

BUSH FIRE ASSESSMENT REPORT

-Employ Me Pty Ltd-
Proposed multi unit development
3 Gillette Close
Rutherford



PREPARED BY:



NOVEMBER 2023



PEAK LAND MANAGEMENT

Land management consulting services:

-Bush Fire-

-Ecological-

-Environmental-

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Cover Photo: View of subject site.

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AUTHOR DETAILS

Ted Smith is the director of PEAK LAND MANAGEMENT. He is a qualified Land Management Consultant with a Bachelor of Science Honours Degree in Physical Geography. He has over 25 years experience commercially consulting with PEAK LAND MANAGEMENT PTY LTD and working within state government.

Ted has completed a Graduate Diploma in Design for Bush Fire Prone Areas from the University of Western Sydney and is a member of the Fire Protection Association of Australia (FPA of Australia), being a BPAD Accredited Bush Fire Practitioner Level 3.

CERTIFICATION

Ted Smith of PEAK LAND MANAGEMENT has carried out a Bush Fire Assessment including a site inspection on the subject property. A detailed Bush Fire Assessment Report is attached which includes the submission requirements set out in *Planning for Bush Fire Protection, 2019* together with recommendations as to how the relevant specifications and requirements are to be achieved.

I hereby certify, in accordance with Section 4.14 of the *Environmental Planning and Assessment Act 1979 No 203*:

1. That I am a person recognised by the *NSW Rural Fire Service* as a qualified consultant in Bush Fire Risk Assessment; and
2. That subject to the recommendations contained in the attached Bush Fire Assessment Report the proposed development conforms to the **relevant specifications and requirements** being the document entitled *Planning for Bush Fire Protection* prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other document as prescribed by Section 4.14 of the *Environmental Planning and Assessment Act 1979 No 203*.



7th November, 2023

Signature

Date



Document History

Document Id.	Prep. Date	Version	Submitted to:
Bush Fire Assessment Report	8.6.22	1	De Villiers Hugo/Employ Me Pty Ltd , ELK Design
Bush Fire Assessment Report	17.8.23	2	De Villiers Hugo/Employ Me Pty Ltd , ELK Design
Bush Fire Assessment Report	7.11.23	3	De Villiers Hugo/Employ Me Pty Ltd , ELK Design

1.0 INTRODUCTION

PEAK LAND MANAGEMENT has been engaged by ELK on behalf of Mr Hugo to prepare a Bush Fire Assessment Report for a proposed residential multi dwelling development over land located at Lot 1009 DP 1226399/ 3 Gillette Close, Rutherford (termed “subject or development site”).

Figures 1-4 show the subject site location, topographic map, and proposed development site plans, and Appendix 1 shows photos of the subject site.

Under the *Environmental Planning and Assessment Act, 1979* (and its regulations), and the *Rural Fires Act 1997* (and its regulations), councils are required to assess and control new developments in Bush Fire prone areas. This land has been assessed as being part of a Bush Fire Prone Area as mapped by Council (Figure 7).

For the construction of Multi Unit residential dwellings specific provisions exist as stated in PBP, 2019, Section 8.2.1. “*This includes ensuring an APZ based on a radiant heat threshold of 29kW/m² for any new dwellings, along with suitable provision for construction, access, water and landscaping*”.

In this case the development will be also be a strata subdivision. It is assessed under Section 100B of the *Rural Fires Act 1997* (and its regulations) and will require integrated development approval/ Bushfire Safety Authority from the Rural Fire Service. PBP 2019 states that a residential subdivision should have required Asset Protection Zones, adequate access, water, and services as stated under the Act.

This report has been prepared in accordance with “*Planning for Bush Fire Protection (PBP) 2019*” guidelines, and makes reference to AS 3959. Clause 46 of the *Rural Fires Regulation 2002* sets out these requirements, which are addressed in this report. A Bush Fire Assessment Report is required showing the current situation and recommending how the risk may be ameliorated, so consideration may be shown by Council & NSW Rural Fire Service to allow development approval for the proposed dwelling, and subdivision.

1.1 BUSH FIRE ATTACK SITE ASSESSMENT SUMMARY

FDI:100

PREDOMINANT VEGETATION TYPES WITHIN 140 METRE RADIUS OF SITE (as per PBP 2019 & AS 3959): Forest.

AVERAGE SIGNIFICANT SLOPE UNDER VEGETATION OUT TO 100 METRES: See Table 1.

BUSH FIRE ATTACK LEVEL (BAL- kW/m² Radiant Heat Flux): BAL 12.5 all units.

Figure 1: Aerial photo showing subject site and surrounds (imagery from nearmap, dated Oct, 2023). North to top of all figures unless otherwise shown.



Figure 2: Latest aerial photo showing subject site, vegetation assessment and surrounds (from nearmap, dated Oct 2023).



Figure 4: Topographic map showing subject site (imagery from SIX maps, Lands Department)

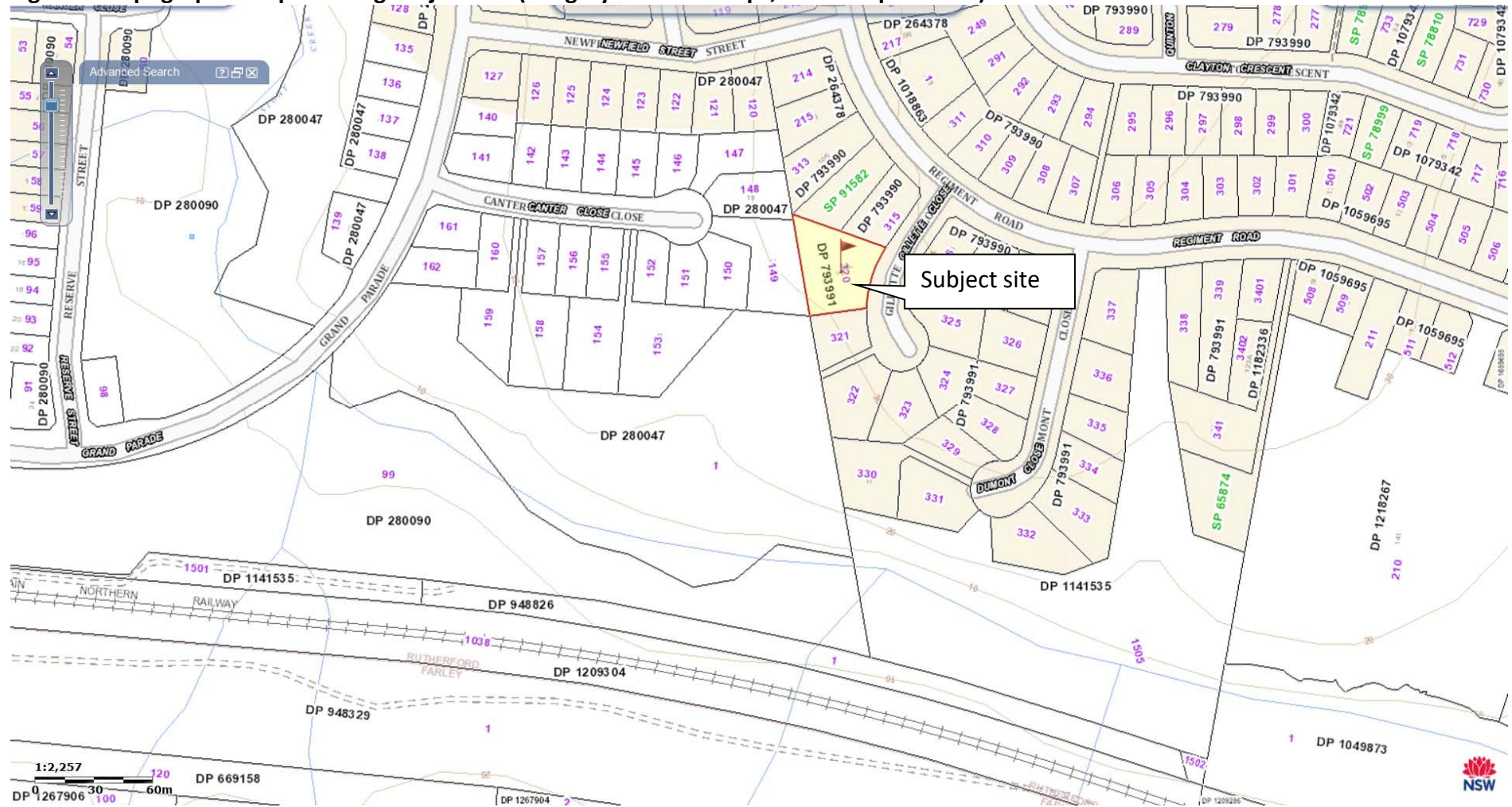
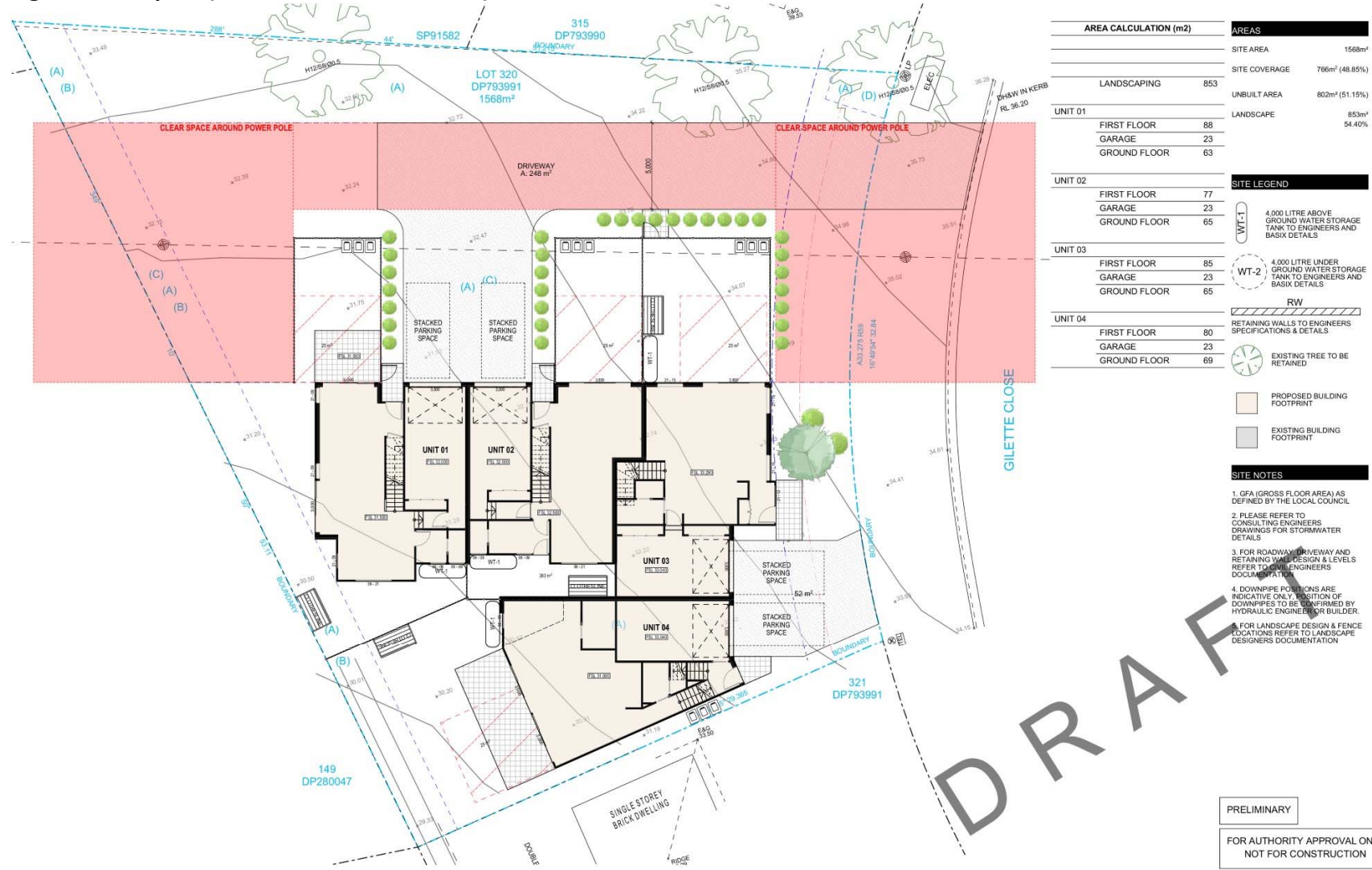


Figure 5: Site plan (from ELK, dated 20.10.23)



AREA CALCULATION (m2)		AREAS	
SITE AREA	1568m ²	SITE AREA	1568m ²
SITE COVERAGE	766m ² (48.85%)	SITE COVERAGE	766m ² (48.85%)
LANDSCAPING	853	UNBUILT AREA	802m ² (51.15%)
UNIT 01		LANDSCAPE	853m ²
FIRST FLOOR	88		54.40%
GARAGE	23		
GROUND FLOOR	63		
UNIT 02			
FIRST FLOOR	77		
GARAGE	23		
GROUND FLOOR	65		
UNIT 03			
FIRST FLOOR	85		
GARAGE	23		
GROUND FLOOR	65		
UNIT 04			
FIRST FLOOR	80		
GARAGE	23		
GROUND FLOOR	69		

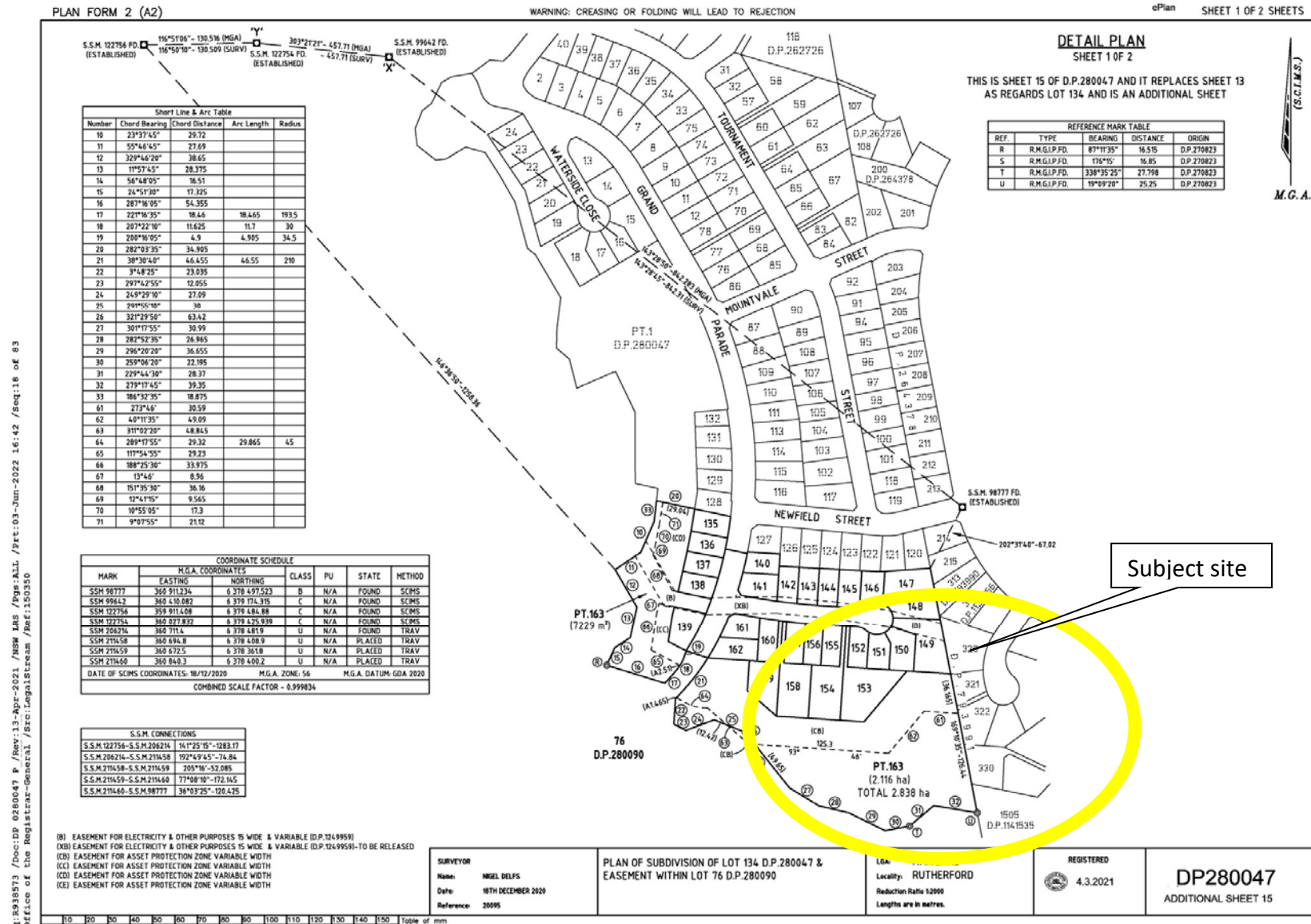
- SITE LEGEND**
- WT-1 4,000 LITRE ABOVE GROUND WATER STORAGE TANK TO ENGINEERS AND BASIX DETAILS
 - WT-2 4,000 LITRE UNDER GROUND WATER STORAGE TANK TO ENGINEERS AND BASIX DETAILS
 - RW RETAINING WALLS TO ENGINEERS SPECIFICATIONS & DETAILS
 - EXISTING TREE TO BE RETAINED
 - PROPOSED BUILDING FOOTPRINT
 - EXISTING BUILDING FOOTPRINT

- SITE NOTES**
- GFA (GROSS FLOOR AREA) AS DEFINED BY THE LOCAL COUNCIL
 - PLEASE REFER TO CONSULTING ENGINEERS DRAWINGS FOR STORMWATER DETAILS
 - FOR ROADWAY DRIVEWAY AND RETAINING WALL DESIGN & LEVELS REFER TO CONSULTING ENGINEERS DOCUMENTATION
 - DOWNPIPE POSITIONS ARE INDICATIVE ONLY. POSITION OF DOWNPIPES TO BE CONFIRMED BY HYDRAULIC ENGINEER OR BUILDER.
 - FOR LANDSCAPE DESIGN & FENCE LOCATIONS REFER TO LANDSCAPE DESIGNERS DOCUMENTATION

PRELIMINARY
FOR AUTHORITY APPROVAL ONLY
NOT FOR CONSTRUCTION

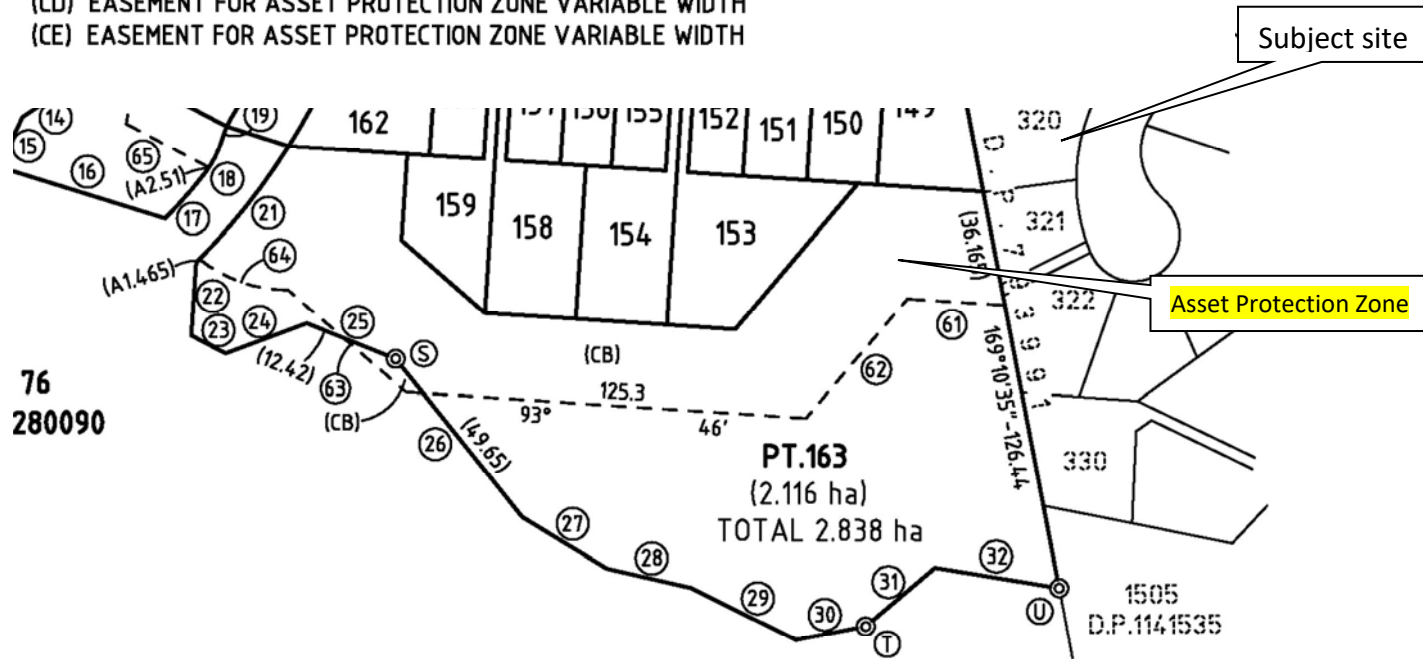
PO Box 601 Kotara NSW 2289 Ph: 49234415 Notified Architect: Daniel Hadley 8209 Notes This information contained in this document is copyright and may not be used or reproduced for any other project or purpose. Verify all dimensions and levels on-site and report any discrepancies prior to the commencement of work and any quantity of materials. Drawings are to be read in conjunction with all contract documents. Use figures dimensions only. Do not scale from drawings. ELK Design cannot guarantee the accuracy of content and format for copies of drawings reproduced electronically. The completion of the issue details checked and authorized section below is confirmation of the status of the drawing. The drawing shall not be used for construction unless endorsed by the contractor and authorized for sign.		Consultants Surveyor Town Planner	Civil Engineer Energy Assessor	Structural Engineer Hydraulic Engineer	Landscape Consultant	Issue P1 Description For Review	Date 20/10/2023	Project Multiple Dwelling Housing Location 3 Gillette Close Rutherford Client Zoran Lazic	Drawing SITE PLAN Scale 1:200 @ A3 DRAWN ATa QA CHECKED ####	Drawing Number DA030 Issue P1 Project Number 22093
		DRAFT								

Figure 6: Asset Protection Zone over adjoining lot PT 163 (DP 280047) and enlarged



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- (B) EASEMENT FOR ELECTRICITY & OTHER PURPOSES 15 WIDE & VARIABLE (D.P.1249959)
- (XB) EASEMENT FOR ELECTRICITY & OTHER PURPOSES 15 WIDE & VARIABLE (D.P.1249959)-TO BE RELEASED
- (CB) EASEMENT FOR ASSET PROTECTION ZONE VARIABLE WIDTH
- (CC) EASEMENT FOR ASSET PROTECTION ZONE VARIABLE WIDTH
- (CD) EASEMENT FOR ASSET PROTECTION ZONE VARIABLE WIDTH
- (CE) EASEMENT FOR ASSET PROTECTION ZONE VARIABLE WIDTH



PLAN OF SUBDIVISION OF LOT 134 D.P.280047 & EASEMENT WITHIN LOT 76 D.P.280090

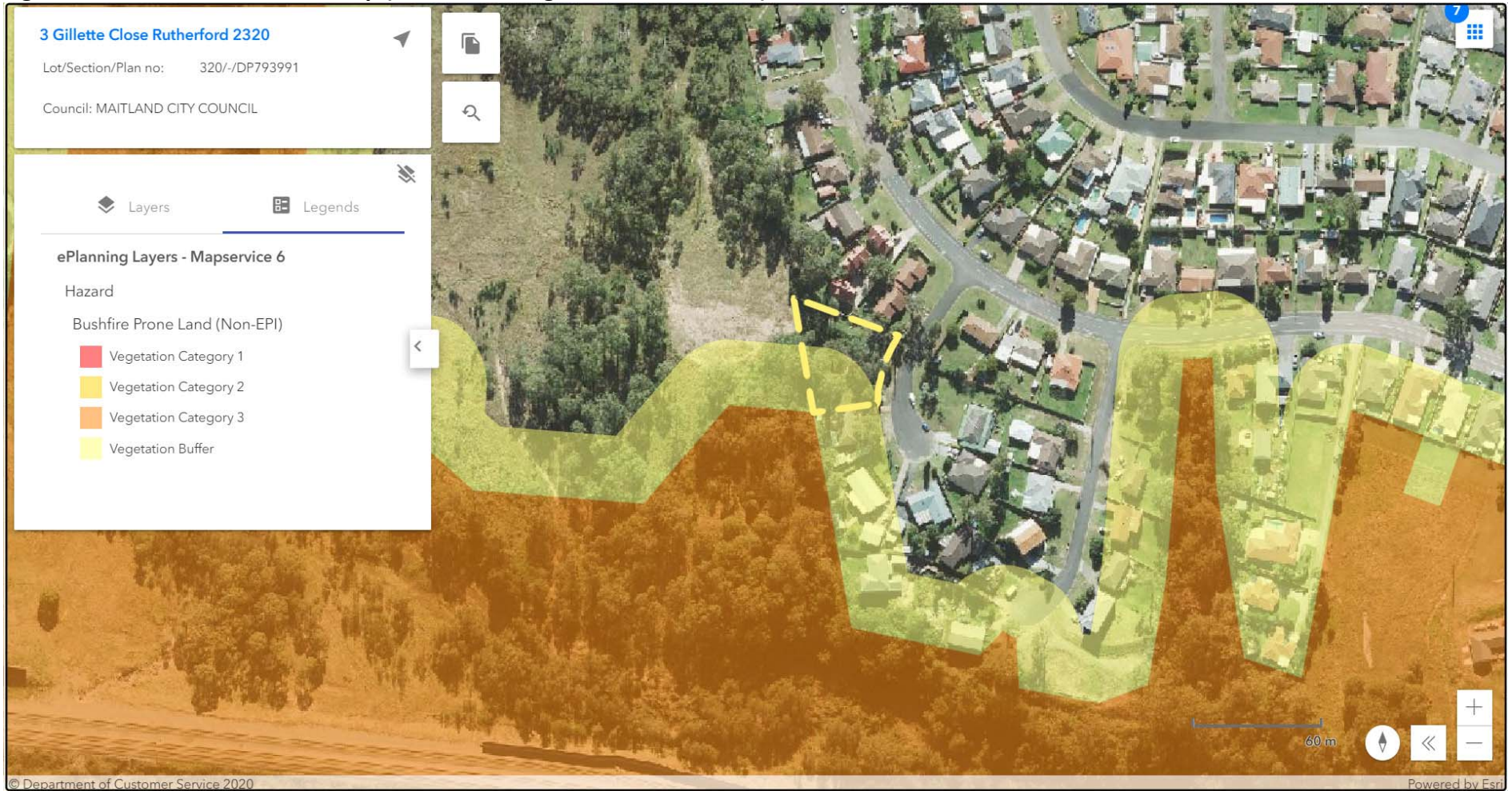
LGA: MAITLAND
 Locality: RUTHERFORD
 Reduction Ratio 1:2000
 Lengths are in metres.

REGISTERED
 4.3.2021



DP280047
 ADDITIONAL SHEET 15

Figure 7: Bush Fire Prone Land Map (from ePlanning, NSW Government)



2.0 SITE DESCRIPTION AND SURROUNDING LANDUSE

The subject site and surrounding vegetation and landuse/topography are shown in Figures 1-7. The subject site is a large residential lot, surrounded by residential dwellings/managed land in all directions, except to the south west.

The proposed development site plan is shown in Figure 5. The development comprises of four units, which are to be a strata subdivision.

Note- an approved Asset Protection Zone occurs over Lot 163 (or Lot 1 as per Fig 1), as shown in DP 280047 (Fig 6). This Asset Protection Zone is 36m wide. It is cleared and maintained and managed to an Asset Protection Zone standard by the developer in perpetuity. This report is based upon this premise.

3.0 VEGETATION

The predominant vegetation type within 140m is Forest <1Ha assessed as equivalent to Rainforest per PBP, 2019 (Figure 2, Appendix 1 - photos).

The Forest has trees to 20m tall, with a shrub understorey. It occurs to the south- west of the site. It is restricted in area and extent within this area to <1Ha, with an irregular shape, and has been mapped as Category 3 Vegetation under the Bush Fire Prone Land Map (BPLM) (Fig 8). It is therefore assessed as equivalent to Rainforest in conformance with BPLM & PBP, 2019.

The Northern NSW train line occurs further south which separates this patch from Grassland further south.

4.0 SLOPE

Slope assessment has been carried out around the subject site under hazardous vegetation out to 100 metres as specified under the Guidelines Assessment Procedure. The angles have been measured in the field by an inclinometer. Table 1 shows the results.

PBP, 2019 states: - *“The effective slope is considered to be the slope under the vegetation which will most significantly influence the bush fire behaviour for each aspect. This is usually the steepest slope. In situations where this is not the case, the proposed approach must be fully justified. Vegetation located closest to an asset may not necessarily be located on the effective slope”*.

5.0 ENVIRONMENTAL FEATURES

The subject site has environmental features, with native vegetation present, proposed to be cleared. Maitland City Council will determine whether further Biodiversity Assessment reporting is required under the *Biodiversity Conservation Act, 2016*, and other relevant legislation such as Koala SEPP.

6.0 ABORIGINAL FEATURES

An Aboriginal archeological survey/or AHIMS search has not been undertaken to the authors knowledge. Maitland City Council will determine whether further Aboriginal archeological survey assessment reporting is required.

7.0 BUSH FIRE ASSESSMENT

The legislation as it relates to this site calls for asset protection zones (APZ) to be established around the proposed development, provision of adequate access, design staging and citing of the development and provision of appropriate water supply for bush fire fighting purposes.

7.1 SETBACKS INCLUDING ASSET PROTECTION ZONES

Table 1 shows the bush fire risk assessment for the subject site. An Asset Protection Zone has been provided which complies with PBP 2019 (Table A1.12.2) subdivision requirements.

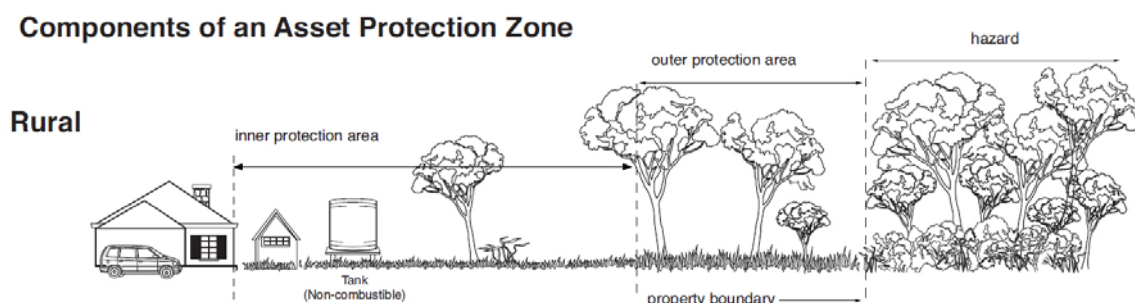
Table 1: Bush Fire Site Assessment –FDI 100

Direction to bush fire hazard	Effective slope	Predominant vegetation type within 140m as per PBP 2019	Distance to hazard (from nearest proposed dwelling external wall as per PBP, 2019)	Required minimum asset protection zone (from Table A1.12.2, PBP, 2019)	BAL (from Table A1.12.5, PBP, 2019)
South/south-west	6-8 ⁰ downslope	Forest <1Ha/Category 3 vegetation assess equiv Rainforest	39m (allowing 3m setback from boundary to development)	18m	BAL 12.5 (for all units)
Other directions	Managed land	-	-	-	-

Note: BAL refers to the maximum Bush Fire attack Level expressed in kW/m² radiant heat flux exposure for the given slope, distance to hazard, and type of hazard (ie vegetation type and fuel load).

A lowering of one BAL is supported by PBP 2019 where the elevation of the building is not exposed directly to the source of bush fire attack and/or is shielded by the building/other buildings/landforms, or is set back sufficiently to achieve the next lower BAL as described in PBP, 2019. This is not applicable in this case.

Figure 9: Asset Protection Zone example diagram (from PBP, 2006)



7.2 WATER SUPPLIES AND UTILITIES

The subject site is serviced by reticulated town water supplies, and underground electricity transmission wires. A fire hydrant is located within 60m of the subject site. An electricity easement/overhead poles cross the subject site.

7.3 ACCESS

The site is accessed from Gillette Close, a public, sealed, two way no through road.

7.4 CONSTRUCTION STANDARDS

The proposed units/townhouses are assessed as BAL 12.5, assessed in accordance with PBP 2019 (Table A1.12.5).

7.5 OTHER FIRE PROTECTION MEASURES

Recommendations are made below to address further non compulsory bush fire protection measures.

8.0 BUSH FIRE RECOMMENDATIONS

The development complies with the performance criteria set out in PBP, 2019 and will comply with AS 3959 construction standards:

- ❑ Serviced by reticulated water & fire hydrant <60m away –complies with PBP, 2019.
- ❑ Serviced by below ground electricity power- complies with PBP, 2019.
- ❑ Serviced by a public road and concrete access driveway which is <30m long –complies with, PBP, 2019.
- ❑ Asset Protection Zone – will comply with Table A1.12.2, PBP, 2019.
- ❑ Dwellings/townhouses to be constructed in conformance with PBP, 2019, and all construction in accordance with AS 3959 - complies with, PBP, 2019.
- ❑ Landscaping- to comply with PBP 2019 & recommendations below.

The following recommendations are made:

- ❑ **Design and Construction:** - The intent of measures is that buildings are designed and constructed to withstand the potential impacts of bush fire attack. To achieve this, the following conditions are recommended:
 - All proposed residential units shall comply with Sections 3 and 5 (BAL 12.5) as per Australian Standard AS3959-2018 'Construction of buildings in Bush Fire-prone areas', or the NASH Standard - Steel Framed Construction in Bushfire Areas (incorporating amendment A - 2015), except as modified by Section 7.5 of PBP, 2019.
- ❑ **Asset Protection Zone:** - The intent of measures for Asset Protection Zones is to provide suitable building design, construction and sufficient space to ensure that radiant heat

levels do not exceed critical limits for firefighters and other emergency services personnel undertaking operations, including supporting or evacuating occupants.

- At the commencement of building works and in perpetuity the entire site shall be managed to an I Asset Protection Zone standard as outlined within Appendix 4 of Planning for Bush fire 2019.
 - Note some trees can be retained if desired, as long as they conform to Asset Protection Zone requirements.
- **Water and Utilities:** - The intent of measures is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building. To achieve this, the following conditions should apply:
- Water, electricity and gas shall comply with Table 5.3c of 'Planning for Bush Fire Protection 2019'.
- **Landscaping** - The intent of measures is landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions. To achieve this, the following conditions should apply:
- Any new fencing if within 6m of the proposed dwellings/townhouses shall be non-combustible, and landscaping is managed to minimise flame contact with dwelling, reduce radiant heat levels, minimise embers and reduce the effect of smoke on residents and firefighters.
 - Landscaping to the Asset Protection Zone is to comply with the principles of Asset protection zone standards - Appendix 4 of 'Planning for Bush Fire Protection 2019'.

The bush fire risk is considered to be adequately managed through the recommendations made above, and in conjunction with recommendations/approval conditions from the NSW Rural Fire Service and/or Council.

Report prepared by:



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PEAK LAND MANAGEMENT PTY LTD

DISCLAIMER: Whilst every effort is made to present clear and factual information based on fieldwork and current legislation no guarantee is made that the development or its occupants are safe from bush fire, or development will be approved, or to stated BAL, as this is in the hands of the approving statutory authorities/certifier. No warranty or guarantee, whether expressed or implied, is made with respect to the observations, information, findings and inclusions expressed within this report. No liability is accepted for losses, expenses or damages occurring as a result of information presented in this document.

9.0 REFERENCES

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Standards Australia AS 3959-2018. *Construction of buildings in Bush Fire prone area*.

Websites

www.rfs.nsw.gov.au

Lands Department- SIX Maps

nearmap

Maitland City Council

planningportal.nsw.gov.au/spatialviewer

APPENDIX 1: PHOTOS OF SITE AND SURROUNDS

Subject site—looking south-west from Gillette Close



Subject site—looking west from Gillette Close



Existing multi townhouse development to north of site



Subject site—looking south-west



Asset Protection Zone/Forested hazard (in background) to the south west of site



Asset Protection Zone/Forested hazard (in background) over next doors land.



Existing dwellings to west of site



Gillette Close



