

The Manager
Street Talk Property Pty Ltd
C/- Precise Planning
PO Box 426
Northbridge NSW 1560



Our Reference: CR - 067
Your Reference: Great Southern Road Bargo

Attention: Jeff Bulfin

29 August 2013

Dear Sir / Madam,

**Subject: Bushfire Safety Provisions – Asset Protection Zone Setback Requirements
Residential Subdivision
Great Southern Road
Bargo NSW
Lot 1 DP 996286**

Background

The abovementioned residential subdivision development is in the early stages of planning.

The subject property is mapped as being bushfire prone as currently shown by the Wollondilly Shire Council LGA Bushfire Prone Land Map (s146 EP&A Act). The site is currently constrained by vegetation classified as 'Category 1 Bushfire Vegetation'. In this regard, any new building development should conform to the specifications and requirements of the document '*Planning for Bushfire Protection*' (PBP 2006), produced by the NSW Rural Fire Service, that are relevant to the development; or as otherwise required under section 100b of the Rural Fires Act 1997 (NSW), section 79BA of the Environmental Planning & Assessment Act (NSW) and AS3959-2009 'Construction of buildings in Bushfire prone areas'.

Street Talk Property Pty Ltd has requested initial advice as to the extent of possible 'Asset Protection Zones', which in turn will assist in the identification of suitable land yield for residential development. This document attempts to have due regard for, however, does not fully consider the 'environmental constraints' within, and adjoining, the site - which in turn may also have an effect on the land yield, given that vegetation removal and regeneration may form part of the development approval and consent. It is based on the intent to have the Eastern area of the subject site zoned as R5 with a minimal lot size of 1500m², and will seek to confirm if a residential lot with a minimum lot size of 1500m², within this area of the development, would be of sufficient size to satisfy the bushfire protection measures, and in particular the 'Asset Protection Zone' requirements of PBP 2006 and AS3959-2009.

Note: This document is only for 'indicative' purposes only at this stage. It is not the intention of this document to determine the overall appropriate bushfire risk assessment and subsequent recommendations / provisions relevant to the development; this determination will be made as part of the relevant Development Application/Approval process (as stated above). This advice within this document is also limited to 'Residential Subdivision' only and does include any reference to 'Special Fire Protection Purposes' development (e.g. schools, hospitals, Over 55s development etc.)

General Information relevant to Bushfire Protection Measures

Asset Protection Zone (APZ)

An APZ is a buffer zone between a bushfire hazard and buildings, which is managed progressively to minimize fuels loads and reduce potential radiant heat levels, flame, ember and smoke attack. The appropriate APZ is based on vegetation type, slope and levels of construction. The APZ can include perimeter roads in new subdivisions (as well as managed parks, cycle ways etc.). The APZ is generally managed as an 'Inner Protection Area', However where '**Forest**' fuels are considered as the major risk an 'Outer Protection Area' can be implemented as part of the APZ (which will reduce the overall level of vegetation removal and/or management required, and thus the environmental effects of establishing the APZ).

Inner Protection Area

An IPA should be managed in terms of PBP A2.2 (vi) which states: *The IPA is critical to providing a defensible space and managing heat intensities at the building surface. The IPA should provide a tree canopy cover of less than 15% and should be located greater than 2 m from any part of the roofline of a dwelling. Garden beds of flammable shrubs are not to be located under trees and should be no closer than 10 m from an exposed window or door. Trees should have lower limbs removed up to a height of 2 m above the ground.*

Outer Protection Area

An OPA should be managed in terms of PBP A2.2 (vi) which states: *The OPA serves to reduce the potential length of flames by slowing the rate of spread, filtering embers and reducing the likelihood of crown fires. The OPA should supply a tree canopy cover of less than 30% and should have the under storey managed (mowed) to treat all shrubs and grasses on an annual basis in advance of fire season (usually September).*

Vegetation

Vegetation is assessed in line with the relevant 'fuel structure' rather than in line with botanical assessments (e.g. a 'Cumberland Plain Woodland' may be assessed as either a 'Dry Sclerophyll Forest' or a 'Grassy Woodland' depending on either its naturally occurring structure within a specific location or a artificially managed state – under a binding and suitable Plan of Management) . PBP has 9 different vegetative classifications (related to fuel structure / loadings). The attached APZ calculations have been based on possible Forest, Woodland and Riparian vegetation structures, and would be dependent on what will be established within/outside the site within the future (i.e. regeneration or removal of vegetation. Unmanaged grasslands can also be considered as a risk.

Note: 'Riparian vegetation' is assessed as the equivalent of 'Rainforest Vegetation' (i.e. lower risk) providing it has a maximum width of 40m (i.e. 20m each side of bank). If the Riparian zone is wider, it is based on overall structure (probably woodland or forest in this situation).

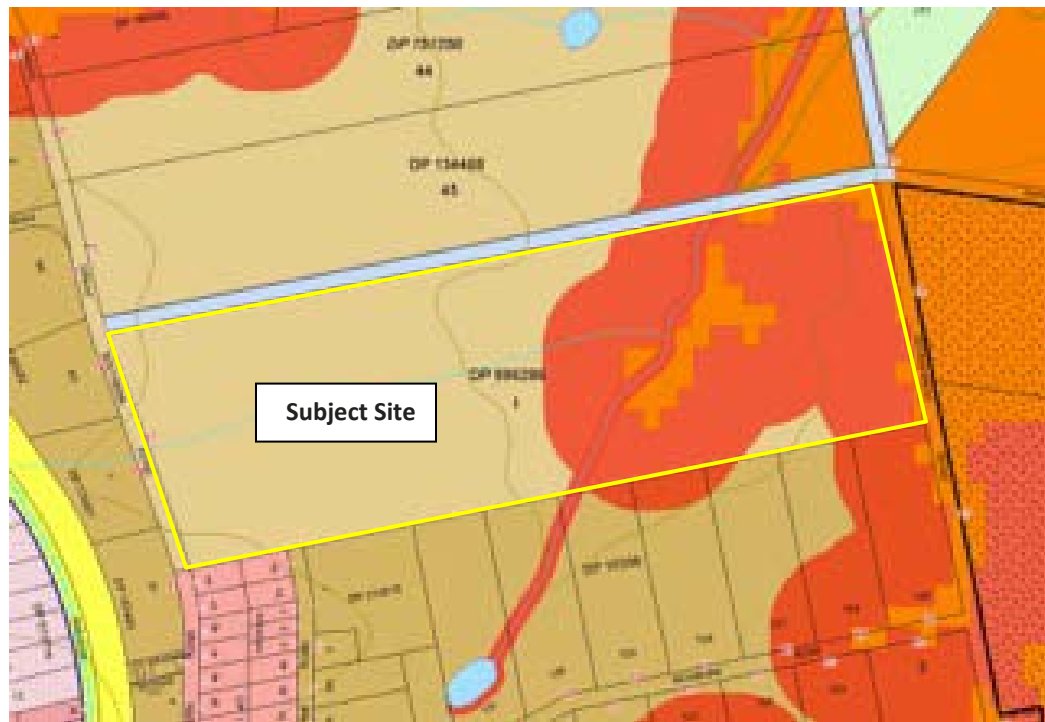
Slope

Slope is assessed in terms of the Tables within PBP 2006 and AS3959-2009. Slope parameters within this site have been considered in the range of 'Flat/Upslope' through to a maximum down slope of '>0 – 5 degrees', which in practice is actually calculated on a maximum 5 degree down slope.

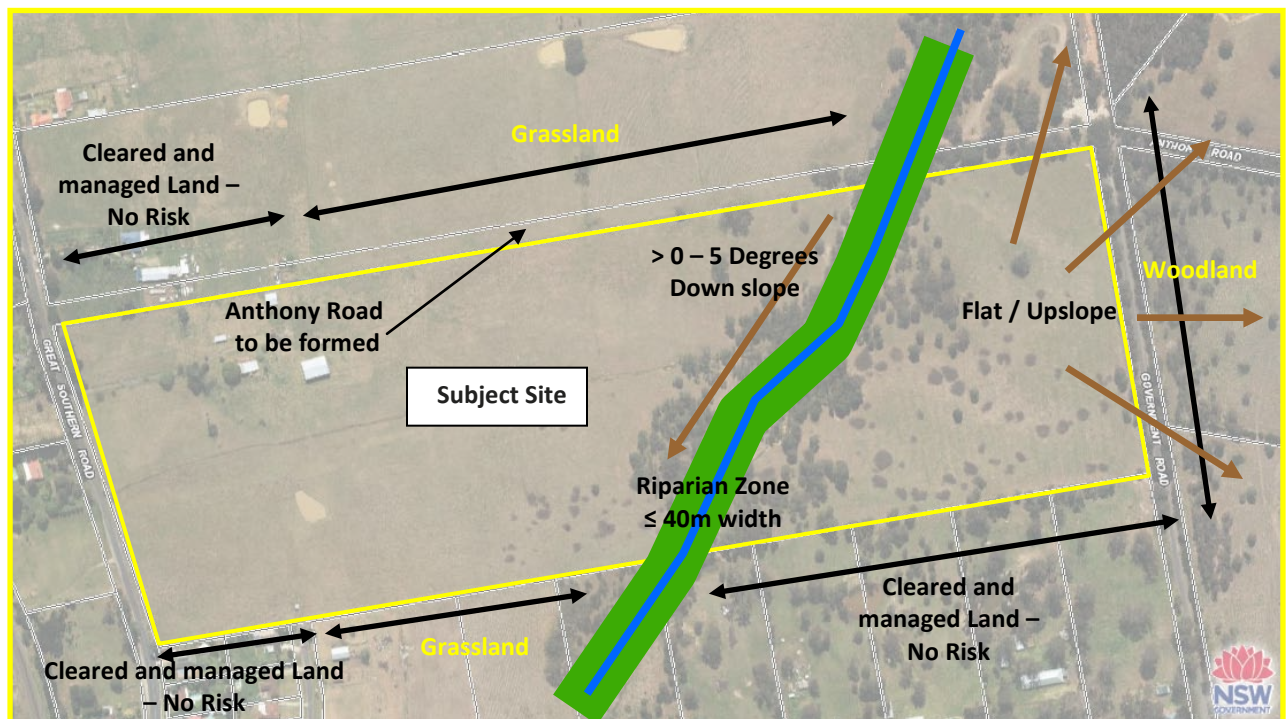
Location of APZs on Public / Community Land

It is not generally considered appropriate to locate APZs on public land, unless the public authority has agreed to manage the APZ into perpetuity (including funding of this management) – although a public road reserve could be considered as part of an APZ - given the actual practical extent of vegetation that could be located in a road reserve area (i.e. with the pavement, guttering, car parks, footpaths etc.). To be conservative, road reserves have not been included as part of the APZ calculations below.

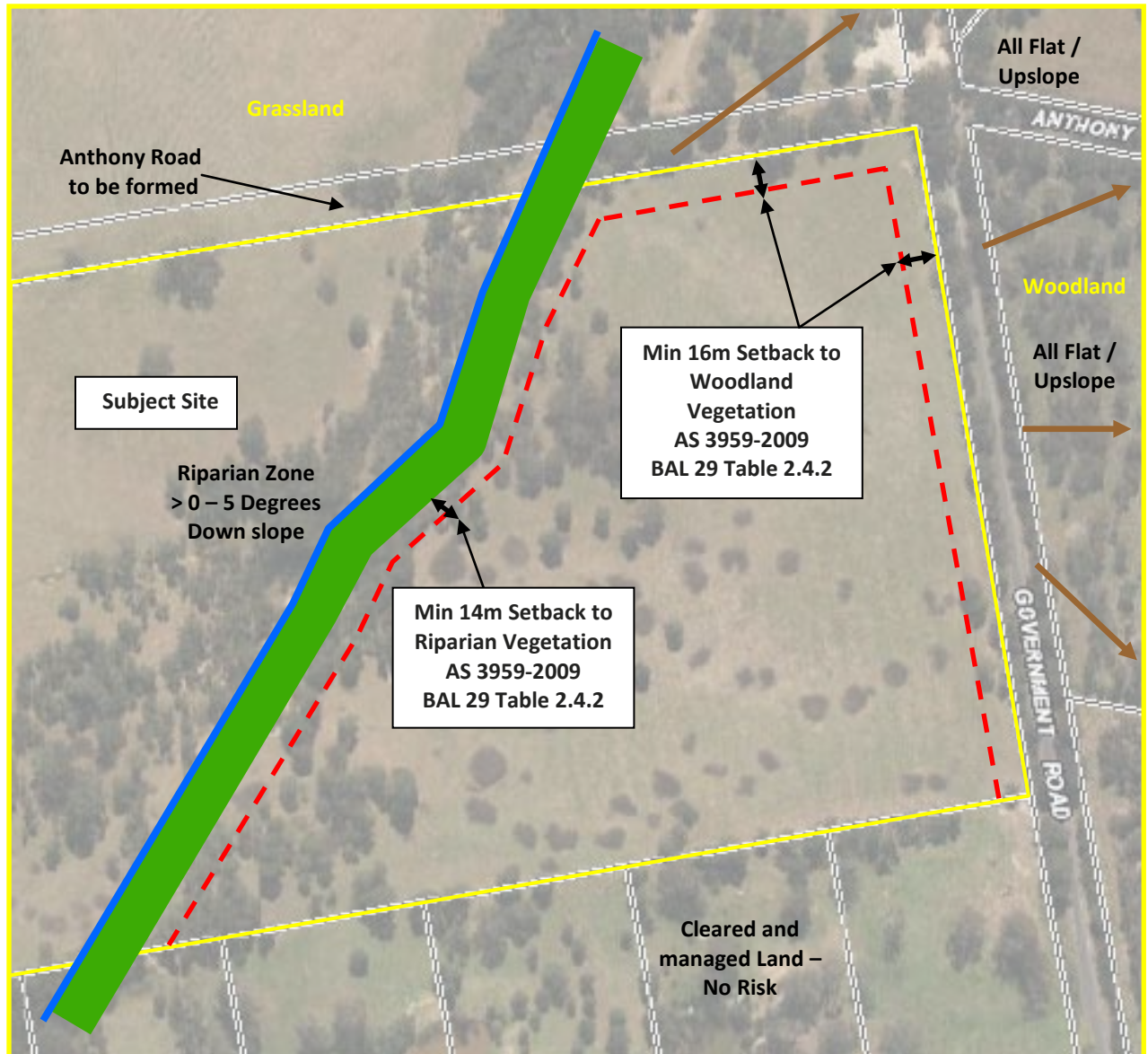
Site Specific Constraints



Extract: Wollondilly Bushfire Prone Land Map



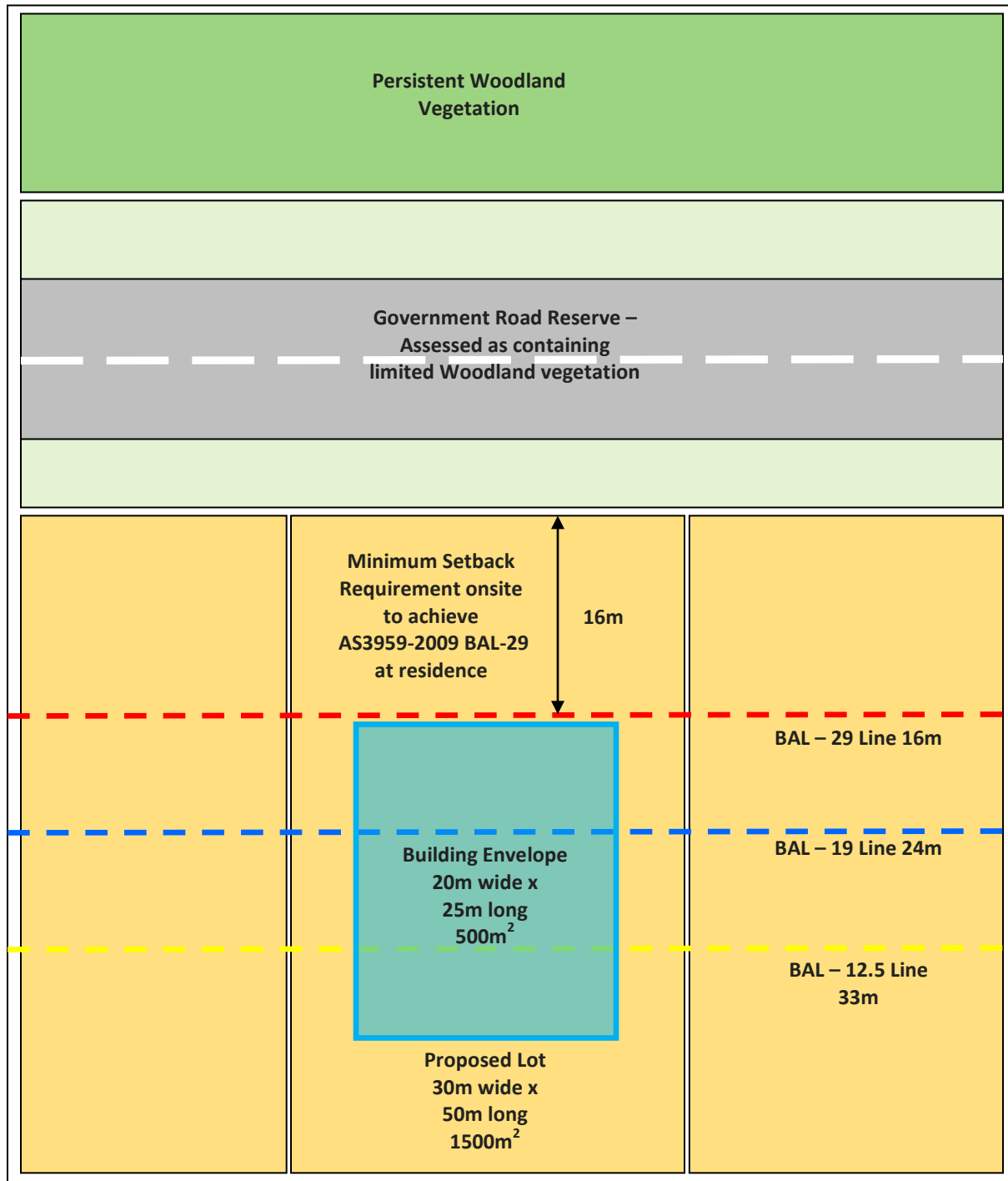
Slopes and achievable Vegetation Constraints



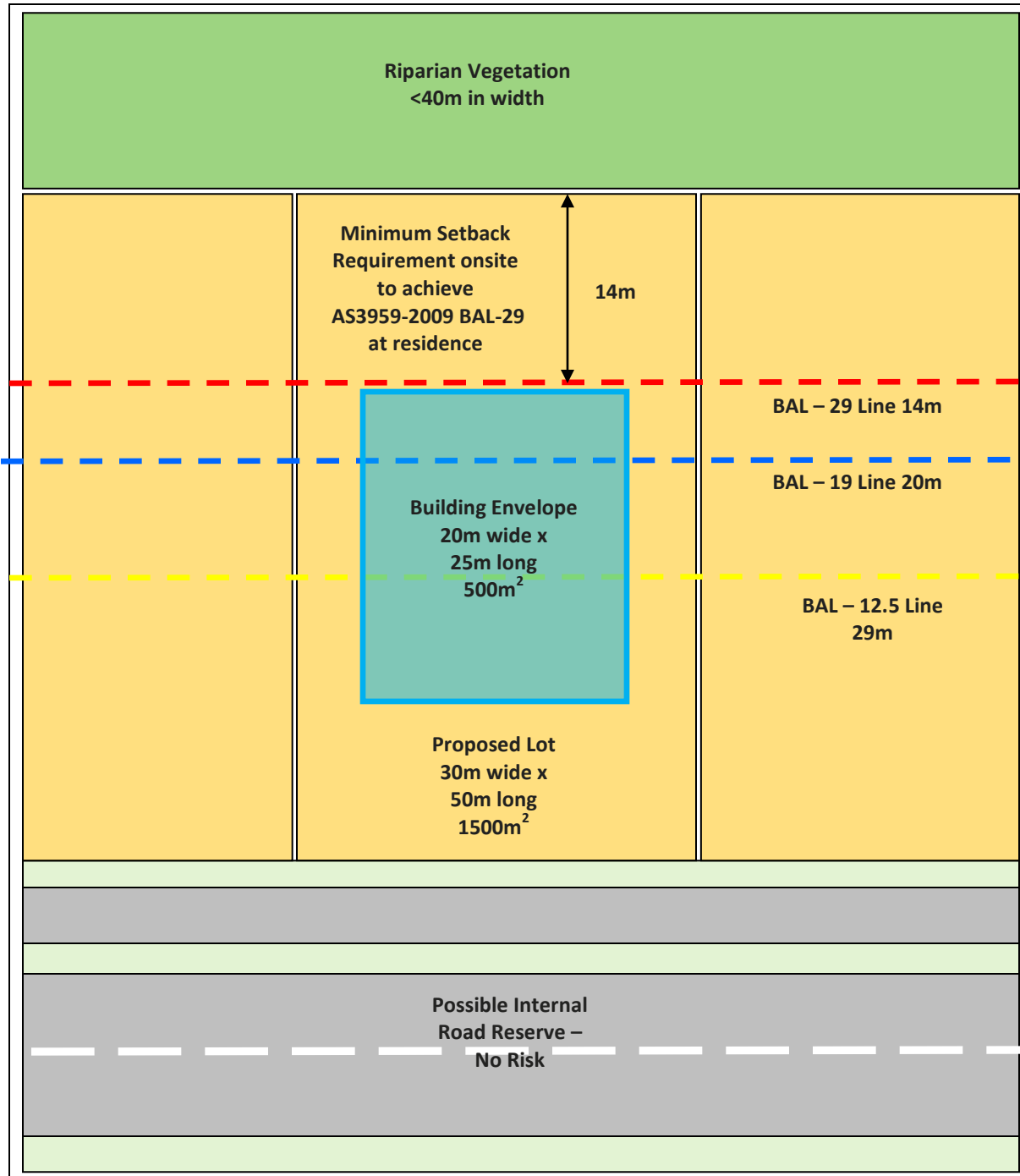
APZ – Minimum Setback Requirements – Eastern Section

Note: The above setbacks are calculated/ measured from the boundaries of the subject allotment, and have not included the road reserve in the setbacks, which may be possible dependant on the level of vegetation within the road reserves. They are also predicated on the Riparian Zone being a maximum of 40m wide, and the remainder of the bush land being assessed as containing persistent 'Grassy Woodlands' (i.e. Lands beyond Government Road and Anthony Road)

Typical Proposed Site (Frontage Government Road)



Typical Proposed Site (Backing onto Riparian Zone)



Conclusion

It is a considered opinion, based on a detailed desktop assessment of the subject development site, that the attached document can reasonably and suitably be used as an initial guide to the overall setback requirements (i.e. APZs) that would be determined appropriate given the extent of existing / potential future vegetation / bushfire constraints within the site. It does not take into account any environmental constraints within the site.

The above calculations would indicate that a 1500m² allotment would generally be able to support the necessary setback requirements for bushfire compliance (as per AS 3959-2009). It is considered that, within the eastern part of the subject site, only the allotments which are adjacent to the Western Riparian vegetation and the Northern / Eastern Woodland vegetation would require a minimal setback (14m and 16m respectively). Allotments located within these affected allotments would not require any specific setbacks for bushfire compliance, as they would benefit from those cleared allotments located between themselves and the bushfire vegetation. This is predicated upon all allotments within the proposed subdivision being maintained as Asset Protection Zones (Inner Protection Areas).

This document has been issued by a person who is recognised by the NSW Rural Fire Service as a 'suitably qualified consultant' in bush fire risk assessment (pursuant to NSW Rural Fire Service requirements - Fast Fact 5/10 Version 3 Dated 7 March 2011 & Development Control Practice Note 1/10 Version 2 Dated 4 February 2011)

Sincerely,



Scott Jarvis

Graduate Diploma Design for Bushfire Prone Areas
Diploma of Building Surveying
Diploma of Public Safety (Fire Fighting Management) (Dip PSFM)
Cert. IV Residential Building Studies
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