

BUSHFIRE PROTECTION ASSESSMENT

**FOR THE PROPOSED WOOLWORTHS METRO
ON**

LOT 121 in DP 1220414

**No. 495 FOURTH AVENUE,
NORTH AUSTRAL**

FOR WOOLWORTHS LIMITED

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Bushfire Mitigation Consultants

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Assessment Number	Document	Preparation Date	Issue Date	Directors Approval
B234077 - 3	Final	07.12.2023	12.06.2024	<i>G.L. Swain</i>

EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited, at the request of *Woolworths Limited*, has undertaken the bushfire consultancy for the proposed construction of the Woolworths Metro development on Lot 121 in DP 1220414, No. 495 Fourth Avenue, North Austral.

The development site contains 1.19 hectares of land located to the southeast of the intersection between Fourth Avenue and Gurner Avenue, North Austral.

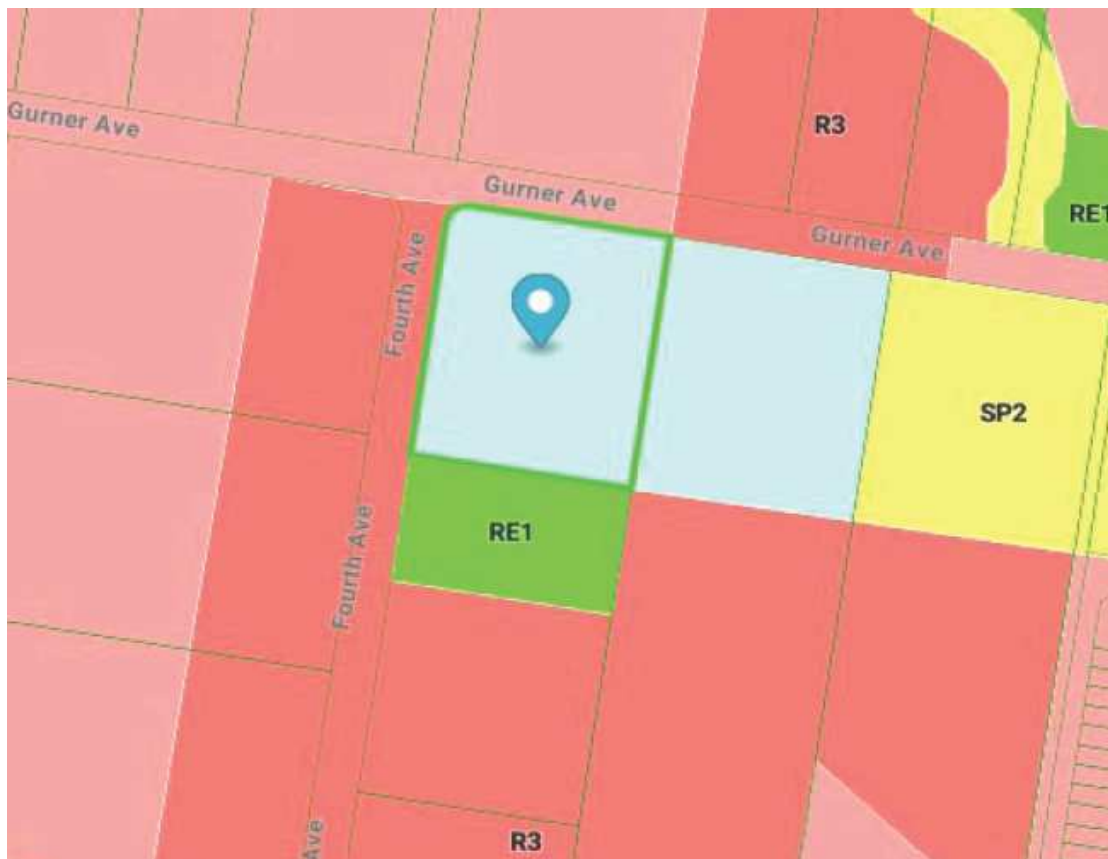
The development site contains vacant land.

The land is zoned B1 Neighbourhood Centre under the Liverpool City Council LEP. The land to the east is also zoned B1 Neighbourhood Centre.

The land to the west of Fourth Avenue is zoned R3 Medium Density Residential with a parcel of RE1 Public Recreation zoned land adjoining the southern boundary of the development site.

An existing College occupies the land to the north of Gurner Avenue

Figure 1 – Land Use Zoning Map.



The development proposal seeks approval to construct a three-level complex which contains a Basement Carpark, Piazza and Commercial area on the lower floor level, a Woolworths Supermarket and specialty shops on the upper level and commercial development on the first floor level.

An at grade carparking is in the southern portion of the site and a Loading Dock area on the western (Fourth Avenue) side of the site.

Vehicular access/egress to the complex is off Fourth Avenue via a ramp to the lower level Carpark.

The site is recorded, on the Liverpool Bushfire Prone Land Map, as containing Category 3 Bushfire Prone Vegetation.

An area of Category 3 Bushfire Prone Vegetation is shown to occupy the land to the west of Fourth Avenue and to the east and south of the site.

The affection of the site by the Bushfire Prone Land Map triggers the provisions of Section 4.14 of the *Environmental Planning & Assessment Act 1979*.

This report examines the retail development proposal against the aim and objectives of *Planning for Bushfire Protection 2019* to address compliance with the provisions of Section 4.14 of the *Environmental Planning & Assessment Act 1979*.



Graham Swain,
Managing Director,
Australian Bushfire Protection Planners Pty Limited.

Fire Protection Association Australia Member No 48781

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SECTION 1

INTRODUCTION

1.1 Aim of this Assessment.

The aim of this Bushfire Protection Assessment is to:

- Determine the formation of the vegetation within 140 metres of the development site;
- Undertake an assessment to determine the effective slope of the land on and surrounding the development site;
- Determine the Fire Danger Index [FDI] for the site;
- Undertake an assessment to determine bushfire protection strategies for the proposed development, including the bushfire protection measures required to be implemented in the design and construction of the retail development and the requisite bushfire protection measures required to address the safety of the staff and shoppers.
- Prepare a report that addresses the following matters:
 - (i) The provision of building setbacks (Defendable Space) from vegetated areas and the siting of building to minimize the impact of radiant heat and direct flame contact on the building;
 - (ii) Fire fighting water supplies;
 - (iii) Access requirements for emergency service vehicles;
 - (iv) Construction standards to be used for the proposed building to minimize the vulnerability of the complex to ignition from radiation and ember attack (less than BAL 40);
 - (v) Land management responsibilities; and
 - (vi) Evacuation management.

1.2 Development Proposal.

This Bushfire Protection Assessment has been prepared for the construction of a three-level complex which contains a Basement Carpark, Piazza and Commercial area on the lower floor level, a Woolworths Supermarket and specialty shops on the upper level and commercial development on the first floor level.

An at grade carparking is in the southern portion of the site and a Loading Dock area on the western (Fourth Avenue) side of the site.

Public vehicular access/egress to the complex is off Fourth Avenue via a ramp to the lower level Carpark.

Figure 2 – Lower Floor Plan of Development Proposal.

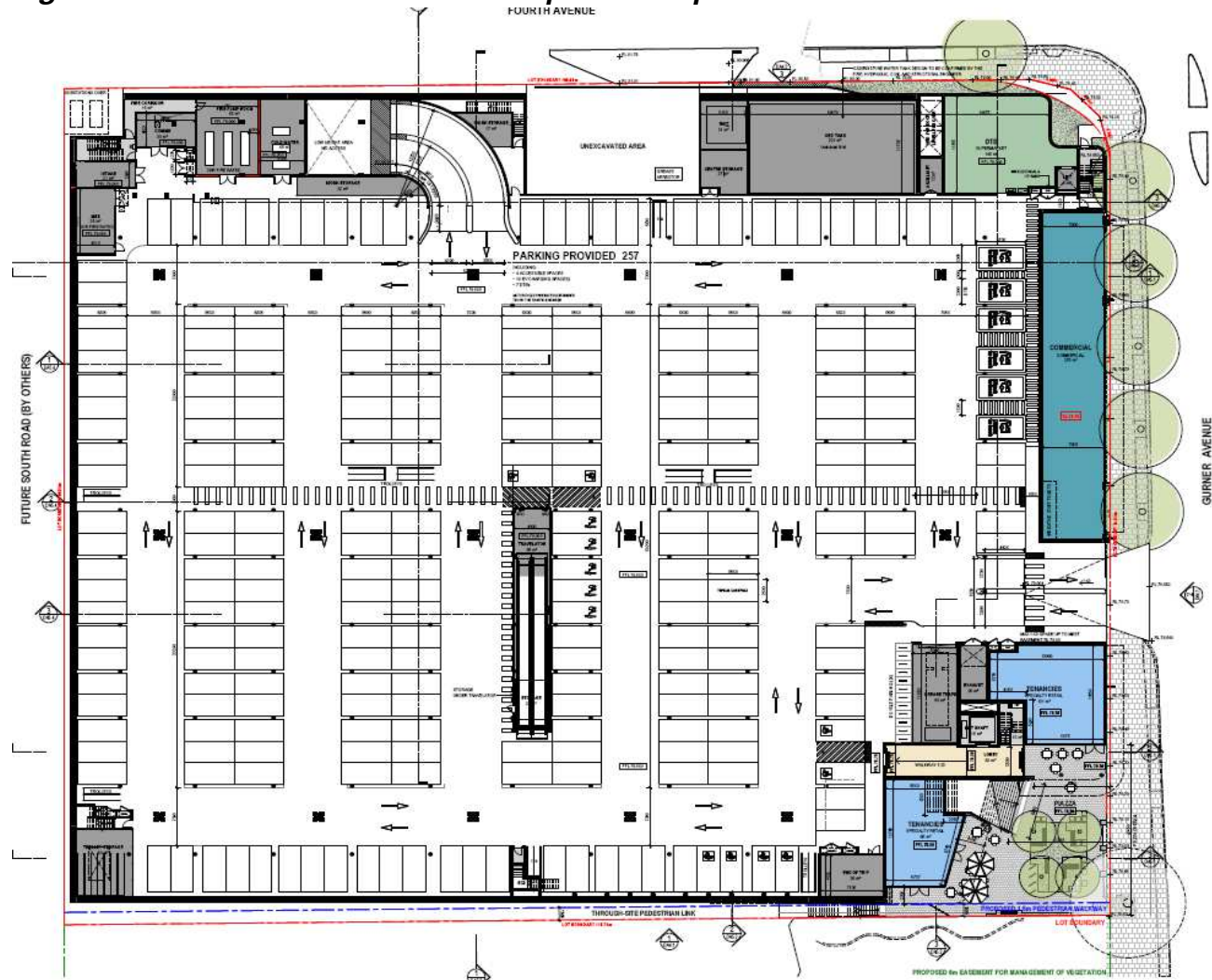
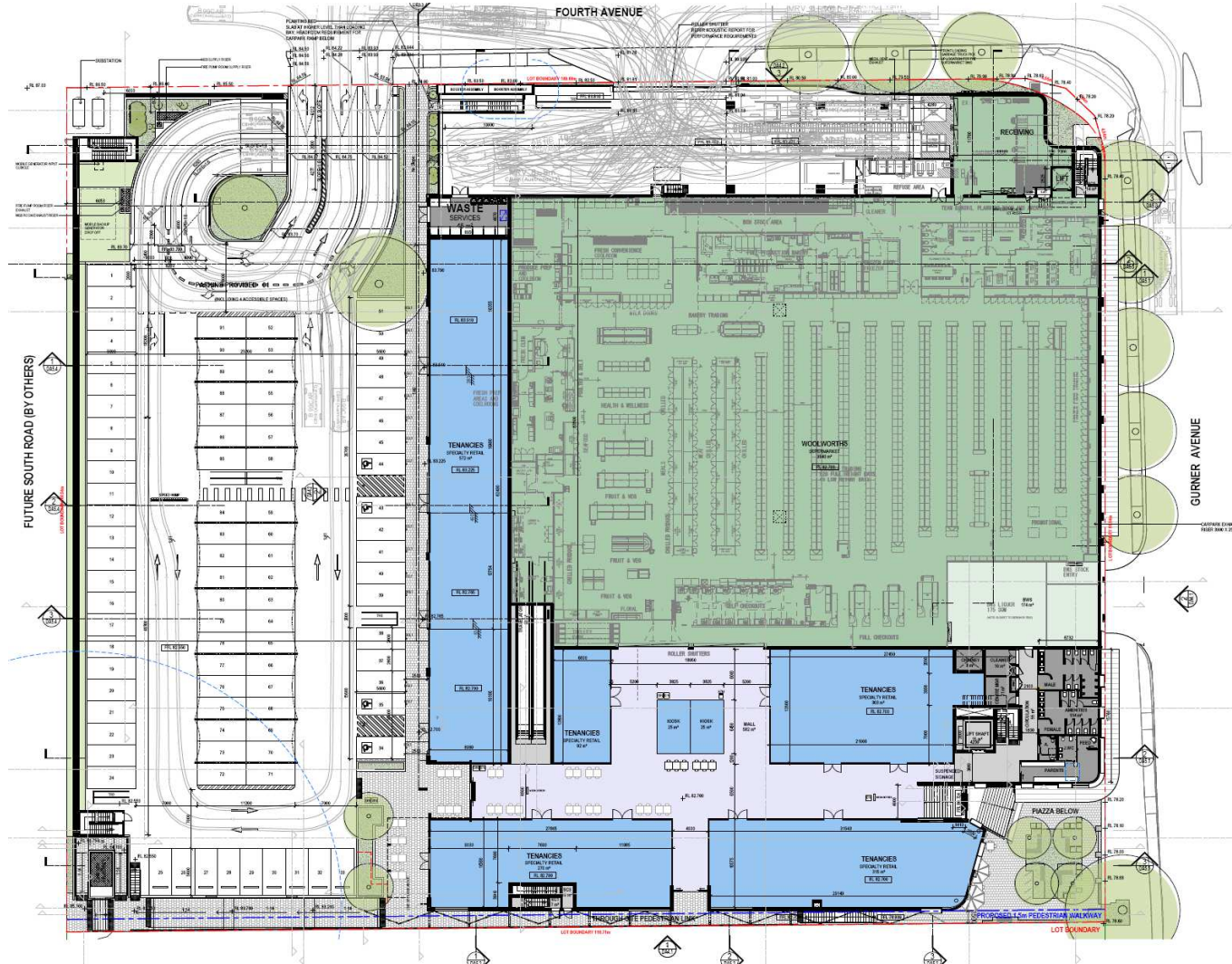


Figure 3 – Upper Floor Plan of Development Proposal.



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1.3 Statutory Requirements.

This report has been prepared having regard to the following legislative and planning requirements:

1.3.1 Legislation.

(a) Environmental Planning and Assessment Act (EPA Act)

Section 4.14 of the *Environmental Planning & Assessment Act 1979* states that development consent cannot be granted for the carrying out of development for any purpose on bushfire prone land unless the consent authority is satisfied that the development conforms to the specifications and requirements of *Planning for Bushfire Protection 2019* that are relevant to the development.

(b) Rural Fires Act 1997

The objectives of the *Rural Fires Act* are to provide:

- The prevention, mitigation and suppression of fires;
- Coordination of bushfire fighting and prevention
- Protection of people and property from fires; and
- Protection of the environment.

In relation to the management of bushfire fuels on public and private lands within NSW, Sections 63(1) and 63(2) require public authorities and owners / occupiers of land to take all practicable steps to prevent the occurrence of bushfires on, and to minimize the danger of the spread of bushfires.

1.3.2 Planning Policies.

Planning for Bushfire Protection – 2019 (Rural Fire Service).

Planning for Bushfire Protection 2019 provides specific deemed-to-satisfy provisions on the bushfire protection measures necessary for rural & residential subdivisions and the construction of “*Special Fire Protection Purpose Developments*” and the construction of Class 1, 2 and 3 buildings in Bushfire Prone areas.

Section 8.3.10 of *Planning for Bushfire Protection 2019* states that the bushfire protection measures for commercial and industrial development is addressed through the aim and objectives of PBP (Chapter 1) and a suitable package of bushfire protection measures should be provided commensurate with the assessed level of risk.

The provisions within Chapter 7 of *Planning for Bushfire Protection 2019* should be used as a base for the development of a package of measures.

The objectives of *Planning for Bushfire Protection 2019* are:

- (i) Afford occupants of any building adequate protection from exposure to a bushfire;
- (ii) Provide for a defensible space to be located around buildings;
- (iii) Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;
- (iv) Ensure that appropriate operational access and egress for emergency service personnel and residents is available;
- (v) Provide for ongoing management and maintenance of bushfire protection measures; and
- (vi) Ensure that utility services are adequate to meet the needs of fire-fighters.

Liverpool City Council, upon receipt of an application for the construction of the proposed retail development, will consider if the development complies with *Planning for Bushfire Protection 2019* or refer the matter to the NSW Rural Fire Service for advice.

1.4 Documentation reviewed in the preparation of this Assessment.

The following documents were reviewed in the preparation of this report:

- Plan of proposed Woolworth Metro development prepared by Clarke Hopkins Clark;
- Aerial Photograph of the development site and surrounding lands;
- Liverpool City Council Bushfire Prone Land Map;
- *Planning for Bushfire Protection 2019* prepared by the NSW Rural Fire Service;
- Australian Standard AS3959 - 2018 '*Construction of Buildings in Bushfire Prone Areas*'.

1.5 Site Review.

Graham Swain of *Australian Bushfire Protection Planners Pty Limited* undertook an inspection of the site and surrounding areas on the 15th November 2023.

SECTION 2

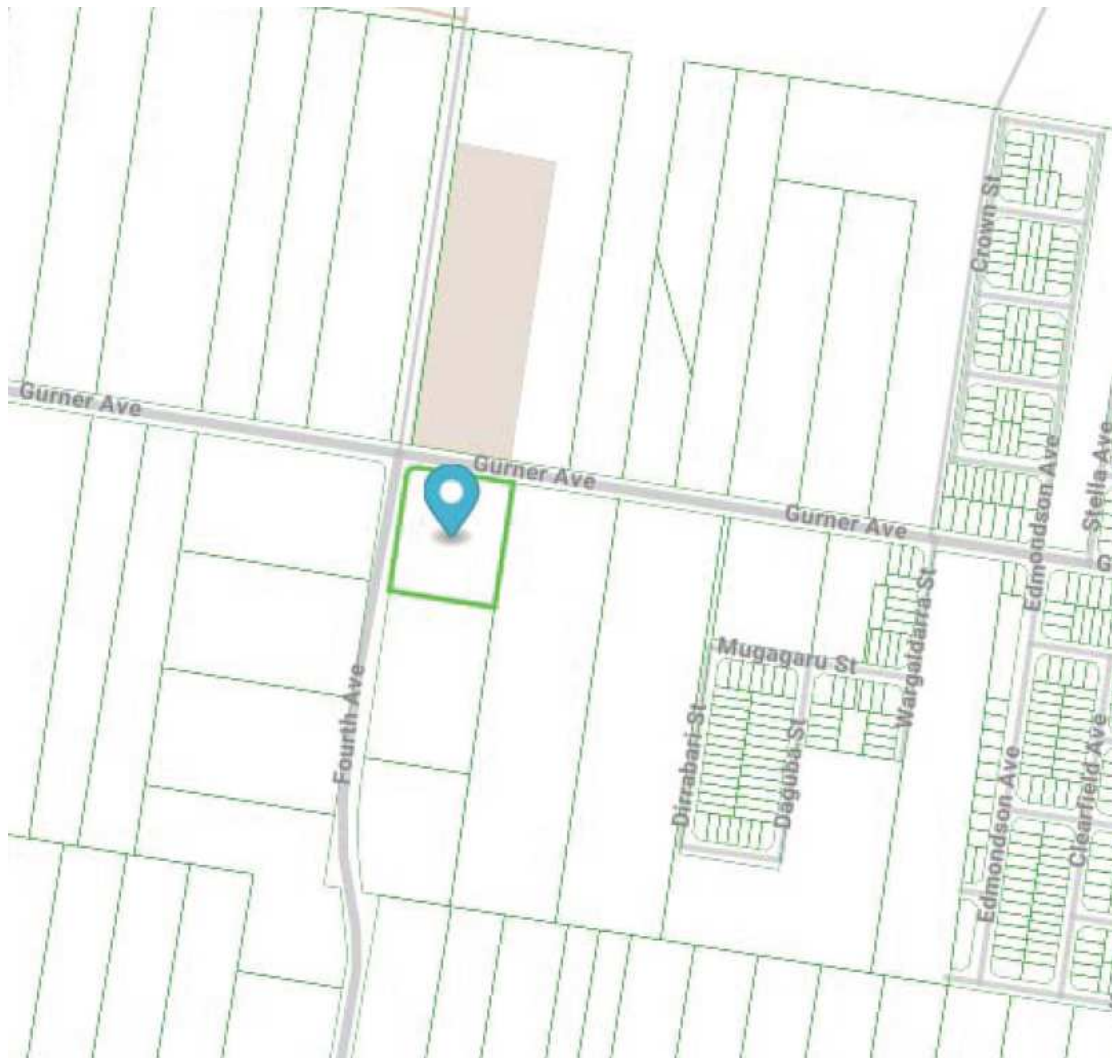
PROPERTY DESCRIPTION

2.1 Location.

The property over which the proposed retail development is planned is known as Lot 121 in DP 1220414, No. 495 Fourth Avenue, North Austral.

The development site occupies the rectangular shaped parcel of land on the south-eastern side of the intersection between Fourth Avenue and Gurner Avenue.

Figure 5 – Site Location Plan – Lot 1210 in DP 1220414, No. 495 Fourth Avenue, North Austral.



An aerial photograph of a suburban area. A large, rectangular plot of land is outlined with a thick yellow dashed line. This plot is situated east of Fourth Ave and south of Gurner Ave. Fourth Ave runs vertically through the center of the image. Gurner Ave runs horizontally across the top. To the south of the yellow-outlined plot, there is a residential area with houses and a business labeled 'Coco & Bean Gift shop'. Further south, another business labeled 'Aligned Community Care' is visible. The surrounding landscape is a mix of green grass, trees, and some buildings.

The development site contains vacant land.

(a) Northeast

The land to the east of the development site is zoned B1 Neighbourhood Centre and contains an existing dwelling and vacant land.

The land adjoining the southern boundary of the development site is zoned RE1 Public Recreation and contains vacant land. An existing dwelling and farm sheds occupy the land to the south of the RE1 zoned land.

(c) West

The land to the west of Fourth Avenue is zoned R3 – Medium Density Residential development and contains vacant land.

(d) North

The land to the north of the site, beyond Gurner Avenue, contains the Al Faisal College on land that is zoned R3 – Medium Density Residential.

Refer to Figure 6 – Aerial photograph showing development site and surrounding land use on Page 13.

2.4 Topography.

Appendix 2 of *Planning for Bushfire Protection 2019* states that slopes should be assessed, over a distance of at least 100m from a development site and that the gradient of the land should be determined which will most significantly influence the fire behaviour to the site.

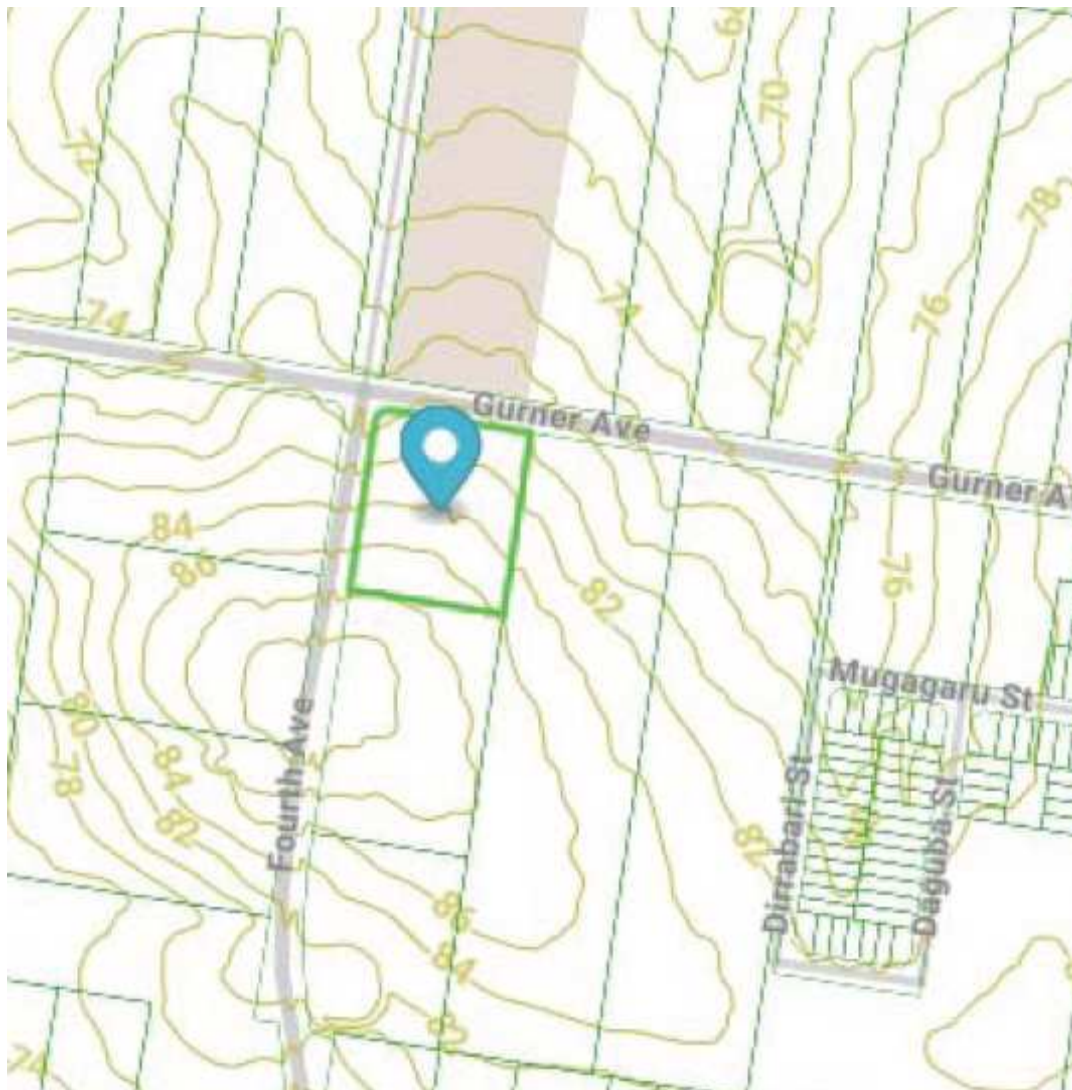
The land within the site falls to the northeast forms the apex of a low ridgeline that extends from the southeast through to the northwest.

The north-eastern portion of the site falls to the northeast towards Gurner Avenue.

The land to the east of the site falls to the northeast, extending across Gurner Avenue and the land to the west of the site falls to the northwest, extending across Gurner Avenue.

The land to the south of the site rises to the south to the knoll on the adjoining property.

Figure 7 – Contour Plan.



2.5 Vegetation within the Development Site.

Appendix A1.2 of *Planning for Bushfire Protection 2019* provides a methodology for determining the predominant bushfire prone vegetation for at least 140 metres in all directions from the development site.

Vegetation is classified using Figure A2.1 of *Planning for Bushfire Protection 2019*, which classifies vegetation types into the following groups:

- (a) Rainforest;
- (b) Wet Sclerophyll Forest;
- (c) Dry sclerophyll forest;
- (d) Woodland;
- (e) Tall Heath;
- (f) Short Heath; and
- (g) Grassland.

The vegetation within the development site consists of grassland which will be removed as part of the development proposal.

2.6 Vegetation within 140 metres of Development Site.

The vegetation on the land to the south, west and east of the development site consist of unmanaged grassland.

The College and residential properties to the north of Gurner Avenue contain managed landscaped gardens.

2.7 Significant Environmental Features within the Development Site.

The land within the development site does not contain Littoral Rainforests under SEPP Coastal Management 2018; land slip areas; National Parks Estate; areas of geological interest and steep lands [>18 degrees]; SEPP Koala Habitat Protection 2019 or riparian corridors.

2.8 Known Threatened Species, Population or Ecological Community within the Development Site.

There are no known threatened species, population or ecological communities within the development site.

2.9 Details and location of Aboriginal Relics or Aboriginal Place.

No Aboriginal relics or Aboriginal places are known to be located within the development site.

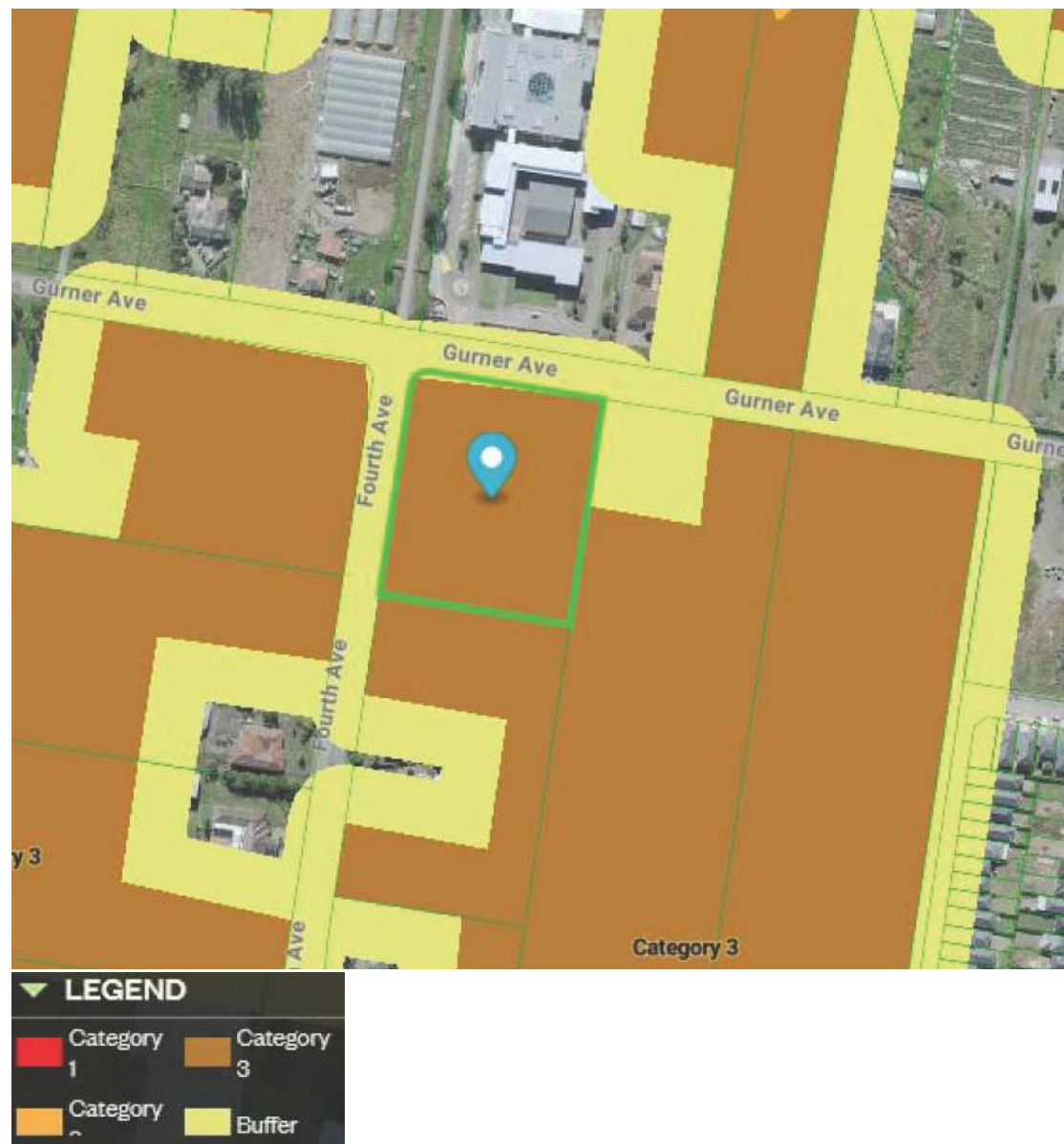
SECTION 3

PRECINCT LEVEL ASSESSMENT

3.1 Certified Bushfire Prone Land Map

Figure 8 is a copy of an extract of the Certified Liverpool City Council Bushfire Prone Land Map showing the extent of the Bushfire Prone Vegetation on the development site and adjoining land.

Figure 8 – Plan of Bushfire Prone Land.



The mapped Category 3 Bushfire Prone Vegetation consists of grassland which will be removed with the development of the land. However, this report examines the bushfire protection measures to be applied pending removal of the grassland vegetation on the adjoining land.

SECTION 4

BUSHFIRE PROTECTION ASSESSMENT

4.1 Introduction.

Chapter 1 of *Planning for Bushfire Protection 2019* states that the aim of the document is to provide for the protection of human life and minimise impacts on property from the threat of bushfire, while having regard to development potential, site characteristics and protection of the environment.

The objectives of the document are:

- (1) *Afford occupants of any building adequate protection from exposure to the impacts of a bushfire;*
- (2) *Provide for a defensible space to be located around buildings;*
- (3) *Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;*
- (4) *Ensure that safe operational access/egress for emergency service personnel and occupants is available;*
- (5) *Provide for ongoing management and maintenance of bushfire protection measures;*
- (6) *Ensure that utility services are adequate to meet the needs of fire-fighters;*

Section 8.3.10 of *Planning for Bushfire Protection 2019* states that the bushfire protection measures for commercial and industrial development is addressed through the aim and objectives of PBP (Chapter 1) and a suitable package of bushfire protection measures should be provided commensurate with the assessed level of risk.

The provisions within Chapter 7 of *Planning for Bushfire Protection 2019* should be used as a base for the development of a package of measures

A review of compliance with objectives of *Planning for Bushfire Protection 2019* is provided in the following sections.

4.2 Afford occupants of any building adequate protection from exposure to the impacts of a bushfire.

The bushfire hazard to the proposed retail building is from the grassland vegetation on the land to the east and south of the development site.

The grassland vegetation presents a low level of risk to proposed development and will be removed by the development of the adjoining land.

If the development occurs prior to the adjoining development, then an appropriate arrangement will be finalized with the adjoining land owner to create a temporary 6 metre wide Defendable Space (APZ) to the east of the development site. This will ensure the safety of the occupants of the proposed complex.

The hazard to the south of the development site consists of grassland vegetation within the RE1 zoned land. The risk to the development site is removed by the provision of the at grade carparking along the eastern boundary of the site.

The hazard to the west of the development site is removed by the managed width of Fourth Avenue.

No other aspects to the site contain vegetation which presents a bushfire hazard to the proposed complex.

4.3 Provide for a defendable space to be located around buildings.

A Defendable Space [Asset Protection Zone] of 10 metres is to be provided to the east of the buildings on the Upper Level of the complex.

The Defendable Space is provided by a 4 metre building setback to the eastern boundary plus a 6 metre wide temporary Defendable Space on the land to the east, if the adjoining land is not developed prior to the commencement of the construction of the Woolworths complex.

A minimum 40 metre wide Defendable Space is provided by the at grade carpark to the south of the complex.

4.4 Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition.

A Defendable Space of minimum 10 metres is to be provided between the building and the low-level hazard (grassland) vegetation on the land to the east, removing the risk of flame contact on the building from the east.

A Defendable Space of minimum 40 metres is to be provided between the building and the low-level hazard (grassland) vegetation on the land to the south, removing the risk of flame contact on the building from the south.

Due to the risk from a bushfire occurrence in the grassland vegetation on the land to the east and south, the application of bushfire construction standards to satisfy the requirements of Section 3 and Section 7 (BAL 29) of A.S. 3959 – 2018 – ‘*Construction of Building in Bushfire Prone Areas*’ is required.

Note: Should the grassland vegetation on the land to the east and south of the development site be removed by future development or managed to a maximum height of 200mm, the requirement to construct the building/s to comply with A.S. 3959 – 2018 will be removed.

4.5 Ensure that safe operational access/egress for emergency service personnel is available.

4.5.1 Public Roads:

The development site has frontage to Fourth Avenue and Gurner Avenue with vehicular access to the building and carpark via the driveway off Fourth Avenue.

Both roads are constructed to a standard which conforms to the deemed-to-satisfy specifications for Public Roads as defined by Appendix 3 of *Planning for Bushfire Protection 2019*.

4.5.2 Fire Trail Access.

There are no fire trails provided or required within the development proposal.

4.5.3 Emergency Response Access / Egress.

The development proposal provides for vehicular access/egress off Fourth Avenue into the open Carparking area in the southern portion of the site and the basement carpark on the lower level.

The emergency access/egress within the development provides safe operational access for emergency service personnel and customers/staff of the retail development and satisfies item (iv) of the Objectives of *Planning for Bushfire Protection 2019*.

4.6 Provide for ongoing management and maintenance of bushfire protection measures.

The temporary Defendable Space on the land to the east of the development site will be maintained by Woolworths, pending development of the adjoining land.

4.7 Ensure that utility services are adequate to meet the needs of fire-fighters.

The proposed retail development will have a reticulated water supply connected to the Sydney Water Supply mains, located in Fourth Avenue.

The fire fighting system to the development will include a fire main with Booster Valves and sprinklers/hydrants installed in compliance with A.S. 2419.1 – 2021.

4.8 Emergency Management for Bushfire Fire Protection / Evacuation.

There is no requirement for the preparation of a Bushfire and Emergency Evacuation Plan for the development.

SECTION 5

RECOMMENDATIONS

Recommendation 1:

Management of Defendable Space on land to the east of the development site:

The temporary Defendable Space on the land to the east of the development site shall be maintained as an Inner Protection Area in accordance with Appendix 4 of *Planning for Bushfire Protection 2019* and the NSW Rural Fire Service's "Standards for Asset Protection Zones".

Recommendation 2:

Bushfire Construction Standards:

Pending development of the land to the east of the development site and management of the RE1 zoned land to the south, the building/s shall be constructed to comply with Section 3 and Section 7 (BAL 29) of A.S. 3959 – 2018 – 'Construction of Buildings in Bushfire Prone Areas'.

Note: Should the grassland vegetation on the land to the east and south of the development site be removed by future development or managed to a maximum height of 200mm, the requirement to construct the building/s to comply with A.S. 3959 – 2018 will be removed.

SECTION 6

CONCLUSION

Australian Bushfire Protection Planners Pty Limited, at the request of *Woolworths Limited*, has undertaken the bushfire consultancy on the proposed retail development on Lot 121 in DP 1220414, No. 495 Fourth Avenue, North Austral.

The development proposal seeks approval to construct a two-storey building which contains a Woolworths Supermarket, specialty retail shops and Commercial space.

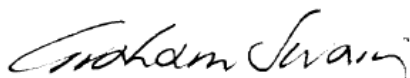
This report examines the extent of the bushfire prone vegetation adjacent to and within the development site and confirms that the proposed retail development has exposure to a low level of risk from a bushfire that may occur in the grassland vegetation on the land to the east and south of the development site.

The risk from a fire occurring on the adjoining land is low.

However, pending development of the land to the east (and west) and maintenance of the RE1 zoned land to the south of the development site there is a requirement to provide bushfire construction standards to the building/s.

These standards are less than BAL 40.

The removal of the grassland vegetation will remove the hazard and the need to apply bushfire protection measures to the proposed complex.



Graham Swain,
Managing Director,
Australian Bushfire Protection Planners Pty Limited.

Fire Protection Association Australia Member No 48781

REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2019*;
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2020*;
- Building Code of Australia;
- Australian Standard A.S 3959-2018 “*Construction of Buildings in Bushfire Prone Areas*”;
- *Liverpool City Bushfire Prone Land Map*.