



# BUSHFIRE ATTACK LEVEL

## FOR FUTURE DWELLINGS AT STAGE I THE GARDENS MEDOWIE

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#### Disclaimer

*Notwithstanding the precautions adopted within this report, it should always be remembered that bushfires burn under a wide range of conditions. An element of risk, no matter how small always remains, and although the standard is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.*



## Executive Summary

This report provides an assessment of the Bushfire Attack Level (BAL) at Stage 1 within The Gardens, Medowie in accordance with AS3959 (2018) *Construction of Buildings in Bushfire Prone Areas* Appendix A - Method 1. This report and mapping are not to be used to place wholesale restrictions on lots reflecting the resulting BAL mapping presented within. Future development of surrounding stages may result in lower BALs than detailed in this report.

This BAL report has shown that any future dwellings within the site will be able to meet the requirements of both AS3959-2018 and the PBP 2019 (NSW Rural Fire Service NSW).



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### **Disclaimer:**

*The BALs as depicted within this report and mapping have been determined by management of vegetation to the east and south where land will be cleared for future stages. It should be noted that conditions may change over time that may result in different BALs for the lots.*

*Although every care has been taken in the preparation of this BAL Report, McCloy Group and the author accept no responsibility in errors in this report or damaged resulting from the information. It should be noted that upon lodgement of a Development Application (DA) with Council or Rural Fires Service they may recommend additional construction requirements (BALs).*



## Terms & Abbreviations

Abbreviation	Meaning
APZ	Asset Protection Zone
AS2419 -2005	Australian Standard – Fire Hydrant Installations
AS3959-2018	Australian Standard – Construction of Buildings in Bush Fire Prone Areas
BAL	Bushfire Attack Level
BCA	Building Code of Australia
BPA	Bush Fire Prone Area (Also Bushfire Prone Land)
BPL Map	Bush Fire Prone Land Map
BPMs	Bush Fire Protection Measures
<i>EPA Act</i>	<i>NSW Environmental Planning and Assessment Act 1979</i>
FFDI	Forest Fire Danger Index
FMP	Fuel Management Plan
ha	hectare
IPA	Inner Protection Area
LGA	Local Government Area
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection 2019
PSC	Port Stephens Council
RF Act	Rural Fires Act 1997
RF Regulation	Rural Fires Regulation



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# I INTRODUCTION

Firebird ecoSultants Pty Ltd has been engaged by McCloy Group Pty Ltd to undertake a Bushfire Attack Level (BAL) report for Stage 1 at The Gardens, Medowie hereafter referred to as the “site”. Refer to Appendix A for Sales Plan.

This BAL report assesses the application of Australian Standard AS3959-2018 ‘Construction of Buildings on Bushfire Prone Land’ and Appendix 1 of Planning for Bushfire Protection 2019 (PBP, 2019). AS3959 (2018) Appendix A – Method 1 has been used in this assessment.

This report has been prepared to provide guidance to prospective purchasers of what Bushfire Attack Levels (BALs) may be required for future dwellings within the site.

## I.1 Site Particulars

<b>Locality:</b>	Stage 1 at The Gardens, Medowie
<b>LGA:</b>	Port Stephens Council (PSC)
<b>Forest Danger Index:</b>	100
<b>Current Land Use:</b>	Approved subdivision



## 2 METHODOLOGY

The Australian Standard for assessing the BAL and providing the detailed requirements for construction has been reviewed and amended with the latest version being adopted for use in bushfire prone areas of NSW in March 2020. This version is titled AS 3959-2018 'Construction of Buildings in Bushfire Prone Areas' (standards Australia 2018, was used in this assessment.

In addition, the NSW method of determining the bushfire attack level, found in Appendix 1 of the document 'Planning for Bushfire Protection 2019' (NSW Rural Fire Service 2019) has also been reviewed and amended to come into line with the process within AS 3959. Therefore, in NSW the methodology with AS 3959 is to be used to determine the bushfire attack level. AS3959 (2018) Appendix A – Method 1 has been used in this BAL assessment.

### 2.1 Vegetation Assessment

Vegetation surveys and vegetation mapping carried out on the site has been undertaken as follows:

- Aerial Photograph Interpretation to map vegetation cover and extent.
- Confirmation of the vegetation assemblage typology present via a site inspection.

### 2.2 Slope Assessment

Slope assessment has been undertaken as follows:

- Aerial Photograph Interpretation in conjunction with analysis of electronic contour maps with a contour interval of 10m.
- On site confirmation of slope measurements.



## 3 SITE ASSESSMENT

A site inspection was undertaken on the site. The following assessment has been undertaken in accordance with the requirements of PBP (RFS, 2019) and AS3959-2018.

### 3.1 Vegetation and Slope Assessment

An assessment of the slope affecting the bushfire behaviour was undertaken for a distance of 100m from the edge of the lot boundaries in the direction of the bushfire hazard. The slopes leading away from the site have been evaluated to identify both the average slope and by identifying the maximum slope present. These values help determine the level of gradient which will most significantly influence the fire behaviour of the site. Refer to Table 1 for Vegetation and Slope Assessment.

**Table 3-1: Vegetation & Slope Assessment**

Direction from Site	Vegetation Classification	Effective Slope
North	Land managed as an APZ until such time that development occurs	N/A
East	Land managed as an APZ until such time that development occurs	N/A
South	Land managed as an APZ until such time that development occurs	N/A
West	Land managed as an APZ until such time that development occurs	N/A



## 4 BUSHFIRE ATTACK ASSESSMENT

### 4.1 Bushfire Attack Assessment

To determine the bush fire attack and required Bushfire Attack Level (BAL) for the proposed subdivision the following steps were followed:

1. Determination of the vegetation types within 100m of the site, as assessed in section 3 of this report.
2. Determination of the distance between the vegetation and future dwellings has been assessed in section 4.2 of this report.
3. Determination of the effective slope as assessed in section 3 of this report.
4. A FFDI of 100 was determined for PSC LGA.

### 4.2 Determination of Bushfire Attack Levels

The results from the above steps were used to calculate the required BAL in accordance with Method 1 of AS 3959 – 2018.

The results from this bush fire attack assessment are detailed below in Table 4-1– Bushfire Attack Level (BAL) Assessment and Figure 4-1 Bushfire Attack Level Map.

**Table 4-1: Bushfire Attack Level Assessment**

Lot Number	Vegetation Type within 100m & Direction from future dwellings	Average Slope of Land (degrees)	Separation Distance from Identified Vegetation	Bushfire Attack Level (BAL)	Construction Section
101	Managed Land	Flat	>100 m	BAL-LOW	N/A
102	Managed Land	Flat	>100 m	BAL-LOW	N/A
103	Managed Land	Flat	>100 m	BAL-LOW	N/A
104	Managed Land	Flat	>100 m	BAL-LOW	N/A
105	Managed Land	Flat	>100 m	BAL-LOW	N/A
106	Managed Land	Flat	>100 m	BAL-LOW	N/A
107	Managed Land	Flat	>100 m	BAL-LOW	N/A
108	Managed Land	Flat	>100 m	BAL-LOW	N/A

Lot Number	Vegetation Type within 100m & Direction from future dwellings	Average Slope of Land (degrees)	Separation Distance from Identified Vegetation	Bushfire Attack Level (BAL)	Construction Section
109	Managed Land	Flat	>100 m	BAL-LOW	N/A
110	Managed Land	Flat	>100 m	BAL-LOW	N/A
111	Managed Land	Flat	>100 m	BAL-LOW	N/A
112	Managed Land	Flat	>100 m	BAL-LOW	N/A
113	Managed Land	Flat	>100 m	BAL-LOW	N/A
114	Managed Land	Flat	>100 m	BAL-LOW	N/A
115	Managed Land	Flat	>100 m	BAL-LOW	N/A
116	Managed Land	Flat	>100 m	BAL-LOW	N/A
117	Managed Land	Flat	>100 m	BAL-LOW	N/A
118	Managed Land	Flat	>100 m	BAL-LOW	N/A
119	Managed Land	Flat	>100 m	BAL-LOW	N/A
120	Managed Land	Flat	>100 m	BAL-LOW	N/A
121	Managed Land	Flat	>100 m	BAL-LOW	N/A
122	Managed Land	Flat	>100 m	BAL-LOW	N/A
123	Managed Land	Flat	>100 m	BAL-LOW	N/A
124	Managed Land	Flat	>100 m	BAL-LOW	N/A

This report and mapping are not to be used to place wholesale restrictions on lots reflecting the resulting BAL mapping presented within. Building location and design will influence the application of the required BALs. For example, a lot indicated as being affected by BAL-29 may have those facades that are not exposed to the bushfire threat constructed to a lower BAL (i.e. BAL-19), reducing the costs of construction and providing more flexibility in choice of external building materials.





FIGURE 5-1: BUSHFIRE ATTACK LEVELS

CLIENT  
SITE DETAILS  
DATE

Client  
Stage 1 The Gardens Medowie  
10 June 2020

**Legend**

- Subject Site
- 100m Buffer
- BAL Low
- Managed Land
- Land to be managed as an APZ until development occurs

NORTH

0 25 50 75

SCALE 1500 @ A3

**Pd**  
PIXELDRAFTING

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## 5 CONCLUSION

This report provides an assessment of the Bushfire Attack Level (BAL) in accordance with AS3959-2018 Construction of Buildings in Bushfire Prone Areas for Stage 1 at The Gardens, Medowie.

This BAL report assesses the application of Australian Standard AS3959-2018 'Construction of Buildings in Bushfire Prone Land' and Appendix 1 of Planning for Bushfire Protection 2019 (PBP, 2019).

This report and mapping are not to be used to place wholesale restrictions on lots reflecting the resulting BAL mapping presented within. Future development of surrounding stages may result in lower BALs than detailed in this report.

This BAL report has shown that any future dwellings within the site will be able to meet the requirements of both AS3959-2018.



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### ***Disclaimer:***

The BALs as depicted within this report and mapping have been determined by vegetation within 100m of Stage 1 at the time of the assessment June 2020. It should be noted that conditions may change over time that may result in different BALs for the lots.



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## 6 BIBLIOGRAPHY

NSW Rural Fire Service (RFS) 2019. Planning for Bushfire Protection: A guide for Councils, Planners, Fire Authorities, Developers and Home Owners. Australian Government Publishing Service, Canberra.

Standards Australia. 2018. Construction of buildings in bushfire-prone Areas, AS3959, Fourth Edition 2018, Standards Australia International Ltd Sydney



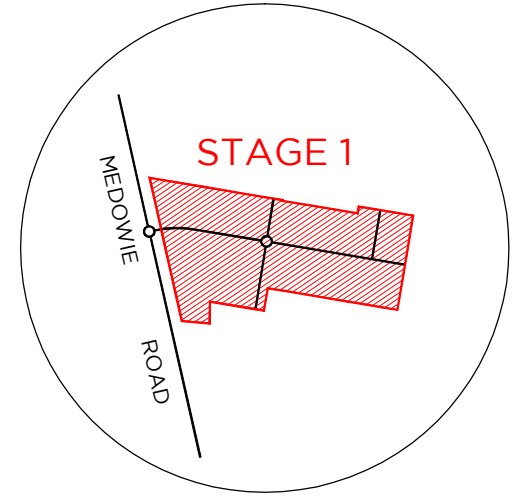
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## APPENDIX A      SALE PLAN



- s — s — s — s — s — PROPOSED SEWER LINE
- (A) - EASEMENT TO DRAIN WATER 1.5 WIDE
  - (B) - EASEMENT TO DRAIN WATER 2.5 WIDE
  - (C) - EASEMENT FOR SIGNAGE VARIABLE WIDTH
  - (D) - RIGHT OF CARRIAGEWAY & EASEMENT FOR SERVICES VARIABLE WIDTH
  - (E) - EASEMENT FOR ELECTRICITY & OTHER PURPOSES 3.7 WIDE

(GENERAL RESTRICTIONS ON THE USE OF LAND EFFECTS ALL LOTS. ALL AREAS, DIMENSIONS & EASEMENTS ARE SUBJECT TO FINAL SURVEY)



**THE GARDENS**  
MEDOWIE

# SALE PLAN FOR THE GARDENS STAGE 1



LOCALITY PLAN