



BUSHFIRE HAZARD ASSESSMENT

ROEBIG ST ASPLEY QLD 4034

Monday, 3 August 2026

Rev B

enviro-STUDIO

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A	BUSHFIRE HAZARD ASSESSMENT	Trevor Bienkiewicz	3/8/2026
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1. Introduction

Envirostudio was commissioned to prepare this Bushfire Hazard Assessment (BAL) at :
7 Roebig St Aspley QLD, in response to an Brisbane City Council Information request . (Application No: A006977158)

The site is mapped as Bushfire High hazard buffer area within the Bushfire overlay and Potential Impact Buffer within the SPP Natural Hazards, Risk and Resilience bushfire mapping, triggering assessment against section A and C of the Bushfire overlay code.

The State Planning Policy and Local Government Planning Scheme maps a portion of this site as Medium Potential bushfire hazard with the potential impact buffer area extending over a larger portion of the property. (Figure 6)

2. Method

To meet the requirements of the Bushfire planning scheme policy, the following steps were undertaken:

- review of the Bushfire risk areas mapping on the Brisbane City Council online mapping system;
- review of the SPP bushfire prone area map on the Queensland Government Development Assessment Mapping System and the Queensland regional ecosystem (RE) map, vegetation hazard class (VHC) map;
- bushfire hazard assessment in accordance with the method in Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience – Bushfire' (QFES 2019) (Bushfire Resilient Communities);
- Radiant heat exposure assessment using the Fire Protection Association of Australia BAL calculator (BAL calculator), which models the 'method 2' bushfire attack level (BAL) assessment procedure in the Australian Standard for Construction of Buildings in Bushfire Prone Areas (AS 3959-2018); and
- assessment of the proposed development against the Bushfire Risk Areas code and the SPP bushfire prone area code.

3. Subject Site

The location of the site is shown on Figure 1.

Site address	7 ROEBIG ST ASPLEY QLD 4034
Real Property Description (RPD)	Lot on Plan Lot 227 on RP848172
Plan Area	1,017 m ²
Zone and precinct	Low Density Residential Zone

Planning scheme overlays	Airport environs overlay
	OLS - Horizontal limitation surface boundary
	BBS zone - Distance from airport 8-13km
	Bicycle network overlay
	Bushfire overlay
	High hazard buffer area sub-category
	Community purposes network overlay
	Critical infrastructure and movement network overlay
	Critical infrastructure and movement planning area sub-category
	Dwelling house character overlay
	Road hierarchy overlay
	Streetscape hierarchy overlay

Access is from Roebig St. Other than Roebig St to the east, the lot is surrounded on all sides by residential development. The subject site, as well as surrounding lots, are dominated by built structures, with small areas of planted gardens and very few trees. The site has a crossfall of 5 metres from the north-west down towards the south-east boundary. Buildings on the site have been constructed on platforms with the steep 1:4 rise through the northern portion of the site and the neighbouring lot to the west. Refer to Figure 2.

3.1. Landform

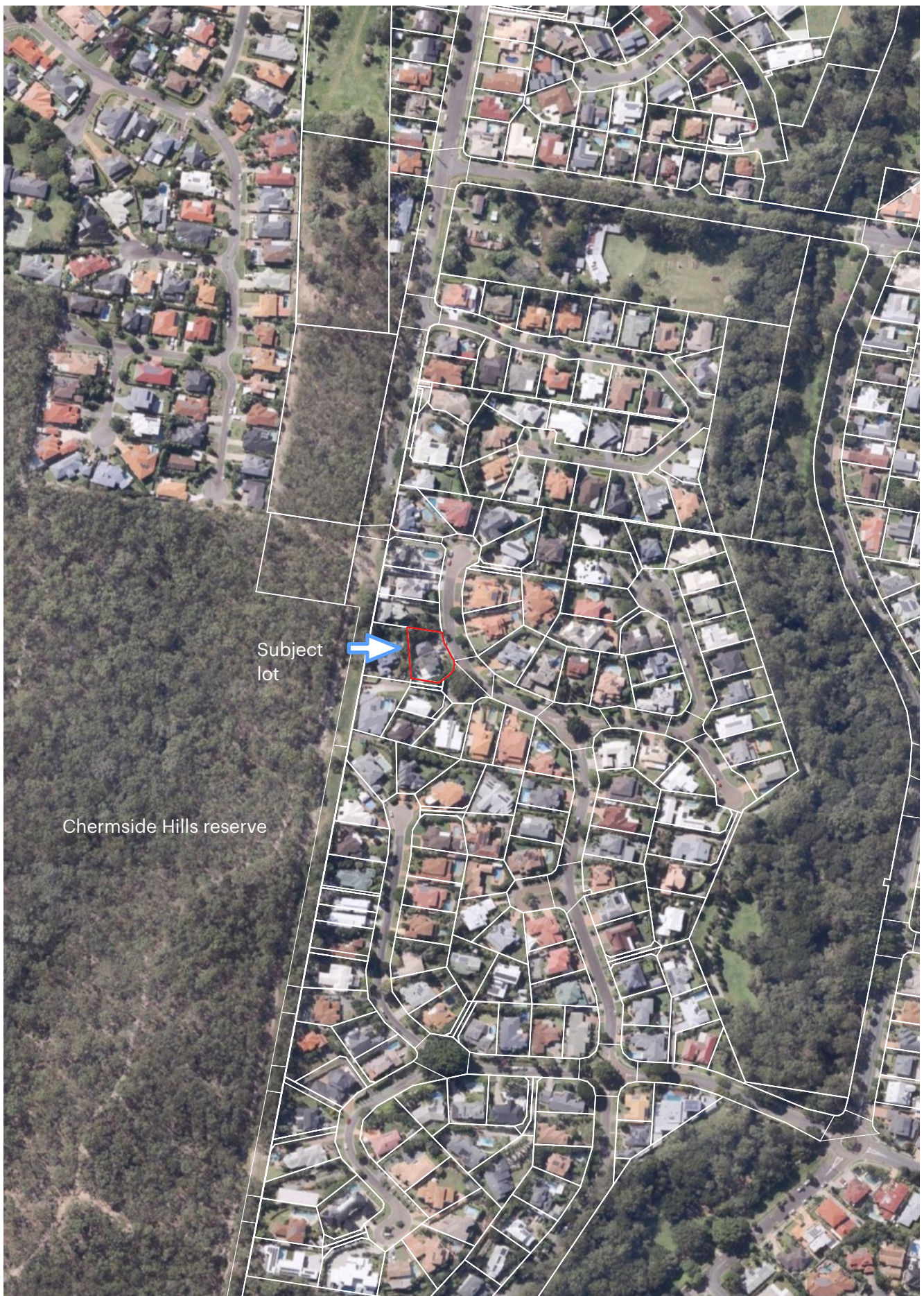
Platforms with a 25% gradient continuous on the northern portion.

3.2. Vegetation

Minimal vegetation in the built surroundings. Chermside Hills Reserve is fifty metres to the west. Chermside Hills Reserve is a network of three natural areas covering 129 hectares.

3.3. Bushfire Prone Area Mapping

Bushfire Fire Area mapping indicates the site as Medium Potential Buffer Intensity and a larger proportion of the site as Potential Impact Buffer. The SPP bushfire prone area map for the site is shown in Figure 6.



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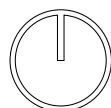
0 50 100 m



7 Roebig st. Aspley 03/08/2026
Context



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0 10 20 m

**Roebig St Subject Site
 (contours)**

03/08/2026
 Scale 1:500

Figure 2

4. Proposal

Development Application for Reconfiguration of 1 into 2 Lots

The proposal is to subdivide the existing lot into two lots. The proposal lots will be 350m² and 667m² with frontage to Roebig Street. The existing shed on the proposed northern small lot will be retained and later converted to a residential dwelling house.

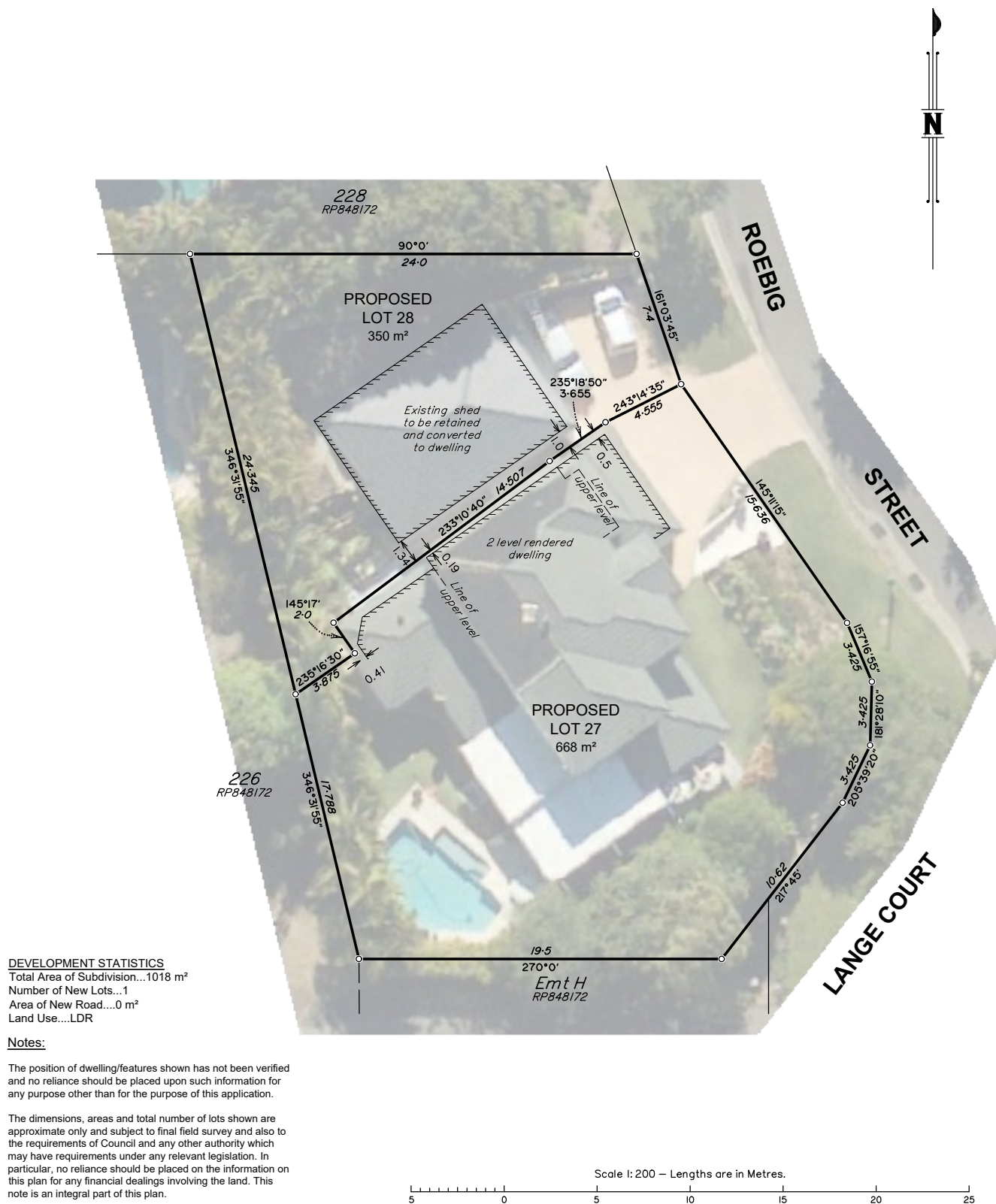


Figure 3

5. Bushfire Threat Assessment

5.1. Bushfire Hazard

The subject site is mapped by the Qld gov as Potential Impact Buffer Zone. It refers to a mapped area within 100 metres of land identified as having Very High, High or Medium Potential Bushfire Intensity.

Mitigation of bushfire risk to residential developments requires determination of the radiant heat flux and the subsequent minimum setback distance necessary to achieve an acceptable level of risk, as defined under the State Governments, Bushfire Resilient Communities, Technical Reference Guide for the State Planning Policy (Oct 2019). The acceptable or tolerable level of risk defined under the SPP identifies that a development can be located at a setback from hazardous vegetation such that it achieves a Radiant Heat Flux of 29kW/m^2 or less.

Using the AS3959-2018 Method 2 Minimum Distance Calculator with inputs listed in Table 1 below, using data from QFES 2019, the calculations for setbacks at a range of RHF levels are detailed in Table 2 and Table 3.

5.2. Fire Weather

Fire behaviour is influenced by a range of weather variables including recent precipitation, current wind speed, relative humidity, and temperature. Due to the complexity of these influences, they are commonly combined into a single weather index that can be used to estimate potential fire behaviour. The McArthur (1973) Forest Fire Danger Index is the best known, most widely used, and thoroughly tested fire weather index adopted by fire agencies in Australia and Australian regulatory instruments (such as AS3959 - Standards Australia 2009).

The Forest Fire Danger Index is used as the basis for invoking community warnings in Australia and assessing the nature of fire behaviour that may pose a risk to communities. An index of 1 means that a fire will not burn, or burn so slowly that control presents little difficulty. An index of 100 means that fires will burn so fast and hot that control is virtually impossible. It is also a useful metric to characterise the destructive potential of fire weather severity (e.g. Bradstock and Gill 2001; Bianchi, Lucas et al. 2010).

The relevant FDI for the site was determined as 40 in accordance with Table 2.1 AS 3959:2018.

5.3. Vegetation classification

Vegetation in the surrounding residential lots consists of planted gardens and grass. More importantly, the site is located within 40 metres of the Chermside Hills reserve, containing remnant vegetation. The regional ecosystem is listed as RE 12.11.28. Regional Ecosystem 12.11.28 is an endangered woodland community restricted to the Chermside Hills area on the north side of Brisbane City. The vegetation hazard class (VHC) is 9.2, which refers to Broad Vegetation Group (BVG) 9, specifically subgroup 9b, Moist to dry eucalypt open forests to woodlands usually on coastal lowlands and ranges.

5.4. Distance of the building from classified vegetation

The distance from the building to the vegetation line is 70 metres.

Mitigation of bushfire risk to residential developments requires determination of the radiant heat flux and the subsequent minimum setback distance necessary to achieve an acceptable level of risk, as defined under the State Governments, Bushfire Resilient Communities, Technical Reference Guide for the State Planning Policy (Oct 2019). The acceptable or tolerable level of risk defined under the SPP identifies that a development can be located at a setback from hazardous vegetation such that it achieves a Radiant heat flux of 29kW/m^2 or less.

This constitutes BAL - Low, BAL - 12.5, BAL - 19, BAL - 29. BAL - 40 is above the Radiant heat threshold.

To achieve an acceptable level of risk at a Class 1, 2, 3 or 10a structure will need a minimum setback to achieve 29kW/m^2 from hazardous vegetation. Any buildings will achieve an acceptable level of risk at the current setback from bushfire-prone areas.

Bushfire Attack Level (BAL) - Method 2 Calculator Table 1

Inputs		Outputs	
Fire danger index (FDI)	40	Rate of spread	0.9756 km/h
Vegetation classification	Forest	Flame length	10.54 m
Surface fuel load	25	Fire intensity	17642.5
Overall fuel load	35	Flame angle	90 degrees
Effective slope	3 degrees	Elevation of receiver	0 m
Site slope	14 degrees	Emissive power	76.03 kW/m ²
Distance to vegetation	70 m	View factor	0.0495
Flame width	100 m	Atmospheric transmissivity	0.7448
Flame temperature	1090 K	Radiant heat flux	2.806 kW/m ²
Heat of combustion	18600 kJ/kg	Bushfire attack level	BAL-12.5
Flame emissivity	0.95		
Wind speed	45 km/h		
Ambient temperature	35 °C		
Relative humidity	25%		
Fuel moisture factor	5		
Fuel age	20 years		

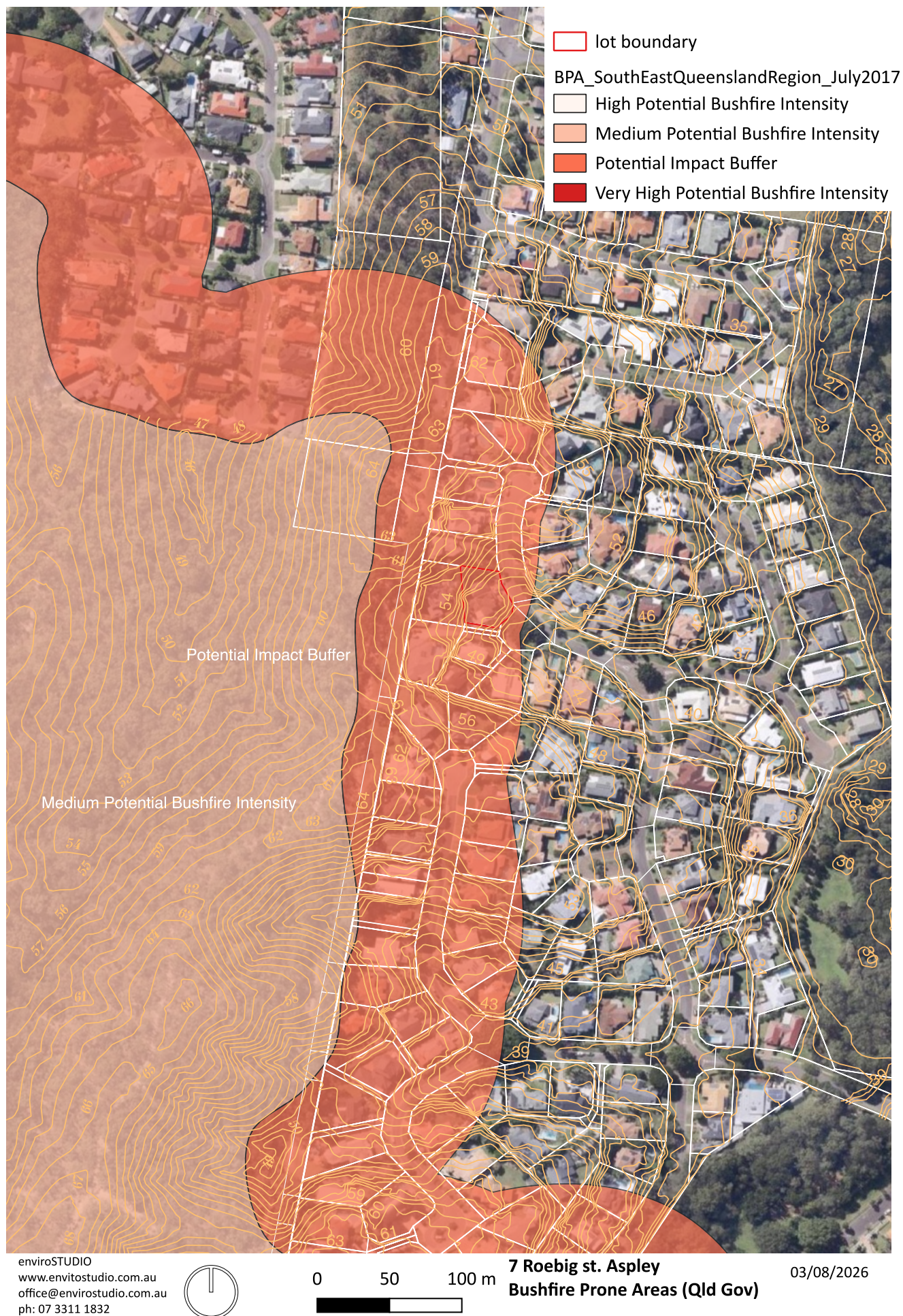


Figure 4



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0 10 20 m

7 Roebig St. Aspley
Vegetation Classification

03/08/2026

Figure 5



Figure 6

6. Findings and Conclusions

The proposed subdivision achieves a BAL of 12.5 and meets the requirements of the State Planning Policy and Bushfire Resilient Communities guidelines, provided recommended landscaping and maintenance measures are implemented. A BAL of 12.5 is “low” and as a result does not require a BMP (Bushfire Management Plan)

7. Recommendations

Landscaping Recommendations

The proposed plans indicate screen planting to the boundary of the lot. Screening plants can be placed in strategic locations to shield against wind, radiant heat and to catch embers and other debris.

Screen plantings consist of rows of closely packed shrubs or trees, either trimmed as a hedge or untrimmed as tightly grouped plantings. If sited correctly, these windbreaks can filter out a large proportion of the burning debris that is carried by the wind during a bushfire. All low flammability vegetation has some screen-forming abilities if it is managed and maintained appropriately. Ornamental and orchard trees in particular can be effective barriers if sited and managed correctly.

Choose species with moderately dense foliage (not too dense and not too sparse). Generally, fire will burn quickly through foliage that is overly sparse. Dense foliage, on the other hand, can block embers and block or deflect radiant heat and flame; however, windbreaks require some permeability to prevent negative pressure on the lee side of the barrier. This negative pressure can cause dangerous levels of turbulence during a bushfire.

Keep the area around the windbreak clear of continuous vegetation.

Keep plantings to a manageable size – large, overgrown vegetation is more vulnerable to bushfire.

Position the screen plantings between the house (or other feature that you wish to protect) and the direction of the bushfire hazard. Leave a separation distance of at least two times the mature height of the tree (or 10 metres, whichever is greater) between the windbreak and the protected feature.

- Avoid highly flammable species.
- Avoid species that produce a lot of dead plant material.
- Avoid species which retain dead foliage after pruning.
- Avoid species with an abundance of oils, waxes and resins in the leaves and stems.

Trees

- Tree canopy cover should be less than 15% at maturity.
- Lower limbs should be removed up to a height of 2m above the ground.
- Tree canopies should be separated by 2 to 5m; and
- reference should be given to smooth barked and evergreen trees.

Shrubs

- Create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided.
- Shrubs should not be located under trees.
- Shrubs should not form more than 10% ground cover: and
- Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

Grass

- Grass should be kept mown (as a guide, grass should be kept to no more than 100mm in height); and
- Eaves and vegetation debris should be removed.

8. References

- Leonard, J., & Opie, K. (2017). Estimating the potential bushfire hazard of vegetation patches and corridors. CSIRO.
- Leonard, J., Newnham, G., Opie, K., & Blanchi, R. (2014). A new methodology for state-wide mapping of bushfire-prone areas in Queensland. Australia: CSIRO.
- QFES. (Oct 2019). Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience - Bushfire'. State of Queensland.
- Weir, I. (2018). AS 3959:2018: Construction of buildings in bushfire-prone areas (Fourth edition). Standards Australia. AS3959:2018. Standards Australia, Australia