Firebird ecoSultants Pty Ltd
ABN-16 105 985 993

26th August 2025

NSW Rural Fire Service
Locked Bag 17
Granville NSW 2142

Dear Elaine,

RE: Development Application
s100B – Subdivision – Torrens Title Subdivision
6 Wilton Drive and 62 Mount Vincient Road, East Maitland NSW 2323, 8//DP855275, 141//DP1225076, 142//DP1225076

Please find herewith additional information as requested by RFS and as discussed with you in **BOLD** with the response following:

- **Demonstrate compliance with Table 5.3b of Planning for Bush Fire Protection 2019, providing plans with a continuous perimeter road minimising the interface of the residential development to the hazard (between proposed lots 518, 519 and 523 and vegetation on Lot 601)**

  APZs have been provided for lots 518, 519 and 523 within the electrical / powerline easement to the East within Lot 601. This easement provides a physical separation between the vegetation on Lot 601 and the residential subdivision. An 88b instrument will be placed on this easement within Lot 601 to manage this land as an Inner Protection Area (IPA). The management of vegetation within this easement is consistent with the requirements of ISSC3 (2016) Guide for the Management of Vegetation in the Vicinity of Electricity Assets. Therefore, no perimeter road is required between proposed lots 518, 519 and 523 as a defendable space is provided in place of the perimeter road. See below.

- **Should the perimeter road not be provided between proposed lots 518, 519 and 523 and vegetation on Lot 601, the applicant must demonstrate the lots can accommodate the required asset protection zone (APZ) within the site and accommodate a building envelope within the required setbacks and a s88b instrument or similar be placed on the lots preventing the construction of habitable spaces within the APZ.**

  APZs have been provided for lots 518, 519 and 523 within the electrical / powerline easement to the East within Lot 601. The attached plan identifies the relevant APZs and provides for a building envelope on each of the lots to demonstrate that they can be developed. An 88b instrument will be placed on this easement within Lot 601 to manage this land as an Inner Protection Area (IPA).

- **It is noted that Council has advised that the provision of offsite APZs is not supported. The RFS does not encourage Asset protection zones on adjoining land. Should the applicant continue to pursue reliance of an APZ on adjoining land for proposed lots 518, 519 and 523, it will be considered to be a performance-based solution. In this case, the applicant must demonstrate compliance with Section 3.2.5 Planning for Bush Fire Protection 2019 with regards to APZs on adjoining land. The owner of the adjoining land must provide a written guarantee to support agreement and consent to the easement being managed to inner protection area (IPA) standard in perpetuity, in accordance with Appendix 4 of Planning for Bush Fire 2019 and include details of the responsibility of maintenance.**

  The APZ is located wholly within the boundaries of the development site on future proposed Lot 601. It is not located off-site or on adjoining lands. The APZ utilises an existing overhead power easement which comprises cleared and managed land. An 88B can be included on title to ensure that this area continues to be managed as an IPA.

- **Staging is to be revised to provide a secondary access from development of stage 2.**

  Refer to Attachment 2 site plans showing the secondary access which is to be provided at the time of Stage 3 construction.

  For development within Stage 1 and 2, there will be direct access to Road 1 and Road 2 and a temporary turning head can be provided for efficient access / egress until such time that the secondary access is provided by Road 6. Furthermore, Road 1 will not be cut off by bushfire hazards.

- **Provide details of temporary asset protection zones for each stage of the development in accordance with section 3.2.1 of Planning for Bush Fire Protection 2019 for Staged developments.**

  The entire site will be managed as an APZ until such time that development occurs and removes the hazards. Refer to Attachment 3.

- **Provide detention basin plans details that clearly define the vegetation classification planned for the basin that ensures the area will not create a future bush fire risk.**

  The detention basin will be planted with primarily native grasses and turf on the external batters. An access road is to be provided for maintenance around the top of the basin.

The APZ that has been provided within the updated bushfire assessment is for grassland fuel loads and consistent with the planting / revegetation of the detention basin. Road 5 provides sufficient permanent separation between the grasslands (even within the basin) and future residential development.

If you have any further enquiries regarding the above, please do not hesitate to contact the writer.

Yours faithfully
Firebird EcoSultants Pty Ltd

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

Sarah Jones
B.Env.Sc., G.DIP.DBPA (Design for Bushfire Prone Areas)
FPA BPAD-A Certified Practitioner (Certification Number BPD-PA-26512)
Ecologist / Bushfire Planner

Attachment 1 – Bushfire Threat Assessment Report

BUSHFIRE THREAT ASSESSMENT

FOR
PROPOSED 77 LOT RESIDENTIAL SUBDIVISION AT

6 WILTON DRIVE & 62 MOUNT VINCIENT ROAD,

EAST MAITLAND NSW 2323

Prepared by:

Firebird ecoSultants Pty Ltd
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Site Details:	6 Wilton Drive and 62 Mount Vincient Road, East Maitland NSW 2323
Prepared by:	***Sarah Jones B.Env.Sc., G.Dip.DBPA (Design in Bushfire Prone Areas)*** ***Firebird ecoSultants Pty Ltd*** **A**BN – 16 105 985 993 PO Box 354, Newcastle NSW 2300 M: 0414 465 990 Email: sarah@firebirdeco.com.au T: 02 4910 3939 Fax: 02 4929 2727
Prepared for:	Hunterland
Reference No.	Hunterland – East Maitland – August 2025
Draft Document Date:	15/07/2025
Finalised Document Date:	Version 2 - 26/08/2025
Author:	Azmina Shafie and William McCallum
Reviewer:	Sarah Jones

Disclaimer

Legal status: *This report has been prepared as a submission document in support of a Development Application to Council and in instances may rely upon information provided by a number of external sources including Councils, State Government Agencies and it is assumed that the information provided was accurate at the time. This report cannot be relied upon for commencement of works or construction until such time as it has been endorsed or otherwise included within the consent conditions issued by Council as part of the DA determination. 4.14 applications (under the Environmental Planning and Assessment Act 1979) and all infill development applications may be referred by Council to the NSW Rural Fire Service for review and concurrence during the DA process. S100B applications under the Rural Fires Act 1997 (subdivisions and Special Fire Protection Purpose Developments), Flame Zone determinations and Alternate Solutions must be referred by Council to the NSW Rural Fire Service for review and receipt of a Bushfire Safety Authority (BSA) or other such recommended conditions from the NSW Rural Fire Service before the consent can be granted. The onus is on the applicant to cross reference this document with any conditions of consent issued by Council or any requirements supplied by the NSW Rural Fire Service following development approval. The onus is on the applicant to provide them to us and request this review. Where any discrepancy between this document and the development approval or the NSW Rural Fire Service requirements is found, the conditions of consent always take precedence until such time as an application to review, amend or vary these conditions is approved.*

Disclaimer: *This report has been prepared with due care and diligence by Firebird EcoSultants Pty Ltd and the statements and opinions contained in this report are given in good faith and in the belief on reasonable grounds that such statements and opinions are correct and not misleading bearing in mind the necessary limitations noted in previous paragraphs. Further, no responsibility is accepted by Firebird ecoSultants Pty. Ltd. or any of its officers or employees for any errors, including errors in data which is supplied by a third party, or which Firebird ecoSultants Pty. Ltd. is required to estimate, or omissions howsoever arising in the preparation of this report, provided that this will not absolve Firebird ecoSultants Pty. Ltd. from liability arising from an opinion expressed recklessly or in bad faith. Any representation, statement of opinion, or advice expressed or implied in this document is made in good faith on the basis that Firebird ecoSultants Pty. Ltd. employees and / or agents are not liable (whether by reason of negligence, lack of care or any other reason) to any person, company or their agents for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement or advice referred to above.*

Executive Summary

A Bushfire Threat Assessment Report (BTA) has been prepared by Firebird ecoSultants Pty Ltd at the request of Hunterland for a proposed 77 lot residential subdivision at 6 Wilton Drive & 62 Mount Vincient Road, East Maitland NSW 2323. The report forms part of the supporting documentation for a Development Application (DA) to be submitted to Maitland City Council (MCC) because the site is mapped as Bushfire Prone Land (BPL) under the Environmental Planning & Assessment Act 1979 (s10.3 – Bush fire prone land).

This report has been undertaken in accordance with NSW RFS Request for Further Information referenced DA20240906003672-S38-1 and dated 29th May 2025. For the purposes of this report, the Request for Further Information will be referred to as RFS RFI. Refer to Appendix C.

The development is required to satisfy EP&A Act 1979 (Section 4.46 – What is Integrated Development) for the residential subdivision and the relevant Council will refer the BAR to the NSW RFS to satisfy the Rural Fire Act 1997 (s100B) for the subdivision.

This Report demonstrates how the development conforms with the document titled 'Planning for Bushfire Protection' (PBP). The aim of PBP is to provide for the protection of human life and minimise the impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment (p.10) as well as AS3959-2018 Construction of Buildings in Bush Fire Prone Areas.

Recommendations are provided with regard to fuel management, access, provision of emergency services, building protection and construction standards to facilitate an acceptable level of bushfire protection.

In summary, the following is recommended to enable the proposal to meet the relevant legislative requirements for the proposed subdivision:

1. **Asset Protection Zone (APZ) - The APZ provides space and reduced fuel loads to ensure radiant heat levels at the buildings are below critical limits and to prevent direct flame contact.**

    - APZs have been provided in accordance with Table A1.12.2 in PBP 2019 for all lots with the exception of proposed Lot 218 which has been undertaken in accordance with Appendix B-Detailed Method 2. See Figure 4-1 for APZs on proposed lots. The APZ will occur within the allotment to be managed by the future landowner as part of a suitable instrument e.g. 88b instrument. Refer to Appendix D for Radiant Heat Calculations.

    - An 88b instrument is to be established over the powerline easement within proposed Lot 601 to ensure management of this land as an APZ in perpetuity.

    - These distances are to be managed as described under 'Planning for Bushfire Protection (Appendix 4 – Asset Protection Zone Requirements)' and the

document titled ‘Standards for Asset Protection Zones’.

- Based on the APZs provided Chapter 4, we understand that future dwellings may be sited to achieve 29kW/m^2, which would result in BAL-29 or less.

2. Roads - Access standards provide for emergency evacuation and firefighting operations

- The perimeter road identified on the subdivision plan (Road 5) is compliant with the following acceptable solution criteria from Table 5.3b in PBP 2019:

    - Are two-way, sealed roads;
    - Minimum 8m carriageway width kerb to kerb;
    - Parking is provided outside the carriageway width;
    - Hydrants are located clear of parking areas;
    - Are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
    - Curves of roads have a minimum inner radius of 6m;
    - The maximum grade road is 15 degrees and average grade of not more than 10 degrees;
    - The road crossfall does not exceed 3 degrees; and
    - A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

The 10.5m width of Road 5 provides the minimum 8m carriageway for two-way traffic and residential parking on the Northern side. The perimeter road occurs between the Southern boundary of Lot 218 and the Western boundary of Lot 518. No parking will occur on the Southern side. This is a through road that will be connected to the wider public road network and provides separation between the potential hazard interface and future development. Where this does not occur, a suitable APZ has been provided in accordance with Table A1.12.2 of PBP 2019 or AS3858-2018 Appendix B-Detailed Method 2.

- The non-perimeter roads identified on the subdivision plan (Road 1, Road 2, Road 3, Road 4 and Road 6) are compliant with the following acceptable solution criteria from Table 5.3 in PBP 2019:

    - Minimum 5.5m carriageway width kerb to kerb
    - Parking is provided outside the carriageway width;
    - Hydrants are located clear of parking areas;
    - Roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
    - Curves of roads have a minimum inner radius of 6m;
    - The road crossfall does not exceed 3 degrees; and
    - A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

Road 1 (11m carriageway) provides the minimum 5.5m carriageway for two-way traffic and residential parking on both sides.

Roads 2, 3, 4 and 6 provide an 8m carriageway width and 4.5m verge / footpath on each side (17m wide road reserve). On street parking will be permitted, usually partially within the verge, to ensure a clear vehicular path of travel is maintained. Roll top kerb and guttering is recommended to be provided for the internal roads. If parking occurs on both sides of the road in front of private residences, the 8m carriageway will still be able to provide access for firefighters (if required) with a 3-4m wide one-way travel lane. However, it is expected that firefighting vehicles would utilise Road 1 and Road 5 as these are closest to the potential hazard interface and provides more than sufficient width for travel and parking.

Road 6 will restrict parking to the Northern side allowing 5.5m carriageway and remaining 2.5m for parking. Residential development occurs for the first approx. 142m and then continues East to connect to Wilton Drive.

3. Construction Standards – Construction standards seek to increase the protection of the habitable buildings from bushfire. The shorter the APZ (distance between the external wall of the habitable building and the unmanaged vegetation), then the higher the construction standard, which is referred to as the BAL

- Based on the APZs provided above, the proposed dwellings may be sited to achieve 29kW/m^2, which would result in BAL-29 or less. However, all future buildings will be subject to a separate Bushfire Assessment Report (BAR) at a future point in time.

4. Water Supplies – A water supply is required for firefighting operations

- An assessment of the water supply has identified that reticulated water and associated fire hydrants is to be extended into the development area and consistent with the following requirements:

    a. Reticulated water is to be provided to the development where available;
    b. Fire hydrant, spacing, design and sizing complies with the relevant clauses of the Australian Standard AS 2419.1:2017;
    c. Hydrants are not located within any road carriageway; and
    d. Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2017.

I certify the development conforms to the relevant specifications and requirements of Planning for Bushfire Protection 2019

Sarah Jones
B.Env.Sc., G.Dip.DBPA (Design for Bushfire Prone Areas)
FPA BPAD-A Certified Practitioner (Certification Number BPD-PA-26512)
Ecologist / Bushfire Planner

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
BCA	Building Code of Australia
BPA	Bush Fire Prone Area (Also Bushfire Prone Land)
BFPL Map	Bush Fire Prone Land Map
BPMs	Bush Fire Protection Measures
BFSA	Bush Fire Safety Authority
CC	Construction Certificate
DA	Development Application
EP&A Act	*NSW Environmental Planning and Assessment Act 1979*
FFDI	Forest Fire Danger Index
FMP	Fuel Management Plan
ha	hectare
IPA	Inner Protection Area
LGA	Local Government Area
MCC	Maitland City Council
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection 2019
PoM	Plan of Management
RF Act	Rural Fires Act 1997
RFI	Request for Further Information
RF Regulation	Rural Fires Regulation

CONTENTS

TABLES

FIGURES

1 INTRODUCTION

A Bushfire Threat Assessment Report (BTA) has been prepared by Firebird ecoSultants Pty Ltd at the request of Hunterland for a proposed 77 lot residential subdivision at 6 Wilton Drive & 62 Mount Vincient Road, East Maitland NSW 2323, hereafter referred to as the "site" (refer to Figure 1-1 for site locality). Refer to Appendix A for Proposed Site Plans.

This report has been undertaken in accordance with NSW RFS Request for Further Information referenced DA20240906003672-S38-1 and dated 29th May 2025. For the purposes of this report, the Request for Further Information will be referred to as RFS RFI. Refer to Appendix C.

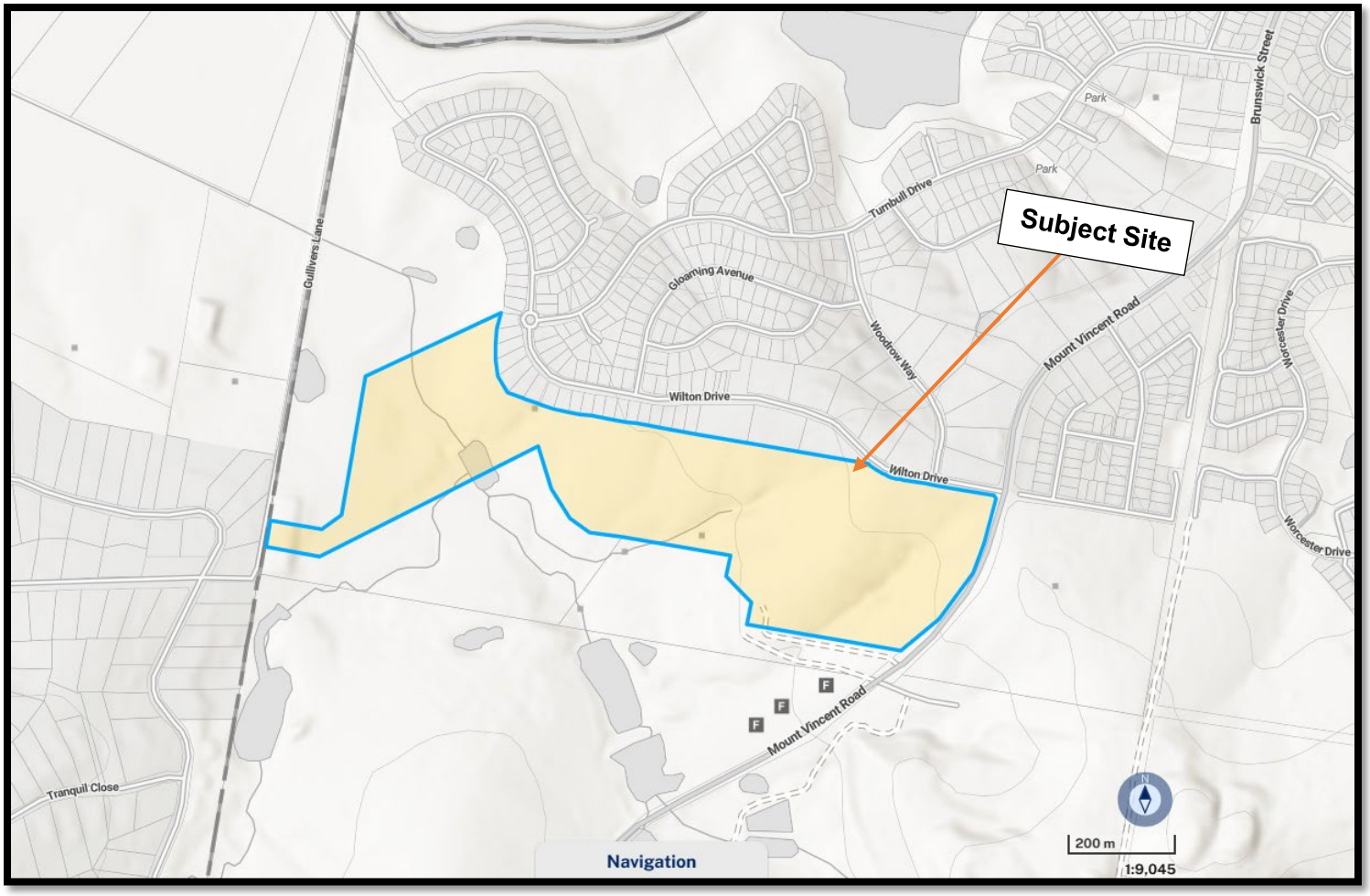
This BTA is suitable for submission with a Development Application (DA) and provides information on measures that will enable the development to comply with 'Planning for Bushfire Protection' (NSW RFS, 2019), hereafter referred to as PBP (RFS, 2019).

This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to such a proposal, and to outline the minimum mitigative measures which would be required in accordance with the provisions of the Environmental Planning and Assessment Amendment (Planning for Bushfire Protection) Regulation 2007 and the Rural Fires Amendment Regulation 2007 (RF Amendment Regulation 2007).

1.1 Site Particulars

Locality:	6 Wilton Drive & 62 Mount Vincient Road, East Maitland NSW 2323
Lot & DP:	Lot 8 in DP 855275 and Lot 141 in DP1225076
LGA:	Maitland City Council
Current Land Use:	Vacant land
Forest Danger Index:	100 FFDI

Figure 1-1: Site Location



(NSW SDT Explorer)

1.2 Description of the Proposal

This DA relates to the proposal for a residential subdivision. Refer to Appendix A for proposed plans.

1.3 Legislative Requirements

The Site has been mapped as Bush Fire Prone Land Map (BFPLM) by MCC.

This report forms part of the supporting documentation for a Development Application (DA) to be submitted to MCC.

This BTA has been prepared using current legislative requirements and associated guidelines for assessment of bushfire protection, these being:

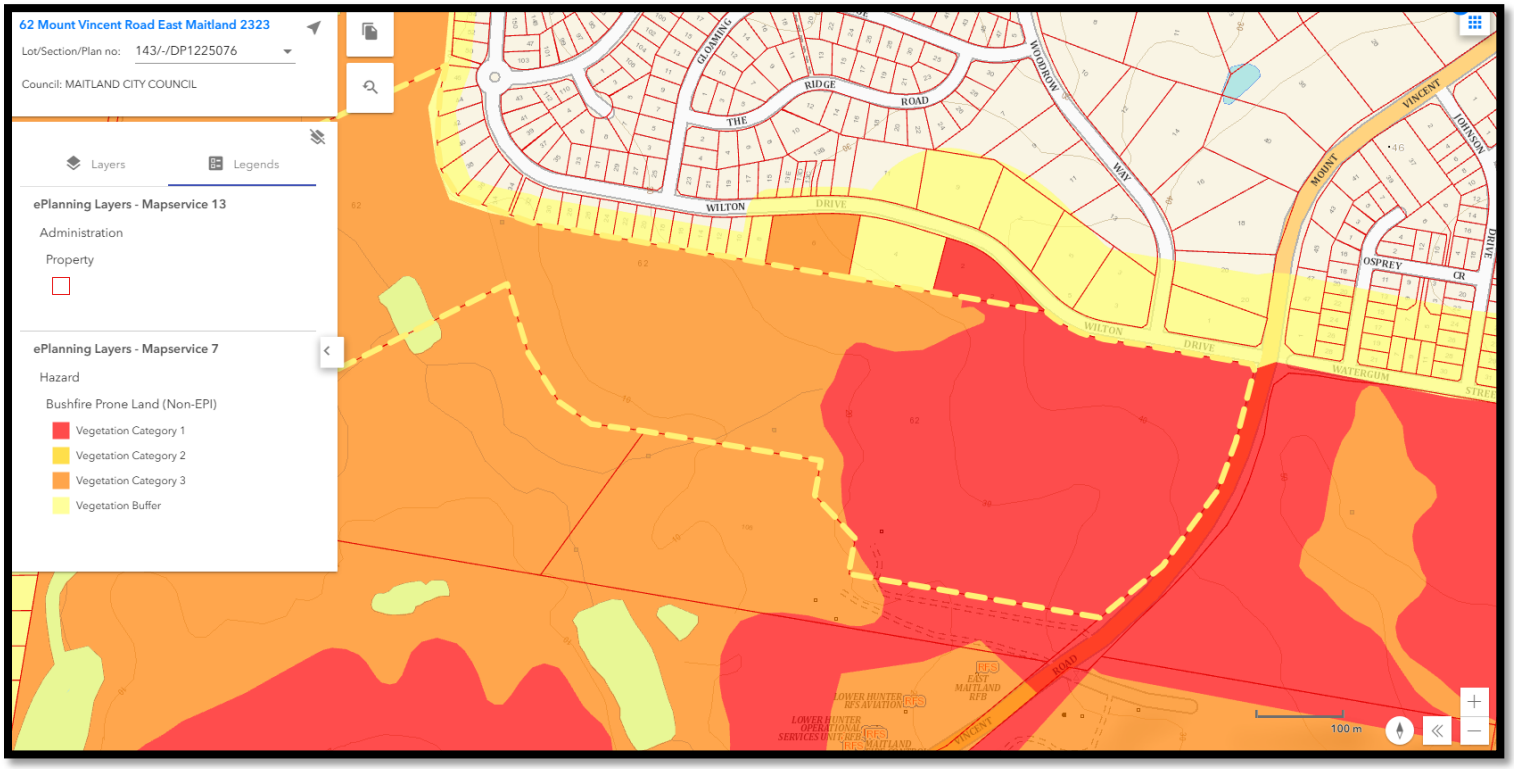
- PBP (RFS, 2019);
- AS3959-2018 Construction of Buildings in Bushfire Prone Area; and

1.4 Objectives of Assessment

This report has been prepared to address the requirements of Clause 44 of the Rural Fires Regulation. This BTA also addresses the six key Bush Fire Protection Measures (BFRMs) in a development assessment context being:

- The provision of clear separation of buildings and bush fire hazards, in the form of fuel-reduced APZ and their components being Inner Protection Areas (IPA's) and Outer Protection Areas (OPA's);
- Sitting and design of the proposal;
- Construction standards;
- Appropriate access standards for residents, fire-fighters, emergency workers and those involved in evacuation;
- Adequate water supply and pressure, and utility services; and
- Suitable landscaping, to limit fire spreading to a building.

Figure 1-2: Bushfire Prone Land Map



(NSW Planning Portal Spatial Viewer)

2 METHODOLOGY

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.

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.

3 SITE ASSESSMENT

The following assessment has been undertaken in accordance with the requirements of PBP (RFS, 2019).

3.1 Vegetation & Slope Assessment

In accordance with PBP (RFS 2019), an assessment of the vegetation over a distance of 140m in all directions from the site was undertaken. Vegetation that may be considered a bushfire hazard was identified in all directions from the site. This assessment is depicted in Table 3-1 and Figure 3-1 that shows the vegetation post development.

In accordance with PBP (RFS 2019), an assessment of the slope that the vegetation considered a bushfire hazard was undertaken and the results are presented in Table 3-1 below.

Table 3-1: Vegetation Classification

Direction	Vegetation Type	Slope
North	Residential Development	N/A
Southeast / East	Grassland within overhead powerline easement followed by Forest (Hunter Macleay Dry Sclerophyll Forest). This land being Lot 601 is owned by the landowners and the easement will be managed to an APZ standard. An 88b Instrument will be implemented for management of this land in perpetuity	Grassland cross slope 0°
		Forest upslope 3.4°
South	Grassland	Downslope (0-5°)
West	Grassland (also within detention basin)	Downslope (0-5°)

N

WILTON DRIVE

EXISTING OVERHEAD TO BE RELOCATED

143
DP1225076

142
DP1225076

3
DP584658

9
DP855275

10
DP855275

601

PROPOSED BASIN

RIPARIAN ZONE

EXISTING CREEK LINE

100 YEAR FLOOD LEVEL 9.73

EXISTING OVERHEAD TO BE RELOCATED TO BOUNDARY

EXISTING KERB LINE

MOUNT VINCENT ROAD

ROAD 1

ROAD 2

ROAD 3

ROAD 4

ROAD 5

140m BUFFER

ZONING LINE

FRESHWATER WETLAND

GRASS LAND

FOREST

(A) EASEMENT TO DRAIN WATER 1.5 WIDE
(B) EASEMENT TO DRAIN WATER 3.0 WIDE
(C) EXISTING EASEMENT TO DRAIN WATER
(D) EXISTING EASEMENT TO FOR ELECTRICITY

TITLE: PROPOSED SUBDIVISION LOT 141 & 142 DP1225076 & LOT 8 DP855275
WILTON DRIVE EAST MAITLAND

FIGURE 3.1 VEGETATION MAP

High Definition Design Pty Ltd

KEVIN URANE 0412009891

Date: 28.08.23 Scale: 1:3000 A3 Designed: KU
Cad Ref: HD374 r12

No	Amendment	Drawn	Date
13	FIGURE 3.1	KU	21.07.25
9	DA ISSUE	KU	16.07.24
8	client issue	KU	03.07.24

Project No HD374

Drawing No FIG3-1

Revision 13

4 BUSHFIRE PROTECTION ASSESSMENT

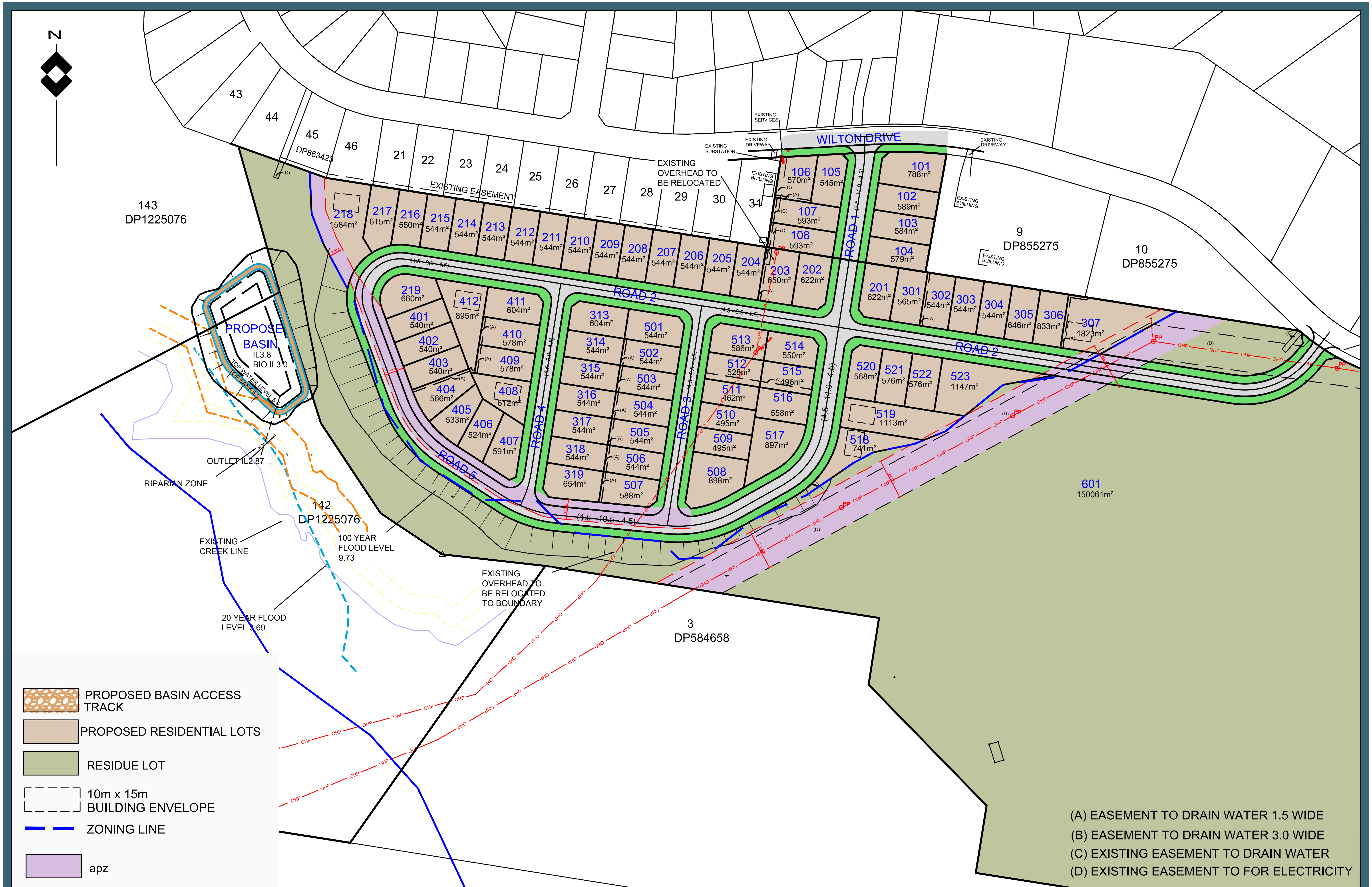
4.1 Asset Protection Zones (APZ)

The PBP (RFS, 2019) guidelines has been used to determine the widths of the APZs required for habitable buildings within the site using the vegetation and slope data identified in Section 3-1 of this report.

The site lies within Maitland Local Government Area and therefore is assessed under a FDI rating of 100. Using the results from the Site Assessment (section 3-1 of this report) the deemed to satisfy APZ requirements for the proposed buildings within the site was determined using Table A1.12.2 in PBP (RFS, 2019) and AS3959-2018 Appendix B-Detailed Method 2. Refer to Table 4-1 for required APZs for future proposed habitable buildings. Figure 4-1 shows the APZs provided for the proposed lots.

Table 4-1: Recommended APZs for Proposed Lots

Direction from Indicative Building Envelope	Vegetation Classification within 140m	Effective Slope (within 100m)	APZ to be Provided	Comment
North	Managed land – Residential development	N/A	N/A	Acceptable solution in accordance with PBP (RFS, 2019)
Southeast / East	Grassland	Cross slope / level 0^0	8m	AS3959-2018 Appendix B-Detailed Method 2. Refer to Appendix D.
	Grassland	Cross slope / level	10m	Acceptable solution in accordance with PBP (RFS, 2019)
	Hunter Macleay DSF	Upslope 3.4°	13.1m	AS3959-2018 Appendix B-Detailed Method 2. Refer to Appendix D.
	Forest	Upslope	24m	Acceptable solution in accordance with PBP (RFS, 2019)
South and West	Grassland	Downslope 3.4°	11.1m	AS3959-2018 Appendix B-Detailed Method 2. Refer to Appendix D.
	Grassland	Downslope (0-5°)	12m	Acceptable solution in accordance with PBP (RFS, 2019)



N
WILTON DRIVE
ROAD 1
ROAD 2
ROAD 3
ROAD 4
ROAD 5
EXISTING EASEMENT
EXISTING OVERHEAD TO BE RELOCATED
EXISTING SERVICES
EXISTING SUBSTATION
EXISTING DRIVEWAY
EXISTING BUILDING
143 DP1225076
142 DP1225076
9 DP855275
10 DP855275
3 DP584658
DP863423
PROPOSED BASIN
IL3.8 BIO IL3.0
TOP WATER LEVEL 5.1
TOP BANK 5.5
OUTLET IL2.87
RIPARIAN ZONE
EXISTING CREEK LINE
100 YEAR FLOOD LEVEL 9.73
20 YEAR FLOOD LEVEL 3.69
EXISTING OVERHEAD TO BE RELOCATED TO BOUNDARY
101 788m²
102 589m²
103 584m²
104 579m²
105 545m²
106 570m²
107 593m²
108 593m²
201 622m²
202 622m²
203 650m²
204 544m²
205 544m²
206 544m²
207 544m²
208 544m²
209 544m²
210 544m²
211 544m²
212 544m²
213 544m²
214 544m²
215 544m²
216 550m²
217 615m²
218 1584m²
219 660m²
301 565m²
302 544m²
303 544m²
304 544m²
305 646m²
306 833m²
307 1823m²
313 604m²
314 544m²
315 544m²
316 544m²
317 544m²
318 544m²
319 654m²
401 540m²
402 540m²
403 540m²
404 566m²
405 533m²
406 524m²
407 591m²
408 612m²
409 578m²
410 578m²
411 604m²
412 895m²
501 544m²
502 544m²
503 544m²
504 544m²
505 544m²
506 544m²
507 588m²
508 898m²
509 495m²
510 495m²
511 462m²
512 528m²
513 586m²
514 550m²
515 496m²
516 558m²
517 897m²
518 741m²
519 1113m²
520 568m²
521 576m²
522 576m²
523 1147m²
601 150061m²
PROPOSED BASIN ACCESS TRACK
PROPOSED RESIDENTIAL LOTS
RESIDUE LOT
10m x 15m BUILDING ENVELOPE
ZONING LINE
apz
(A) EASEMENT TO DRAIN WATER 1.5 WIDE
(B) EASEMENT TO DRAIN WATER 3.0 WIDE
(C) EXISTING EASEMENT TO DRAIN WATER
(D) EXISTING EASEMENT TO FOR ELECTRICITY

TITLE: PROPOSED SUBDIVISION LOT 141 & 142 DP1225076 & LOT 8 DP855275
WILTON DRIVE EAST MAITLAND

APZ PLAN

High Definition Design Pty Ltd
KEVIN URANE 0412009891

Date: 28.08.23 Scale: 1:2000 A3 Designed: KU
Cad Ref: HD374 r12

No	Amendment	Drawn	Date
9	DA ISSUE	KU	16.07.24
8	client issue	KU	03.07.24

Project No HD374
Drawing No HD16
Revision 9

5 DWELLING DESIGN & CONSTRUCTION

Building design and the materials used for construction of future dwellings should be chosen based on the information contained within AS3959-2018, and accordingly the designer / architect should be made aware of this recommendation. It may be necessary to have dwelling plans checked by the architect involved to ensure that the proposed dwellings meet the relevant Bushfire Attack Level (BAL) as detailed in AS3959-2018.

The determinations of the appropriate BAL are based upon parameters such as weather modelling, fire-line intensity, flame length calculations, as well as vegetation and fuel load analysis. The determination of the construction level is derived by assessing the:

- Relevant FFDI = 100
- Flame temperature
- Slope
- Vegetation classification; and
- Building location.

The following BAL, based on heat flux exposure thresholds, are used in the standard:

(a) **BAL – LOW** The risk is considered to be **VERY LOW**

There is insufficient risk to warrant any specific construction requirements but there are still some risks.

(b) **BAL – 12.5** The risk is considered to be **LOW**

There is a risk of ember attack.

The construction elements are expected to be exposed to a heat flux not greater than 12.5 k/m2.

(c) **BAL – 19** The risk is considered to be **MODERATE**

There is a risk of ember attack and burning debris ignited by wind borne embers and a likelihood of exposure to radiant heat.

The construction elements are expected to be exposed to a heat flux not greater than 19 kW/m2.

(d) **BAL-29** The risk is considered to be **HIGH**

There is an increased risk of ember attack and burning debris ignited by windborne embers and a likelihood of exposure to an increased level of radiant heat.

The construction elements are expected to be exposed to a heat flux no greater than 29 kW/m2.

(e) **BAL-40** The risk is considered to be **VERY HIGH**

There is much increased risk of ember attack and burning debris ignited by windborne embers, a likelihood of exposure to a high level of radiant heat and some likelihood of direct exposure to flames from the fire front.

The construction elements are expected to be exposed to a heat flux no greater than 40 kW/m^2.

(f) **BAL-FZ** The risk is considered to be **EXTREME**

There is an extremely high risk of ember attack and burning debris ignited by windborne embers, a likelihood of exposure to an extreme level of radiant heat and direct exposure to flames from the fire front.

The construction elements are expected to be exposed to a heat flux greater than 40 kW/m^2.

5.1 Determination of Bushfire Attack Levels

Using a FFDI of 100, the information relating to vegetation, slope and according to Table A1.12.5 of PBP 2019 & AS3959-2018 Appendix B-Detailed Method 2 that determined the appropriate BAL. The results from this bush fire risk assessment are detailed below in Table 5-1–Bush Fire Attack Assessment.

Table 5-1: Determination of BALs for proposed dwellings within site

Vegetation Type	Separation Distance from vegetation	Bushfire Attack Level (BAL)	Construction Section
Grassland (flat / cross slope / upslope	10-<15m	BAL-29	Sect 3 & 7 of AS3959
	15-<22m	BAL-19	Sect 3 & 6 of AS3959
	22-<100m	BAL-12.5	Sect 3 & 5 of AS3959
	>100m	BAL-LOW	No construction requirements
Grassland (cross slope) as per AS3959-2018 Appendix B-Detailed Method 2	8-<9m	BAL-29	Sect 3 & 7 of AS3959
	9-<11m	BAL-19	Sect 3 & 6 of AS3959

Vegetation Type	Separation Distance from vegetation	Bushfire Attack Level (BAL)	Construction Section
	11-<50m	BAL-12.5	Sect 3 & 5 of AS3959
	>50m	BAL-LOW	No construction requirements
Grassland (downslope 0-5°)	12-<17m	BAL-29	Sect 3 & 7 of AS3959
	17-<25m	BAL-19	Sect 3 & 6 of AS3959
	25-<50m	BAL-12.5	Sect 3 & 5 of AS3959
	>50m	BAL-LOW	No construction requirements
Forest (upslope / flat / cross slope)	24-<33m	BAL-29	Sect 3 & 7 of AS3959
	33-<45m	BAL-19	Sect 3 & 6 of AS3959
	45-<100m	BAL-12.5	Sect 3 & 5 of AS3959
	>100m	BAL-LOW	No construction requirements
Hunter Macleay Dry Sclerophyll Forest (upslope 3.4°) as per AS3959-2018 Appendix B-Detailed Method 2	13.1-<20m	BAL-29	Sect 3 & 7 of AS3959
	20-<28m	BAL-19	Sect 3 & 6 of AS3959
	28-<100m	BAL-12.5	Sect 3 & 5 of AS3959
	>100m	BAL-LOW	No construction requirements

Given the information in Table 5-1 above and APZs are installed accordingly within the lots, the proposed dwellings will be able to comply with AS3959-2018. These will be subject to further assessment under Section 4.14 of the EP&A Act depending on location of proposed dwellings and retained vegetation within the site.

6 COMPLIANCE

The proposal is for a residential subdivision therefore development standards apply. Table 6-1 details the proposed compliance with Development Standards for Residential and Rural Residential Subdivisions.

Table 6-1: Proposed Subdivision Compliance with Development Standards

Acceptable Solutions	Performance Criteria	Compliance
Asset Protection Zones		
〉 APZs are provided in accordance with Tables A1.12.2 and A1.12.3 based on the FFDI.	potential building footprints must not be exposed to radiant heat levels exceeding 29 kW/m² on each proposed lot.	**Complies with Performance Criteria –** APZs for the site have been provided in accordance with A1.12.2 in PBP 2019 and AS3959-2018 Appendix B-Detailed Method 2. Refer to Appendix D of this report.
〉 APZs are managed in accordance with the requirements of Appendix 4.	APZs are managed and maintained to prevent the spread of a fire towards the building.	**Complies with Acceptable Solution –** APZs on site are to be managed in accordance with Appendix 4 of the PBP 2019.
〉 APZs are wholly within the boundaries of the development site	the APZs is provided in perpetuity	**Complies with Acceptable Solution –** APZs occur entirely within the boundary of the site. They are primarily located within the road reserve with the exception of Lot 218 and the powerline easement within Lot 601. APZs within these lots will be managed via a suitable easement such as 88b instrument.

〉 APZs are located on lands with a slope less than 18 degrees.	APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	**Complies with Acceptable Solution –** APZs on site occur over slopes <18°.
Landscaping		
〉 landscaping is in accordance with Appendix 4; and fencing is constructed in accordance with section 7.6.	landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.	**Complies with Acceptable Solution –** All landscaping within the site will meet the requirements of the acceptable solution.
Access (General Requirements)		
〉 property access roads are two-wheel drive, all-weather roads; 〉 perimeter roads are provided for residential subdivisions of three or more allotments; 〉 subdivisions of three or more allotments have more than one access in and out of the development; 〉 traffic management devices are constructed to not prohibit access by emergency services vehicles; 〉 maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient;	firefighting vehicles are provided with safe, all-weather access to structures.	**Complies with Performance Criteria –** All other criteria of the acceptable solution are met for access roads within the site. Temporary turning heads can be provided for roads that are longer than 200m in length until such time that the next stage of development occurs. This will occur for Stage 1 and 2 until Stage 3 construction provides the secondary / alternative access into the development site. The first and primary access road will not be cut off in the event that a bushfire occurs.

〉 all roads are through roads; 〉 dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end; 〉 where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road; 〉 where access/egress can only be achieved through forest, woodland and heath vegetation, secondary access shall be provided to an alternate point on the existing public road system; and 〉 one way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.		
〉 the capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/ 〉 causeways are to clearly indicate load rating.	the capacity of access roads is adequate for firefighting vehicles.	**Complies with Acceptable Solution –** All roads within the site are designed to meet the requirements of the acceptable solution.

〉 hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression; 〉 hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005 - Fire hydrant installations System design, installation and commissioning; and 〉 there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.	there is appropriate access to water supply.	**Complies with Acceptable Solution –** The site is to be connected to reticulated water and hydrants to comply.
Perimeter Roads		
〉 are two-way sealed roads; 〉 minimum 8m carriageway width kerb to kerb; 〉 parking is provided outside of the carriageway width; 〉 hydrants are located clear of parking areas; 〉 are through roads, and these are linked to the internal road system at an interval of no greater than 500m; 〉 curves of roads have a minimum inner radius of 6m;	access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.	**Complies with Performance Criteria –** Perimeter roads are provided where applicable. An electricity easement occurs to the east of proposed Lots 523, 518 and 519, and an APZ will be implemented to ensure defendable space exists where a perimeter road is not provided. An APZ has been implemented within proposed Lot 218, to also allow for defendable space. The perimeter road (Road 5) is 10.5m wide with housing and parking provided on the internal/Northern side of the road. The road is linked to the internal road system and both main access roads (Road 1 and Road 6) to the wider road network.

〉 the maximum grade road is 15 degrees and average grade of not more than 10 degrees; 〉 the road crossfall does not exceed 3 degrees; and 〉 a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.		
Non-Perimeter Roads		
〉 minimum 5.5m carriageway width kerb to kerb; 〉 parking is provided outside of the carriageway width; 〉 hydrants are located clear of parking areas; 〉 roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m; 〉 curves of roads have a minimum inner radius of 6m; 〉 the road crossfall does not exceed 3 degrees; and 〉 a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.	access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating.	**Complies with Performance Criteria –** Roads 2, 3, 4 and 6 provide an 8m carriageway width and 4.5m verge / footpath on each side (17m wide road reserve). On street parking will be permitted, usually partially within the verge, to ensure a clear vehicular path of travel is maintained. Roll top kerb and guttering is recommended to be provided for the internal roads. If parking occurs on both sides of the road in front of private residences, the 8m carriageway will still be able to provide access for firefighters (if required) with a 3-4m wide one-way travel lane. However, it is expected that firefighting vehicles would utilise Road 1 and Road 5 as these are closest to the potential hazard interface and provides more than sufficient width for travel and parking.

Property Access		
〉 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. **In circumstances where this cannot occur, the following requirements apply:** 〉 minimum 4m carriageway width; 〉 in forest, woodland and heath situations, rural property access roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m at the passing bay; 〉 a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches; 〉 provide a suitable turning area in accordance with Appendix 3; 〉 curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;	firefighting vehicles can access the dwelling and exit the property safely.	**Complies with Acceptable Solution –** All future lots are to be connected to a public road by a driveway <70m.

〉 the minimum distance between inner and outer curves is 6m; 〉 the crossfall is not more than 10 degrees; 〉 maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and 〉 a development comprising more than three dwellings has access by dedication of a road and not by right of way. **Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above.**		
Water Supplies		
〉 reticulated water is to be provided to the development where available; 〉 a static water and hydrant supply is provided for non-reticulated developments or where reticulated water supply cannot be guaranteed; and	adequate water supplies are provided for firefighting purposes.	**Complies with Acceptable Solution –** The site is to be connected to reticulated water supply.

〉 static water supplies shall comply with Table 5.3d.		
〉 fire hydrant, spacing, design and sizing complies with the relevant clauses of Australian Standard AS 2419.1:2005; 〉 hydrants are not located within any road carriageway; and 〉 reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.	Water supplies are located at regular intervals; and the water supply is accessible and reliable for firefighting operations.	**Complies with Acceptable Solution –** Hydrants are to comply with the relevant clauses.
〉 fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.	flows and pressure are appropriate.	**Complies with Acceptable Solution –** Fire hydrants are assumed to be compliant.
〉 all above-ground water service pipes are metal, including and up to any taps; and 〉 above-ground water storage tanks shall be of concrete or metal.	the integrity of the water supply is maintained.	**Complies with Acceptable Solution –** All above ground water service pipes will meet the requirements.
Electricity Services		
〉 where practicable, electrical transmission lines are underground; 〉 where overhead, electrical transmission 〉 lines are proposed as follows: lines are installed with short pole spacing	location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	**Can Comply with Acceptable Solution –** Installation of future electricity transmission can comply with the acceptable solution.

of 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 ISSC3 Guideline for Managing Vegetation Near Power Lines.		
Gas Services		
〉 reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 - The storage and handling of LP Gas, 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.	location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	**Can Comply with Acceptable Solution –** All future dwellings are able to meet the requirements for gas services.

7 CONCLUSION & RECOMMENDATIONS

In summary, a Bushfire Risk Assessment has been undertaken for a proposed 77 lot subdivision at 6 Wilton Drive and 62 Mount Vincient Road, East Maitland NSW 2323. The report forms part of the supporting documentation for a Development Application (DA) to be submitted to MCC.

This report has been undertaken in accordance with NSW RFS Request for Further Information referenced DA20240906003672-S38-1 and dated 29th May 2025. For the purposes of this report, the Request for Further Information will be referred to as RFS RFI. Refer to Appendix C.

If the recommendations contained within this report are duly considered and incorporated, it is considered that the fire hazard present is containable to a level necessary to provide an adequate level of protection to life and property on the subdivision. In summary, the following is recommended to enable the proposal to meet the relevant legislative requirements for the proposed subdivision:

1. **Asset Protection Zone (APZ) - The APZ provides space and reduced fuel loads to ensure radiant heat levels at the buildings are below critical limits and to prevent direct flame contact.**

    - APZs have been provided in accordance with Table A1.12.2 in PBP 2019 for all lots with the exception of proposed Lot 218 which has been undertaken in accordance with Appendix B-Detailed Method 2. See Figure 4-1 for APZs on proposed lots. The APZ will occur within the allotment to be managed by the future landowner as part of a suitable instrument e.g. 88b instrument. Refer to Appendix D for Radiant Heat Calculations.

    - An 88b instrument is to be established over the powerline easement within proposed Lot 601 to ensure management of this land as an APZ in perpetuity.

    - These distances are to be managed as described under ‘Planning for Bushfire Protection (Appendix 4 – Asset Protection Zone Requirements)’ and the document titled ‘Standards for Asset Protection Zones’.

    - Based on the APZs provided Chapter 4, we understand that future dwellings may be sited to achieve 29kW/m^2, which would result in BAL-29 or less.

2. **Roads - Access standards provide for emergency evacuation and firefighting operations**

    - The perimeter road identified on the subdivision plan (Road 5) is compliant with the following acceptable solution criteria from Table 5.3b in PBP 2019:

        - Are two-way, sealed roads;
        - Minimum 8m carriageway width kerb to kerb;
        - Parking is provided outside the carriageway width;

- Hydrants are located clear of parking areas;
- Are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
- Curves of roads have a minimum inner radius of 6m;
- The maximum grade road is 15 degrees and average grade of not more than 10 degrees;
- The road crossfall does not exceed 3 degrees; and
- A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

The 10.5m width of Road 5 provides the minimum 8m carriageway for two-way traffic and residential parking on the Northern side. The perimeter road occurs between the Southern boundary of Lot 218 and the Western boundary of Lot 518. No parking will occur on the Southern side. This is a through road that will be connected to the wider public road network and provides separation between the potential hazard interface and future development. Where this does not occur, a suitable APZ has been provided in accordance with Table A1.12.2 of PBP 2019 or AS3858-2018 Appendix B-Detailed Method 2.

- The non-perimeter roads identified on the subdivision plan (Road 1, Road 2, Road 3, Road 4 and Road 6) are compliant with the following acceptable solution criteria from Table 5.3 in PBP 2019:

    - Minimum 5.5m carriageway width kerb to kerb
    - Parking is provided outside the carriageway width;
    - Hydrants are located clear of parking areas;
    - Roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m;
    - Curves of roads have a minimum inner radius of 6m;
    - The road crossfall does not exceed 3 degrees; and
    - A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

Road 1 (11m carriageway) provides the minimum 5.5m carriageway for two-way traffic and residential parking on both sides.

Roads 2, 3, 4 and 6 provide an 8m carriageway width and 4.5m verge / footpath on each side (17m wide road reserve). On street parking will be permitted, usually partially within the verge, to ensure a clear vehicular path of travel is maintained. Roll top kerb and guttering is recommended to be provided for the internal roads. If parking occurs on both sides of the road in front of private residences, the 8m carriageway will still be able to provide access for firefighters (if required) with a 3-4m wide one-way travel lane. However, it is expected that firefighting vehicles would utilise Road 1 and Road 5 as these are closest to the potential hazard interface and provides more than sufficient width for travel and parking.

Road 6 will restrict parking to the Northern side allowing 5.5m carriageway and remaining 2.5m for parking. Residential development occurs for the first approx. 142m and then continues East to connect to Wilton Drive.

3. **Construction Standards – Construction standards seek to increase the protection of the habitable buildings from bushfire. The shorter the APZ (distance between the external wall of the habitable building and the unmanaged vegetation), then the higher the construction standard, which is referred to as the BAL**

    - Based on the APZs provided above, the proposed dwellings may be sited to achieve 29kW/m^2, which would result in BAL-29 or less. However, all future buildings will be subject to a separate Bushfire Assessment Report (BAR) at a future point in time.

4. **Water Supplies – A water supply is required for firefighting operations**

    - An assessment of the water supply has identified that reticulated water and associated fire hydrants is to be extended into the development area and consistent with the following requirements:

        a. Reticulated water is to be provided to the development where available;
        b. Fire hydrant, spacing, design and sizing complies with the relevant clauses of the Australian Standard AS 2419.1:2017;
        c. Hydrants are not located within any road carriageway; and
        d. Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2017.

Provided the recommendations stated above are implemented in full Firebird ecoSultants Pty Ltd is of the opinion that the proposed development is able to meet the aims and objectives of PBP (RFS, 2019).

8 BIBLIOGRAPHY

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APPENDIX A PROPOSED SITE PLANS

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DP863423

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29

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31

EXISTING PATHWAY 4.0m WIDE

EXISTING EASEMENT

EXISTING SERVICES

EXISTING SUBSTATION AND EASEMENT

EXISTING DRIVEWAY

EXISTING BUILDING

WILTON DRIVE

EXISTING DRIVEWAY

EXISTING BUILDING

PARK
4701m²

PROPOSED BASIN
IL3.8
BIO IL3.0

218 1584m² | 217 615m² | 216 550m² | 215 544m² | 214 544m² | 213 544m² | 212 544m² | 211 544m² | 210 544m² | 209 544m² | 208 544m² | 207 544m² | 206 544m² | 205 544m² | 204 544m² | 203 650m² | 202 622m² | 106 570m² | 105 545m² | 107 593m² | 108 593m²

ROAD 1 (4.5 - 11.0 - 4.5)

101 788m² | 102 589m² | 103 584m² | 104 579m²

9
DP855275

EXISTING BUILDING

10
DP855275

ROAD 2 (4.5 - 8.0 - 4.5)

201 622m² | 301 565m² | 302 544m² | 303 544m² | 304 544m² | 305 646m² | 306 833m² | 307 1823m²

ROAD 6

520 568m² | 521 576m² | 522 576m² | 523 1147m²

519 1113m² | 518 741m²

219 660m² | 401 540m² | 402 540m² | 403 540m² | 404 566m² | 405 533m² | 406 524m² | 407 591m² | 408 612m² | 409 578m² | 410 578m² | 412 895m² | 411 604m²

ROAD 4 (4.5 - 8.0 - 4.5)

413 604m² | 414 544m² | 415 544m² | 416 544m² | 417 544m² | 418 544m² | 419 654m² | 501 544m² | 502 544m² | 503 544m² | 504 544m² | 505 544m² | 506 544m² | 507 588m²

ROAD 3 (4.5 - 8.0 - 4.5)

513 586m² | 512 528m² | 511 462m² | 510 495m² | 509 495m² | 508 898m² | 514 550m² | 515 496m² | 516 558m² | 517 897m²

(4.5 - 11.0 - 4.5)

ROAD 5

(4.5 - 10.5 - 4.5)

142
DP1225076

3
DP584658

601
145254m²

PROPOSED RESIDENTIAL LOTS

RESIDUE LOT

10m x 15m
BUILDING ENVELOPE

ZONING LINE

(A) EASEMENT TO DRAIN WATER 1.5 WIDE
(B) EASEMENT TO DRAIN WATER 3.0 WIDE
(C) EXISTING EASEMENT TO DRAIN WATER
(D) EXISTING EASEMENT TO FOR ELECTRICITY

TITLE: PROPOSED SUBDIVISION LOT 141 & 142 DP1225076 & LOT 8 DP855275
WILTON DRIVE EAST MAITLAND

SUBDIVISION PLAN

High Definition Design Pty Ltd
KEVIN URANE 0412009891

Date: 28.08.23 Scale: 1:1500 A3 Designed: KU
Cad Ref: HD374 r13

No	Amendment	Drawn	Date
10	AMEND LAYOUT	KU	12.02.25
9	DA ISSUE	KU	16.07.24
13	ADD SHARED PATH AND PARK	KU	21.08.25

Project No HD374
Drawing No HD01
Revision 13

APPENDIX B ASSET PROTECTION ZONES

APPENDIX 4

ASSET PROTECTION ZONE REQUIREMENTS

In combination with other BPMs, a bush fire hazard can be reduced by implementing simple steps to reduce vegetation levels. This can be done by designing and managing landscaping to implement an APZ around the property.

Careful attention should be paid to species selection, their location relative to their flammability, minimising continuity of vegetation (horizontally and vertically), and ongoing maintenance to remove flammable fuels (leaf litter, twigs and debris).

This Appendix sets the standards which need to be met within an APZ.

A4.1 Asset Protection Zones

An APZ is a fuel-reduced area surrounding a building or structure. It is located between the building or structure and the bush fire hazard.

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

An APZ provides:

- a buffer zone between a bush fire hazard and an asset;
- an area of reduced bush fire fuel that allows for suppression of fire;
- an area from which backburning or hazard reduction can be conducted; and
- an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.

Bush fire fuels should be minimised within an APZ. This is so that the vegetation within the zone does not provide a path for the spread of fire to the building, either from the ground level or through the tree canopy.

An APZ, if designed correctly and maintained regularly, will reduce the risk of:

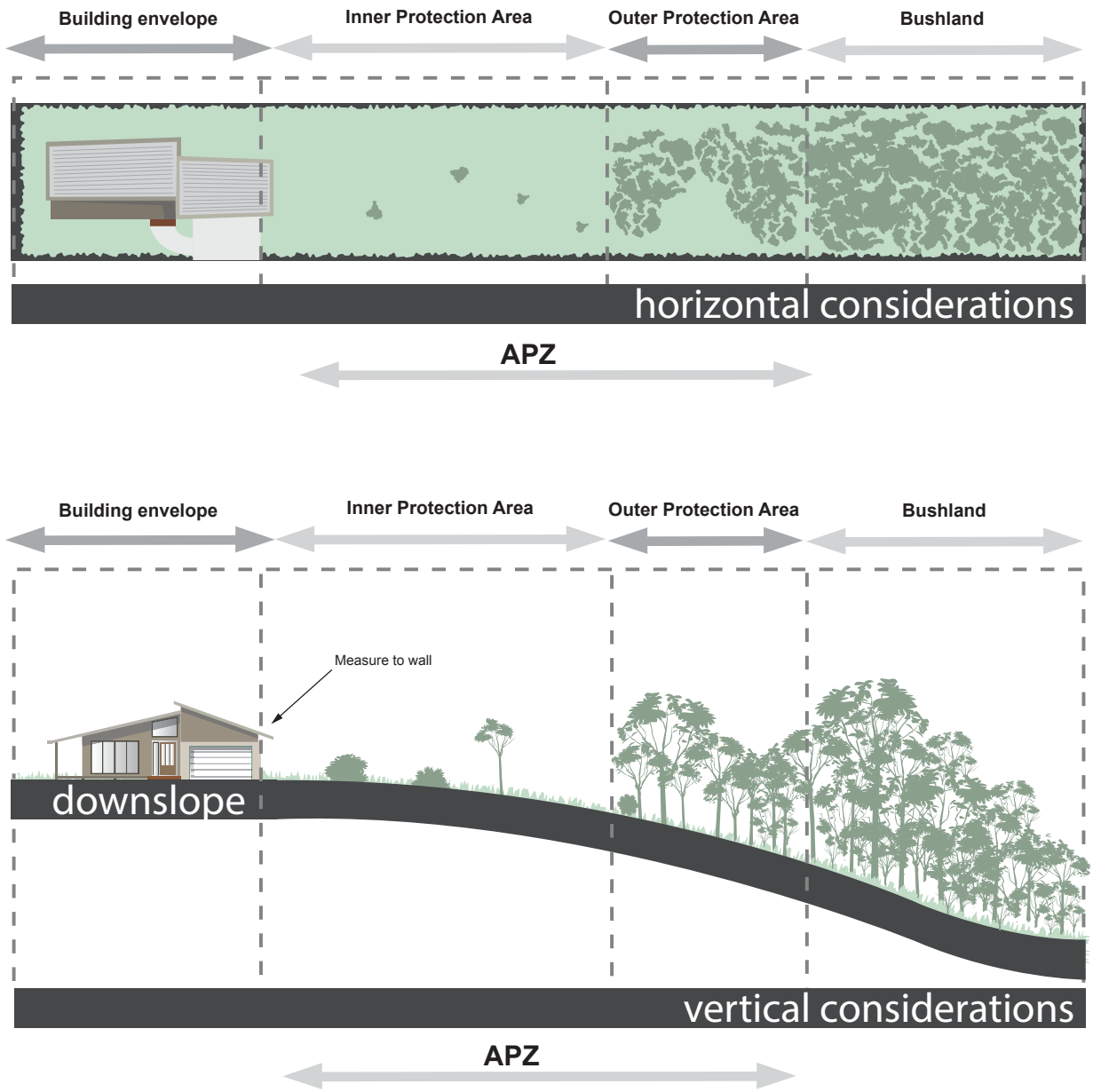
- direct flame contact on the building;
- damage to the building asset from intense radiant heat; and
- ember attack.

The methodology for calculating the required APZ distance is contained within Appendix 1. The width of the APZ required will depend upon the development type and bush fire threat. APZs for new development are set out within Chapters 5, 6 and 7 of this document.

In forest vegetation, the APZ can be made up of an Inner Protection Area (IPA) and an Outer Protection Area (OPA).

Figure A4.1

Typical Inner and Outer Protection Areas.



A4.1.1 Inner Protection Areas (IPAs)

The IPA is the area closest to the building and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defendable space. Vegetation within the IPA should be kept to a minimum level. Litter fuels within the IPA should be kept below 1cm in height and be discontinuous.

In practical terms the IPA is typically the curtilage around the building, consisting of a mown lawn and well maintained gardens.

When establishing and maintaining an IPA the following requirements apply:

Trees

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m; and
- preference should be given to smooth barked and evergreen trees.

Shrubs

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover; and
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

Grass

- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

A4.1.2 Outer Protection Areas (OPAs)

An OPA is located between the IPA and the unmanaged vegetation. It is an area where there is maintenance of the understorey and some separation in the canopy. The reduction of fuel in this area aims to decrease the intensity of an approaching fire and restricts the potential for fire spread from crowns; reducing the level of direct flame, radiant heat and ember attack on the IPA.

Because of the nature of an OPA, they are only applicable in forest vegetation.

When establishing and maintaining an OPA the following requirements apply:

Trees

- tree canopy cover should be less than 30%; and
- canopies should be separated by 2 to 5m.

Shrubs

- shrubs should not form a continuous canopy; and
- shrubs should form no more than 20% of ground cover.

Grass

- grass should be kept mown to a height of less than 100mm; and
- leaf and other debris should be removed.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bush fires. Maintenance of the IPA and OPA as described above should be undertaken regularly, particularly in advance of the bush fire season.

APPENDIX C RFS REQUEST FOR FURTHER INFORMATION

Maitland City Council
PO Box 220
MAITLAND NSW 2320

Your reference: (CNR-73054) DA/2024/731
Our reference: DA20240906003672-S38-1

ATTENTION: Madaline Smith

Date: Thursday 29 May 2025

Dear Sir/Madam,

Development Application
s100B – Subdivision – Torrens Title Subdivision
6 Wilton Drive & 62 Mount Vincent Road East Maitland NSW 2323, 8//DP855275, 141//DP1225076, 142//DP1225076

I refer to your correspondence regarding the above proposal which was received by the NSW Rural Fire Service on 03/04/2025.

The NSW RFS cannot support the development in its current form. The documentation / plans do not provide sufficient detail for completion of the assessment.
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- Staging is to be revised to provide a secondary access from development of stage 2.
- Provide details of temporary asset protection zones for each stage of the development in accordance with section 3.2.1 of *Planning for Bush Fire Protection 2019* for Staged developments.
- Provide detention basin plans details that clearly define the vegetation classification planned for the basin that ensures the area will not create a future bush fire risk.

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Locked Bag 17
GRANVILLE NSW 2142

Street address

NSW Rural Fire Service
4 Murray Rose Ave
SYDNEY OLYMPIC PARK NSW 2127

T (02) 8741 5555
F (02) 8741 5550
www.rfs.nsw.gov.au

For any queries regarding this correspondence, please contact Elaine Chandler on 1300 NSW RFS.

Yours sincerely,

Kalpana Varghese
Supervisor Development Assessment & Plan
Built & Natural Environment

APPENDIX D RADIANT HEAT CALCULATIONS

NBC Bushfire Attack Assessment Report V4.1

AS3959 (2018) Appendix B - Detailed Method 2

Print Date: 21/07/2025 **Assessment Date:** 21/07/2025

Site Street Address: Lot 218 Wilton Drive, East Maitland

Assessor: Sarah Jones; Firebird ecoSultants Pty Ltd

Local Government Area: Maitland **Alpine Area:** No

Equations Used

Transmissivity: Fuss and Hammins, 2002
Flame Length: RFS PBP, 2001/Vesta/Catchpole
Rate of Fire Spread: Noble et al., 1980
Radiant Heat: Drysdale, 1985; Sullivan et al., 2003; Tan et al., 2005
Peak Elevation of Receiver: Tan et al., 2005
Peak Flame Angle: Tan et al., 2005

Run Description: Lot 218 Grassland to Southeast

Vegetation Information

Vegetation Type:	Grassland		
Vegetation Group:	Grassland		
Vegetation Slope:	3.4 Degrees	**Vegetation Slope Type:**	Downslope
Surface Fuel Load(t/ha):	6	**Overall Fuel Load(t/ha):**	6
Vegetation Height(m):	0	Only Applicable to Shrub/Scrub and Vesta	

Site Information

Site Slope	0 Degrees	**Site Slope Type:**	Downslope
Elevation of Receiver(m)	Default	**APZ/Separation(m):**	11.1

Fire Inputs

Veg./Flame Width(m):	100	**Flame Temp(K):**	1090

Calculation Parameters

Flame Emissivity:	95	**Relative Humidity(%):**	25
Heat of Combustion(kJ/kg	18600	**Ambient Temp(K):**	308
Moisture Factor:	5	**FDI:**	130

Program Outputs

Level of Construction:	BAL 29	**Peak Elevation of Receiver(m):**	4.36
Radiant Heat(kW/m2):	28.76	**Flame Angle (degrees):**	64
Flame Length(m):	9.7	**Maximum View Factor:**	0.436
Rate Of Spread (km/h):	21.37	**Inner Protection Area(m):**	11
Transmissivity:	0.868	**Outer Protection Area(m):**	0
Fire Intensity(kW/m):	66242		

Run Description: veg to the east

Vegetation Information

Vegetation Type:	Hunter Macleay DSF		
Vegetation Group:	Dry Sclerophyll Forests (Shrub/Grass)		
Vegetation Slope:	3.4 Degrees	**Vegetation Slope Type:**	Upslope
Surface Fuel Load(t/ha):	14	**Overall Fuel Load(t/ha):**	24.6
Vegetation Height(m):	0.9	Only Applicable to Shrub/Scrub and Vesta	

Site Information

Site Slope:	0 Degrees	**Site Slope Type:**	Downslope
Elevation of Receiver(m):	Default	**APZ/Separation(m):**	13.1

Fire Inputs

Veg./Flame Width(m):	100	**Flame Temp(K):**	1090

Radiant Heat Shielding Inputs

Shield Height(m):	0	**Shield Width(m):**	0

Calculation Parameters

Flame Emissivity:	95	**Relative Humidity(%):**	25
Heat of Combustion(kJ/kg)	18600	**Ambient Temp(K):**	308
Moisture Factor:	5	**FDI:**	100

Program Outputs

Level of Construction:	BAL 29	**Peak Elevation of Receiver(m):**	5.16
Radiant Heat(kW/m2):	28.88	**Fire Intensity(kW/m):**	16888
Flame Length(m):	11.59	**Flame Angle (degrees):**	63
Shielded View Factor:	0	**Maximum View Factor:**	0.44
Rate Of Spread (km/h):	1.33	**Inner Protection Area(m):**	10
Transmissivity:	0.862	**Outer Protection Area(m):**	3

Short Fire Run Calculations

Fire Run(m):	0	**Length to Breadth Ratio:**	0
Full Ellipse Length(m):	0	**Headfire Backfire Ratio:**	0
Travel Duration (mins):	0	**Total Ellipse Length(m):**	0
ROS and H/B Ratio:	0		

BAL Thresholds	**BAL-40:**	**BAL-29:**	**BAL-19:**	**BAL-12.5:**	**10 kw/m2:**	**Elevation of Receiver:**
Asset Protection Zone(m):	10	13	20	28	43	6

Attachment 2 – Site Plans

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DP863423

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EXISTING PATHWAY 4.0m WIDE

EXISTING EASEMENT

EXISTING SERVICES

EXISTING SUBSTATION AND EASEMENT

EXISTING DRIVEWAY

EXISTING BUILDING

WILTON DRIVE

EXISTING DRIVEWAY

EXISTING BUILDING

PARK
4701m²

PROPOSED BASIN
IL3.8
BIO IL3.0

218 1584m² | 217 615m² | 216 550m² | 215 544m² | 214 544m² | 213 544m² | 212 544m² | 211 544m² | 210 544m² | 209 544m² | 208 544m² | 207 544m² | 206 544m² | 205 544m² | 204 544m² | 203 650m² | 202 622m² | 106 570m² | 105 545m² | 107 593m² | 108 593m²

ROAD 1 (4.5 - 11.0 - 4.5)

101 788m² | 102 589m² | 103 584m² | 104 579m²

9
DP855275

EXISTING BUILDING

10
DP855275

ROAD 2 (4.5 - 8.0 - 4.5)

201 622m² | 301 565m² | 302 544m² | 303 544m² | 304 544m² | 305 646m² | 306 833m² | 307 1823m²

ROAD 6

520 568m² | 521 576m² | 522 576m² | 523 1147m²

519 1113m² | 518 741m²

219 660m² | 401 540m² | 402 540m² | 403 540m² | 404 566m² | 405 533m² | 406 524m² | 407 591m² | 408 612m² | 409 578m² | 410 578m² | 412 895m² | 411 604m²

ROAD 4 (4.5 - 8.0 - 4.5)

413 604m² | 414 544m² | 415 544m² | 416 544m² | 417 544m² | 418 544m² | 419 654m² | 501 544m² | 502 544m² | 503 544m² | 504 544m² | 505 544m² | 506 544m² | 507 588m²

ROAD 3 (4.5 - 8.0 - 4.5)

513 586m² | 512 528m² | 511 462m² | 510 495m² | 509 495m² | 508 898m² | 514 550m² | 515 496m² | 516 558m² | 517 897m²

(4.5 - 11.0 - 4.5)

ROAD 5

(4.5 - 10.5 - 4.5)

142
DP1225076

3
DP584658

601
145254m²

PROPOSED RESIDENTIAL LOTS

RESIDUE LOT

10m x 15m
BUILDING ENVELOPE

ZONING LINE

(A) EASEMENT TO DRAIN WATER 1.5 WIDE
(B) EASEMENT TO DRAIN WATER 3.0 WIDE
(C) EXISTING EASEMENT TO DRAIN WATER
(D) EXISTING EASEMENT TO FOR ELECTRICITY

TITLE: PROPOSED SUBDIVISION LOT 141 & 142 DP1225076 & LOT 8 DP855275
WILTON DRIVE EAST MAITLAND

SUBDIVISION PLAN

High Definition Design Pty Ltd
KEVIN URANE 0412009891

Date: 28.08.23 Scale: 1:1500 A3 Designed: KU
Cad Ref: HD374 r13

No	Amendment	Drawn	Date
10	AMEND LAYOUT	KU	12.02.25
9	DA ISSUE	KU	16.07.24
13	ADD SHARED PATH AND PARK	KU	21.08.25

Project No HD374
Drawing No HD01
Revision 13

Attachment 3 – Temporary APZs

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DP863423
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EXISTING SERVICES
EXISTING SUBSTATION
EXISTING DRIVEWAY
EXISTING BUILDING
EXISTING DRIVEWAY

WILTON DRIVE

143
DP1225076

EXISTING PATHWAY 4.0m WIDE

PARK

218 217 216 215 214 213 212 211 210 209 208 207 206 205 204 203 202

106 105
107
108
ROAD 1 (4.5 - 11.0 - 4.5)
101
102
103
104

9
DP855275

10
DP855275

WILTON DRIVE

EXISTING KERB LINE

201 301 302 303 304 305 306 307

ROAD 6

(4.5 - 8.0 - 4.5)

ROAD 2

219
401 402 403 404 405 406 407
412 411 410 409 408
ROAD 5
ROAD 4 (4.5 - 8.0 - 4.5)
413 414 415 416 417 418 419
501 502 503 504 505 506 507
ROAD 3 (4.5 - 8.0 - 4.5)
513 512 511 510 509 508
514 515 516 517
(4.5 - 11.0 - 4.5)
520 521 522 523 519 518

PROPOSED BASIN
IL3.8
KBIO IL3.0

601

142
DP1225076

(4.5 - 10.5 - 4.5)

3
DP584658

MOUNT VINCENT ROAD

STAGE 1 - 8 LOTS

STAGE 2 - 19 LOTS + CONSTRUCTION OF BASIN

STAGE 3 - 7 LOTS + CONNECTION ROAD

STAGE 4 - 19 LOTS

STAGE 5 - 23 LOT

STAGE 6 - 1 LOT

TOTAL 77 LOTS

TITLE: PROPOSED SUBDIVISION LOT 141 & 142 DP1225076 AND LOT 8 DP855275
WILTON DRIVE EAST MAITLAND

STAGING PLAN

High Definition Design Pty Ltd
KEVIN URANE 0412009891

Date: 28.08.23 Scale: 1:2500 A3 Designed: KU
Cad Ref: HD374 r13

No	Amendment	Drawn	Date
9	DA ISSUE	KU	16.07.24
13	AMEND LAYOUT	KU	21.08.25
10	AMEND LAYOUT	KU	12.02.25

Project No HD374
Drawing No HD03
Revision 13

Attachment 4 - RFS Request for Further Information

Maitland City Council
PO Box 220
MAITLAND NSW 2320

Your reference: (CNR-73054) DA/2024/731
Our reference: DA20240906003672-S38-1

ATTENTION: Madaline Smith

Date: Thursday 29 May 2025

Dear Sir/Madam,

Development Application
s100B – Subdivision – Torrens Title Subdivision
6 Wilton Drive & 62 Mount Vincent Road East Maitland NSW 2323, 8//DP855275, 141//DP1225076, 142//DP1225076

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