



Macarthur Grange Golf Course Preliminary Bushfire Assessment Report

Toscuz Investments Pty Ltd

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Abbreviations

Abbreviation	Description
APZ	Asset Protection Zone
BFPL	Bush Fire Prone Land
BPM	Bushfire Protection Measure
DPE	Department of Planning and Environment
LEP	<i>Local Environmental Plan</i>
LGA	Local Government Area
PBP	Planning for Bushfire Protection
RFS	Rural Fire Service
SFPP	Special Fire Protection Purpose

1. Background

1.1. Subject Site

The Subject site is located at the Macarthur Grange Country Club, situated on Raby Road, Varroville (Lot 3900 DP 1170905) (Figure 1) and is within the Campbelltown Local Government Area (LGA). The site is currently zoned C3 Environmental Management under the *Campbelltown Local Environmental Plan (LEP) 2015*. Surrounding development consists of rural holdings to the North and South, with established residential development to the East and emerging residential development to the West (Figure 1).

The subject site is identified as bush fire prone land as per the Campbelltown City Council (Council) Bush Fire Prone Land (BFPL) Map, as evident on the NSW Planning Portal (DPE, 2024).

1.2. Planning Proposal

The Site has been subject to several Planning Proposals from 2011 to current. Proposals submitted in 2011 and 2016 were not supported and deemed inconsistent with the policy position of Council to protect the Scenic Hills. The site is situated within the Scenic Hills Protection Area under the Campbelltown LEP 2015.

A new Planning Proposal was submitted in June 2020 which proposed rezoning of the site for to allow for a rural-residential / environmental living concept with large parts of the site proposed as environmental conservation and open space. An indicative Masterplan of the proposal is outlined in Figure 2.

The Planning Proposal was subsequently supported by Council subject to a number of changes. Department of Planning, Housing and Infrastructure subsequently issued a Gateway determination on 6 December 2023 allowing the Planning Proposal to proceed to exhibition subject to conditions. One of the conditions of the Gateway determination is for consultation with Rural Fire Services to be carried out prior to exhibition.

The Planning Proposal seeks approval for rezoning of the site which would allow for the development of the site for:

- 52 rural residential / environmental living lots with lots sizes ranging from 0.5ha to 3.2ha.
- function centre / restaurant / cafe use fronting Raby Road in the location of the existing club house
- A conservation reserve and open space to be dedicated to Council comprising around 50% of the site.

1.3. Report Purpose

This report provides a preliminary assessment of bushfire hazards to determine the application of bushfire protection measures such as APZ location and dimension. This bushfire assessment was prepared to support the Planning Proposal and specifically facilitate consultation with NSW Rural Fire Service (RFS) as required by the Gateway determination.

As part of the Gateway process consultation with the NSW Rural Fire Service (RFS) was requested in a letter from the DPE outlining conditional support for the Planning Proposal. Condition 1(d) of the determination states that *prior to exhibition, the planning proposal is to be amended as necessary following consultation with NSW RFS required under Ministerial Direction 4.3 Planning for Bushfire Protection*. This report addresses Condition 1(d).

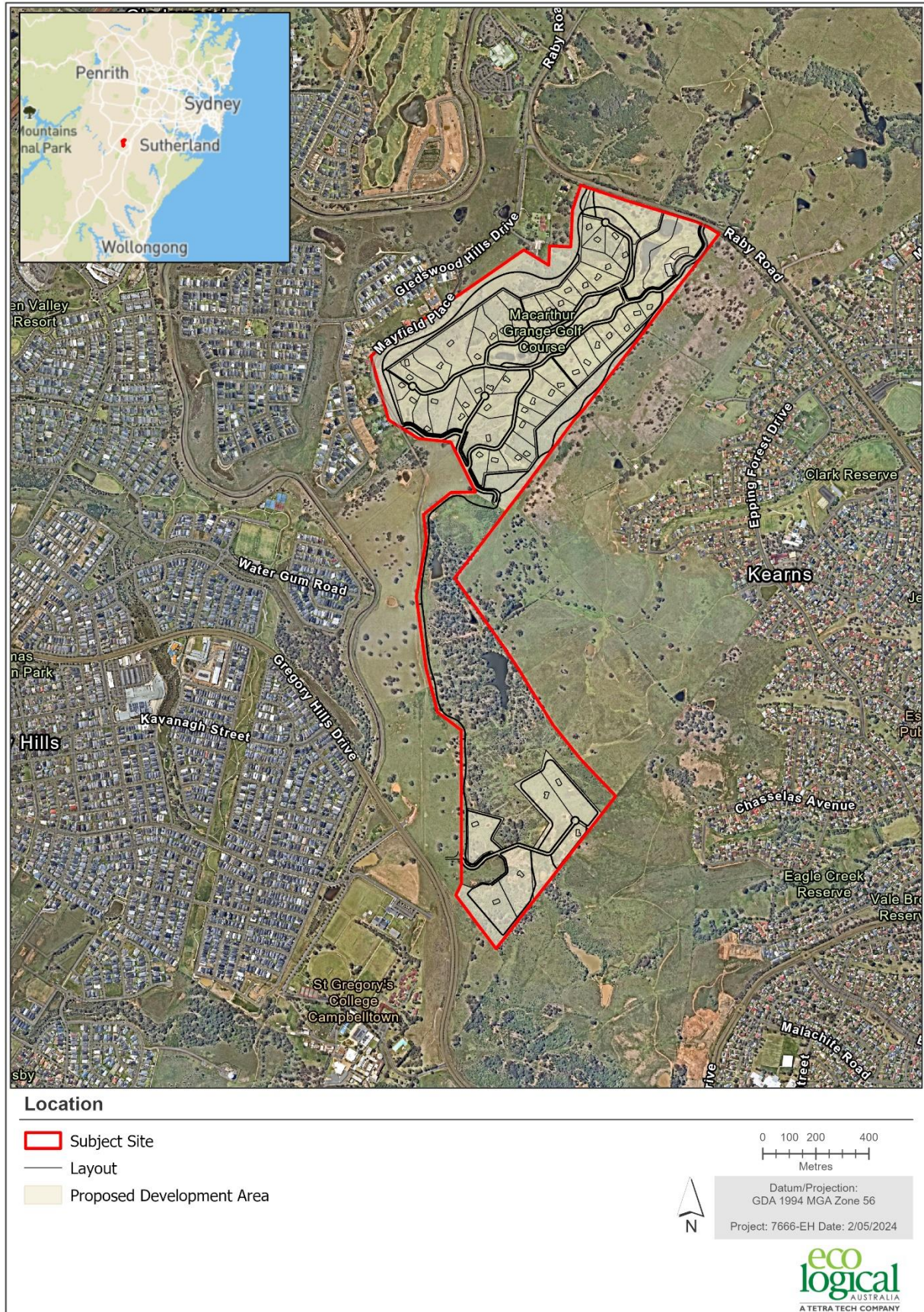


Figure 1: Location of Subject Site

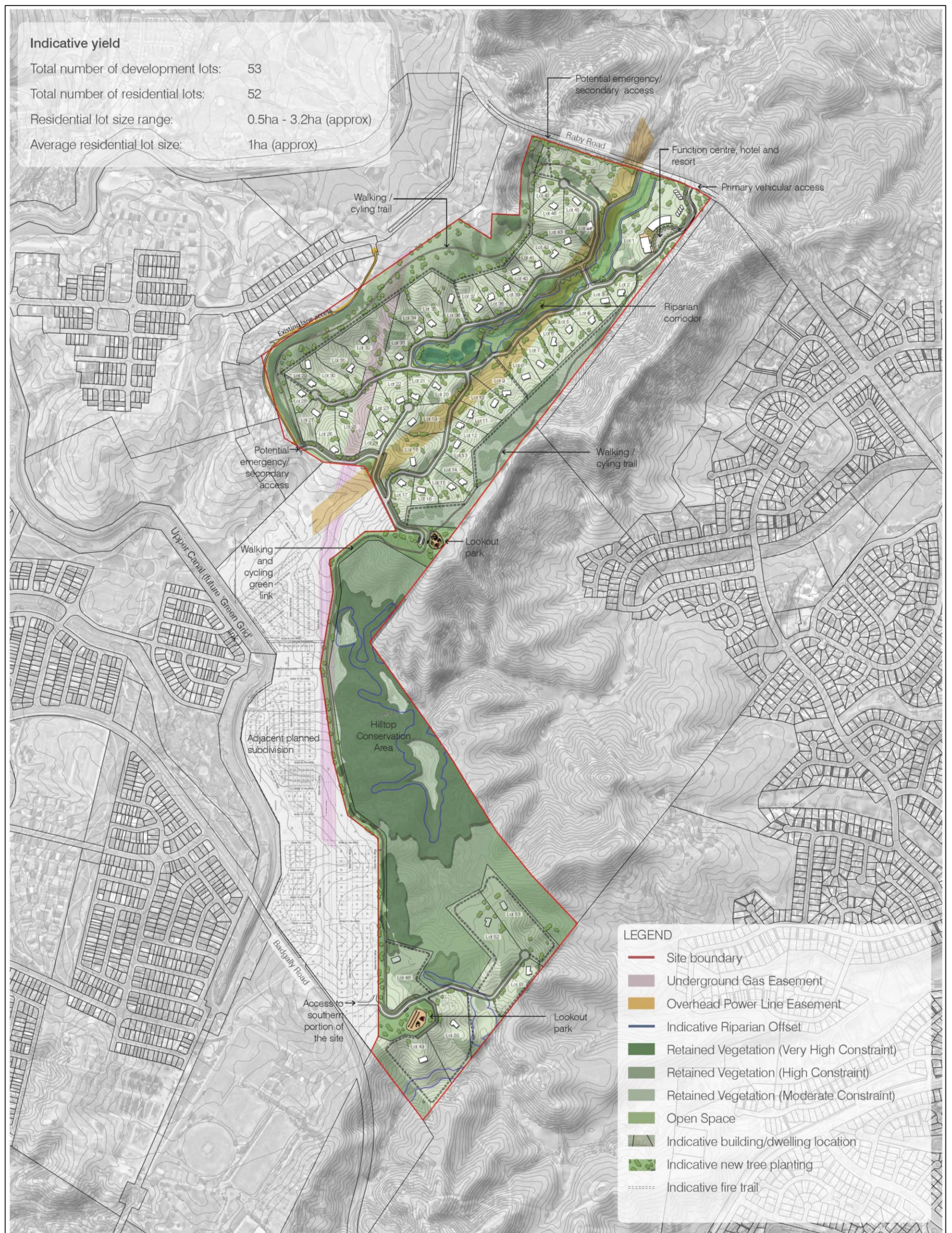


Figure 2: Indicative Masterplan (Source Architectus, 5 April 2024)

2. Bushfire Hazard and Risk

A summary of the contributing factors for bushfire hazard and risk is provided in this section.

2.1. Bushfire Risk Context

The Subject Site is situated within an increasingly urbanised landscape, with the recently developed areas of Gregory Hills and Gledswood Hills located to the west. To the north and west of the site are rural grasslands with fragmented woodland vegetation. To the east and southeast rural grassland, with some smaller patches of grassy woodland are present. However in all directions, BFPL is limited in area by adjacent urban development. Raby road separates the site from hazard to the north, while Gregory Hills Drive provides separation to the south. As a result, the only contiguous fire pathways to the site are via rural grassland to the east. This pathway is limited in length by adjacent urban development.

Within the site, proposed remnant vegetation to be retained is appropriately separated from the proposed developable area, with capacity for bushfire protection measures.

Based on the existing and proposed development along with limited quantity and connectivity of bushfire hazard in the surrounding environment, the bushfire risk to the site is low.

2.2. Bushfire Hazard

2.2.1. Vegetation

In accordance with *Planning for Bushfire Protection* (PBP), the predominant vegetation formation has been assessed for a distance of at least 140 m from the site in all directions. The predominant vegetation was based on vegetation mapping and indicative plans for areas of vegetation retention and revegetation. Classification of existing vegetation communities within the subject site were confirmed by site assessment (ELA, 2020).

Native vegetation within the subject site and surrounds is generally mapped as 'Grey Box-Forest Red Gum' and is classed as a 'Coastal Valley Grassy Woodlands' (Keith 2004), which aligns to 'Woodland' in accordance with PBP. There are also some small remnant patches of 'River-flat Eucalypt Forest' within the future riparian corridor that are classified as 'Forested Wetlands' by Keith (2004).

2.2.2. Slope

The slope class 'most significantly affecting fire behaviour' has been assessed from 2 m contour data for a distance of at least 100 m in accordance with the methodology within PBP.

For the northern area of the subject site, the proposed development area generally slopes down towards a centrally located riparian corridor, while in the southern area the proposed development area is generally located at the highest point of the site.

The effective slope from hazards in both areas, varies from 'all upslopes and flat land' to '>5-10 degrees downslope'.

2.3. APZ Assessment

The indicative width of the APZs required for the proposed development has been determined as per Table A1.12.1 and A1.12.2 of PBP, using the vegetation and slope data identified in Section 2.2. Table 1 below details the results of this preliminary assessment and includes APZ requirements for residential development and Special Fire Protection Purpose (SFPP) development, where applicable. These APZ are also shown in Figure 3 and Figure 4. It is noted that this assessment is preliminary, for the purpose of confirming capacity of the proposed layout to provide for the required APZs. Actual APZs required will be determined at the development application and for the specifics of each individual building.

In determining the indicative APZ requirements, the following assumptions have been made:

- The riparian corridors have been assumed to be revegetated as 'Woodland'. Should revegetation constitute an alternate vegetation type, then the width of the APZ will change;
 - There is opportunity for the riparian corridor to be assessed as 'Forested wetland' as per the Keith (2004) classification for this vegetation type, should revegetation align to 'River-flat Eucalypt Forest'. However, revegetation would need to be extensively this vegetation type and not a type aligning to 'Coastal Valley Grassy Woodlands';
 - There is opportunity for parts of the riparian corridor to be classified as 'Low Hazard' should the final corridor extent result in a hazard that is less than 50 m wide as per A1.11 of PBP.
- Vegetation within the development area is assumed to be cleared or managed to IPA requirements as per A4.1.1 of PBP. Should vegetation be retained and constitute a hazard, then additional APZs will be required.
- Detailed APZ determination will be required at subdivision stage and subsequent development applications, however the indicative APZs shown within this report demonstrate capacity for PBP compliant APZs to be afforded. Actual APZs will extend outwards from subject buildings, rather than inwards from the property boundaries shown here.

Table 1: Preliminary indication of APZ

Transect	Slope	Vegetation	PBP Residential required APZ ¹	PBP SFPP required APZ ²
North				
1	0 to 5° downslope	Woodland	16 m	N/A
2	0 to 5° downslope	Woodland	N/A	50 m
3	Upslope/flat land	Woodland	N/A	42 m
4	Upslope/flat land	Woodland	12 m	N/A
5	0 to 5° downslope	Grassland	12 m	N/A
6	Upslope/flat land	Woodland	12 m	N/A
7	Upslope/flat land	Low Hazard	11 m	N/A
8	Upslope/flat land	Woodland	12 m	N/A
9a	0 to 5° downslope	Woodland	16 m	N/A
9b	0 to 5° downslope	Woodland	16 m	N/A

Transect	Slope	Vegetation	PBP Residential required APZ ¹	PBP SFPP required APZ ²
10	0 to 5° downslope	Woodland	N/A	50 m
South				
11	0 to 5° downslope	Woodland	16 m	N/A
12	Upslope/flat land	Woodland	12 m	N/A
13	0 to 5° downslope	Woodland	16 m	N/A
14	5-10° downslope	Woodland	20 m	N/A
15	0 to 5° downslope	Woodland	16 m	N/A
16	5-10° downslope	Grassland	13 m	N/A
17a	0 to 5° downslope	Woodland	16 m	N/A
17b	0 to 5° downslope	Woodland	16 m	N/A
18	Upslope/flat land	Woodland	12m	N/A
19	0 to 5° downslope	Woodland	16 m	N/A
20	0 to 5° downslope	Grassland	12 m	N/A
21	Upslope/flat land	Low Hazard	11 m	N/A

¹As per A1.12.2 of PBP (RFS 2019).

²As per A1.12.1 of PBP (RFS 2019).

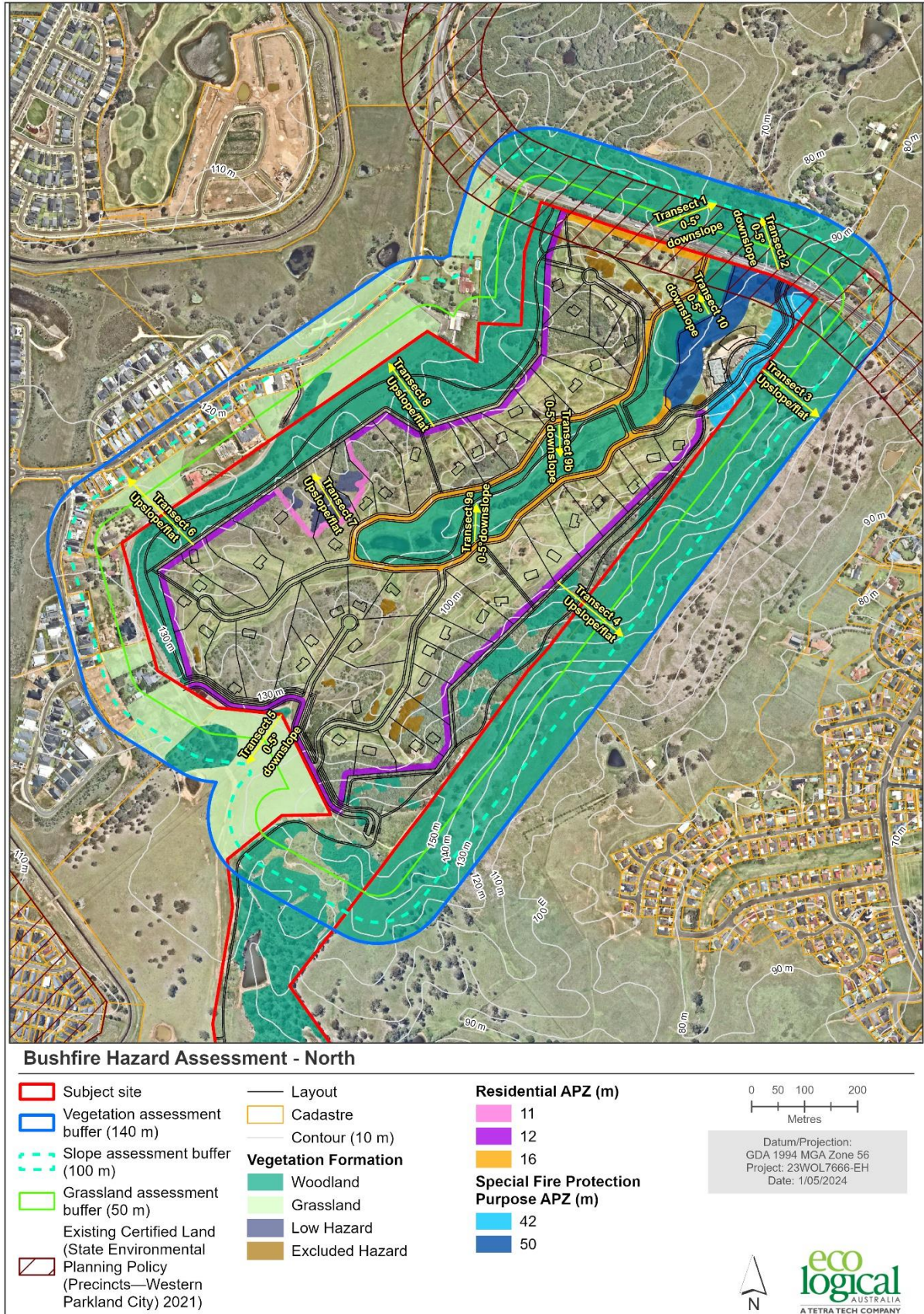


Figure 3: Preliminary Bushfire Hazard Assessment and APZ – North

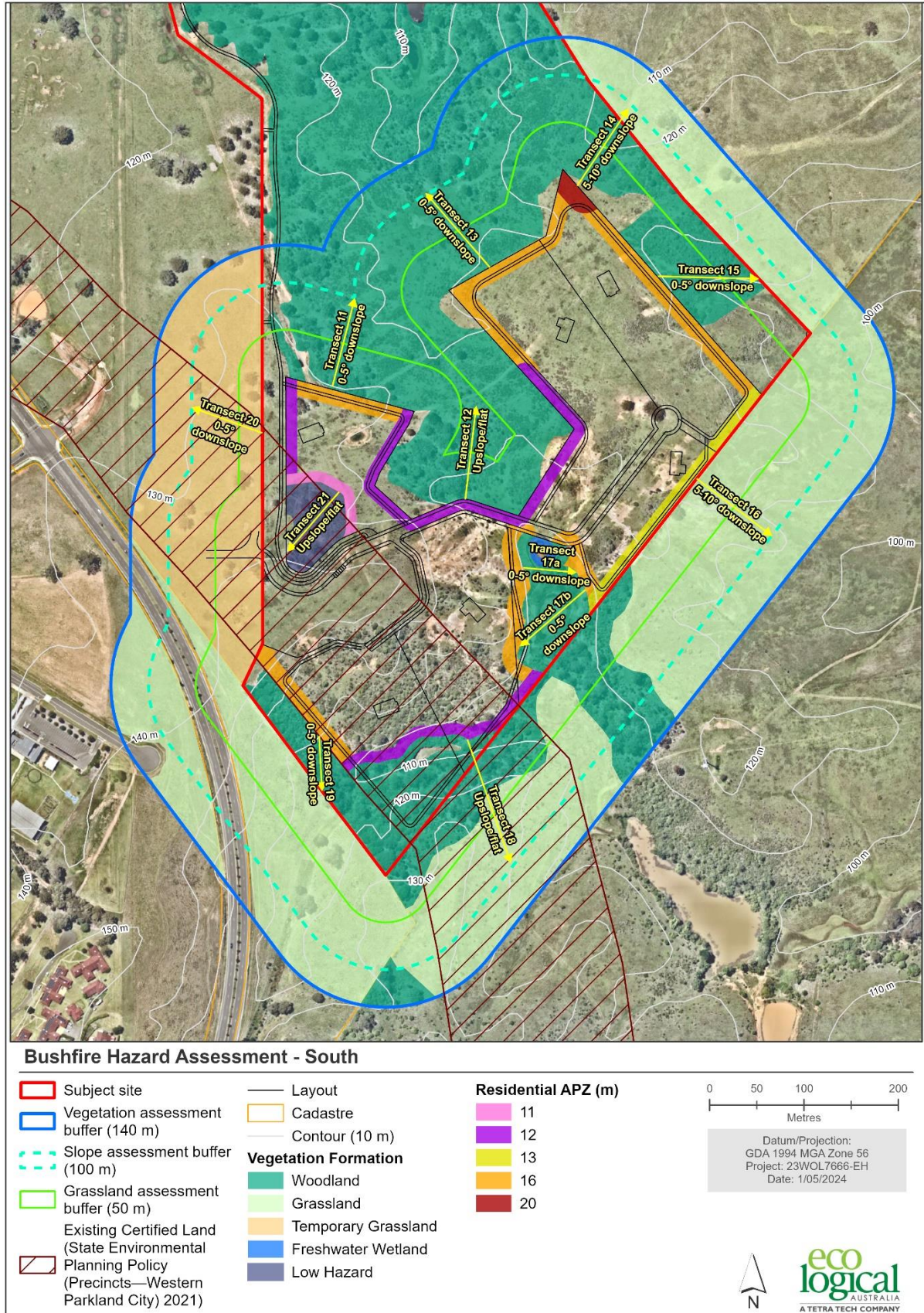


Figure 4: Preliminary Bushfire Hazard Assessment and APZ - South

3. Development Overview

3.1. Proposed Masterplan

The indicative masterplan is comprised of 52 large rural residential lots contemplated for development. An additional lot of 3.2 hectares (ha) fronting Raby Road, Kearns has been identified for potential hotel and function centre use. The proposal is to seek approval for a rezoning of the subject site to include:

- C4 Environmental Living
- C2 Environmental Conservation
- RE1 Public Recreation for open space and riparian corridor.
- Schedule 1 – Additional permitted uses being restaurant and café and function centre for the land fronting RBY Road.

The Masterplan in Figure 2 demonstrates the general development layout and uses. The bushfire protection requirements for future development vary dependent upon future land uses and the subsequent regulatory requirements for these land uses. Additionally, the building envelopes in the current design are shown in approximate locations and can/will be moved to accommodate APZ through future detailed design.

3.2. Bushfire Protection Measures

The bushfire hazard assessment conducted by ELA (2020) identified the site is mapped as BFPL and is within 100 m of a bushfire hazard. This assessment is deemed to be still relevant. As such, future development of the site will require an adequate bushfire protection response. Bushfire protection measures proposed are as follows:

- Provision of secondary access points to and from the public road network.
- Provision of perimeter access between the bushfire hazard and the development.
- Provision for future development outside of required APZ.
- Provision for APZ management and mechanisms to ensure management of APZ in perpetuity.
- Appropriate provision of water supply and other services.
- Emergency management arrangements.

Table 2 below evaluates the capacity of the proposed Masterplan to provide PBP (RFS 2019 and RFS 2022) compliant Bushfire Protection Measures (BPM).

Table 2: Evaluation of Capacity for PBP Compliant Bushfire Protection Measures

Aspect	Evaluation of BPM Capacity
Bushfire Hazard Assessment Appendix 1 of PBP	<p>Areas of retained vegetation have been considered in this assessment. Some retained areas have potential to meet the Low Threat Exclusion requirements as per A1.10 of PBP.</p> <p>Opportunity for management of temporary APZ to the west of the southern development area, subject to agreeance by landowner.</p>
Asset Protection Zones (APZ)	<p>Provision of compliant APZs is not considered a constraint to future development.</p> <ul style="list-style-type: none"> • Indicative APZs are shown in Figures 3 and 4, which identify there is sufficient space to accommodate residential subdivision within the site

Aspect	Evaluation of BPM Capacity
Table 5.3a of PBP (Appendix A)	<p>outside of any APZ. Residential APZs can be accommodated within proposed roads and/or individual residential lots.</p> <ul style="list-style-type: none"> • Buildings within the footprint are currently shown in approximate locations and can/will be moved to accommodate APZs. • There is opportunity for design advantages to ensure all potential building footprints are not exposed to radiant heat levels exceeding 29 kW/m² i.e. Bushfire Attack Level (BAL)-29. • SFPP APZs can be accommodated within the subject site for the potential future function centre/restaurant and café site.
Landscaping	<p>Landscaping is not considered a constraint:</p> <ul style="list-style-type: none"> • General street tree landscaping should not prohibit any potential development subject to complying with applicable specifications. This is likely to form a consent condition at DA
Table 5.3a of PBP (Appendix A)	
Access	<p>Provision of perimeter access has been provided by means of perimeter roads around the central riparian corridor and perimeter fire trails adjacent to peripheral hazards. This proposed approach responds to design constraints (terrain, civil, design outcomes etc) as well as the type of development contemplated (large lot rural residential) and low landscape bushfire risk exposure of the site.</p> <ul style="list-style-type: none"> • For the northern developable area, the following considerations apply: <ul style="list-style-type: none"> ○ primary access connection to Raby Road ○ additional emergency access to Raby Road ○ alternate access connection to existing Mayfield Place ○ perimeter access provided around all lots ○ Connection of dead end roads to perimeter access ○ Connection from perimeter access back to internal road network • For the southern development area the following considerations apply: <ul style="list-style-type: none"> ○ primary access connection to Badgally Road ○ provision of an alternative access route for emergency egress through to the northern site ○ perimeter access provided around all lots.
Table 5.3b of PBP (Appendix A)	
Water supplies	<p>Water supply is not considered a constraint:</p> <ul style="list-style-type: none"> • Will not prohibit any potential development subject to complying with applicable specifications. Provision of adequate water supply will likely form a condition of consent to any future DA. • It is recommended the development be serviced by reticulated water. • Where reticulated water cannot be provided, static water supply must be provided compliant with Table 5.3c and Table 5.3d. • Fire Hydrants to comply as per AS 2419.1 (See Appendix A, PBP 2022).
Table 5.3c & Table 5.3d of PBP (Appendix A), as modified by Section 9 of PBP 2022.	
Electricity services	<p>Electricity services are not considered a constraint:</p> <ul style="list-style-type: none"> • Will not prohibit any potential development subject to complying with applicable specifications. • It is recommended electrical transmission lines are underground. • Where this cannot be provided, overhead transmission lines must be provided compliant with Table 5.3c of PBP.
Table 5.3c of PBP (Appendix A)	
Gas services	<p>Gas services not considered a constraint:</p> <ul style="list-style-type: none"> • Will not prohibit any potential development subject to complying with applicable specifications.
Table 5.3c of PBP (Appendix A)	

Aspect	Evaluation of BPM Capacity
Emergency Management	Emergency management arrangements and plans will need to be afforded future SFPP development. This is not considered a constraint.

4. Conclusion

The site is situated within a low-risk bushfire landscape setting. The proposed land uses are appropriate for the site given the bushfire risk context. Bushfire Protection Measures can be accommodated on the site including the key measures of asset protection zones and access.

The merit of the current masterplan design is not considered inappropriate for the site, and there is opportunity for further design modifications to be considered through potential future design refinements.

5. References

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