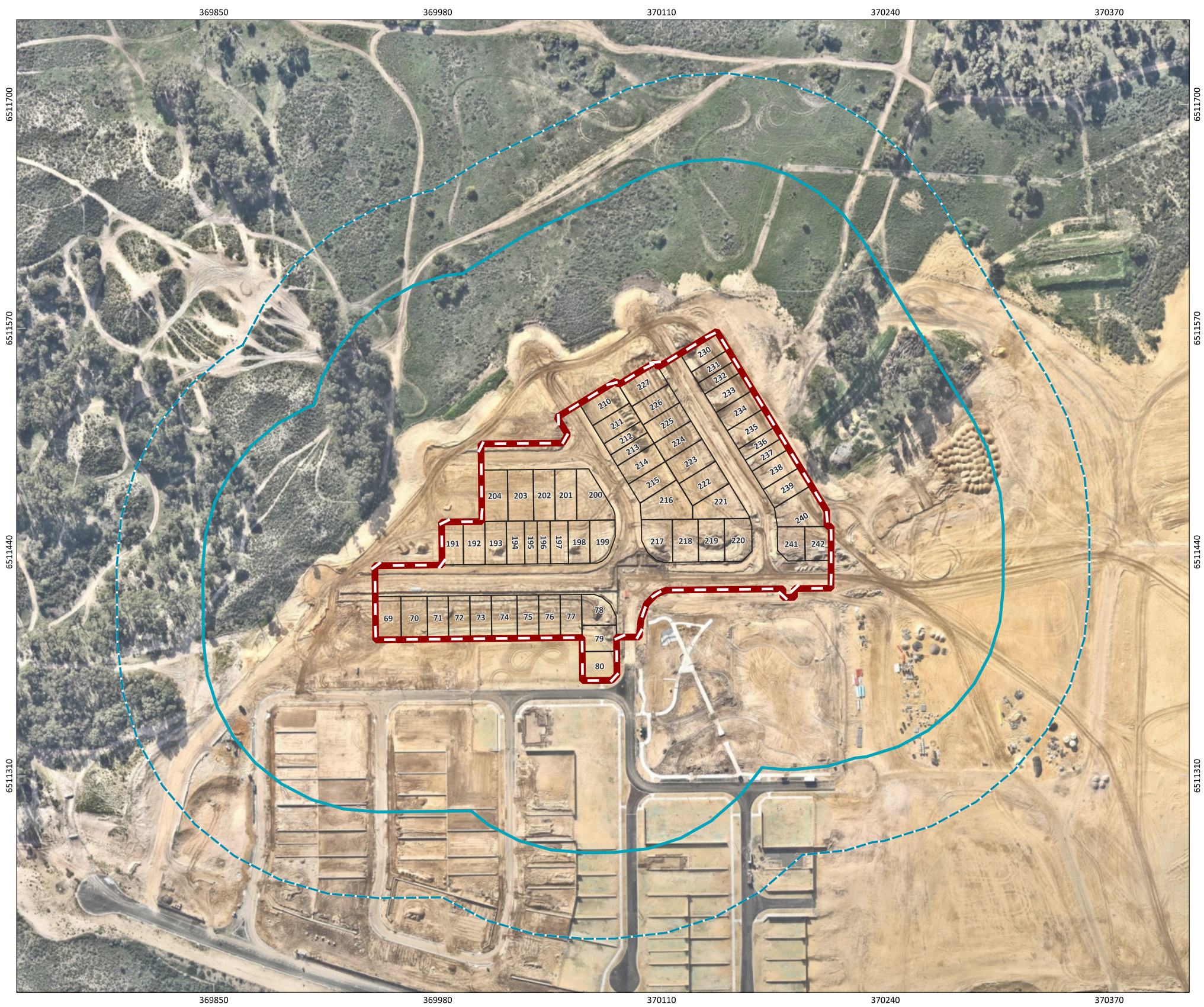


Figure 1: Site Overview

<div><div><div></div><div>N</div></div><div><div>0</div><div>40</div><div>80</div><div>120</div><div>160 m</div></div></div>		PROJECT/REPORT NAME Bushfire Attack Level Report Stage 3 Indi Estate, Yanchep		<div>Legend</div> <div><div></div> Subject Site</div> <div><div></div> Buffer 100m</div> <div><div></div> Buffer 150m</div> <div><div></div> Lots</div>		<table><tr><th>No</th><th>Description</th><th>Drawn</th><th>Approved</th><th>Date</th></tr><tr><td>A</td><td>Original issue</td><td>SM</td><td>BF</td><td>25/9/2025</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="5">NOTES: Cadastral boundary (LGATE-002). Base map ESRI Topo. Townsites (LGATE-248).</td></tr></table>	No	Description	Drawn	Approved	Date	A	Original issue	SM	BF	25/9/2025																										NOTES: Cadastral boundary (LGATE-002). Base map ESRI Topo. Townsites (LGATE-248).				
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SCALE 1:2,600		SHEET SIZE A3 COLOUR		CLIENT Parcel Property																																										
COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 50		PROJECT NUMBER A24.012		VERSION 0																																										
DATA SOURCE Nearmap (5th July 2025)		DRAWN BY / REVIEWED BY SM/BF		DATE 25/9/2025																																										

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Table 1: Vegetation Classification

Plot 1	Class A Forest
<p>Photo 1</p> <p>This plot is dominated by Eucalypts in the overstorey. Overstorey vegetation reaches up to 30 m in height and canopy cover exceeds 30%. The understorey vegetation structure is multi-tiered. The slope under this vegetation was assessed to be downslope >0 – 5 degrees.</p>	
Plot 2	Class B Woodland
<p>Photo 2</p> <p>This plot is dominated by grasses in the understorey. The overstorey consists of Eucalypt trees reaching up to 30 m in height. Overstorey canopy cover is 10-30%. The slope under this vegetation was assessed to be upslope/flat land.</p>	
Plot 3	Class G Grassland
<p>Photo 3</p> <p>This plot consists of grasses and herbs in the understorey. Overstorey vegetation is limited to sparse trees with isolated canopies, if present at all. The slope under this vegetation was assessed to be downslope >0 – 5 degrees.</p>	



Plot 3	Class G Grassland
<p>Photo 4</p> <p>This plot consists of grasses and herbs in the understorey. Overstorey vegetation is limited to sparse trees with isolated canopies, if present at all.</p> <p>The slope under this vegetation was assessed to be downslope >0 – 5 degrees.</p>	 <p>6 Aug 2025 2:09:10 pm 31°31'26.39606"S 115°37'50.77441"E ±2.50m 8° N</p>
Plot 4	Class G Grassland
<p>Photo 5</p> <p>This plot consists of grasses and herbs in the understorey. Overstorey vegetation is limited to sparse trees with isolated canopies, if present at all.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p>	 <p>6 Aug 2025 2:12:14 pm 31°31'23.98509"S 115°38'0.14853"E ±2.50m 19° N</p>
Plot 5	Excluded - clause 2.2.3.2 (e)
<p>Photo 6</p> <p>Previous stages of subdivision which have been cleared for development and are devoid of vegetation.</p>	 <p>6 Aug 2025 2:15:42 pm 31°31'34.2465"S 115°37'54.22279"E ±2.50m 200° S</p>

Plot 5	Excluded - clause 2.2.3.2 (e)
<p>Photo 7</p> <p>Areas surrounding the subject site which have been cleared for development and are devoid of vegetation.</p>	

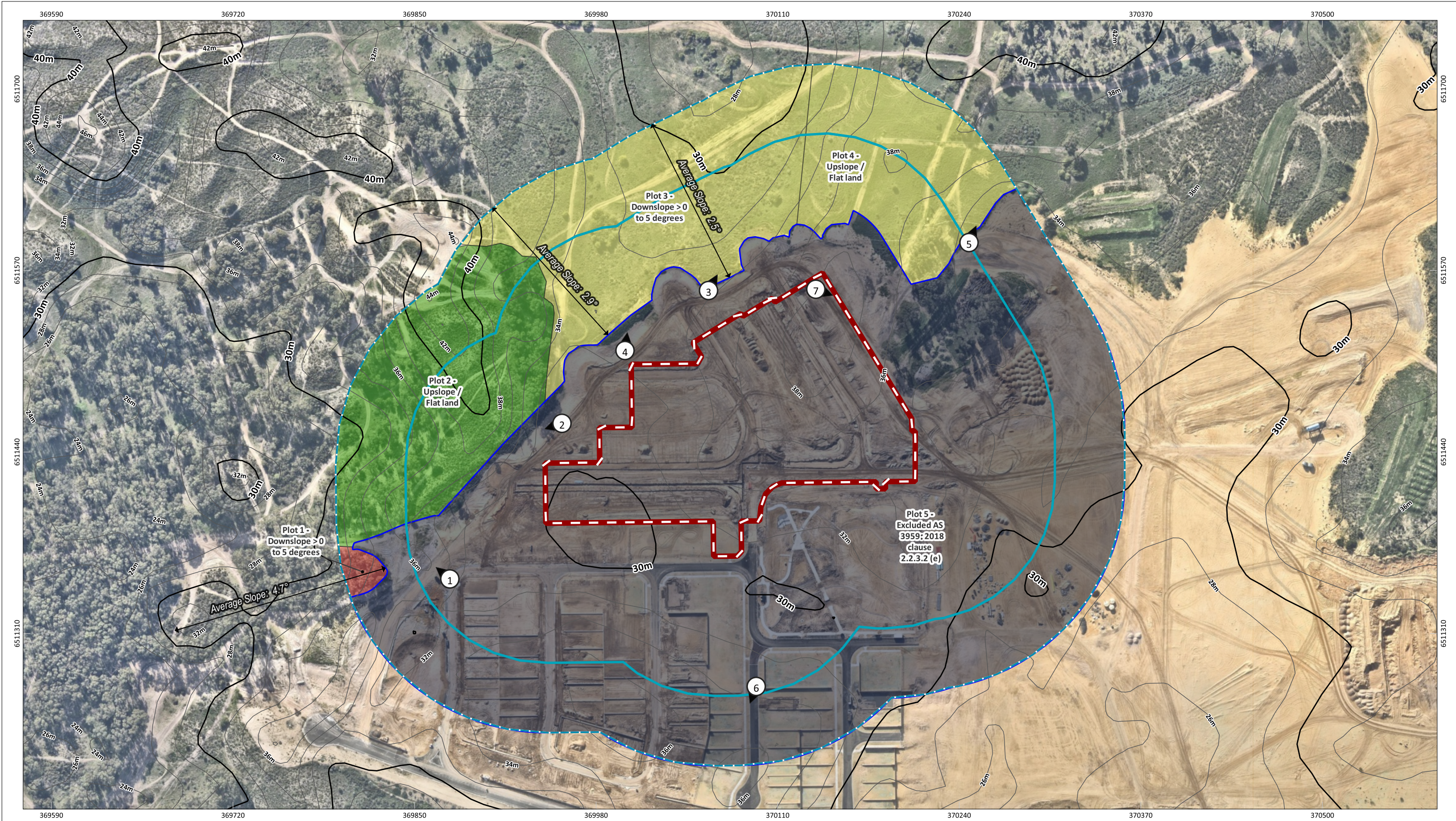


Figure 2: Vegetation Classification

0

40

80

120

160 m

N

SCALE

1:2,600

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

Nearmap (5th July 2025)

PROJECT/REPORT NAME

Bushfire Attack Level Report
Stage 3 Indi Estate, Yanchep

CLIENT

Parcel Property

PROJECT NUMBER

A24.012

VERSION

0

DRAWN BY / REVIEWED BY

SM/BF

DATE

25/9/2025

Legend

Subject Site

Buffer 100m

Buffer 150m

Photos

2m Contours (DPIRD-072)

2m

10m

Vegetation Classification

Class A - Forest

Class B - Woodland

Class G - Grassland

Excluded AS 3959: 2018 2.2.3.2 (e)

No	Description	Drawn	Approved	Date
A	Original issue	SM	BF	25/9/2025

NOTES:

Cadastral boundary from LANDGATE 2022. Label corresponds to the vegetation association number.

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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 <input type="checkbox"/>	FDI 50 <input type="checkbox"/>	FDI 80 <input checked="" type="checkbox"/>	FDI 100 <input type="checkbox"/>
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 A Forest	Downslope >0 to 5 degrees	<20	20 - <27	27 - <37	37 - <50	50 - <100
2	Class B Woodland	All upslopes and flat land (0 degrees)	<10	10 - <14	14 - <20	20 - <29	29 - <100
3	Class G Grassland	Downslope >0 to 5 degrees	<7	7 - <9	9 - <14	14 - <20	20 - <50
4	Class G Grassland	All upslopes and flat land (0 degrees)	<6	6 - <8	8 - <12	12 - <17	17 - <50
5	Excluded - clause 2.2.3.2 (e)	-	No separation distances required - BAL-LOW				

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. 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
69	BAL-12.5	3 and 5
70	BAL-12.5	3 and 5
71	BAL-12.5	3 and 5
72	BAL-12.5	3 and 5
73	BAL-12.5	3 and 5
74	BAL-12.5	3 and 5
75	BAL-LOW	4
76	BAL-LOW	4
77	BAL-LOW	4
78	BAL-LOW	4
79	BAL-LOW	4
80	BAL-LOW	4
191	BAL-12.5	3 and 5
192	BAL-12.5	3 and 5
193	BAL-12.5	3 and 5
194	BAL-12.5	3 and 5
195	BAL-12.5	3 and 5
196	BAL-12.5	3 and 5
197	BAL-LOW	4
198	BAL-LOW	4
199	BAL-LOW	4
200	BAL-LOW	4
201	BAL-LOW	4
202	BAL-12.5	3 and 5
203	BAL-12.5	3 and 5
204	BAL-12.5	3 and 5
210	BAL-12.5	3 and 5
211	BAL-12.5	3 and 5
212	BAL-LOW	4
213	BAL-LOW	4
214	BAL-LOW	4



Affected Lot	BAL Rating	Construction sections to be consulted in AS 3959: 2018
215	BAL-LOW	4
216	BAL-LOW	4
217	BAL-LOW	4
218	BAL-LOW	4
219	BAL-LOW	4
220	BAL-LOW	4
221	BAL-LOW	4
222	BAL-LOW	4
223	BAL-LOW	4
224	BAL-LOW	4
225	BAL-LOW	4
226	BAL-12.5	3 and 5
227	BAL-12.5	3 and 5
230	BAL-12.5	3 and 5
231	BAL-12.5	3 and 5
232	BAL-12.5	3 and 5
233	BAL-LOW	4
234	BAL-LOW	4
235	BAL-LOW	4
236	BAL-LOW	4
237	BAL-LOW	4
238	BAL-LOW	4
239	BAL-LOW	4
240	BAL-LOW	4
241	BAL-LOW	4
242	BAL-LOW	4

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



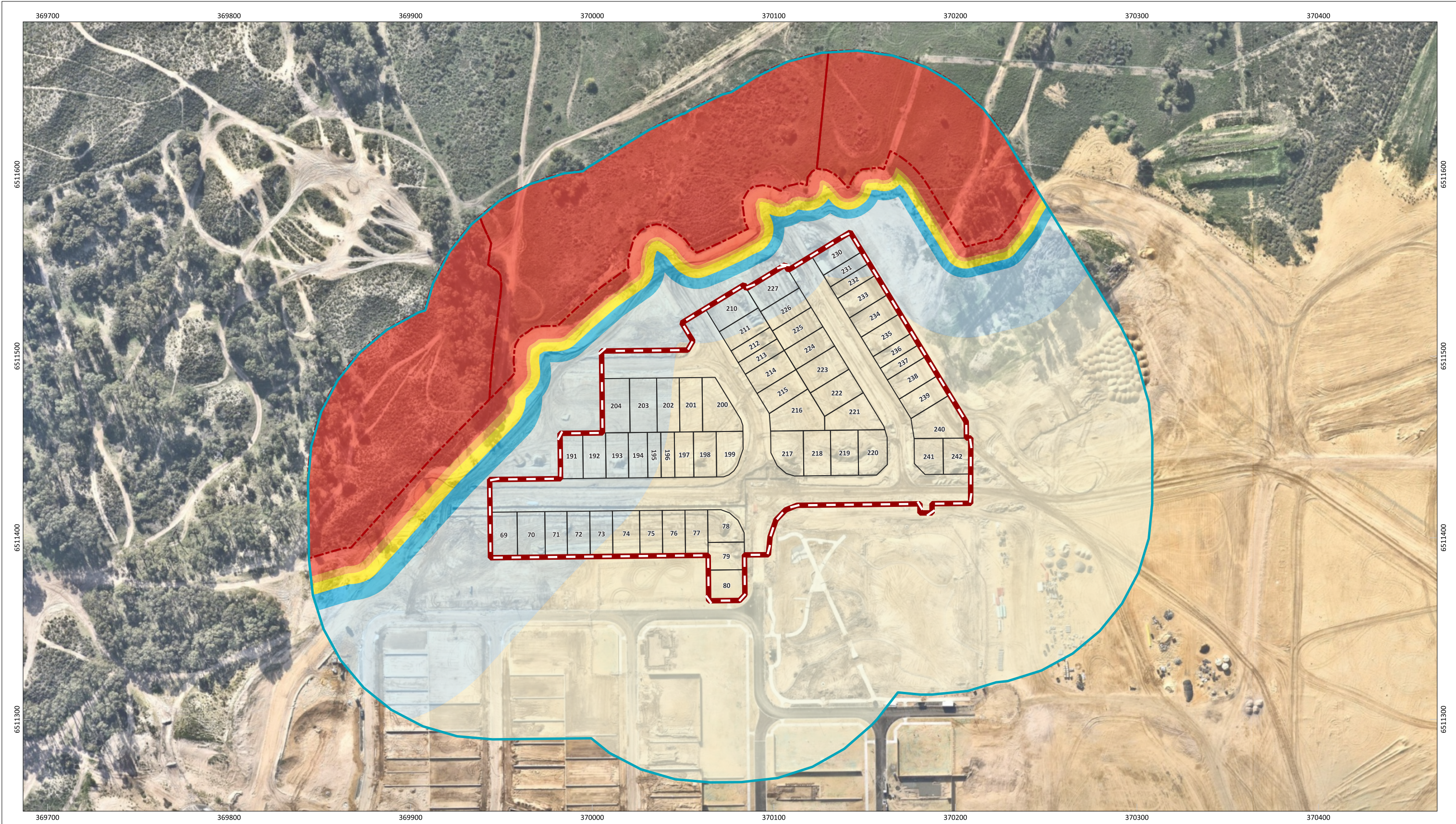


Figure 3: Bushfire Attack Level (BAL) contours

0

30

60

90

120 m

N

SCALE

1:2,000

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

Nearmap (5th July 2025)

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A24.012

VERSION

0

DRAWN BY / REVIEWED BY

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DATE

25/9/2025

Legend

Subject Site

Buffer 100m

Buffer 150m

Lots

Bushfire Hazard Interface

Bushfire Attack Level (BAL)

BAL-FZ

BAL-40

BAL-29

BAL-19

BAL-12.5

BAL-LOW

No	Description	Drawn	Approved	Date
A	Original issue	SM	BF	25/9/2025

NOTES:

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Appendix A

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.

