

Planning Proposal – Bushfire Risk Hazard Assessment

Proposed Rezoning

Lot 37 Sydney Street, Grantham Farm

Lot 37 Section 17, DP 1480

Document Tracking:

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DATE: 13/02/2024

JOB REFERENCE: 23SBC_820 Stage 2

VERSION: 3.1

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1 Introduction

The following report has been commissioned by Group Development Services, to provide a bush fire hazard assessment, a requirement of Blacktown City Council, for the proposed rezoning of Lot 37 Sydney Street, Grantham Farm NSW 2765, Blacktown City Council Local Government Area, herein ‘*the subject site*’. The subject site is proposed to be developed in the future along with lots 36 and 38-44 under a separate Development Application.

This assessment considers the subject development site on the basis of;

- Specialist Study Requirements (Group Development Services),
- The **Bushfire** specific requirements relating to key issues and submission requirements of Blacktown City Council (PAM Number: C23/37440). Advice from council, via Group Development Services, during the pre-planning proposal meeting:

‘A bushfire assessment report is to be prepared by an appropriately qualified bushfire consultant in accordance with the Rural Fires Act 1997. This report will need to address the current Category 1 Bushfire zoning affecting the site and the surrounding Bushfire zoning and its potential impact on the site.’

The report must address Planning for Bushfire Protection (PBP) in detail. Specifically, section 4.4. and address the Ministerial Directions and the EP&A Act s.9.1(2) for Planning Proposals.

- The subject development site and all surrounding land for at least 140m beyond (denoted as ‘*Study Area*’ by this report – **Section 2-** ‘Bush fire hazard Assessment’).
- A site-specific inspection undertaken on 22/11/2023.
- The extent and location of the proposed residential zonings are initially based on a Proposed Subdivision Plan – Group Development Services (Drawing number P00608-SUBDIV-0001) as shown in **Figure 3**
- Vegetation extent within the study area has been derived from available aerial photo interpretation (API) including latest NearMap imagery showing land surrounding the subject development, relevant environmental/vegetation studies and a site visit.
- Terrain (slope) considered by this assessment is based on FireMaps (FPAA Software) online information, using 2m contour data and verified at site visit (22/11/23).
- A desktop assessment using licensed or on-line spatial data resources available at the time of this report including FireMaps (FPAA Software) and ePlanning software - cadastral and topographic information and for New South Wales

The subject development site has been identified as containing and as being bounded by bush fire prone land, hence NSW legislative requirements for new building or integrated land development on bush fire prone lands is applicable.

Overview of Specialist Study Requirements

Direction 4.4 *Planning for Bush Fire Protection* applies to planning proposals that affect, or are in close proximity to, land mapped as BFPL. Under these directions, draft LEPs should follow the below objectives:

- i. to protect life, property and the environment from bush fire, by discouraging the establishment of incompatible land uses in bush fire prone areas; and
- ii. to encourage sound management of bush fire prone areas

Output

A report which:

- Examines the level of bushfire risk posed to the future development of the study area with reference to Bushfire Prone Land Mapping and existing and future bush fire risk.
- Recommends measures required to manage bushfire risk in a manner compatible with the future land use with regard to Planning for Bushfire Protection (PBP) 2019

Scope:

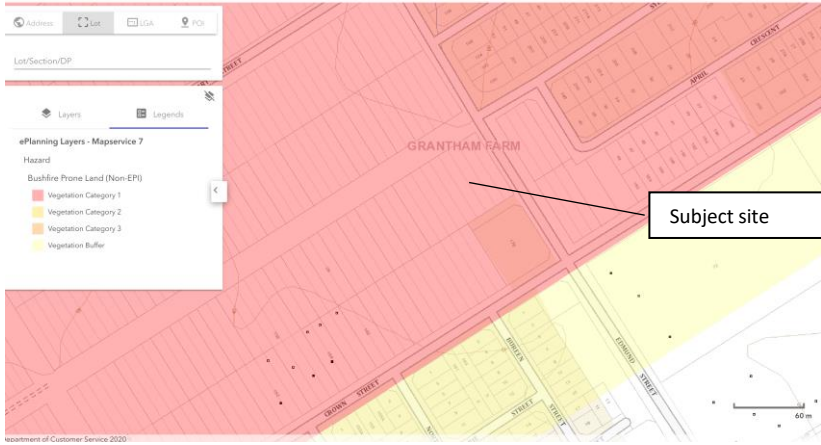
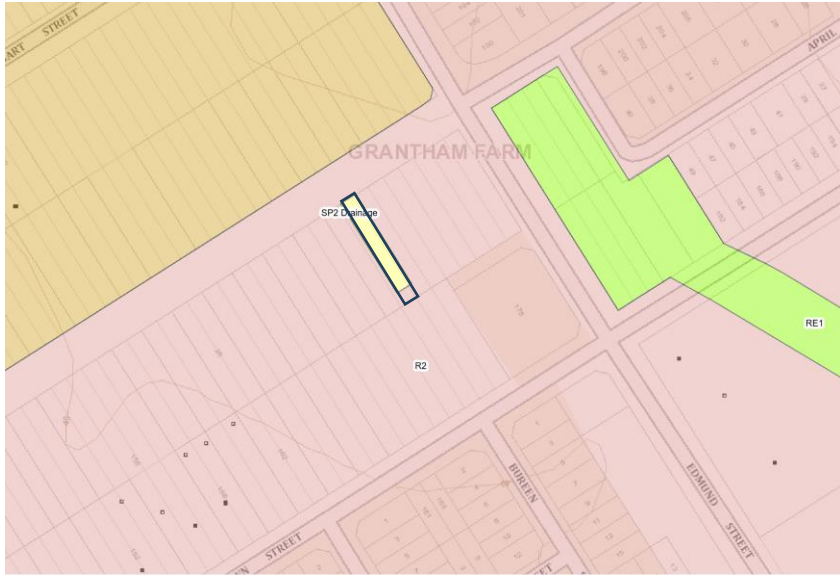
- To assess the ability of future land uses to satisfy the requirements of existing legislation in relation to bushfire including Planning for Bushfire Protection (PBP) 2019
- To assess whether the statutory requirements for bushfire protection and management are capable of being met with future land use.
- To identify bushfire management needs that developer contributions and/or development works may address.

Tasks/Methodology

- Assess and identify the bushfire hazard and risk to for likely future development of the land.
- Assess whether the likely future development of the study area is capable of compliance with the *'Cumberland Bushfire Risk Management Plan', Section 117 Ministerial Direction No. 4.4 Planning for Bushfire Protection, NSW Rural Fires Act 1997, and RFS Planning for Bushfire Protection Guidelines 2006.*

1.1 Site Characteristics

This report forms part of the submission requirements to support a Planning Proposal for Rezoning summarised below:

Property Details	<p>Lot 37 Section 17, DP 1480</p> <p>Sydney Street, Grantham Farm</p> <p>Council: BLACKTOWN CITY COUNCIL</p>
Proposal	<p>Planning proposal – Direction 4.4 <i>Planning for Bush Fire Protection</i></p>
Development	<p>Future subdivision of Lots 36-44/17/DP 1480 to create 17 residential lots under a separate Development Application</p>
Bush fire prone land status	<p>Subject development is mapped as bushfire prone land (Figure 1)</p>  <p>Figure 1: Bush fire prone land mapping showing subject development</p>
Zoning	<p>The subject site is zoned SP2 Drainage</p>  <p>Figure 2: Zoning of subject development and surrounding land</p>

1.2 Description of proposal and Staging issues

The study area consists of 9 adjoining R2 and SP2 allotments.

As provided by the proponent at the time of this report, the extent and location of the proposed residential subdivision is based on a future proposed (subject to finalisation of Planning Proposal) subdivision plan prepared by Group Development Services (Drawing number P00608-SUBDIV-0001). The future proposed subdivision proposal will create 17 new lots ranging in area from 250m² to 342.2m² – **Figure 3**

All allotments have been cleared for the development of the minimum Asset Protection Zone (APZ) of the newly constructed Childcare development (Kids on Crown) located on Lot 11/1293210, owned by the proponent. It is understood there are registered easements over the following lots to benefit Kids on Crown:

- Lots 44-36 - Owned by proponent
- Lots 50 – 57: Department of Planning
- Lots 33-32 – Privately owned – APZ easement over lot.
- Lots 35-34 – Privately owned – No APZ easement.

Sydney Street – unformed road boundary to the north of development. It is understood that half road construction would take place however more than likely all trees will be removed to make way for the road and road battering works. There will also be a turning head in the vicinity of lots 34-35. Section 3.1 of this report will recommend the entire width of Sydney Street on the northern boundary of subdivision to be managed as an Inner Protection Area (IPA).

There are some small pockets of vegetation (i.e. canopy trees) to the West and South-West and larger areas of vegetation to the north on the opposite side of the unformed Sydney Street

Staging issues are not considered relevant to the subject development. Given the sites location, and the zoning of the surrounding areas it is likely that the extent of persistent bushfire vegetation, which currently could be expected to pose a risk to the development, will not increase in the future as urban development in the vicinity expands.

1.3 Other known constraints

No threatened species or other known significant environmental or heritage constraints are known or have been advised. Issues over drainage lines reserved for land zoned SP2 (Lot 37) will be addressed by other expert consultants within those fields. Blacktown City Council, as the determining authority, will assess more thoroughly any potential environmental, heritage or zoning issues.

Proposed Rezoning – Lot 37 Sydney Street, Grantham Farm

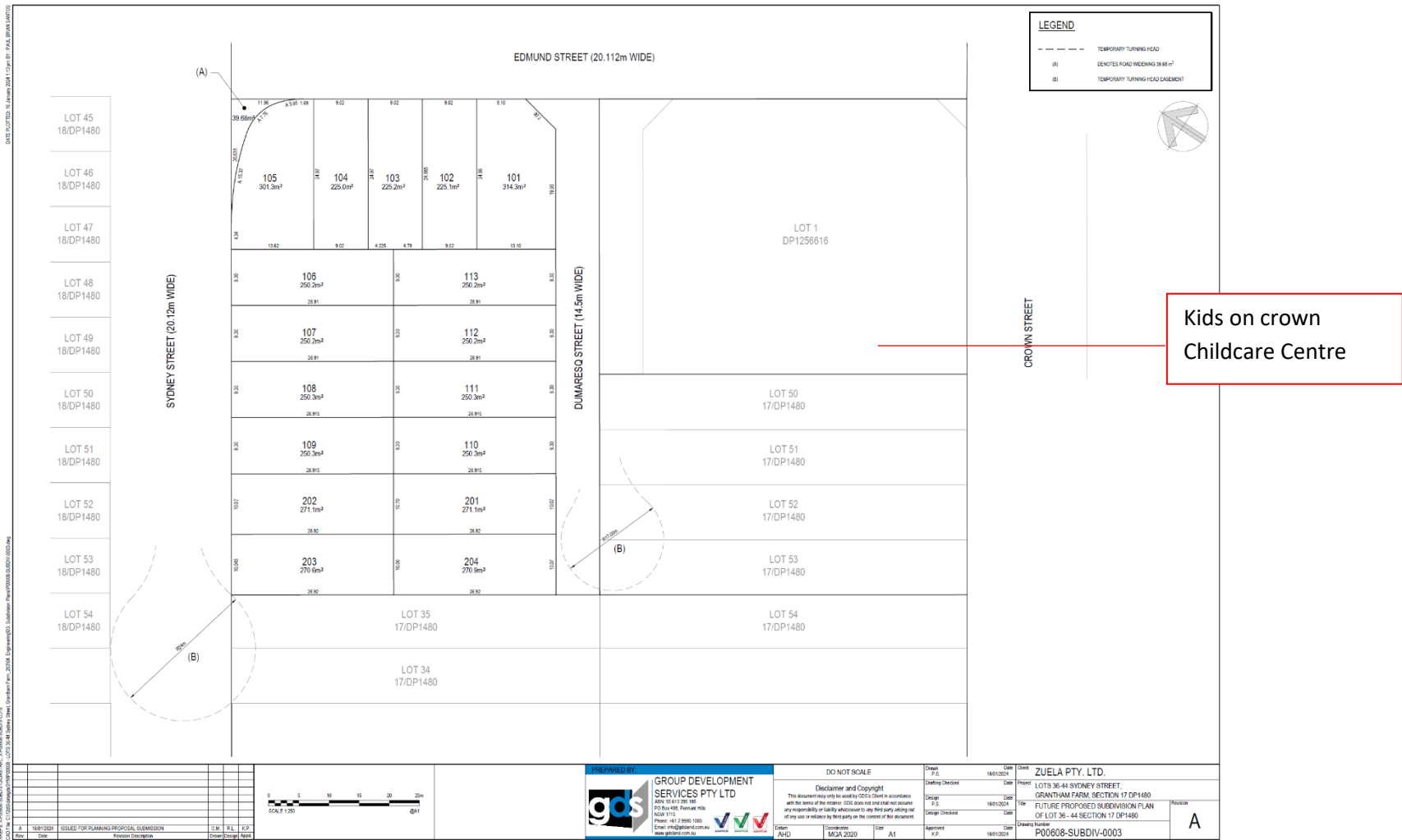


Figure 3: Future proposed subdivision (Source: Group Development Services)

1.4 Compliance with Cumberland Bushfire Risk Management Plan 2019

The ‘*Cumberland Bushfire Risk Management Plan 2019*’ (CBFRMP) was prepared by the Cumberland Bushfire Management Committee (BFMC) in accordance with the legislative requirements of Part 3 Division 4 of the Rural Fires Act 1997.

It is a strategic document that identifies community assets at risk, and sets out a five-year program of coordinated multi-agency treatments to reduce the risk of bushfire to these assets.

The subject site is located within the Vineyard Rural residential Area, listed as a ‘Human Settlement Asset No. 9’, within the CBFRMP.

Specific risk mitigation measures include the maintenance of limited ‘Strategic Fire Advantage Zones’ (SFAZ), ongoing Hazard Reduction works including the management of vegetation under power lines, community education (to raise general awareness) and ‘preparedness’, which involves a program of identifying static and reticulated water supplies.

As this development is located within the Vineyard Rural Residential Area, it would be expected that the subject site would also benefit from these risk mitigation measures. In addition, there is a planning requirement under Planning for Bushfire Protection 2019 for an ‘Asset Protection Zone’ (APZ) to be maintained within the subject development site.

The development will also benefit from the BFMC wide treatments. BFMC wide treatments are activities which reduce the overall bush fire risk within the BFMC area and are undertaken on an ongoing basis as part of normal business. These treatments are not linked to specific assets in the BFRMP, rather they are applied across all or part of the BFMC area as designated by legislation or agency policy.

BFMC wide treatments include the following:

Ensuring developments in bush fire prone land comply with ‘*Planning for Bush Fire Protection 2019*’

This document provides guidance for Council on varying levels. This includes ‘Strategic Planning’ and ‘Development Assessment’. The assessment process requires new applications for development to include bush fire protection measures.

The provisions of PBP 2019 are included in **Section 3** of this document

Using the Local Environment Plan/s (LEPs) to control developments in areas with a bush fire risk

LEPs can be used to exclude development in extreme bush fire risk areas or where bush fire protection measures cannot be incorporated.

Normal fire suppression activities

Responding to bush fire is a normal business activity for the firefighting authorities.

1.5 Compliance with Division 9.1 Ministerial Direction (Direction 4.3 Planning for Bush fire protection)

An extract of this directive is replicated below:

Objectives

The objectives of this direction are to:

- (a) protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas, and (*
- b) encourage sound management of bush fire prone areas.*

Application

This direction applies to all local government areas when a relevant planning authority prepares a planning proposal that will affect, or is in proximity to, land mapped as bushfire prone land.

This applies where the relevant planning authority is required to prepare a bush fire prone land map under section 10.3 of the EP&A Act, or, until such a map has been certified by the Commissioner of the NSW Rural Fire Service, a map referred to in Schedule 6 of that Act.

Direction 4.3

- (1) In the preparation of a planning proposal the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a gateway determination under section 3.34 of the Act, and prior to undertaking community consultation in satisfaction of clause 4, Schedule 1 to the EP&A Act, and take into account any comments so made.*

- (2) *A planning proposal must: (a) have regard to Planning for Bushfire Protection 2019, (b) introduce controls that avoid placing inappropriate developments in hazardous areas, and (c) ensure that bushfire hazard reduction is not prohibited within the Asset Protection Zone (APZ).*
- (3) *A planning proposal must, where development is proposed, comply with the following provisions, as appropriate:*
- (a) provide an Asset Protection Zone (APZ) incorporating at a minimum: i. an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and ii. an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road,*
 - (b) for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under section 100B of the Rural Fires Act 1997), the APZ provisions must be complied with,*
 - (c) contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,*
 - (d) contain provisions for adequate water supply for firefighting purposes,*
 - (e) minimise the perimeter of the area of land interfacing the hazard which may be developed,*
 - (f) introduce controls on the placement of combustible materials in the Inner Protection Area.*

Consistency

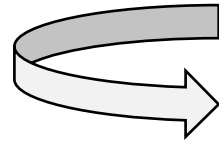
A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the council has obtained written advice from the Commissioner of the NSW Rural Fire Service to the effect that, notwithstanding the non-compliance, the NSW Rural Fire Service does not object to the progression of the planning proposal. Issued to commence 1 March 2022 (replaces previous Direction 4.4)

Assessment of Compliance with Ministerial Directive

Blacktown City Council and the NSW Rural Fire Service has confirmed that the site is located within a bush fire prone area and as such, any future development will be subject to the provisions of *Section 4.14 of the EP&A Act 1979* and *Section 100B of the Rural Fires Act 1997*. The NSW Rural Fire Service encourages Councils to take a strategic approach to bushfire protection through appropriate zoning which will reflect the risk to the proposed land use. Provision of appropriate access/egress provisions, sufficient water volume and pressure and utilities to the development form part of the essential requirements.

In addition, the directive requires due regard to the document '*Planning for Bushfire Protection 2019*'. This document provides for a wholistic approach to bushfire protection in NSW. This includes strategic planning and bushfire protection measures (APZs, building construction standards, utilities, access/egress, emergency/evacuation planning).

Specific assessment of the site's ability (given its proposed zoning) to comply with PBP 2019 are included in **Section 3** of this assessment.



1.6 Compliance with NSW Rural Fires Act 1997

Key legislation and submission requirements relating to ‘Bush Fire Prone land’ and ‘Development Assessment’ is contained within ‘Appendix 2’ of *Planning for Bushfire Protection 2019*. Relevant legislation contained within the ‘*Rural Fires Act 1997*’ (and associated regulations ‘*Rural Fires Regulations 2002*’) could be summarized as relating to the issue of ‘**Bush Fire Safety Authorities**’ for development upon bushfire prone lands, that would include:

- Residential or Rural Residential subdivision proposals
- Development for ‘special fire protection purposes’ (SFPP) e.g. schools, hospitals, tourist accommodation etc.

The current study involves residential subdivision and zoning issues.

As the rezoning and subdivision of the site would allow for residential subdivision, any future development application for residential subdivision would require the issue of ‘**Bush Fire Safety Authority**’ from the NSW Rural Fire Service, and would be subject to the provisions of *Section 100B of the Rural Fires Act 1997*.

Specific assessment of the site’s ability (given its proposed zoning) to comply with these provisions and to the planning requirements of PBP 2019 are included in **Section 3** of this assessment.

It is not currently proposed to include any SFPP development within the subject development area. Should an application for an SFPP development be lodged in the future within the subject property, it would be subject to not only the provisions of the relevant LEP and relevant zoning constraints, but also the strict provisions of *Section 100B of the Rural Fires Act 1997*, and would be assessed at this time on its merits.

Given that the proposed lots are small with Category 1 (Forest) vegetation identified to the north on the opposite side of Sydney Street, SFPP development may not be able to comply, depending on its ability to achieve sufficient separation distances from the bushfire hazard, compliance with other bushfire protection measures and potential re-zoning and clearing of vegetated areas for urban development.

1.7 Compliance with Planning for Bushfire Protection 2019 (NSW RFS)

The document *‘Planning for Bushfire Protection 2019’* is the major planning guideline related to bushfire planning provisions within the NSW development control system. It is referenced within the *Environmental Planning and Assessment Act 1979*, the *Ministerial Direction No. 4.4* (above) and the *Rural Fires Act 1997*.

An assessment, incorporating the relevant guidelines of PBP 2019, and using the ‘Subdivision Plan’ (**Figure 1**) as a key indicator as to how the site may be developed in the future (subject to rezoning) would give a clear indication as to the site’s ability to achieve compliance with the planning provisions for ‘bush fire prone land’. It should be noted that the ‘Subdivision Plan’ may not be final, and will be used only as a guide, upon which to base the assessment of compliance at this time.

Strategic Planning Guidelines

Council’s responsibilities include the mapping of ‘Bushfire Prone Land’ and the extent to which the land is bushfire prone. Secondly, Council is required to suitably address bushfire requirements during the preparation of any LEP or DCP (Ministerial Direction 4.4).

The subject lands have already been mapped as ‘bushfire prone land’ any future DA (beyond the rezoning application) will be subject to the normal development application requirements for development on bushfire prone land. This will include additional input from the RFS where it is considered appropriate (dependent on the specific development proposal).

This rezoning proposal from ‘SP2 to RU2’ that allows for higher residential densities, does not constitute an unacceptable development type (Bushfire Protection Measures, Chapter 3 PBP) within a bushfire prone area.

Development Assessment Guidelines

The ‘Aims & Objectives’ of PBP 2019 are as follows:

- afford buildings and their occupants protection from exposure to a bush fire;
- provide for a defensible space to be located around buildings;
- provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;
- ensure that appropriate operational access and egress for emergency service personnel and occupants is available;
- provide for ongoing management and maintenance of BPMs; and
- ensure that utility services are adequate to meet the needs of firefighters.

2 Bush fire hazard assessment

The relevant Asset Protection Zone (APZ) is determined using the methodology detailed in Appendix 1 of PBP.

Subdivision on bush fire prone land requires a minimum setback on all new Lots to accommodate a dwelling exposed to Bushfire Attack Level (BAL) of BAL-29 or lower.

APZ Assumptions:

The entire width of the unformed Sydney Road directly adjacent to the north will be developed and managed (all hazard removed)

Existing lots that were cleared for SFPP development of childcare centre (Kids on Crown) located on Lot 11/1293210, will continue to be managed.

- Lots 44-36 - Owned by proponent.
- Lots 50 – 57: Department of Planning- APZ easement in place.
- Lots 33-32 – Private - APZ Easement in place.
- Lots 35-34 – Private - No easement in place

Note to council: It is understood Lots 35 and 34 are not currently being managed via easement. It is recommended that these lots are managed in perpetuity as an APZ (refer Section 3.1). It is also recommended that council verify the existing APZ easements over the above lots will be managed in perpetuity. See **Section 3.1** for all APZ recommendations.

2.1 Vegetation

Determine vegetation formations according to Keith (2004) in all directions around the proposed development to 140m.

Vegetation extent (bushfire hazard) within the study area is derived from Aerial photo interpretation (latest NearMap Imagery) and site visit 22 November 2022 (**Photos, Appendix A**)

- To the North of the proposed Lots, including the area of Sydney Road, and to the west, are areas containing *Dry Sclerophyll Forest*, categorised as Forest under PBP.

2.2 Effective Slope

Determine the effective slope of the land from the building for a distance of 100 metres

The slope(s) that most significantly influences the bush fire behavior and has been derived from topographic 2m contour data (FireMaps – FPAA Mapping Software) and depicted in **Figure 4**

- Slopes leading towards the study area are assessed as falling within the PBP slope class of ‘All upslope and flat land’

2.3 Fire weather

Determine the relevant Fire Area having a Fire Danger Index (FFDI) for the council area

The Lot is situated within BLACKTOWN CITY COUNCIL having a FFDI of 100

2.4 Separation distance and Available APZ:

Determine the separation distance from the unmanaged vegetation to the closest external wall.

The separation distance in all hazard directions is shown in **Figure 4** which represents the available APZ in that direction provided in **Table 2**.

Based on the continual management of surrounding lots and unformed road (APZ Assumptions) (**Figure 4**) the minimum separation distance can be accommodated for subdivision (**Section 3.1 And 3.2**)

Table 2: Bush fire hazard assessment

Transect	Vegetation formation	Effective Slope	Minimum APZ ¹	Proposed APZ	Comments
North, North-west,	Forest	Upslope	24m (BAL-29)	>24m Sydney Rd: 19-20m 4-5m setback within lot	The Proposed APZ in all directions, including the management of Sydney Steet and surrounding cleared lots (existing Childcare Centre IPA) , can accommodate the minimum APZ to provide 29Kw/m2 (BAL-29) setbacks within all proposed lots. See Figure 4
West South-West	Forest	Upslope	24m (BAL-29)	>24m Lots 32-35 (approx. 36m)	

¹PBP 2019 – Table A1.12.2 - Minimum distances for APZs – residential infill development, FFDI 100 areas (<29kW/m2, 1090K)



Figure 4: Bush fire hazard assessment

3 Bush fire protection measures

Intent of measures: to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities.

Table 3 : Summary of bushfire protection measures assessed.

Bushfire Protection Measure	Report Section	Acceptable Solution	Performance Solution
Asset Protection Zones	3.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Landscaping	3.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Access	3.3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Water supply	3.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Electrical services	3.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Gas services	3.6	<input checked="" type="checkbox"/>	<input type="checkbox"/>

All BPMs can comply with the Acceptable Solutions for Subdivision under Table 5.3a (APZ's), 5.3b (Access) and 5.3c (Services) as demonstrated in Sections 3.1 to 3.8 of this report.

3.1 Asset Protection Zone (APZ)

An APZ is a buffer zone between a bush fire hazard and buildings. The APZ is managed to minimise fuel loads and reduce potential radiant heat levels, flame, smoke and ember attack.

This assessment shows that the proposed subdivision can provide a building footprint on all lots not exposed to radiant heat levels exceeding 29 kW/m² (**BAL-29**) in accordance with Tables A1.12.2 as shown in **Table 2**.

Table 4: Relevant APZ Performance Criteria, Acceptable Solution and Compliance:

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTION (DTS)	COMPLIANCE
potential building footprints must not be exposed to radiant heat levels exceeding 29 kW/m ² on each proposed lot.	APZs are provided in accordance with Tables A1.12.2 and A1.12.3 based on the FFDI.	<input checked="" type="checkbox"/> To comply.
APZs are managed and maintained to prevent the spread of a fire to the building.	APZs are managed in accordance with the requirements of Appendix 4 of PBP.	<input checked="" type="checkbox"/> To comply.
The APZ is provided in perpetuity. APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised	APZs are wholly within the boundaries of the development site. APZ are located on lands with a slope less than 18 degrees.	<input checked="" type="checkbox"/> To comply.

APZ Recommendations:

- All Lots within subject development to be established and managed as an Inner Protection Area (IPA) as outlined in Appendix 4 of PBP;
- Entire width of Sydney Street on northern boundary of subdivision to be managed as an Inner Protection Area (IPA) as outlined in Appendix 4 of PBP;
- Existing cleared lots approved as an APZ for the SFPP development 'Kids on Crown' (Childcare) located on Lot 11/1293210, will continue to be managed as an Inner Protection Area (IPA) as outlined in Appendix 4 of PBP;

3.2 Landscaping

Landscaping within the APZ is designed and managed in accordance with the requirements of 'Asset protection zone standards' outlined in Appendix 4 of PBP – 2019. A summary of the relevant requirements is provided below:

Table 5: Relevant Landscaping Standards Performance Criteria, Acceptable Solution and Compliance:

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTION (DTS)	COMPLIANCE
landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions	landscaping is in accordance with Appendix 4; and Fencing is constructed in accordance with section 7.6	<input checked="" type="checkbox"/> To comply.

Landscaping Recommendations for Subdivision:

- Landscape species are chosen to ensure tree canopy cover is less than 15% at maturity;
- Lower limbs are removed up to a height of 2m above the ground;
- Tree canopies are separated by 2 to 5m;
- Avoid species with rough fibrous bark, or which retain/shed bark in long strips;
- Use smooth bark trees species which generally do not spread fire up into the crown;
- Avoid planting of deciduous species that increase fuel at surface/ ground level (i.e. leaf litter);
- Low flammability vegetation species are used.
- Large discontinuities or gaps in vegetation are provided to slow down or break the progress of fire towards buildings;
- Shrubs are not located under trees or form more than 10% of ground cover;
- Clumps of shrubs are separated from exposed windows and doors by a distance of at least twice the height of the vegetation.
- Grass to be kept mown (as a guide grass no more than 100mm in height);

Fences and Gates: fencing is constructed in accordance with section 7.6. of PBP:

- All fences in bush fire prone areas should be made of either hardwood or non-combustible material. In circumstances where the fence is within 6m of a building or in areas of BAL-29 or greater, they should be made of non-combustible material only.

For a complete guide to APZs and landscaping, download the NSW RFS document *Standards for Asset Protection Zones* at: www.rfs.nsw.gov.au/resources/publications

3.3 Access arrangements

Design of access roads shall enable safe access and egress for residents attempting to leave the area at the same time that emergency service personnel are arriving to undertake firefighting operations.

The subject site is located on, and will provide direct access to and from suburban roadways including Edmund Street (to the East), Crown Street (to the South) and Sydney Street (to the North) which is currently unformed and will be developed as part of the development proposal, noting the entire width of Sydney Street will require development and maintenance for the minimum APZ (Section 3.1).

Further, the subdivision proposal will include the construction of a new temporary turning circle at end of Crown Street as shown in **Figure 5**, allowing direct access / egress from residential properties to the public road system until the remainder of Sydney Street is constructed.

Future dwellings within the proposed subdivision will be accessed from a standard driveway directly from a sealed all weather public road capable of supporting firefighting vehicles and adequate hardstand area for firefighting operations with hydrants located regularly along street frontage. No perimeter or internal roads are proposed. Sydney Street along the northern boundary will effectively act as a perimeter road once developed. Hydrants within Sydney Street are to be provided in accordance with the relevant clauses of AS 2419.1:2021

In accordance with Table 5.3b of PBP: *There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles.* As such, all proposed residential allotments could reasonably achieve this requirement.

Further, the installation or maintenance of any 'Fire Trails' is not considered necessary, or relevant for this specific development. The site would generally have the capacity to support the access provisions of PBP Section 5

Table 6: Relevant APZ Performance Criteria, Acceptable Solution and Compliance:

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTION (DTS)	COMPLIANCE
The intent may be achieved where:		
firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	Property access roads are two-wheel drive, all-weather roads.	<input checked="" type="checkbox"/> To comply.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTION (DTS)	COMPLIANCE
there is appropriate access to water supply.	Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2021;	<input checked="" type="checkbox"/> To comply.

Access Recommendations:

- New property access roads (driveways) are two-wheel drive, all-weather roads;
- Hydrants (Sydney Street) are provided in accordance with the relevant clauses of AS2419.1:2021;

3.4 Water supply

An adequate supply of water is essential for firefighting purposes. The water supply would enable occupants to stay and defend if chosen to and allow fire-fighting personnel to attach equipment for use. The proposed lots will be connected to reticulated water, with regular hydrants situated along street frontage. Fire hydrant spacing, design and sizing to comply with AS 2419.1:2021. Hydrant flows and pressures to comply with Table 2.2 of AS2419.1:2021.

Table 7: Relevant Water Supply Performance Criteria, Acceptable Solution and Compliance:

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTION (DTS)	COMPLIANCE
Adequate water supply is provided for firefighting purposes.	reticulated water is to be provided to the development, where available;	<input checked="" type="checkbox"/> To comply
Water supplies are located at regular intervals, accessible and reliable for firefighting operations.	fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2021 and are not located within any road carriageway;	<input checked="" type="checkbox"/> To comply
Water flows and pressure are appropriate	fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2021	<input checked="" type="checkbox"/> To comply
Integrity of the water supply is maintained.	all above-ground water service pipes external to the building are metal, including and up to any taps	<input checked="" type="checkbox"/> To comply

Water Supply Recommendations:

- Reticulated water supply, Fire Hydrant spacing, design and sizing and Fire Hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2021
- All new above-ground water service pipes external to the building are metal, including and up to any taps.

3.5 Electricity services

The location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings. Relevant Acceptable Solutions in Table 5.3c of PBP for Electricity services:

Table 8: Relevant Water Supply Performance Criteria, Acceptable Solution and Compliance:

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTION (DTS)	COMPLIANCE
Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	<p>Where practicable, electrical transmission lines are underground;</p> <p>Where overhead, are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas;</p> <p>No part of a tree is closer to a power line than the distance set out in accordance with the specifications in <i>ISSC3 Guideline for Managing Vegetation Near Power Lines</i>.</p>	<input checked="" type="checkbox"/> To comply

Electricity Services Recommendations:

- Where practicable, new electrical transmission lines are underground;
- Where overhead, are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas; and
- No part of a tree is closer to a power line than the distance set out in accordance with the specifications in *ISSC3 Guideline for Managing Vegetation Near Power Lines*.

3.6 Gas services

The location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings. Relevant Acceptable Solutions in Table 5.3c of PBP for Gas services:

Table 9: Relevant Gas Supply Performance Criteria, Acceptable Solution and Compliance:

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTION (DTS)	COMPLIANCE
Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	<p>Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used;</p> <p>All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;</p> <p>All connections to and from gas cylinders are metal (polymer sheathed flexible gas supply lines are not used)</p> <p>Above-ground gas service pipes are metal, including and up to any outlets.</p>	<input checked="" type="checkbox"/> To comply

Gas Services Recommendations:

- Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used;
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;
- Connections to and from gas cylinders are metal;
- Polymer-sheathed flexible gas supply lines are not used; and
- Above-ground gas service pipes are metal, including and up to any outlets.

3.7 Emergency Services and Evacuation

The existing 'Blacktown LGA Emergency Management Plan' would be reasonably expected to provide a suitable level of emergency response procedures for the subject development and surrounding rural and suburban areas.

In addition, the current and future editions of the 'Cumberland Bushfire Risk Management Plan' will continue to provide BFMC wide treatments which reduce the overall bush fire risk within the BFMC area and are undertaken on an ongoing basis as part of normal business.

These treatments are not linked to specific assets in the BFRMP, rather they are applied across all or part of the BFMC area as designated by legislation or agency policy.

There are no further requirements within PBP 2019 for emergency planning for this type of residential development within bushfire prone areas.

Measures to ensure that the safety and evacuation of likely future occupants can be undertaken in accordance with the legislative requirements and bushfire protection guidelines are included within the Emergency Planning principles noted within PBP 2019 and will form part of a Development Application proposal.

Riverstone High School and Riverstone Oval to the south, away from the bushfire hazard, would provide adequate refuge areas. Access routes, from the subject site to these refuges, generally takes the evacuee away from the bushfire hazard, which is located mainly to the north of the subject site.

4 Specific objectives for Subdivision development:

The Planning Proposal will allow the future proposed subdivision to meet the requirements for the specific objectives of subdivision development within PBP.

Table 11: Specific objectives for subdivision development

Specific Objective	Comment
minimise perimeters of the subdivision exposed to the bush fire hazard (hourglass shapes, which maximise perimeters and create bottlenecks should be avoided);	<ul style="list-style-type: none"> Subdivision in established urban environment within established and approved APZ. Northern perimeter will be managed effectively as a perimeter road until further northern development.
minimise vegetated corridors that permit the passage of bush fire towards buildings;	<ul style="list-style-type: none"> No vegetated corridors proposed Landscaping recommendations apply to minimise bush fire risk (Section 3.2)
provide for the siting of future dwellings away from ridge-tops and steep slopes, within saddles and narrow ridge crests;	<ul style="list-style-type: none"> No proposed ridge-top or steep slopes. Upslope fire runs within hazard assessment only.
ensure that APZs between a bush fire hazard and future dwellings are effectively designed to address the relevant bush fire attack mechanisms;	<ul style="list-style-type: none"> Proposed APZ is wholly contained within subject Lot or within the approved APZ of nearby SFPP development (subject to council approval/verification of all APZ Easements. All lots can potentially accommodate a new dwelling at BAL-29 or lower
ensure the ongoing maintenance of APZs;	<ul style="list-style-type: none"> Recommendations for compliance with the acceptable solutions for establishing and maintaining onsite APZ and Landscaping (Section 3.1 and 3.2)
provide adequate access from all properties to the wider road network for residents and emergency services;	<ul style="list-style-type: none"> Development has direct access to the public road system.
provide access to hazard vegetation to facilitate bush fire mitigation works and fire suppression; and	<ul style="list-style-type: none"> Hazard is located with direct access to public road system.
ensure the provision of an adequate supply of water and other services to facilitate effective firefighting.	<ul style="list-style-type: none"> Reticulated water supply to be available; Recommendations for compliance with the acceptable solutions for Water, Gas and Electricity (Section 3.3, 3.4 & 3.5)

5 Conclusions and recommendations

The **Bushfire** specific requirements relating to key issues and submission requirements of Blacktown City Council (PAM Number: C23/37440) have been addressed within the body of this report. Specific tasks related to bushfire compliance included:

Assess and identify the bushfire hazard and risk to for likely future development of the land.

Assess whether the likely future development of the study area is capable of compliance with the *‘Cumberland Bushfire Risk Management Plan’*, *Section 117 Ministerial Direction No. 4.4 Planning for Bushfire Protection*, *NSW Rural Fires Act 1997*, and *RFS Planning for Bushfire Protection Guidelines 2019*.

It is a considered opinion, based on the above assessment of bushfire risk levels and relevant bushfire planning legislation, that the outcomes of this assessment support the rezoning proposal.

Provided the development, APZ areas, Landscaping, Access and Utilities on site are constructed, designed and maintained in accordance with the recommendations described in this report, the proposed development can satisfy the aims, objectives and performance requirements of PBP 2019 considered relevant to the development under Section 100B of the Rural Fires Act 1997

It should be noted that further development on the site, post rezoning, would be subject to further assessment under the bushfire planning legislation of either *Section 4.14 of the EP&A Act 1979* or *Section 100B of the Rural Fires Act 1997*.

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6 Disclaimer

Client uses only	This document is intended for client use only. This document must be used for the stated purpose only. It must not be distributed to a third party or used for an alternative purpose without written approval of the author.
Limit Liability	The author is not liable to any person for damage or loss of life resulting from actions taken or not taken as recommended in this report.
Changeable guidelines	This report is based on the author's interpretation of <i>Planning for Bush Fire Protection 2019 (PBP)</i> and <i>Australian Standard AS 3959-2018 'Construction of buildings in bushfire-prone areas</i> as at the time of writing.
Conflict of interest	This report reflects the opinions and recommendations of the author only, and not those of the Rural Fire Service (RFS). Should Council or the RFS modify the recommendations or reject an assessment or proposal the author will not be held liable for any financial loss incurred as a result.
Remaining risk	Notwithstanding the recommendations made by the author, there can be no absolute guarantee that a bushfire will not occur or cause damage to property because of the extreme number of variables that bushfires present.
Measures not upheld in perpetuity	It is the responsibility of the client to maintain all bushfire protection measures proposed on an ongoing basis.

7 References

- Keith, D. 2004. *Ocean Shores to Desert Dunes*. Department of Environment and Conservation, Sydney.
- NSW Rural Fire Service (RFS) 2019. *Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*. Government Publishing Service, Canberra.
- Resources and Energy NSW (2016). *ISSC 3 Guide for the Managing Vegetation in the Vicinity of Electrical Assets*. NSW Government
- Standards Australia (SA). 2021. *Fire hydrant installations - System design, installation and commissioning*, AS 2419.1, (2021), SAI Global, Sydney.
- Standards Australia (SA). 2018. *Construction of buildings in bushfire-prone areas*, AS 3959-2018. SAI Global, Sydney.
- Standards Australia (SA). 2014. *The storage and handling of LP Gas*, AS/NZS 1596:2014. SAI Global, Sydney.

8 Appendix A – Photos



Photo 1: Looking north over lots 23-35 west of the proposed subdivision, currently being managed as an APZ. Forest vegetation seen in background (Sydney Road).



Photo 2: Looking north-west over development showing Forest on upslope in background.