PREPARED FOR:

ARCO TERRA PTY LTD

6 AUGUST 2026

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BUSHFIRE HAZARD ASSESSMENT AND MANAGEMENT PLAN

RECONFIGURATION OF 381 WURAGA ROAD, BAHRS SCRUB, QLD (LOT 3 ON RP158376)



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REPORT TITLE	BUSHFIRE HAZARD ASSESSMENT AND MANAGEMENT PLAN
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CLIENT	ARCO TERRA PTY LTD
OUR REF	3126-BAHRS SCRUB

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Abbreviations

AHD	Australian height datum
API	Aerial photography interpretation
BoM	Bureau of Meteorology
e.g.	For example
etc.	etcetera
ha	Hectares
i.e.	That is
m	Metres
mm	Millimetres
Planning Act	*Planning Act 2016 (Qld)*
Planning Scheme	*Logan Planning Scheme 2015*
Study Area	For the purposes of this report, defined as the development footprint plus a 100 m buffer.
QFES	Queensland Fire and Emergency Service
RE	Regional Ecosystem
Water Act	*Water Act 2000*

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Chapter 1: Introduction

New Ground Environmental Pty Ltd (New Ground) has been commissioned by Arco Terra Pty Ltd ('the client') to undertake a Site Specific Bushfire Hazard Assessment and to prepare a Bushfire Management Plan (BMP) for the proposed reconfiguration of the subject site, Lot 3 on RP158376. Refer **APPENDIX A** for site locality plan.

This report aims to assess the bushfire hazard and risk to the proposed development with regard to the *Queensland State Government Single State Planning Policy - Part E* (SPP 2017), the *Bushfire Resilient Communities Technical Reference Guide* (QFES, 2019), the *Australian Standard – Construction in Bushfire Prone Areas (AS3959-2018)* and the relevant provisions of the *Logan Planning Scheme 2015*. These documents detail both State and Council interest in Bushfire Hazard with regard to determining the suitability of development applications.

Subsequently, this report references currently available best-practice Bushfire Hazard Assessment and Risk Mitigation Methodologies, from the following sources: Vegetation Hazard Classification & Potential Fire-line Intensity for Queensland sourced from 'A new methodology for state-wide mapping of bushfire prone areas in Queensland'. (CSIRO, 2014); Bushfire Attack Level (BAL), Building setback requirements and Construction Standards as per the Australian Standard AS 3959- 2018 - Construction of buildings in bushfire prone areas. These methodologies are used in conjunction with Planning Scheme requirements to ensure appropriate assessment and mitigation of potential bushfire hazard is undertaken.

Vegetation composition and extent, slope and industry standard Fuel Load calculations will be used to determine the Potential Bushfire Hazard acting on the proposed development. Once determined, Bushfire Risk Mitigation Measures are detailed in order to demonstrate compliance with relevant Planning Scheme performance outcomes to ensure the safety of people and property in the event of a bushfire emergency.

1.1 Subject Site

Address:	381 Wuraga Road, Bahrs Scrub, Qld
Titles:	Lot 3 on RP158376
Local Government:	Logan City Council
Total Area:	30,090 m^2
Topography:	Site elevation ranges from 36 to 68 AHD, and the site has a west to southwestern aspect.
Current Use:	An existing dwelling with associated ancillary structures is located in the southeastern corner of the site, with the remainder of the site comprising retained vegetation.

1.2 Proposed Development

It is understood a lot reconfiguration for urban purposes is proposed on the subject site. The proposed development layout is represented in **APPENDIX B**.

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Chapter 2: Bushfire Hazard Assessment

The prevalence of bushfire in the landscape is dependent on vegetation type and fuel load available to sustain a bushfire. Bushfire intensity and rate of spread are influenced by fuel load (including type and extent of vegetation), topography and to a lesser extent aspect. Land uses surrounding potentially hazardous vegetation, and consequently the connectivity of vegetation communities all influence the potential for a bushfire to develop and be sustained.

2.1 Current Bushfire Hazard Mapping

A review of Current State Bushfire Hazard Overlay Mapping, as maintained by the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP), revealed that parts of the northern and southern portions of the site is mapped as High Potential Bushfire Intensity, and the southwestern corner is mapped as Medium Potential bushfire Intensity. The balance of the site is mapped as Potential Impact Buffer (**APPENDIX C**).

To verify the Bushfire Hazard Overlay mapping, a Site-Specific Bushfire Hazard Assessment is triggered and is addressed below.

2.2 On-Site Hazard Assessment

This Site-Specific Bushfire Hazard Assessment references: Vegetation Hazard Classification & Potential Fire-line Intensity for Queensland sourced from *A new methodology for state-wide mapping of bushfire prone areas in Queensland* (CSIRO, 2014)[1]; *the Bushfire Resilient Communities Technical Reference Guide* (QFES, 2019)[2]; Bushfire Attack Level (BAL), Building setback requirements and Construction Standards as per the Australian Standard *AS 3959- 2018 - Construction of buildings in bushfire prone areas*[3]; and Bushfire Risk Mitigation Measures in compliance with current industry best-practice assessment methodologies. Vegetation composition and extent, slope and industry standard Fuel Load calculations will be used to determine the Potential Bushfire Hazard acting on the proposed development. Additionally, this BMP will address the requirements of the proposed development against the relevant provisions of the *Logan Planning Scheme 2015* with regard to the proposed development.

Two key features of the landscape strongly contribute towards the behaviour of bushfires:

1. Vegetation community structure/composition:

   The structure and composition of vegetation communities determine the rate at which dry fuel accumulates. Some vegetation communities protect fuel from drying out in all but extreme bushfire seasons, making the vegetation susceptible to very destructive bushfires, whilst other vegetation communities may expose fuels to drying and therefore be frequently available for burning.

2. Slope:

   As a general rule, bushfire intensity, and the rate of spread of bushfires rises in proportion to slope, with bushfires burning faster uphill and slower downhill. Studies have shown that the speed and intensity of fires moving up slopes generally doubles every 10 degrees of slope. Steeper slopes also increase the difficulty of constructing ring roads and firebreaks and limit the access for emergency crews.

Several investigative tools were utilised to determine the site-specific bushfire hazard risk including:

- A review of local aerial photography;
- A review of site and local topography;
- Review of site development plan;
- A review of DNRM Regional Ecosystem Mapping; and
- An inspection of the site.

[1] Leonard, J., Newnham, G., Opie, K., and Blanchi, R. (2014) A new methodology for state-wide mapping of bushfire prone areas in Queensland, CSIRO, Australia. This methodology updates the calculations apparent in the Australian Standard AS3959: 2018 based on current fire weather modelling and includes 43 detailed Vegetation Hazard Classes and associated fuel load potential.
[2] The Bushfire Resilient Communities Technical Reference Guide (QFES, 2019), supports the SPP 2017 by providing technical guidance for bushfire hazard assessment and bushfire management Planning.
[3] The Australian Standard AS3959: 2018 defines Fire Danger Index as the chance of a fire starting, its rate of spread, its intensity, and the difficulty of its suppression, according to various combinations of air temperature, relative humidity, wind speed and both the long- and short-term drought effects.

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The risk assessment comprised an analysis of the site and the surrounding lands (i.e. within 100 m) to determine characteristic bushfire risk based on Vegetation Hazard Classifications for vegetation within 100 m of the site/development footprint ('study area').

2.2.1 Site Inspection and Findings

A site inspection was completed on 10 February 2026 to verify the bushfire hazard mapping over the site and surrounds. All vegetated areas of the site and within 100 m of the proposed development site were assessed during the site investigations.

A summary of the findings of the site inspection is provided:

- The site is accessible by Wuraga Road to the east and Dairy Creek Road to the north, both of which are formed bitumen public roadways.
- The site hosts an existing dwelling with associated ancillary structures in the southeastern corner of the site, with the balance of the site comprising retained vegetation.
- Regulated Vegetation as maintained by Qld Department of Natural Resources & Mines (DNRM), maps the study area as hosting a mosaic of RE 12.11.5 and non-remnant vegetation across the northern three quarters of the site, and RE 12.11.24 within the southern quarter. Areas in the northern, eastern, and western portions of the study area are mapped as non-remnant, reflecting the extent of surrounding urban residential development. It is noted that some areas of established residential development remain mapped as remnant vegetation, despite no native vegetation being retained in those locations (refer to **APPENDIX D** for Vegetation Management Regional Ecosystem Mapping).
- Ground truthed vegetation community survey results are presented in **Section 2.2.2**. In summary, the observed vegetation was generally consistent with the regulated vegetation mapping in terms of RE types, with the addition of RE 12.11.25 mapped within the eastern and southern extent of the subject site, extending southwards offsite. Field assessment determined that RE 12.11.25 was the dominant community across the vegetated areas of the study area, while RE 12.11.5 and RE 12.11.24 occur to a lesser extent. Vegetation in the north, east, and western portions of the site was predominantly non-remnant, with remnant vegetation largely confined to road reserves. Refer to **APPENDIX E** for representative photographs.

2.2.2 Vegetation Classification

The structure and composition of vegetation communities determine the rate at which dry fuel accumulates. Some vegetation communities protect fuel from drying out in all but extreme bushfire seasons, making the vegetation susceptible to very destructive bushfires, whilst other vegetation communities may expose fuels to drying and therefore be frequently available for burning.

Vegetation communities surrounding the proposed development have been referenced against confirmed REs in Vegetation Hazard Classifications and Potential Fire-line Intensity calculations as detailed in Leonard et al (2014). Potential Fuel Load calculations were undertaken on site to validate vegetation classifications and subsequently potential bushfire hazard to the proposed development.

The vegetation community surveys identified that the study area comprises six (6) vegetation community association. **TABLE 2.1** provides a summary of the ground-truthed vegetation community verified during the field survey. **APPENDIX F** presents a map of the ground-truthed vegetation communities in the study area.

TABLE 2.1: GROUND-TRUTHED VEGETATION SURVEY RESULTS

OPEN FOREST	Emergent (18-20 m, 15% CC) *Corymbia intermedia* and *Corymbia variegata*; T1 (14-17 m, 55% CC) of *Corymbia variegata*, *Eucalyptus major* and *Eucalyptus carnea*, with *Lophostemon confertus*, *Corymbia intermedia* and *Eucalyptus crebra*; T2 (8-12m, 40% CC) dominated by *Lophostemon confertus*, with *Alphitonia excelsa* and *Jagera pseudorhus*. Resembles RE12.11.5.
OPEN FOREST	Emergent (19-21 m, 20% CC) *Eucalyptus major*, *Eucalyptus carnea*, with *Eucalyptus dura*; T1 (15-18m, 50% CC) of *Eucalyptus major* and *Eucalyptus carnea*, with *Eucalyptus helidonica* and *Corymbia intermedia*; T2 (8-12m, 40% CC) dominated by *Lophostemon confertus*, with *Alphitonia excelsa*, *Eucalyptus carnea* and *Corymbia intermedia*; S1 (5-7 m, 30% CC) Acacia spp. Resembles RE12.11.24.
OPEN FOREST	T1 (19-23 m, 55% CC) of *Eucalyptus fibrosa*, *Eucalyptus tindaliae*, *Eucalyptus dura*, *Eucalyptus resinifera*, *Eucalyptus propinqua*, *Eucalyptus c*arnea, *Corymbia variegata*, *Eucalyptus major* and *Eucalyptus crebra*; T2 (14-18 m, 40% CC) of *Eucalyptus major*, *Corymbia intermedia*, *Eucalyptus carnea*, *Lophostemon confertus*, *Lophostemon suaveolens Angophora leiocarpa* and *Corymbia variegata*; S1 (5-7 m, 30% CC) of *Acacia disparrima*, *Acacia concurrens*, *Acacia leiocalyx*, *Alphitonia excelsia* and *Lophostemon confertus*, with scattered *Allocasuarina littoralis* and *Parsonsia straminea* south of the site. Resembles RE12.11.25.

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TABLE 2.1: GROUND-TRUTHED VEGETATION SURVEY RESULTS

MANAGED VEGETATION	Small residential lots containing single dwellings, very sparse native woody vegetation, and managed lawn. Resembles non-remnant.
ROAD RESERVES	Road reserves comprising native woody vegetation resembling RE12.11.5.
OPEN WOODLAND	Disturbed and modified open woodland comprising a dam.

For bushfire hazard classification purposes, study area vegetation was condensed into six (6) stratification units; RE12.11.5 (SU1), RE12.11.24 (SU2), RE12.11.25 (SU3), Managed Vegetation (SU4), Road Reserves (SU5), and Open Woodland (SU6).

Vegetation ecotones result in varying fuel load availability. Subsequently, vegetation communities within the study area have been referenced against predominant vegetation with highest fuel loads. Observed vegetation communities within 100 m of the proposed development location are described in **TABLE 2.2**.

2.2.3 Patch Filtering

Patch Filtering as per BRCTRG 2019, specifies in Section 4.2.6, Step 2 '*downgrade the effective fuel load of continuous vegetation patches measuring (a) 1 to 2 hectares (by 66 %), and (b) 2-3 hectare patches (by 50 %) if the patch is surrounded by either non-continuous fuel or a low-hazard vegetation of land use type, and if the patch is further than 100m from and any other continuous-fuel vegetation patch greater than 2 hectares*'.

Patch filtering was not applied within the study are as no vegetation patches met the criteria for filtering.

2.2.4 Corridor Filtering

Corridor filtering as per BRCTRG 2019, specifies in Section 4.2.6, Step 3: To '*remove narrow corridors and areas of continuous fuel <50m in width that are not sufficiently wide to support a fully developed flame front. These areas are less likely to ignite due to their disconnection with fuels that can carry running fire fronts…is likely to result in fireline intensity of <4000 kW/m, and this presents a low hazard to land use planning and development assessment*'.

Corridor filtering was applied within the study area to all patches of road reserve vegetation, the patch of vegetation extending north to northwest of the proposed development footprint, and parts to the southeast of the proposed development footprint, where vegetation was less than 50 m in width.

TABLE 2.2: VEGETATION HAZARD CLASSIFICATIONS

DIRECTION OF BUSHFIRE HAZARD	VEGETATION DESCRIPTION (STRATIFICATION UNIT)	DNRM REGIONAL ECOSYSTEM	VEGETATION HAZARD CLASS	POTENTIAL FUEL LOAD (T/HA)	POTENTIAL FIRE LINE INTENSITY (KW/M)	POTENTIAL BUSHFIRE HAZARD
Northwest and Southwest	Open Forest (SU1)	RE12.11.5	10.1 Spotted gum dominated open forests	20.8 *Corridor filtering applied to entire patch to the Northwest*	22,706	High
North and Southwest	Open Forest (SU2)	RE12.11.24	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges	17.2 *Corridor filtering applied to entire patch to the North*	15,108	Medium
South through to Southwest	Open Forest (SU3)	RE12.11.25	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges	17.2 *Corridor filtering applied to parts in the Southeast*	18,841	Medium
East, West, Northeast, Northwest, and Southeast	Managed Vegetation (SU4)	-	42.6 Nil to very low vegetation cover	2.0	176	Low

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North and East	Road Reserves (SU5)	-	10.1 Spotted gum dominated open forests	*Corridor filtering applied to all patches*	<4000	Low
Northwest	Open Woodland (SU6)	-	41.4 Discontinuous low grass or tree cover	3.0	404	Low

2.2.5 Potentially Hazardous Vegetation

Based on the above assessment, vegetation within 100 m of the proposed development has been classified as posing a Low Potential Bushfire Hazard to the majority of the development surrounds, and a Medium to High Potential Bushfire Hazard to the southern through southwestern extent of the development footprint. This is due to the site being predominantly bordered by urban development and roads, with the southern extent forming part of a large contiguous patch of woody vegetation (refer to **APPENDIX G** for the Modelled Bushfire Hazard Plan).

The following section details Bushfire Risk Mitigation measures to be implemented on the site to address the Bushfire Hazard and compliance requirements acting on the proposed development.

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Chapter 3: Bushfire Risk Mitigation Measures

The following section describes Bushfire Risk Mitigation measures, recommended to be utilised at the subject site to reduce the risk of Bushfire impacting on people and property.

The scope of proposed Bushfire Risk Mitigation Measures has been drawn from the following sources:

- The *Queensland State Government Single State Planning Policy - Part E* (SPP 2017);
- The *Bushfire Resilient Communities Technical Reference Guide (QFES,2019);*
- The *Logan Planning Scheme 2015* of the Logan City Council*, Bushfire Hazard Overlay Code*; and
- The *Australian Standard (AS 3959- 2018) - Construction of buildings in bushfire prone areas.*

The intent of the above legislation is to protect people and premises in the event of a bushfire emergency, through achieving acceptable Performance Outcomes for development given the identified bushfire hazard. Performance Outcomes are generally achieved by appropriate separation of a development from bushfire hazard, appropriate access for fire-fighting vehicles, and appropriate construction standards of buildings. Additional factors are detailed where considered appropriate.

3.1 Asset Protection Zones

Asset protection zones (APZs) provide a defensive tool to assist in the reduction of potential bushfire impact to people and property situated in bushfire prone areas. APZs are the most strategically valuable defence against radiant heat and flame, and to a lesser extent, embers.

The *Logan Planning Scheme 2015* Bushfire Hazard Overlay Code requires that, in (PO2), *'Development is sited and constructed to minimise the bushfire hazard and maximise the protection of life and property from bushfire.'* This outcome is best informed by an approved bushfire management plan (AO2b).

Whilst APZs should prevent buildings from being subjected to direct contact from flames, and reduced levels of radiant heat in the event of a bushfire, building construction standards will also be key to ensuring the performance of buildings subjected to ember attack.

3.1.1 Performance Outcomes

APZ widths (setbacks) have been prescribed in the *Logan Planning Scheme 2015 'such that the bushfire attack level is less than or equal to BAL-29'*

The SPP refers to *provision of appropriate defendable space between dwellings and medium or above Bushfire Hazard*. The *Bushfire Resilient Communities Technical Reference Guide* (QFES, 2019), as technical guidance in support of the SPP 2017, details methodology for determining the defendable space adjacent proposed development to act as APZs. This methodology utilises the QFES *Bushfire Asset Protection Zone Width Calculator* or *Method 2 Bushfire Attack Level Assessment, as detailed in the AS3959-2018 for Construction in Bushfire Prone Areas*.

The required setbacks (APZ) with regard to achieving a separation consistent with 29kW/m^2 fireline intensity for buildings of the proposed development, are considered appropriate to inform APZ requirements for the proposed development, and consequently meeting the Performance Outcomes of the SPP and Council's Planning Scheme with regard to APZ requirements

Based on this assessment, and VHC parameters as detailed in **TABLE 2.2**, APZ widths to achieve a maximum 29kW/m^2 fireline intensity at the proposed dwellings, have been detailed in **TABLES 3.1** to **3.3**.

Refer to **APPENDIX H** for an assessment of the proposed development against the Bushfire overlay code of the *Logan Planning Scheme 2015*.

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TABLE 3.1: ASSET PROTECTION ZONE WIDTH ASSESSMENT – SOUTHWEST OF PROPOSED DEVELOPMENT (SU1)

381 Wuraga Road, Bahrs Scrub, QLD – Hazardous Vegetation to the Southwest (SU1)

Minimum Distance Calculator - AS3959-2018 (Method 2)			
Inputs		Outputs	
Fire Danger Index	54	Rate of spread	2.11 km/h
Vegetation Classification	Woodland	Flame length	16.22 m
Understorey fuel load	19.3 t/ha	Flame angle	62.5 °, 74.5 °, 82.5 °, 87.5 °, 89.5 ° & 95.5 °
Total fuel load	20.8 t/ha	Elevation of receiver	4.29 m, 3.83 m, 2.16 m, 0 m, 0 m & 0 m
Vegetation height	n/a	Fire intensity	22,706 kW/m
Effective slope	7.6 °	Transmissivity	0.87, 0.848, 0.821, 0.795, 0.782 & 0.724
Site slope	13.5 °	Viewfactor	0.6006, 0.4466, 0.304, 0.2067, 0.168 & 0.0453
Flame width	100 m	Minimum distance to < 40 kW/m²	12 m
Windspeed	n/a	Minimum distance to < 29 kW/m²	16.5 m
Heat of combustion	18,600 kJ/kg	Minimum distance to < 19 kW/m²	24.5 m
Flame temperature	1,090 K	Minimum distance to < 12.5 kW/m²	34.8 m
		Minimum distance to < 10 kW/m²	41.2 m

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TABLE 3.2: ASSET PROTECTION ZONE WIDTH ASSESSMENT – SOUTHWEST OF PROPOSED DEVELOPMENT (SU2)

381 Wuraga Road, Bahrs Scrub, QLD – Hazardous Vegetation to the Southwest (SU2)

Minimum Distance Calculator - AS3959-2018 (Method 2)			
Inputs		Outputs	
Fire Danger Index	54	Rate of spread	1.7 km/h
Vegetation Classification	Woodland	Flame length	13.11 m
Understorey fuel load	14.9 t/ha	Flame angle	62.5 °, 74.5 °, 84.5 °, 88.5 °, 90.5 ° & 96.5 °
Total fuel load	17.2 t/ha	Elevation of receiver	3.46 m, 3.05 m, 1.62 m, 0 m, 0 m & 0 m
Vegetation height	n/a	Fire intensity	15,108 kW/m
Effective slope	8.2 °	Transmissivity	0.876, 0.857, 0.831, 0.806, 0.793 & 0.731
Site slope	13.5 °	Viewfactor	0.6, 0.443, 0.2998, 0.2034, 0.1655 & 0.0448
Flame width	100 m	Minimum distance to < 40 kW/m²	9.699999999999999 m
Windspeed	n/a	Minimum distance to < 29 kW/m²	13.5 m
Heat of combustion	18,600 kJ/kg	Minimum distance to < 19 kW/m²	20.4 m
Flame temperature	1,090 K	Minimum distance to < 12.5 kW/m²	29.5 m
		Minimum distance to < 10 kW/m²	35.2 m

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TABLE 3.3: ASSET PROTECTION ZONE WIDTH ASSESSMENT – SOUTH THROUGH TO SOUTHWEST OF PROPOSED DEVELOPMENT (SU3)

381 Wuraga Road, Bahrs Scrub, QLD – Hazardous Vegetation to the South through to Southwest (SU3)

Minimum Distance Calculator - AS3959-2018 (Method 2)			
Inputs		Outputs	
Fire Danger Index	54	Rate of spread	2.12 km/h
Vegetation Classification	Woodland	Flame length	15.84 m
Understorey fuel load	14.9 t/ha	Flame angle	62.5 °, 74.5 °, 82.5 °, 87.5 °, 89.5 ° & 95.5 °
Total fuel load	17.2 t/ha	Elevation of receiver	4.19 m, 3.74 m, 2.09 m, 0 m, 0 m & 0 m
Vegetation height	n/a	Fire intensity	18,841 kW/m
Effective slope	11.4 °	Transmissivity	0.87, 0.849, 0.822, 0.796, 0.783 & 0.725
Site slope	13.5 °	Viewfactor	0.6013, 0.4471, 0.3036, 0.2062, 0.1677 & 0.0453
Flame width	100 m	Minimum distance to < 40 kW/m²	11.7 m
Windspeed	n/a	Minimum distance to < 29 kW/m²	16.1 m
Heat of combustion	18,600 kJ/kg	Minimum distance to < 19 kW/m²	24 m
Flame temperature	1,090 K	Minimum distance to < 12.5 kW/m²	34.2 m
		Minimum distance to < 10 kW/m²	40.5 m

The assessment detailed by this report finds that a:

- ≥16.5 m wide APZ is required between the proposed development and hazardous vegetation to the removed southwest (SU1);
- ≥13.5 m wide APZ is required between the proposed development and hazardous vegetation to the southwest (SU2);
- ≥16.1 m wide APZ is required between the proposed development and hazardous vegetation to south through to the southeast (SU3);

It is noted that, in order to comply with BAL 29 bushfire setbacks thinning of vegetation will be required on Lot 18 to create a discontinuous tree canopy. Refer to **APPENDIX G** for the mapped APZ.

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3.2 Bushfire Attack Level – Construction Standards

The Building Code of Australia (BCA) requires all Class 1-3 and 10a buildings associated with a dwelling are constructed in accordance with the Australian Standard 3959 (2018) - *Construction of buildings in bushfire-prone areas* (AS 3959-2018). This Standard provides minimum construction standards for new dwellings in designated Bushfire Prone Areas.

The construction standards are intended to improve the performance of buildings subjected to burning debris, radiant heat, or flame contact. The AS3959-2018 methodology prescribes Bushfire Attack Levels (BALs) to the facades of proposed buildings to which corresponding construction safety standards are applied. AS3959-2018 defines Bushfire Attack Levels as:

'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 metre squared, which is the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire.'

3.2.1 Bushfire Attack Level Assessment

In accordance with the Australian Standard – *Construction of Buildings in Bushfire-prone Areas* (AS 3959-2018), an assessment of the required construction standards for the proposed development of has been undertaken utilising the APZ calculations as detailed in **TABLE 3.1**.

Based on this assessment, an APZ of:

- ≥16.5 m is required between the proposed development and hazardous vegetation to the removed southwest (SU1);
- ≥13.5 m is required between the proposed development and hazardous vegetation to the southwest (SU2);
- ≥16.1 m is required between the proposed development and hazardous vegetation to south through to the southeast (SU3);

to achieve <29kW/m^2 fireline intensity and resultant conditions suitable for a BAL-29 level of construction. Final BAL ratings are dependent on the setbacks to potentially hazardous vegetation able to be achieved, and can be finalised once detailed design and known vegetation setbacks are determined.

3.3 Landscaping and Vegetation Management

The landscaping and ongoing management of vegetation in areas susceptible to Bushfire Hazard is an important tool to mitigate bushfire risk. Previously detailed APZs should prevent buildings from being subjected to direct contact from flames, and reduced levels of radiant heat in the event of a bushfire. Please note: building footprint, location and vegetation setbacks able to be achieved will dictate the asset protection zone widths required adjacent the proposed development.

Landscaping and vegetation retention within the APZ should consider the following guidelines:

- Vegetation immediately adjacent proposed buildings should either be fully cleared and regularly maintained (i.e. lawn) or retain trees as clumps or islands and provide a tree canopy cover of less than 15% and tree canopies should be located greater than 2 metres from any part of the roofline of a building. Any trees should have lower limbs removed up to a height of 2 metres above the ground.
- Any landscaping performed on site shall maintain the APZ effectively free of available fuel. Landscaping plants may be used in this area so long as they are selected for their low combustibility, by virtue of high moisture content, low volatile oil content, high leaf mineral levels, large fleshy leaves, and absence of shedding bark. They should be placed so as to not provide either vertical or horizontal connectedness of plant material and avoid overhanging rooflines or contact with flammable parts of buildings. Any planted trees should be of species which grow to over 2 m, to maintain separation between lower canopy and the ground.
- Turf is to be maintained regularly to reduce the potential for long grass to fuel an advancing fire toward buildings.

3.4 Emergency Access and Egress

New developments in bushfire prone areas should be serviced by safe access/exit points for both residents and emergency services personnel in the event of an emergency. Development should avoid entrapment potential, provide safe and effective access for emergency services vehicles and safe evacuation routes for occupants.

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The *Logan Planning Scheme 2015* Bushfire Hazard Overlay Code prescribes: (PO1) '*Development is designed to: c. create efficient emergency access for fire-fighting and other emergency vehicles.*'; and (PO4) '*Access for fire management and evacuation is provided by access that: a. separates premises from adjoining vegetation; b. is safely accessible by fire fighting vehicles; c. has regular vehicular access points for bushfire management, response and evacuation; d. has regular vehicle passing and turning areas for bushfire management, response and evacuation; e. allows access at all times for fire fighting vehicles; f. allows for maintenance, burning off and bushfire response; g. has vehicular links to an alternative through road; h. is readily maintained.*'

It is noted that the subject site adjoins the established bitumen public road network, including Wuraga Road and Dairy Creek Road. The proposed development layout incorporates a central access extending from Howell Street, which branches to the north and south to service all proposed Lots, and includes a turnaround area at the southern extent. This access provides direct access for proposed lots and importantly is located in a low potential bushfire hazard area, directing egress away from the potential hazard posed to the site from the south.

Subsequently, it is considered that proposed access arrangements are appropriate to enable both safe evacuation and direct access for emergency service vehicles in the event of a bushfire emergency consistent with the requirements and intent of the relevant requirements of the Bushfire Hazard Overlay Code.

3.5 Water Availability for Fire-Fighting Purposes

All development within bushfire hazard areas requires adequate water supply for fire-fighting purposes in the event of a bushfire emergency.

The *Logan Planning Scheme 2015* Bushfire Hazard Overlay Code prescribes: (PO5) '*Development has access to adequate water supply for fire fighting purposes.*'; and (AO5) where connected to reticulated water supply, '*has sufficient flow and pressure characteristics for fire fighting purposes at all times with a minimum pressure and flow of 10 litres per second at 200kPa.*'

The proposed development will be on a reticulated water supply. It is therefore anticipated that water supply and pressure will be in compliance with requirements for fire-fighting purposes and that fire hydrants in accordance with requirements will be implemented.

3.6 Potentially Hazardous Materials

The *Logan Planning Scheme 2015* Bushfire Hazard Overlay Code prescribes: (PO7) '*Public safety and the environment are not adversely affected by the adverse impacts of bushfire on hazardous materials including fuels, explosives and flammable chemicals manufactured or stored in bulk on premises.*'

The proposed development does not involve the manufacture or storage of hazardous materials.

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Chapter 4: Recommendations and Conclusions

This report details the assessment of Bushfire Hazard and risk mitigation measures acting on the proposed development, with consideration to the requirements of: the *Queensland State Government Single State Planning Policy - Part E (SPP 2017); the Bushfire Resilient Communities Technical Reference Guide (QFES,2019); the Logan City Council* Logan Planning Scheme 2015, namely *Bushfire Hazard Overlay Code; and the Australian Standard (AS 3959- 2018) - Construction of buildings in bushfire prone areas.*

This assessment has confirmed within 100 m of the proposed development has been classified as posing a Low Potential Bushfire Hazard to the majority of the development surrounds, and a Medium to High Potential Bushfire Hazard to the southern through southwestern extent of the development footprint. This is due to the site being predominantly bordered by urban development and roads, with the southern extent forming part of a large contiguous patch of woody vegetation.

The following Bushfire Risk Mitigation Measures, as detailed by this report and summarised below, are considered appropriate to substantially mitigate the Bushfire Hazard acting on the proposed development:

- Asset Protection Zone (APZ) widths have been assessed for the proposed development (refer **Section 3.1**). Based on this assessment, a
  - ≥16.5 m wide APZ is required between the proposed development and hazardous vegetation to the removed southwest (SU1);
  - ≥13.5 m wide APZ is required between the proposed development and hazardous vegetation to the southwest (SU2);
  - ≥16.1 m wide APZ is required between the proposed development and hazardous vegetation to south through to the southeast (SU3).
- BAL determination and Construction Standard requirements have been determined for the proposed development. Based on this assessment, the proposed development is consistent with achieving a maximum BAL-29 (refer to **Section 3.2**). Final BAL ratings are dependent on the setbacks to potentially hazardous vegetation able to be achieved, and can be finalised once detailed design and known vegetation setbacks are determined.
- Vegetation management adjacent the proposed development has been detailed to ensure low fuel availability and reduced connectivity in the event of a bushfire emergency (refer **Section 3.3**).
- Emergency Access & Egress of the proposed development has been detailed and is considered appropriate for the Bushfire Hazard acting on the site given formalisation of access tracks (refer **Section 3.4**).
- Water Availability for Fire-fighting Purposes as per Council's Planning Scheme has been detailed and is considered compliant with the requirements of the Bushfire Hazard Overlay Code (refer **Section 3.5**).

This assessment has been undertaken based on vegetative condition and bushfire hazards identified in the study area on 10 February 2026.

It should be noted that the recommendations within this BMP have been formulated based on site conditions at the time of writing utilising current best-practice hazard and impact assessment methodologies. Recommendations have been developed to reduce the potential severity of impacts on the proposed development in the event of a bushfire emergency rather than prevent impacts altogether. No guarantee is provided or assumed that the area will not be affected by bushfire at some time.

Site occupants should seek advice from the local fire authority every 5 years (as a minimum) to ensure the subject recommendations remain appropriate as site conditions and hazard assessment methodologies may change over time.

Bushfires are an intrinsic part of Australia's environment, are often unpredictable, and have potentially extremely serious consequences. All Queenslanders should be familiar with the official Bushfire Warnings system and have a completed Bushfire Survival Plan. Print-ready guides for preparing a Bushfire Survival Plan and to assist in the interpretation of the official Bushfire Warnings system are available for download from the Rural Fire Service Queensland website – https://ruralfire.qld.gov.au/bushfires/.

There are three formal Bushfire Warning levels:

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Advice

Monitor conditions and review your bushfire survival plan.



Watch and act

Conditions are changing. Start taking action and follow your bushfire survival plan.



Emergency Warnings

You are in danger. Act on your bushfire survival plan now.

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APPENDIX A

Locality Plan



File: 3126-BahrsScrub-BMP-SiteLocality-260619

SITE LOCALITY PLAN - LOT 3 ON RP158376

0 25 50 75 Meters

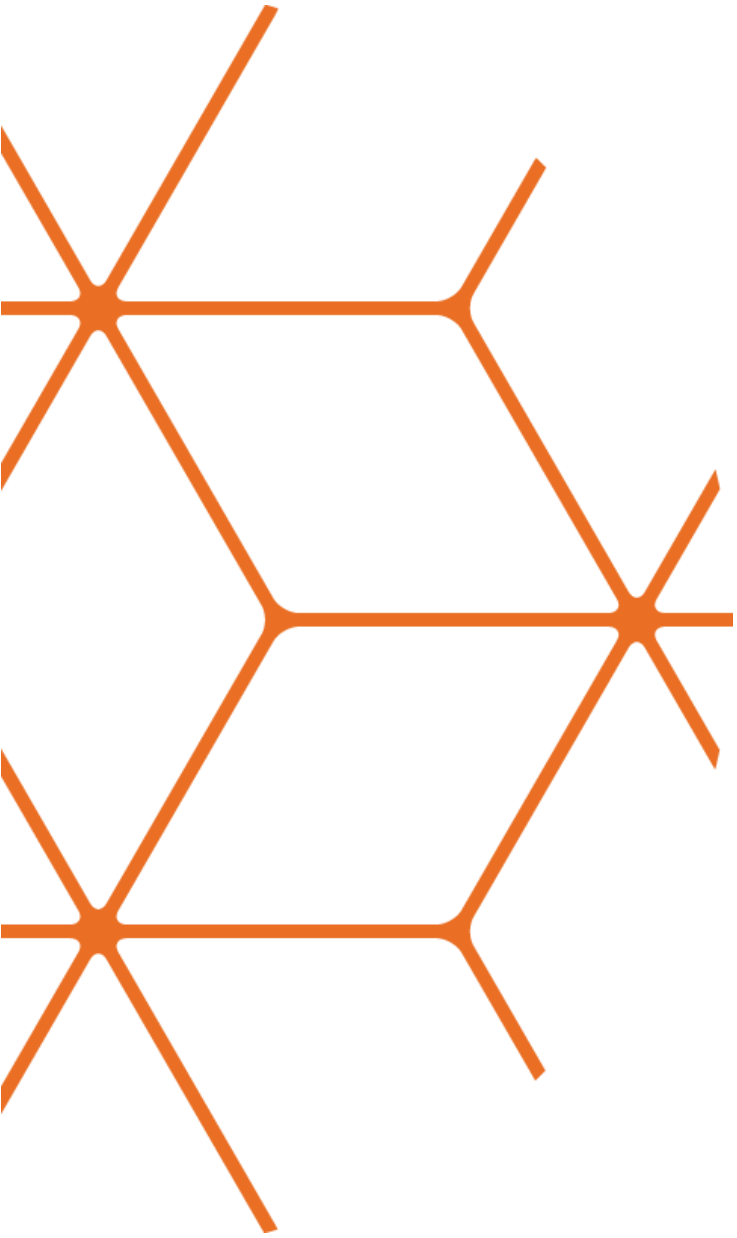
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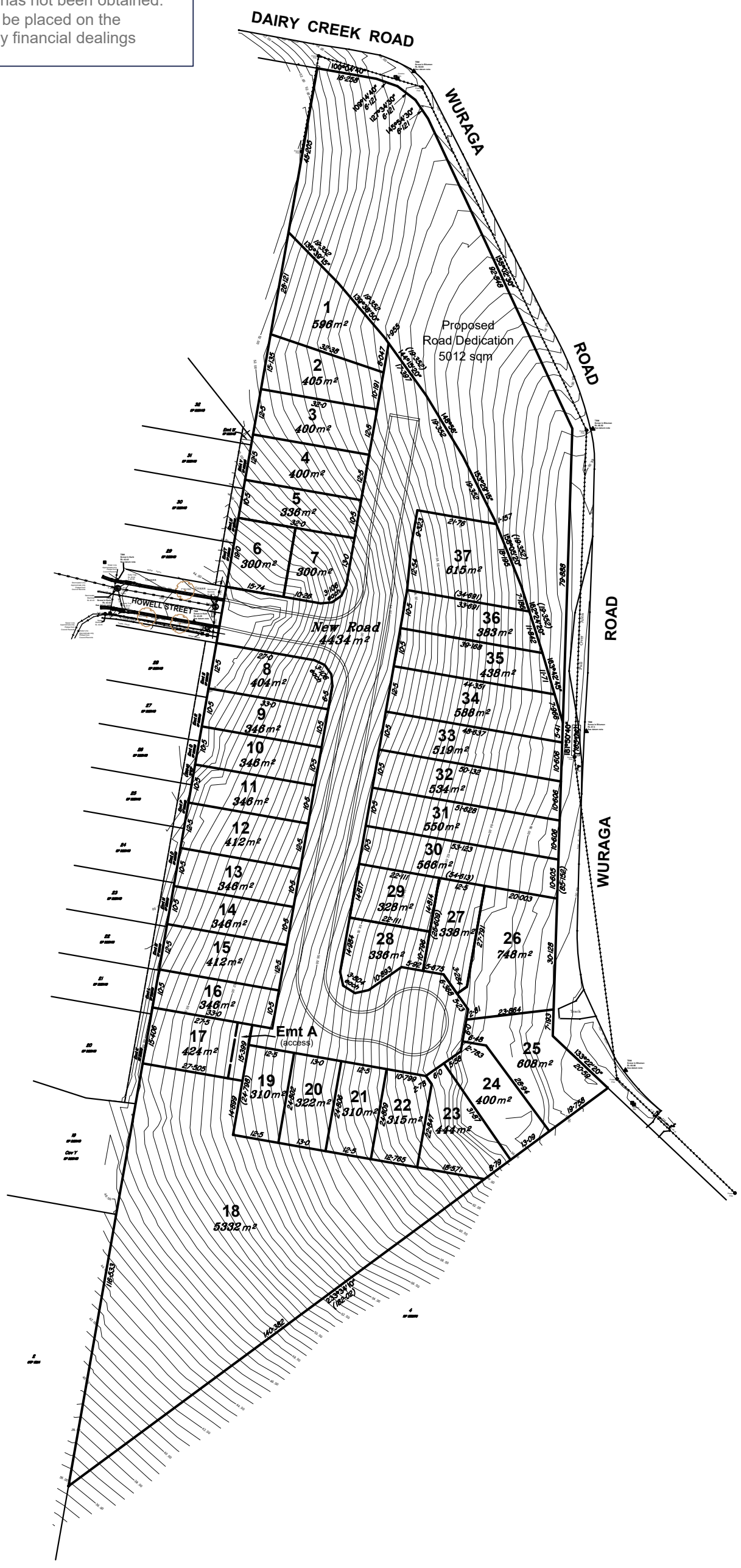
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Project:	3126
Version:	1
Date:	19/06/2026
Sources:	Cadastral boundaries: QLD DCDB DNRME 2026 Aerial photo: NearMap 03/12/2025 Surface analysis derived from LiDAR, (1m), Logan 2021 Project © The State of Queensland 2025

APPENDIX B

Plan of Development



! This plan has been prepared as a proposed subdivision and should not be used for any other purpose.
The dimensions, areas and total number of lots shown hereon are subject to field survey and are also to the requirements of council and any other authority which may have requirements under any relevant legislation.
Certificate of Title for this site has not been obtained. Therefore, no reliance should be placed on the information on this plan for any financial dealings involving the land.



N

Scale 1:1250 – Lengths are in metres.

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190

REVISIONS			
15/07/26	Original Issue	PDR	A

SURVEYOR:
DRAWN: PDR
DATE: 15/07/2026
CHECKED: AJS

DATUM:
LEVEL DATUM: AHD Via CORS (PSM 150950 RL 48.64m)
HORIZ DATUM: MGA 2020 (Plane 1:1) Via CORS
COORD ORIGIN: MGA 2020 E 515714.499 N 6933562.662
MERIDIAN: 9°29' from RP 158376

CLIENT: ARCO TERRA PTY LTD

SITE: Proposed Lots 1-37
Cancelling Lot 3 on RP 158376
381 Wuraga Street, Bahrs Scrub

SCALE: 1:1250 (A3)
PLAN REF: 25345-P2-A

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SUBDIVISION PROPOSAL PLAN

APPENDIX C

Bushfire Prone Area Map

State Planning Policy IMS - Export Map

Making or amending a local planning instrument and designing land for local infrastructure

Date: 09/02/2026

Disclaimer This map has been prepared with due care based on the best available information at the time of publication. However, the State of Queensland (acting through the department) makes no representations, either express or implied, that the map is free from errors, inconsistencies or omissions. Reliance on information contained in this map is the sole responsibility of the user. The State disclaims responsibility for any loss, damage or inconvenience caused as a result of reliance on information or data contained in this map.

N

Scale: 1:2,300

0 30 60 90

Metres

Queensland Government

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Queensland Government

Cadastre

Bushfire prone area

CLASS

High Potential Bushfire Intensity

Medium Potential Bushfire Intensity

Potential Impact Buffer

State Planning Policy IMS - Export Map

Making or amending a local planning instrument and designing land for local infrastructure

Date: 09/02/2026

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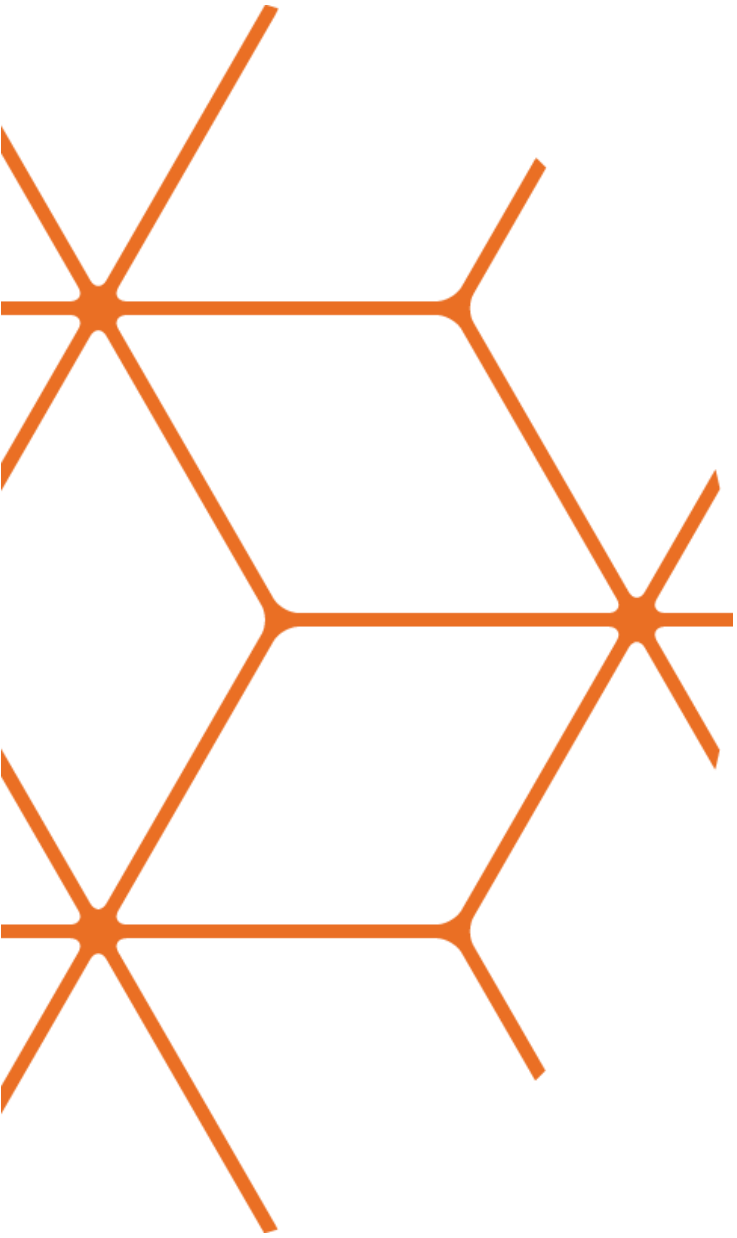
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APPENDIX D

Vegetation Management Regional Ecosystem Map

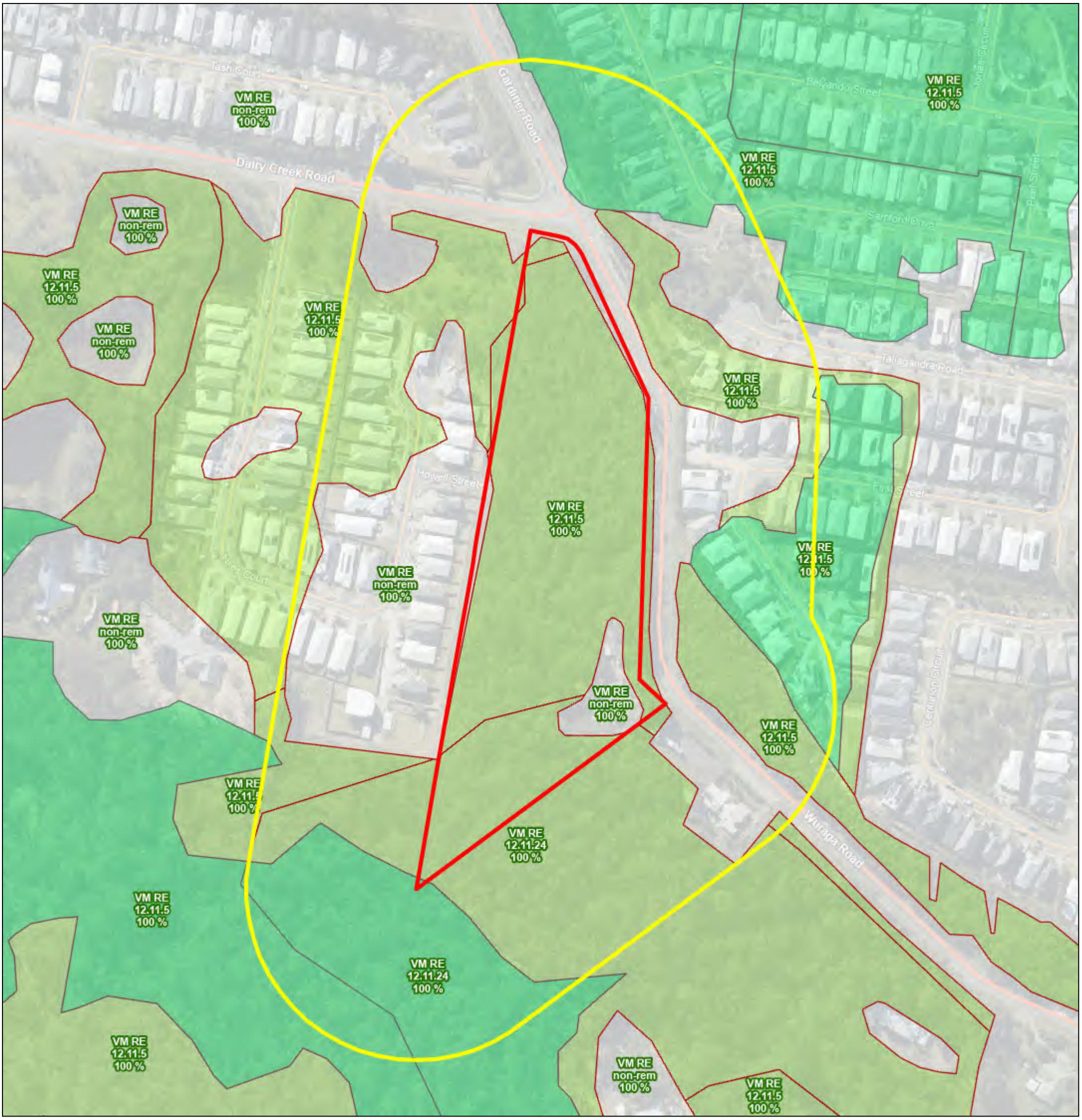


3126 - Vegetation Management Regional Ecosystem Map

Lot 3 on RP158376

27°43'10"S 153°9'21"E

27°43'10"S 153°9'44"E



27°43'32"S 153°9'21"E

27°43'32"S 153°9'44"E

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Legend located on next page

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0 50 metres

Scale: 1:2500

Printed at: A3

Print date: 9/2/2026

Not suitable for accurate measurement.

Projection: Web Mercator EPSG 102100 (3857)

For more information, visit https://qldglobe.information.qld.gov.au/help-info/Contact-us.html

Queensland Government

Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development

3126 - Vegetation Management Regional Ecosystem Map

Lot 3 on RP158376

Legend

MSES protected area [estates]

MSES protected area [nature refuges]

MSES marine park [highly protected]

MSES declared fish habitat area [A and B areas]

MSES legally secured offset area [offset register]

MSES legally secured offset area [vegetation offsets]

MSES protected area [special wildlife reserves]

Vegetation management regional ecosystem map labels

Category A or B area containing endangered

Category A or B area containing of concern

Category A or B area that is least concern

Category C or R area containing endangered

Category C or R area containing of concern

Category C or R area that is of least concern

Water

Non-remnant

Vegetation management regional ecosystem - all

Category A or B area containing endangered

Category A or B area containing of concern

Category A or B area that is least concern

Category C or R area containing endangered

Category C or R area containing of concern

Category C or R area that is of least concern

Water

Non-remnant

Places: Search Results

3RP158376

Places: Buffer Feature

3RP158376: 100m Buffer

Railway stations

Railways

Green bridges

Roads and tracks

Motorway

Highway

Secondary

Connector

Local

Restricted Access Road

Mall

Busway

Bikeway

Restricted Access Bikeway

Walkway

Restricted Access Walkway

Non-vehicular Track

Track

Restricted Access Track

Ferry

Proposed Thoroughfare

Bridges

Tunnels

Attribution

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APPENDIX E

Site Photographs



PHOTO NO. 1 – HIGH BUSHFIRE HAZARD VEGETATION TO THE SOUTH OF THE PROPOSED DEVELOPMENT



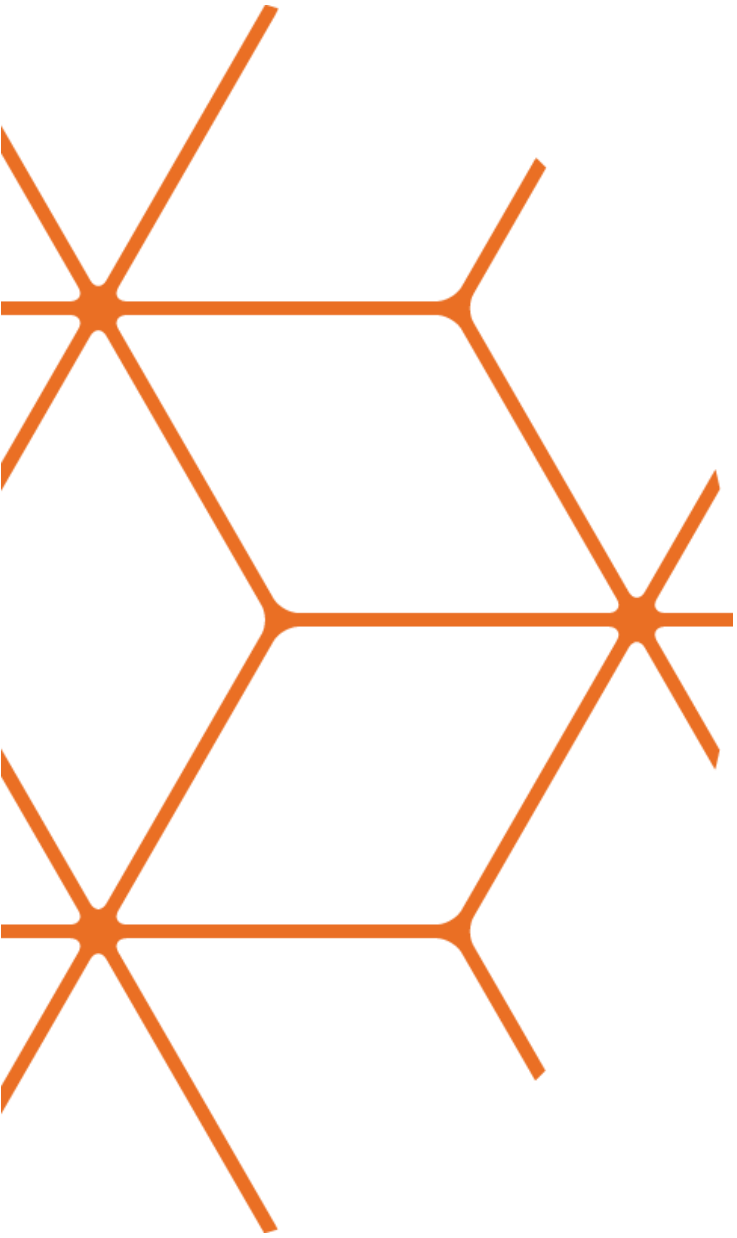
PHOTO NO. 2 – LOW BUSHFIRE HAZARD VEGETATION ASSOCIATED WITH THE ROAD RESERVE TO THE SOUTHEAST OF THE PROPOSED DEVELOPMENT



PHOTO NO. 3 – LOW BUSHFIRE HAZARD VEGETATION TO THE WEST OF THE PROPOSED DEVELOPMENT

APPENDIX F

Ground-truthed Bushfire Hazardous Vegetation Mapping



Subject site

100m hazard assessment buffer

Corridor filtering (<50 m width)

Ground-truthed Vegetation Community

Disturbed and modified open woodland comprising a dam. Best characterised as VHC 41.4. (SU6)

Emergent (18-20 m, 15% CC) Corymbia intermediaand Corymbia variegata; T1 (14-17 m, 55% CC) of Corymbia variegata, Eucalyptus majorand Eucalyptus carnea, with Lophostemon confertus, Corymbia intermediaand Eucalyptus crebra; T2 (8-12m, 40% CC) dominated by Lophostemon confertus, with Alphitonia excelsaand Jagera pseudorhus. Resembles RE12.11.5. Characterised as VHC 10.1. (SU1)

Emergent (19-21 m, 20% CC) Eucalyptus major, Eucalyptus carnea, with Eucalyptus dura; T1 (15-18m, 50% CC) of Eucalyptus majorand Eucalyptus carnea, with Eucalyptus helidonicaand Corymbia intermedia; T2 (8-12m, 40% CC) dominated by Lophostemon confertus, with Alphitonia excelsa, Eucalyptus carneaand Corymbia intermedia; S1 (5-7 m, 30% CC) Acacia spp. Resembles RE12.11.24. Characterised as VHC 9.2. (SU2)

T1 (19-23 m, 55% CC) of Eucalyptus fibrosa, Eucalyptus tindaliae, Eucalyptus dura, Eucalyptus resinifera, Eucalyptus propinqua, Eucalyptus carnea, Corymbia variegata, Eucalyptus majorand Eucalyptus crebra; T2 (14-18 m, 40% CC) of Eucalyptus major, Corymbia intermedia, Eucalyptus carnea, Lophostemon confertus, Lophostemon suaveolens,Angophora leiocarpa and Corymbia variegata; S1 (5-7 m, 30% CC) of Acacia disparrima, Acacia concurrens, Acacia leiocalyx, Alphitonia excelsiaand Lophostemon confertus, with scattered Allocasuarina littoralisand Parsonsia stramineasouth of the site. Resembles RE12.11.25. Best characterised as VHC 9.2. (SU3)

Road reserves comprising native woody vegetation resembling RE12.11.5. Characterised as VHC 10.1. (SU5)

Small residential lots containing single dwellings, very sparse native woody vegetation and managed lawn. Resembles non-remnant. Best characterised as VHC 42.6. (SU4)

Notes:

1. Figure indicative and not for construction purposes.

2. The proposed development footprint has been adopted as the basis of this assessment and informs the bushfire hazard profile of the study area. Any change to the footprint will require reassessment.

File: 3126-BahrsScrub-BMP-HazardousVegetationMapping-260728

GROUND-TRUTHED BUSHFIRE HAZARDOUS VEGETATION MAPPING - LOT 3 ON RP158376

0 25 50 75 Meters

A3 Scale 1:1,550

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Sheet Number:	1 of 1
Project:	3126
Version:	1
Date:	28/07/2026
Sources:	Cadastral boundaries: QLD DCDB DNRME 2026 Aerial photo: NearMap 03/12/2025

APPENDIX G

Modelled Bushfire Hazard Plan

Subject site

100m hazard assessment buffer

Asset Protection Zone (APZ) (minimum distance setback for BAL-29 conditions)

Modelled bushfire level

Low potential bushfire hazard (SU 4-6)

Medium potential bushfire hazard (SU2)

Medium potential bushfire hazard (SU3)

High potential bushfire hazard (SU1)

Belyando Street

Gardiner Road

Dairy Creek Road

Samford Drive

Tallagandra Road

Howell Street

Niles Court

Wuraga Road

First Street

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37

Notes:

1. Figure indicative and not for construction purposes.

2. A ≥16.5 m wide APZ is required between the proposed development and hazardous vegetation to the Southwest (SU1); a ≥13.5 m wide APZ is required between the proposed development and hazardous vegetation to the Southwest (SU2); and a ≥16.1 m wide APZ is required between the proposed development and hazardous vegetation to the South through to Southwest (SU3) to achieve BAL-29.

3. APZ on Lot 18 is to be ongoingly managed under as part of an Environmental Protection Zone (EPZ) with a discontiguous canopy. Clear-felling is not deemed required.

4. This plan has been prepared on the basis that the proposed development footprint will be cleared, and therefore does not constitute a bushfire hazard area under the modelled conditions.

File: 3126-BahrsScrub-BMP-ModelledBushfireHazard-260728

MODELLED BUSHFIRE HAZARD PLAN - LOT 3 ON RP158376

0 25 50 75 Meters

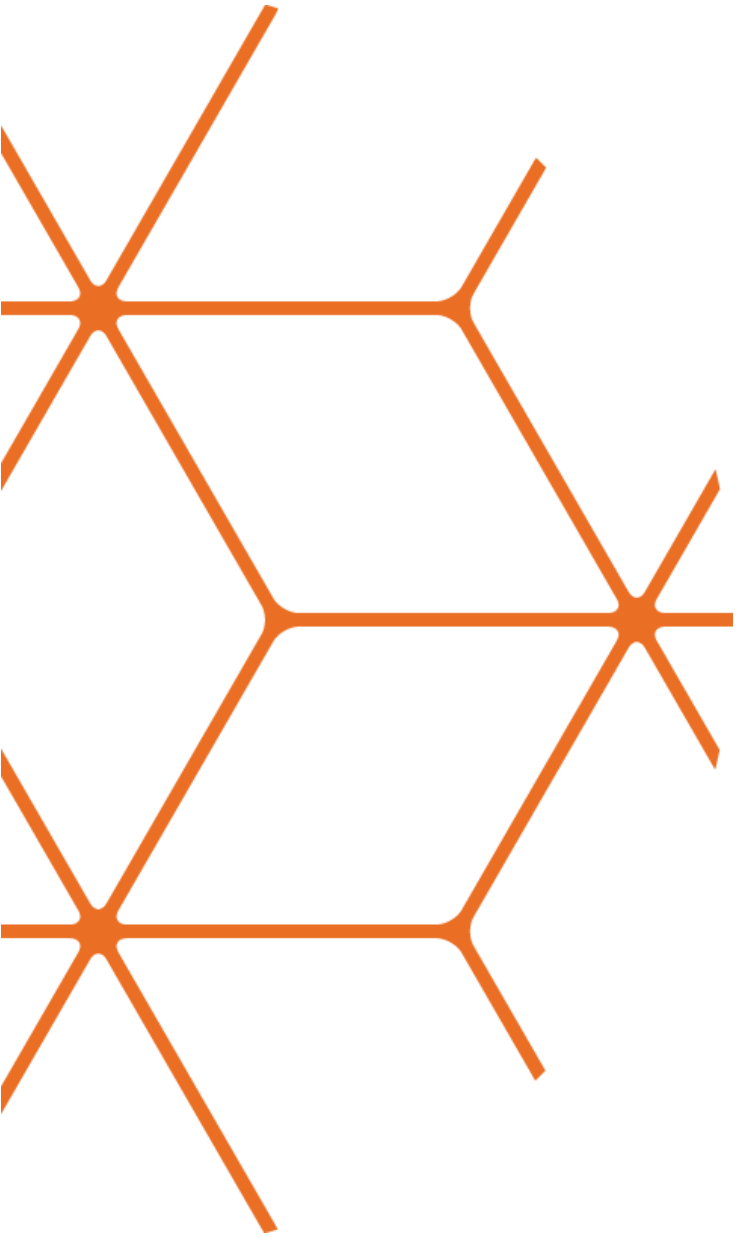
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APPENDIX H

Bushfire Overlay Code Assessment



8.2.3 Bushfire hazard overlay code

8.2.3.1 Application

1. This code applies to accepted development (subject to requirements) and assessable development for which the Bushfire hazard overlay code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in Table 5.10.3.1 - Bushfire hazard overlay map OM-03.00 in Part 5 - Tables of assessment.
2. When using this code, reference should be made to section 5.3.2 - Determining the category of development and category of assessment and, where applicable, section 5.3.3 - Determining the requirements for accepted development and assessment benchmarks and other matters for assessable development located in Part 5 - Tables of assessment.

Note - Pursuant to section 32(a) of the *Building Act 1975* and section 12 of the *Building Regulation 2006*, land identified as a Bushfire hazard area on Bushfire hazard overlay map OM-03.00 is a 'designated bushfire prone area' for the Building Code of Australia and the Queensland Development Code.

8.2.3.2 Purpose

1. The purpose of the code is to protect people and premises in a Bushfire hazard area.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. Development protects people and premises from bushfire risk:
        i. through allotment design and siting of development envelope areas and asset protection zones;
        ii. by providing vehicular access, fire maintenance trails and evacuation routes that are safe and facilitate easy way finding;
        iii. by providing an accessible water supply for firefighting purposes;
        iv. by ensuring the function of community infrastructure is not adversely impacted by bushfire;
        v. by protecting personal health and safety and the environment from hazardous materials.

8.2.3.3 Assessment benchmarks for assessable development and requirements for accepted development

Part A - Requirements for accepted development (subject to requirements) and assessment benchmarks for assessable development

Table 8.2.3.3.1 - Bushfire hazard overlay code: accepted development (subject to requirements) and assessable development

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Location, design and siting of development		
PO1 Development is designed to: a. minimise risk of bushfire hazard; b. provide safe premises; c. create efficient emergency access for fire-fighting and other emergency vehicles. Note - Planning scheme policy 6 - Management of bushfire hazard provides guidelines on how to achieve this outcome.	**AO1** Development: a. does not increase the number of persons living in, or lots in, the Bushfire hazard area identified on Bushfire hazard overlay map OM-03.00; or b. is on a site that a bushfire hazard assessment prepared in accordance with the methodology in Planning scheme policy 6 - Management of bushfire hazard determines is of low bushfire hazard.	The proposed development has been informed by the Bushfire Hazard Assessment and Management Plan (the 'BMP') prepared by New Ground (2026), which identifies the required bushfire setbacks to minimise risk and support the safe establishment of the premises. The proposed layout also facilitates efficient emergency access and egress for fire-fighting and other emergency vehicles. **Complies with PO1.**
PO2 Development is sited and constructed to minimise the bushfire hazard and maximise the protection of life and property from bushfire. Editor's note - Planning scheme policy 6 - Management of bushfire hazard contains guidance on the preparation of bushfire management plans.	**AO2** Development is located and constructed: a. where there is no bushfire management plan approved by an existing development approval: i. such that the bushfire attack level is less than or equal to BAL-29; ii. away from the most likely direction of a fire front; iii. so that elements of the development least susceptible to fire are sited closest to the bushfire hazard; iv. such that asset protection zones are sited on land with a slope less than 18 degrees;	The proposed development layout has been informed by the BMP, which identifies the required bushfire setbacks to achieve BAL-29. **Complies with PO2.**

	v. such that asset protection zones are entirely within the boundaries of the private property of the development site; or b. where an approved bushfire management plan directs development to be located. Note - BAL = Bushfire attack level is the radiant heat flux a building will experience during a bushfire and is a measure of heat energy impacting on a surface expressed as kW/m^2. BAL is calculated from the following factors; vegetation type, fuel loads, distance to vegetation, Forest Fire danger Index (FDI), flame length, fire behaviour/intensity and slope. BAL is used to determine the required construction level of a building and the size of asset protection zones (inner and outer radiation zones). Further information on calculating the BAL can be obtained from AS3959-2009. Editor's note - Asset protection zones are not located on slopes greater than 18 degrees to ensure maintenance is practical, soil stability is not compromised and the potential for crown/canopy fires is reduced.	
PO3 Reconfiguring a lot ensures that lots are designed to minimise bushfire hazard and provide safe sites for people, property and buildings.	**AO3** Lots: a. are suitable for people, property and buildings by: i. having a bushfire attack level less than or equal to BAL-29; or ii. containing a development envelope area that has a bushfire attack level less than or equal to BAL-29; b. provide asset protection zones that: i. are located on land with a slope less than 18 degrees; ii. are located on the same lot.	Asset Protection Zones will be established within the southern proposed Lots to achieve BAL-29 separation between the proposed development and hazardous vegetation to the south. **Complies with PO3.**
Vehicular access and fire maintenance trails		

PO4 Access for fire management and evacuation is provided by access that: a. separates premises from adjoining vegetation; b. is safely accessible by fire fighting vehicles; c. has regular vehicular access points for bushfire management, response and evacuation; d. has regular vehicle passing and turning areas for bushfire management, response and evacuation; e. allows access at all times for fire fighting vehicles; f. allows for maintenance, burning off and bushfire response; g. has vehicular links to an alternative through road; h. is readily maintained. Editor's note - Planning scheme policy 6 - Management of bushfire hazard provides details on alternative solutions for providing fire management access and evacuation	**AO4** Access for fire management and evacuation is provided by vehicular access in the form of a perimeter road: a. with a minimum reserve width of 20 metres; b. located between the premises and adjoining vegetation; c. with a maximum gradient of 12.5 percent; d. constructed to otherwise comply with section 3.4 - Movement infrastructure standards of Planning scheme policy 5 - Infrastructure; e. that has a layout that does not include a cul-de-sac.	Access for fire management and evacuation is provided via the established bitumen public road network adjoining the site, including Wuraga Road and Dairy Creek Road, together with the proposed internal access extending from Howell Street. The internal access is located within a low potential bushfire hazard area and directs egress away from the primary hazard interface to the south. It services all proposed lots and includes a turnaround area at the southern extent to accommodate fire fighting vehicles and facilitate passing and turning movements. The access connects to the surrounding public road network, providing links to alternative through roads and enabling all weather emergency response, ongoing maintenance and bushfire management activities. **Complies with PO4.**
Water supply		
PO5 Development has access to adequate water supply for fire fighting purposes.	**AO5** Development: a. is connected to a reticulated water supply scheme that has sufficient flow and pressure characteristics for fire fighting purposes at all times with a minimum pressure and flow of 10 litres per second at 200kPa; or	The proposed development will be on a reticulated water supply with sufficient flow and pressure characteristics for fire-fighting purposes at all times. **Complies with PO5.**

	b. has an on-site water storage in accordance with Table 8.2.3.3.2 - Water storage for fire fighting, dedicated or retained for fire fighting purposes that is made of fire resistant materials and is: i. a separate tank; or ii. a reserve section in the bottom part of the main water supply tank. Editor's note - The requirement in AO5 is: - in addition to the requirement for potable water supply/storage in AO2 in Table 9.4.3.3.1 - Infrastructure code: accepted development (subject to requirements) and assessable development.; - reflected in AO5 in Table 9.4.3.3.1 - Infrastructure code: accepted development (subject to requirements) and assessable development.	
For assessable development		
Community infrastructure		
PO6 Community infrastructure is not located in a bushfire hazard area or is able to function effectively during and immediately after a bushfire event.	**AO6** Community infrastructure is: a. not located in a Bushfire hazard area identified on Bushfire hazard overlay map OM-03.00; or b. located to ensure that: i. the core services provided by the community infrastructure is able to function effectively during bushfire events; ii. access to the community infrastructure is not compromised by bushfire events; iii. the safe storage of valuable records, public records and items	**N/A** *Community infrastructure is not proposed.*

	of cultural or historic significance is able to be maintained during a bushfire event.	
Hazardous materials		
PO7 Public safety and the environment are not adversely affected by the adverse impacts of bushfire on hazardous materials including fuels, explosives and flammable chemicals manufactured or stored in bulk on premises.	**AO7** Hazardous materials: a. storage is in compliance with AS1940 - The storage and handling of flammable and combustible liquids; b. manufacturing does not occur in a Bushfire hazard area on Bushfire hazard overlay map OM-03.00.	**N/A** *The proposed development does not involve the storage or manufacture of hazardous materials.*

Table 8.2.3.3.2 - Water storage for fire fighting

Column 1 Lot size / use type	Column 2 Water requirement
For each residential lot:	
(a) less than 1,000m^2	5,000 litres
(b) between 1,000m^2 and less than 1 hectare	10,000 litres
(c) greater than 1 hectare	20,000 litres
Multiple dwelling	5,000 litres per dwelling up to a maximum of 20,000 litres
A use other than Multiple dwelling	5,000 litres or the prevailing rural fire brigade standard