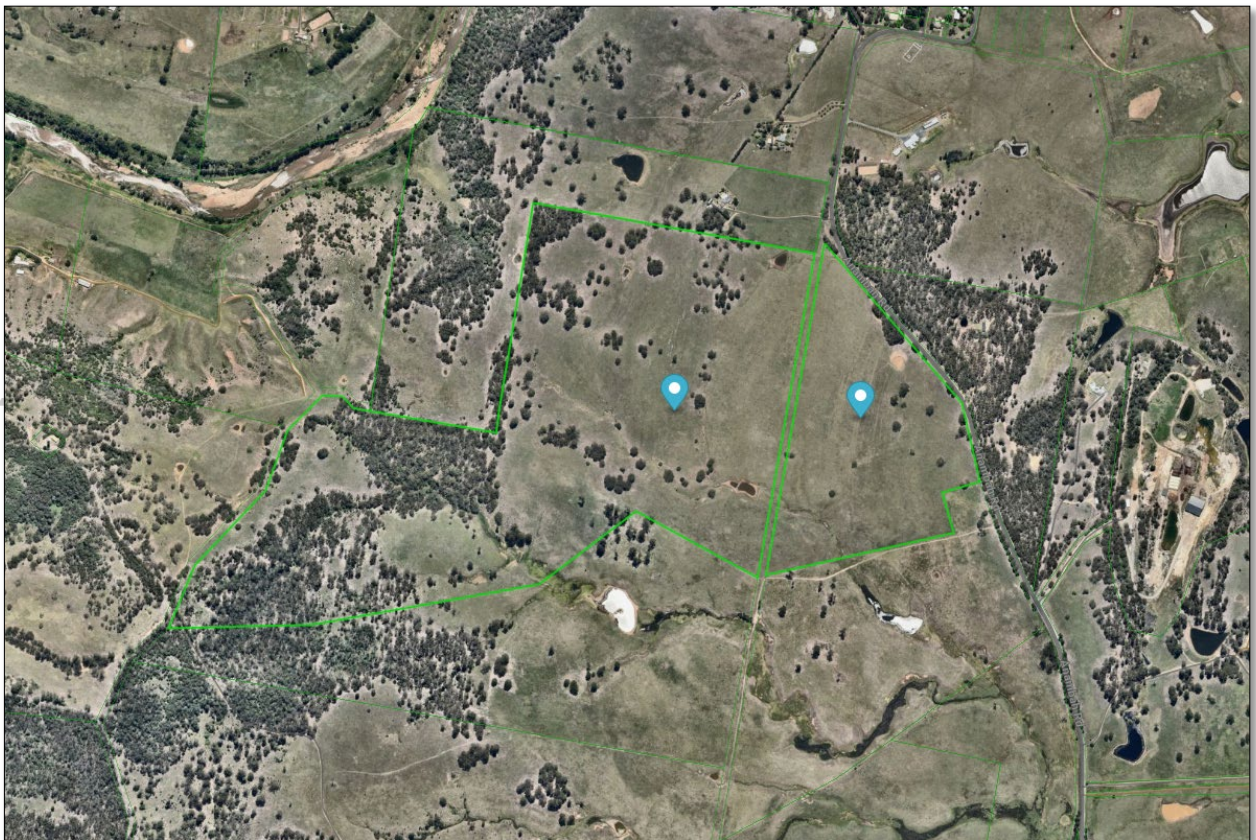


BUSHFIRE ASSESSMENT REPORT

Residential Subdivision: Concept Masterplan & Stage 1 559 Anambah Road, Gosforth

Prepared for Thirdi Anambah Pty Ltd



Bushfire Planning Australia

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Disclaimer and Limitation

This report is prepared solely for Thirdi Anambah Pty Ltd (the 'Client') for the specific purposes of only for which it is supplied (the 'Purpose'). This report is not for the benefit of any other person; either directly or indirectly and is strictly limited to the purpose and the facts and matters stated in it and will not be used for any other application.

This report is based on the site conditions surveyed at the time the document was prepared. The assessment of the bushfire threat made in this report is made in good faith based on the information available to Bushfire Planning Australia at the time.

The recommendations contained in this report are considered to be minimum standards and they do not guarantee that a building or assets will not be damaged in a bushfire. In the making of these comments and recommendations it should be understood that the focus of this document is to minimise the threat and impact of a bushfire.

Finally, the implementation of the adopted measures and recommendations within this report will contribute to the amelioration of the potential impact of any bushfire upon the development, but they do not and cannot guarantee that the area will not be affected by bushfire at some time.

Document Status: 2425 - Bushfire Assessment Report

Version	Status	Purpose	Author	Review Date
1	Draft	Draft for Review	Katrina Greville	1 July 2024
2	Draft	Draft for Client Review	Stuart Greville	22 August 2024
3	Final	Final for Submission	Stuart Greville	22 August 2024
4	Final	Concept Plan & Stage 1	Stuart Greville	30 August 2024

Certification

As the author of this Bushfire Threat Assessment (BAR), I certify this BAR provides the detailed information required by the NSW Rural Fire Service under Clause 45 of the Rural Fires Regulation 2022 and Appendix 2 of Planning for Bushfire Protection 2019 (PBP 2019) for the purposes of an application for a bush fire safety authority under section 100B(4) of the Rural Fires Act 1997.

Stuart Greville

Accredited Bushfire Practitioner

BPAD-26202

Date: 30 August 2024



In signing the above, I declare the report is true and accurate to the best of my knowledge at the time of issue.



Executive Summary

Bushfire Planning Australia (BPA) has been engaged by Thirdi Anambah Pty Ltd c/- Vara Consulting Pty Ltd (the 'Client') to undertake a Bushfire Assessment Report (BAR) to support a concept development application for the proposed staged residential subdivision located at 559 Anambah Road, Gosforth (the 'Site'); legally known as Lot 55 DP874170 and Lot 177 DP874171.

The Project is for a Concept Development Application (CDA) seeking concept approval for the staged development of the concept masterplan, and for which detailed proposals for the Site or for separate parts of the site are to be subject of subsequent Development Applications (DAs), apart from Stage 1.

The masterplan creates a new urban subdivision within the Anambah Urban Release Area accommodating a mix of housing types with approximately 900 residential lots, and incorporates open space, roads, pedestrian networks, utilities and services, intersection and drainage infrastructure. The area of the Site subject to the concept masterplan is zoned R1 General Residential and is located within the Anambah Urban Release Area.

Stage 1 will create 240 residential lots and associated works including bulk earthworks, tree removal, landscaping, road construction, water basins, utilities and services. All subsequent stages will form the subject of separate development applications. Stage 1 includes a new intersection to provide access into the development via Anambah Road, together with a secondary emergency access to be constructed via the unformed River Road.

This assessment demonstrates Stage 1 of the Anambah concept proposal complies with the specifications and requirements of the NSW Rural Fire Service (RFS) document; Planning for Bushfire Protection 2019 (PBP 2019). This assessment will also demonstrate all future stages included in the concept masterplan are able to comply with the relevant requirements of PBP 2019.

Accordingly, the Client seeks a Bush Fire Safety Authority (BFSA) from the RFS for Stage 1 of the masterplan; in addition to endorsement of the concept masterplan.

This BAR found that the site is currently exposed to a medium bushfire hazard located within 140m east of the proposed development although separated by Anambah Road. The primary bushfire hazard is identified as a *forest*, specifically, *Hunter Macleay Dry Sclerophyll Forest*.

There is limited mature vegetation contained across the site, which has been highly modified for farming and grazing and is dominated by a mixture of exotic and native *grasslands* with some scattered trees are spread across the existing pastures. The proposed detention basins and existing watercourse will be revegetated as a *freshwater wetland*.

In summary, the following key recommendations have been designed to enable the proposed residential development to achieve the aims and objectives of PBP 2019:

Asset Protection Zones

1. All land within the site zoned R1 Residential; excluding the riparian corridors shall be managed as an Inner Protection Area (IPA) as outlined within Appendix 4 of PBP 2019 and the RFS document Standards for asset protection zones;
2. Asset Protection Zones (APZ) shall be provided as indicated on **Figure 16**;
3. At the issue of a subdivision certificate, if the land to the south of proposed lots impacted by the temporary APZs demonstrated in **Figure 16** has not been developed for residential purposes, or if a positive covenant for an APZ has not been established over the affected land, a restriction to the use of the land pursuant to Section 88B of the Conveyancing Act 1919 must be created over the impacted lots to specify the affected lots cannot be sold until such times the bush fire hazard is removed. The instrument may be lifted upon commencement of any future proposed development on the adjoining land, but only if the



bush fire hazard is removed as part of the proposal. The name of authority empowered to release, vary or modify the instrument shall be Maitland City Council;

Landscaping

4. Vegetation within road verges (including swales) to be consistent with a grassland vegetation classification with tree canopy less than 10% at maturity;
5. Vegetation with the stormwater basins; including associated batters shall be planted consistent with a grassland vegetation classification with tree canopy less than 10% at maturity;
6. Consideration should be given to landscaping and fuel loads on site to decrease potential fire hazards on site in accordance with Appendix 4 of PBP 2019;

Access

7. Perimeter roads shall be constructed in accordance with the engineering design plans (**Appendix A**) and the following general requirements of Table 5.3b of PBP 2019:
 - a. Minimum 8.0m wide pavement width measured kerb to kerb;
 - b. Hydrants are located clear of parking areas;
 - c. Curves of roads have a minimum inner radius of 6m;
 - d. The road crossfall does not exceed 3 degrees; and
 - e. A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches is provided.
8. Non-perimeter roads shall be constructed in accordance with the engineering design plans (**Appendix A**) and the following general requirements of Table 5.3b of PBP 2019:
 - f. Minimum 5.5m wide pavement width measured kerb to kerb;
 - g. Hydrants are located clear of parking areas;
 - h. Curves of roads have a minimum inner radius of 6m;
 - i. The road crossfall does not exceed 3 degrees; and
 - j. A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches is provided.
9. A temporary access road shall be provided during the staged construction of the development to connect to River Road;
10. Any temporary turning heads shall be constructed in accordance Appendix A3.3 of PBP 2019;
11. Design and construct a property access road (to be used as a fire trail) around the western boundary of the concept masterplan as shown in **Figure 15** in accordance with Table 1: Category 1 Fire Trail requirements as detailed in the NSW RFS Fire Trail Standards 2017;

Services

12. All new lots are to be connected to a reliable water supply network and that suitable fire hydrants are located throughout the development site that are clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure shall comply with AS2419.1 2005 and section 5.3.3 of PBP 2019.

Construction

13. All future dwellings to be constructed on the proposed lots shall have due regard to the specific considerations given in the National Construction Code: Building Code of Australia

(BCA) which makes specific reference to Australian Standard AS3959-2018 Construction of buildings in bushfire prone areas (AS3959-2018) and the NASH Standard Steel Framed Construction in Bushfire Prone Areas;

This assessment has been made based on the bushfire hazards observed in and around the site at the time of inspection and production (August 2024) and demonstrates the development has satisfied the aims and objectives of Planning for Bushfire Protection 2019 (PBP 2019).

Finally, should the above recommendations be implemented, the existing bushfire risk should be suitably mitigated to offer an acceptable level of protection to life and property for those persons and assets occupying the site, but they do not and cannot guarantee that the area will not be affected by bushfire at some time and that property and life damage/loss will not occur.





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Appendix A: Plan of Proposed Concept Masterplan & Stage 1 Residential Subdivision

Appendix B: AHIMS Search Results

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Terms and 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
BAR	Bushfire Assessment Report
BCA	Building Code of Australia
BMP	Bush Fire Management Plan
BPA	Bush Fire Prone Area (Also Bushfire Prone Land)
BPL	Bush Fire Prone Land
BPLM	Bush Fire Prone Land Map
BPM	Bush Fire Protection Measures
Development Site	Stage 1 development (within the Anambah Concept Masterplan)
DoE	Commonwealth Department of the Environment
DPI Water	NSW Department of Primary Industries – Water
DSF	Dry Sclerophyll Forest
EPA Act	NSW Environmental Planning and Assessment Act 1979
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
FDI	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
OEH	NSW Office of Environment and Heritage
PBP 2019	Planning for Bushfire Protection 2019
RF Act	Rural Fires Act 1997
RF Regulation	Rural Fires Regulation
RFS	NSW Rural Fire Service
Subject Site / Study Area	Anambah Concept Masterplan

1. Introduction

Bushfire Planning Australia (BPA) has been appointed by Vara Consulting on behalf of Thirdi Anambah Pty Ltd (the 'Client') to undertake a Bushfire Assessment Report (BAR) for the proposed staged residential subdivision located at 559 Anambah Road, Gosforth (the 'Site').

Whilst the BAR has assessed all stages within the concept masterplan, this assessment relates to the proposed Stage 1 development and will create 240 residential allotments and construction of associated ancillary services.

In addition to the assessment of Stage 1, in accordance with Section 4.22 in Division 4.4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act 1979), a concept development application is also being submitted seeking approval for a masterplan create a new urban subdivision within the Anambah Urban Release Area. The concept masterplan accommodates a mix of housing types within 900 residential lots, and incorporating open space, roads, pedestrian network, utilities and services, intersection and drainage infrastructure.

Overall this assessment aims to provide a bushfire risk assessment which considers and assesses the bushfire hazard and associated potential bushfire threat relevant to the proposed development on a landscape scale; including Stage 1 within the Study Area. The assessment outlines the minimum mitigative measures which would be required in accordance with the BAR, provisions of the New South Wales Rural Fire Service (RFS) publication *Planning for Bushfire Protection 2019* (PBP 2019) and the *Rural Fires Regulation 2022*.

1.1. Aims and Objectives

This BAR aims to assess the bushfire threat and recommends a series of bushfire protection measures that aim to minimise the risk of adverse impact of bush fires on life, property and the environment.

This assessment has been undertaken in accordance with Appendix 2 of *Planning for Bushfire Protection 2019* and clause 45 of the *Rural Fires Regulation 2022*. This assessment also addresses the aim and objectives of PBP 2019, being:

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

2. Site Description

Table 1: Site Description

Address	559 Anambah Road, Gosforth
Title	Lot 177 DP874171 and Lot 55 DP874170
LGA	Maitland City Council
Subject Site / Study Area	124.08 ha
Development Site	Part of Lot 177 DP874171 and Lot 55 DP874170 (~ ha)
Land Use Zone	R1 General Residential and RU2 Rural Landscape (Figure 1)
Bushfire Prone Land	Vegetation Category 1, Vegetation Category 2, Vegetation Category 3 and Vegetation Buffer (Figure 3)
Context	<p>The subject site forms part of the Anambah Urban Release Area. The site consists of two lots both located to the west of Anambah Road and separated by the unformed River Road. The site is vacant of any buildings and majority of the site has historically been used for grazing purposes. The south-western corner of the site is largely vegetated which scatters along the northern, eastern and western boundaries in isolated sections.</p> <p>Similarly, surrounding sites have historically been used for grazed, contain vegetation or rural residential properties.</p>
Topography	The site comprises gently to moderately sloping undulating rolling hills. Slope range from 2-5 degrees over the eastern portion of the site and up to 7-8 degrees over much of the western portion of the site.
Fire Danger Index	100

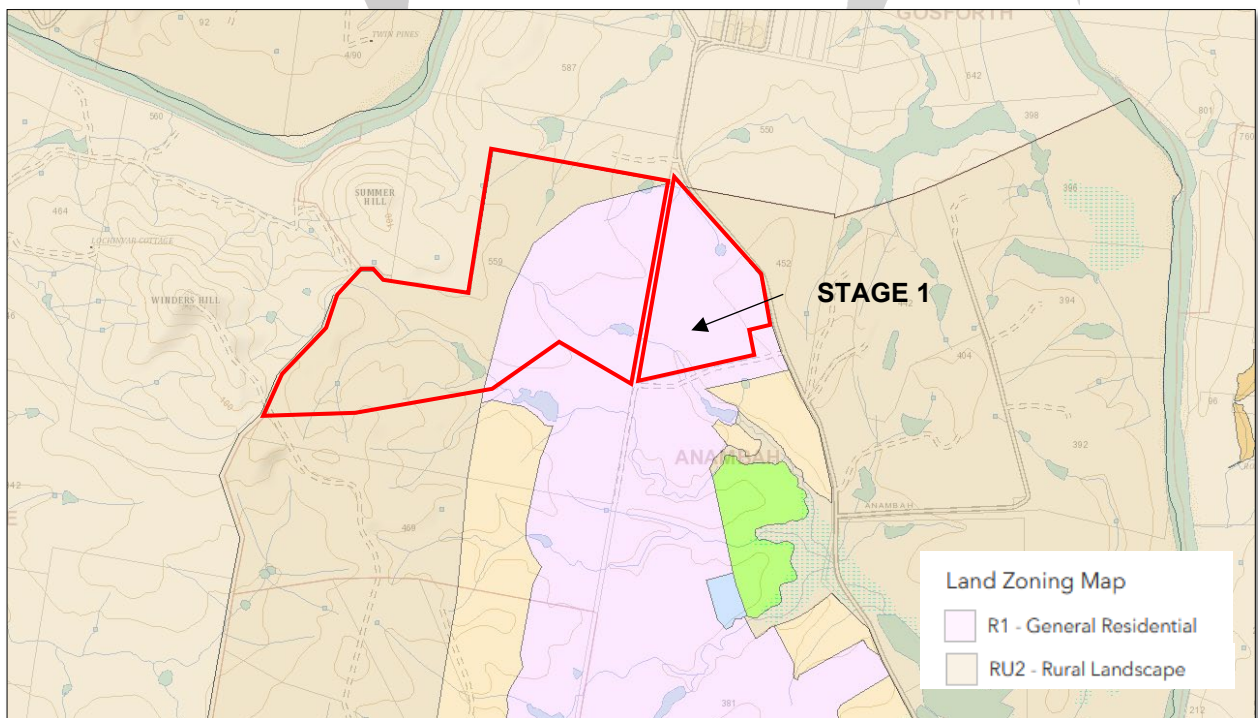


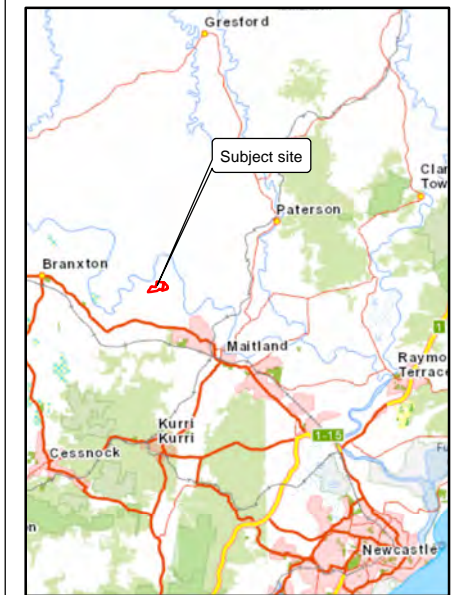
Figure 1: Land Use Zone Map (Maitland Local Environment Plan 2011)

Figure 2

Site Location



BUSHFIRE
PLANNING
AUSTRALIA



-  Subject site
-  Stage 1
-  100m buffer
-  140m buffer

SOURCE:

Basemap: NSW Department of Customer Service
2023



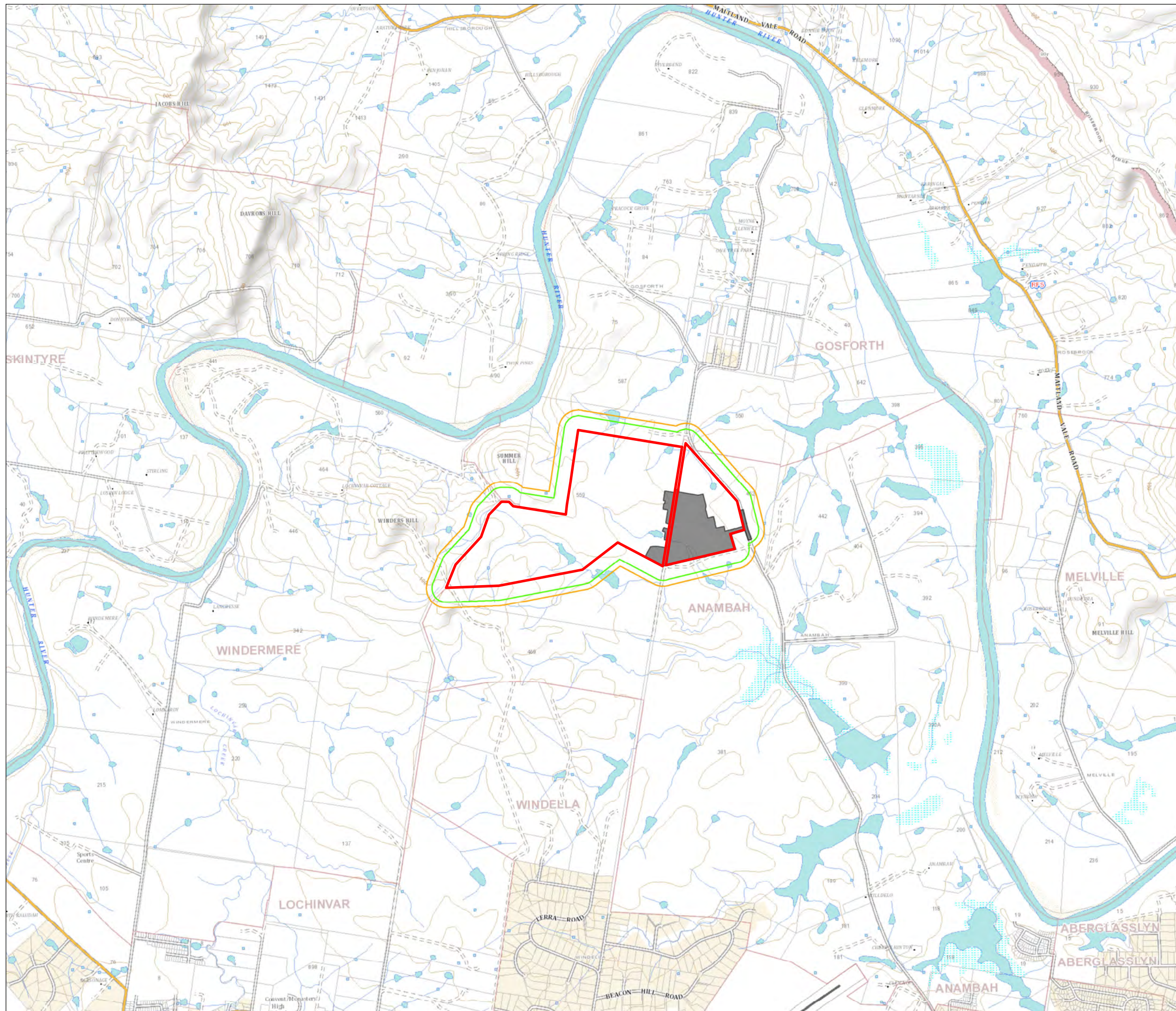
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Meters

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2.1. Bushfire Prone Land

Bushfire activity is prevalent in landscapes that carry fuel and the two predominant bushfire types are grassland and forest fires. Factors such as topographic characteristics and quantity of fuel loads influence the intensity and spread of fire. The scale of a bushfire hazard is tailored to the characteristics of the hazard, the size and characteristics of the affected population, types of land use exposed to bushfire, predicted development growth pressures and other factors affecting bushfire risk.

Figure 3 demonstrates majority of the subject site is mapped as Category 3 Vegetation. The sites south-western corner largely consists of Category 1 vegetation which extends further north along the western and northern boundaries. There are also isolated sections of Category 1 Vegetation along the sites eastern boundary. There are also isolated sections of Category 2 Vegetation and Vegetation Buffer where dams exist, or small scattered vegetation exist within the site respectively.

Within and beyond 140m of the subject site, bushfire prone land including Vegetation Category 1, 2, 3 and Vegetation Buffer exists in all directions.

Bushfire prone land specific to the proposed Stage 1 development is identified as Vegetation Category 3 and minimal Vegetation Category 1 and Vegetation Buffer. Therefore, the primary bushfire hazard specific to the proposed Stage 1 development is located within and beyond 140m to the east of the site and separated by Anambah Road.

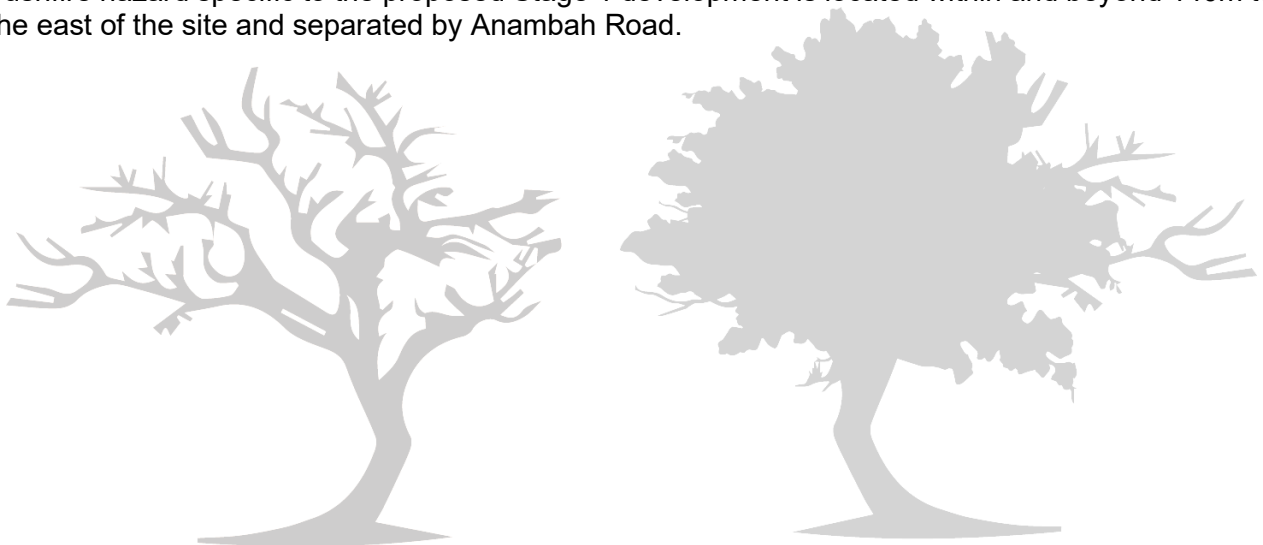










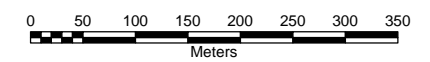
Figure 3

NSW Bush Fire Prone Land



-  Subject site
-  100m buffer
-  140m buffer
-  Stage 1
- Bushfire Prone Land**
-  Vegetation Category 1
-  Vegetation Category 2
-  Vegetation Category 3
-  Buffer

SOURCE:
Cadastral Boundary: NSW Department of Finance,
Services and Innovation 2024
NSW Bush Fire Prone Land: NSW Rural Fire Service
2023
Aerial Photo: Nearmap 26/02/2024



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Date: 29/08/2024

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2.2. Urban Release Area - Anambah

The site is located within the Anambah Urban Release Area (URA). It is strategically located in proximity to other areas earmarked for urban release including the Lochinvar URA, Anambah Road URA, Anambah Employment Area, Anambah Urban Extension Site (Windella) and Anambah Road Urban Extension Site.

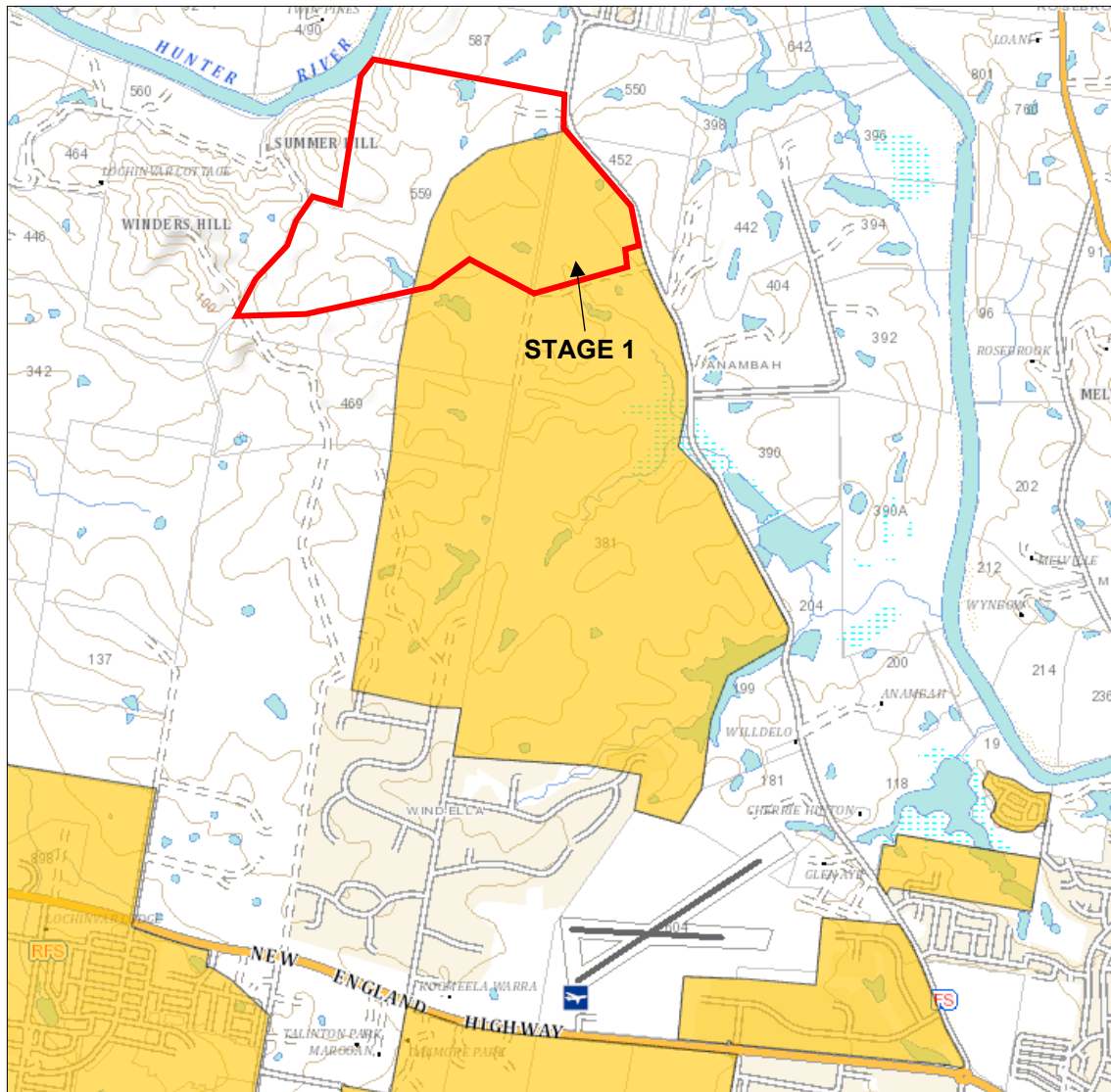


Figure 4: Urban Release Area - Anambah (NSW ePlanning Spatial Viewer)

2.3. Proposed Development - Concept Masterplan

In accordance with Section 4.22 in Division 4.4 of the EP&A Act 1979, a concept development application is being submitted seeking approval for a masterplan create a new urban subdivision within the Anambah URA (**Figure 3**). The concept masterplan accommodates a mix of housing types within 900 residential lots, and incorporating open space, roads, pedestrian network, utilities and services, intersection upgrades and drainage infrastructure as shown in **Figure 5**.

As shown in **Figure 1**, the concept masterplan is contained within the part of the site zoned R1 – General Residential. **Figure 4** demonstrates a portion of the site is within the Anambah URA under the Maitland Local Environmental Plan 2011 (MLEP). Accordingly, the area of the site the subject of the concept masterplan has previously been demonstrated to be suitable for residential development. It is also noted the concept masterplan has been designed to integrate into the similarly residential zoned land immediately south of the development site; known as 381 Anambah Road.

Accordingly, a bushfire hazard assessment (and not a Strategic Bushfire Study) has been completed for the area affected by the concept development application and this BAR will demonstrate the concept masterplan and all future stages are able to comply with the relevant specifications and requirements of PBP 2019.

In principle support for the broader concept masterplan is requested from the RFS.



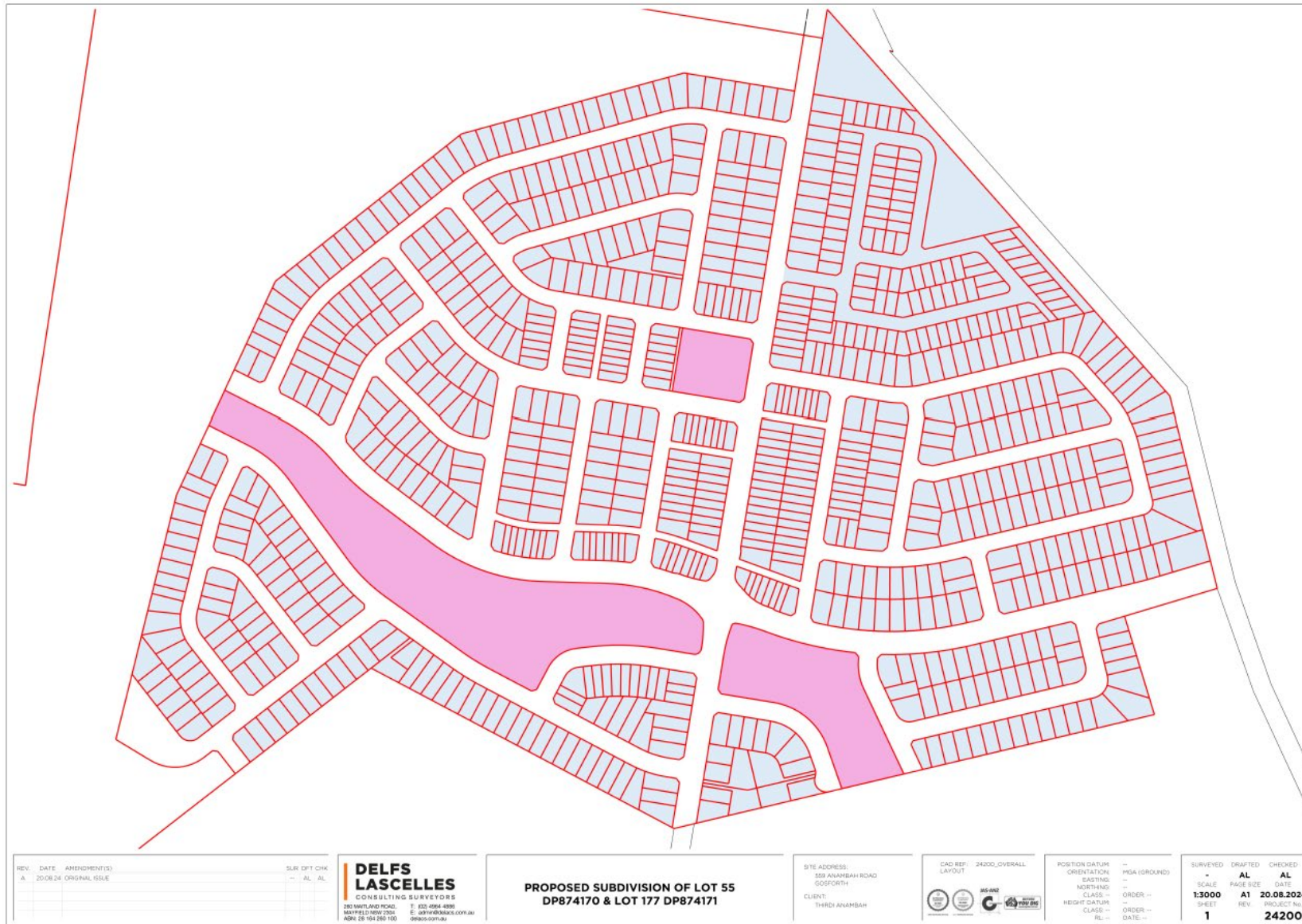


Figure 5: Proposed Concept Masterplan of Anambah Urban Release Area (Lot 55)

2.4. Proposed Development - Stage 1

The concept masterplan is proposed to be delivered in several stages. Stage 1 forms the subject of the current concept development application. All stages subsequent to Stage 1 will form the subject of separate development applications.

This BAR has been prepared for the purposes of an application for a bush fire safety authority (BFSA) under section 100B(4) of the Rural Fires Act 1997 for Stage 1.

The proposed development of Stage 1 will create 240 residential lots and associated works including bulk earthworks, tree removal, landscaping, water basins, utilities and services. The development of Stage 1 will also include the construction of both public through (collector) roads, perimeter roads and non-perimeter roads to provide access to each lot.

The plan of the Stage 1 subdivision is shown in **Figure 6** and detailed further in **Appendix A**. **Figure 7** indicates the relationship of Stage 1 within the Site.

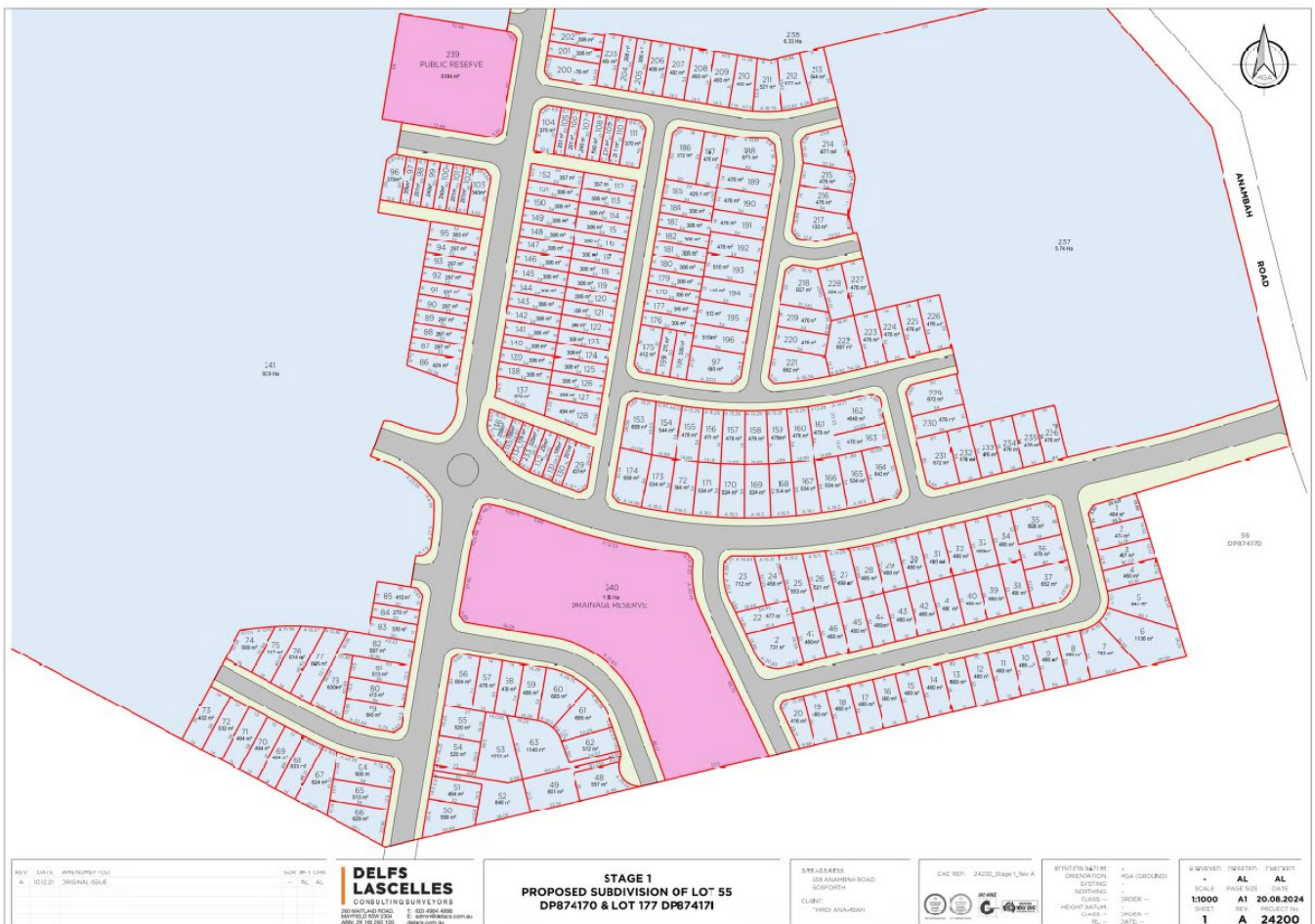


Figure 6: Plan of Proposed Subdivision - Stage 1

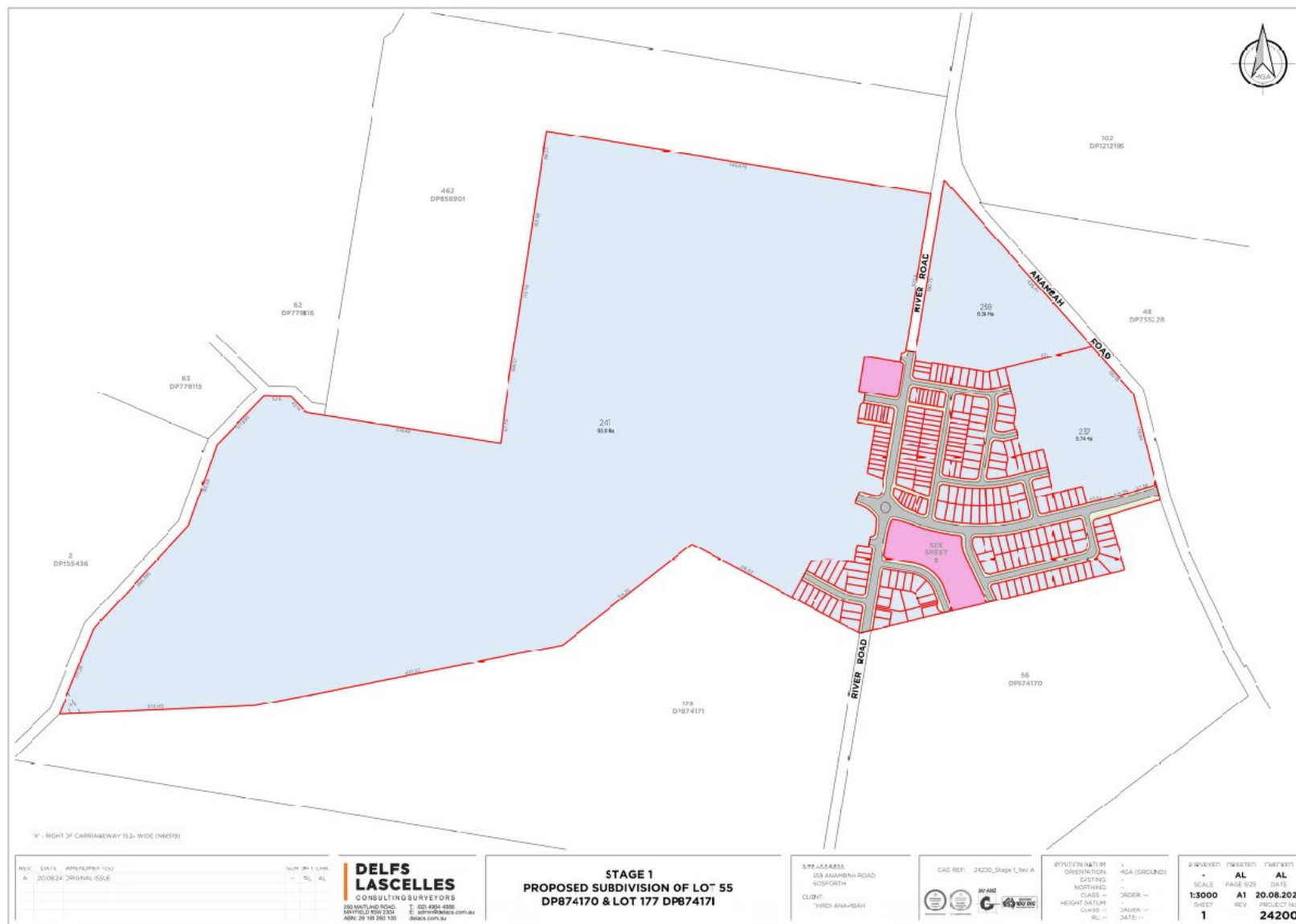


Figure 7: Proposed Subdivision of Lot 55 - Stage 1

3. Bushfire Hazard Assessment

The bushfire hazard assessment will involve quantitative and qualitative assessments of the site. The quantitative assessment includes a detailed site inspection to record and review vegetation communities, slope and aspect both within and surrounding the site. The qualitative assessment will be based on the known bushfire behaviour of the subject land.

3.1. Vegetation Assessment

Vegetation classification over the entire Study Area (concept masterplan) and surrounding area has been carried out as follows:

- ❑ Aerial Photograph Interpretation to map the vegetation classification and extent (NearMap historical series);
- ❑ Reference to NSW State Vegetation Type (SVT) Formation Department of Planning, Industry and Environment 2021 (**Figure 8**);
- ❑ Landscape Masterplan completed by Peter Andrews and Associates (**Appendix C**); and
- ❑ Site Inspection completed on 17 April 2024 by Stuart Greville (BPA).

In accordance with PBP 2019, an assessment of the vegetation over a distance of 100m in all directions from the site was undertaken for Stage 1 and the Study Area.











Vegetation that may be considered a bushfire hazard was identified in all directions from the development footprint. The vegetation classification is based on Appendix 1 of PBP 2019 as per Keith (2004). The unmanaged fuel loads detailed in the *Comprehensive Vegetation Fuel Loads* published by the RFS in March 2019 have been adopted for the purpose of assessing the bushfire hazard. The findings of the site inspection were compared to the Keith Vegetation Formations mapping provided by the NSW RFS and NSW SVT. The inconsistencies between the mapping sources were quantified during the site inspection.

The proposed concept masterplan will revegetate the riparian corridor located within the site. The proposed revegetation treatment as outlined in the Landscape Masterplan has been considered and the vegetation formations identified adopted for the purpose of this hazard assessment for both the concept masterplan and Stage 1.

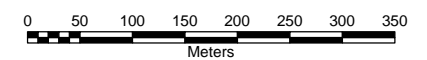
Figure 8

NSW State Vegetation Type (Class)



-  Subject site
 -  100m buffer
 -  140m buffer
 -  Stage 1
- Vegetation Class**
-  Coastal Floodplain Wetlands
 -  Coastal Freshwater Lagoons
 -  Coastal Valley Grassy Woodlands
 -  Hunter-Macleay Dry Sclerophyll Forests
 -  Northern Hinterland Wet Sclerophyll Forests
 -  Dry Rainforests

SOURCE:
Cadastral Boundary: NSW Department of Finance,
Services and Innovation 2024
NSW Vegetation Type: NSW Department of Planning,
Industry and Environment 2023
Aerial Photo: Nearmap 26/02/2024

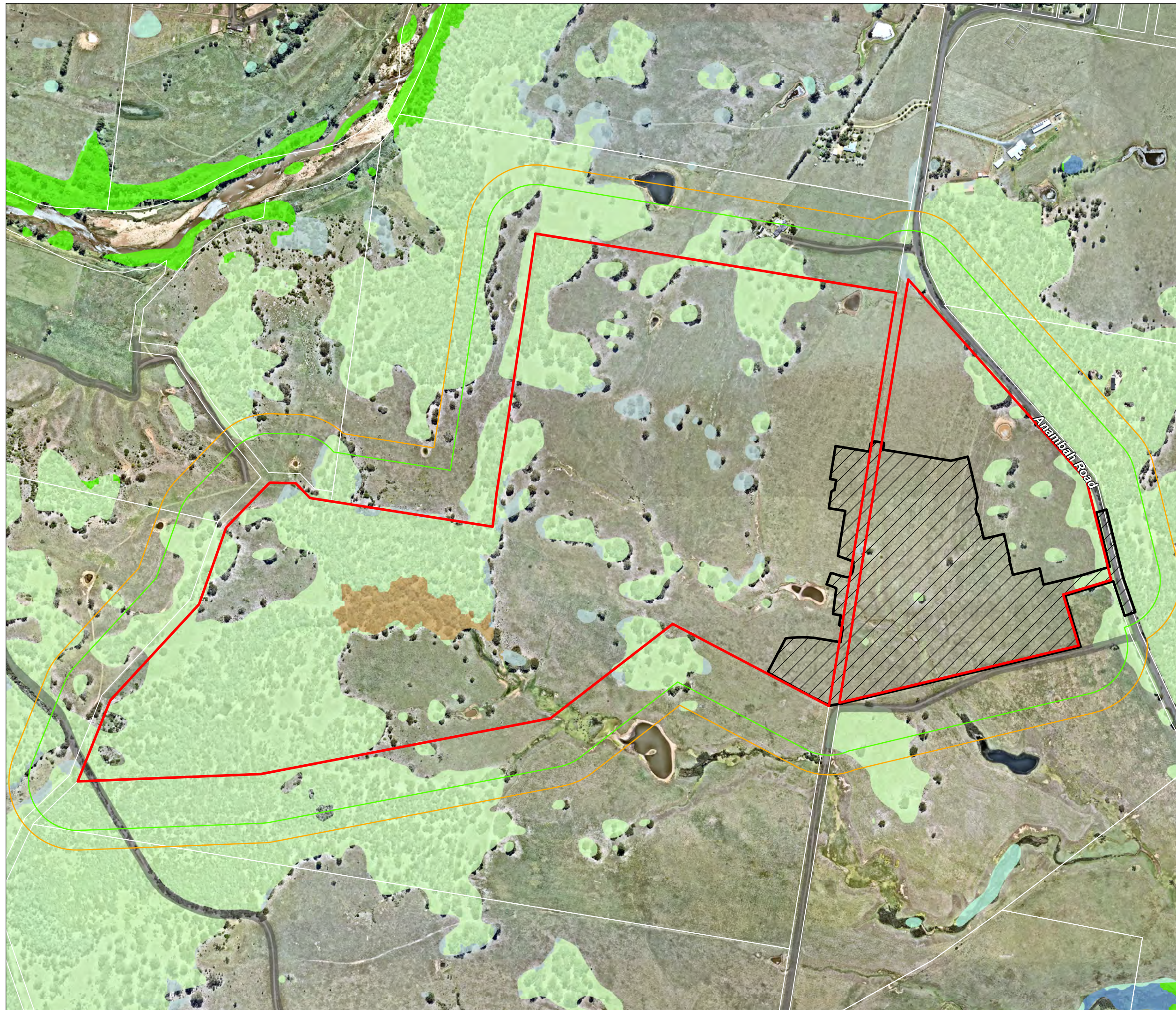


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3.2. Slope Assessment

The slope assessment was undertaken as follows:

- ❑ Review of LiDAR point cloud data - including DEM (NSW LPI); and
- ❑ Detail survey of existing contours.

An assessment of the slope over a distance of 140m in the hazard direction from the site boundary was undertaken. The effective slope was then calculated under the classified vegetation where there was a fire run greater than 50m. The topography of the site has 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.

A series of figures were produced that demonstrate the slope within 140m from the subject site in multiple formats, including:

- ❑ Digital Elevation Model (**Figure 9**); and
- ❑ Slope analysis in gradients of 5 degrees (**Figure 10**).

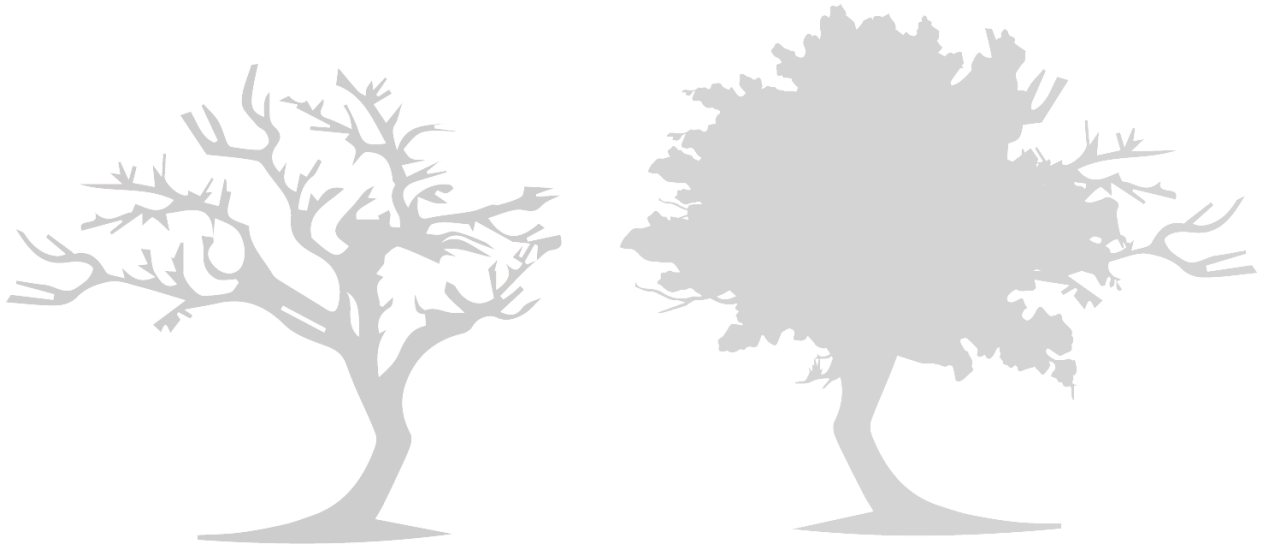










Figure 9

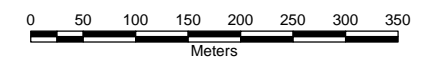
Digital Elevation Model



BUSHFIRE
PLANNING
AUSTRALIA

-  Subject site
-  100m buffer
-  140m buffer
-  Stage 1
-  Contour (10m)
-  Contour (2m)
- Elevation (AHD)**
 -  High : 133m
 -  Low : 5m

SOURCE:
Cadastral Boundary: NSW Department of Finance,
Services and Innovation 2024
Surface analysis: Derived from CESSNOCK 1m
resolution LiDAR: © Department Finance, Services
and Innovation 2012



A3 Scale: 1:7,200

File:2425-Gosforth-Fig4-DEM-240829

Date: 29/08/2024











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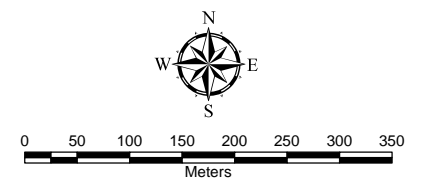
Figure 10

Slope Analysis: LiDAR



-  Subject site
 -  100m buffer
 -  140m buffer
 -  Stage 1
 -  Contour (10m)
- Slope**
-  0° - 5°
 -  5° - 10°
 -  10° - 15°
 -  15° - 20°
 -  >20°

SOURCE:
Cadastral Boundary: NSW Department of Finance,
Services and Innovation 2024
Surface analysis: Derived from CESSNOCK 1m
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File:2425-Gosforth-Fig5-SlopeLiDAR-240829 Date: 29/08/2024

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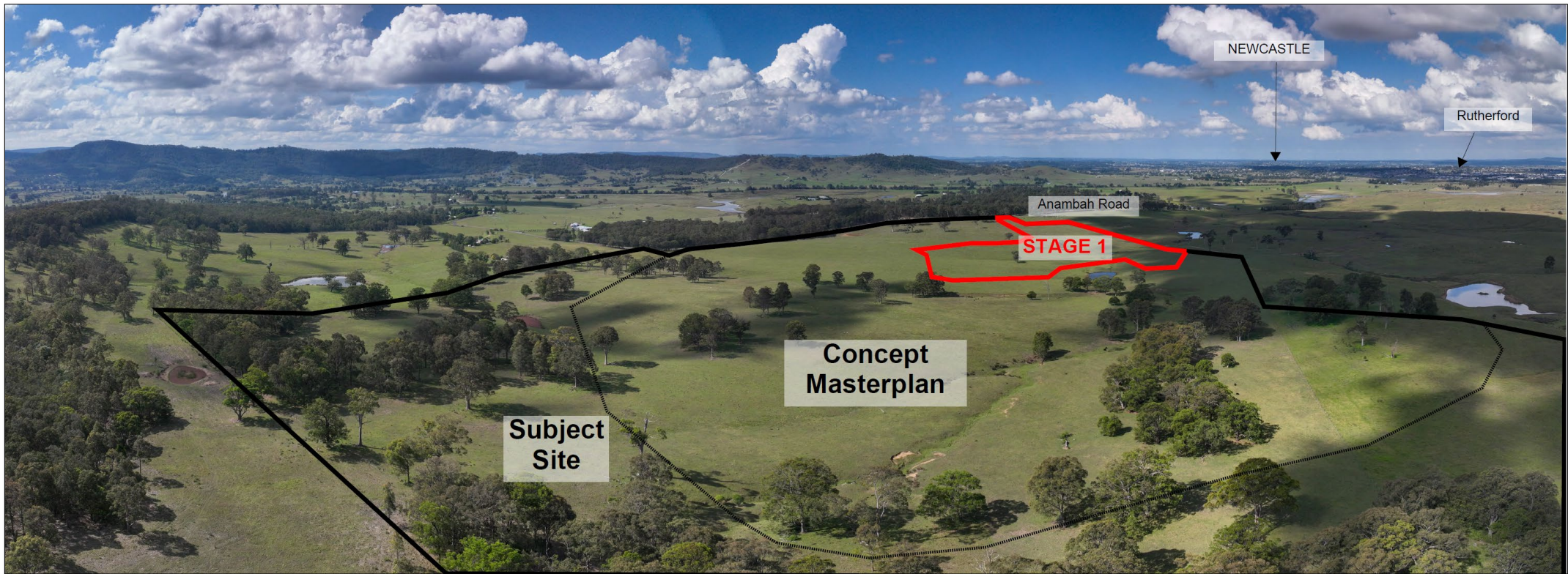


Plate 1: Indicative development footprint looking south-east

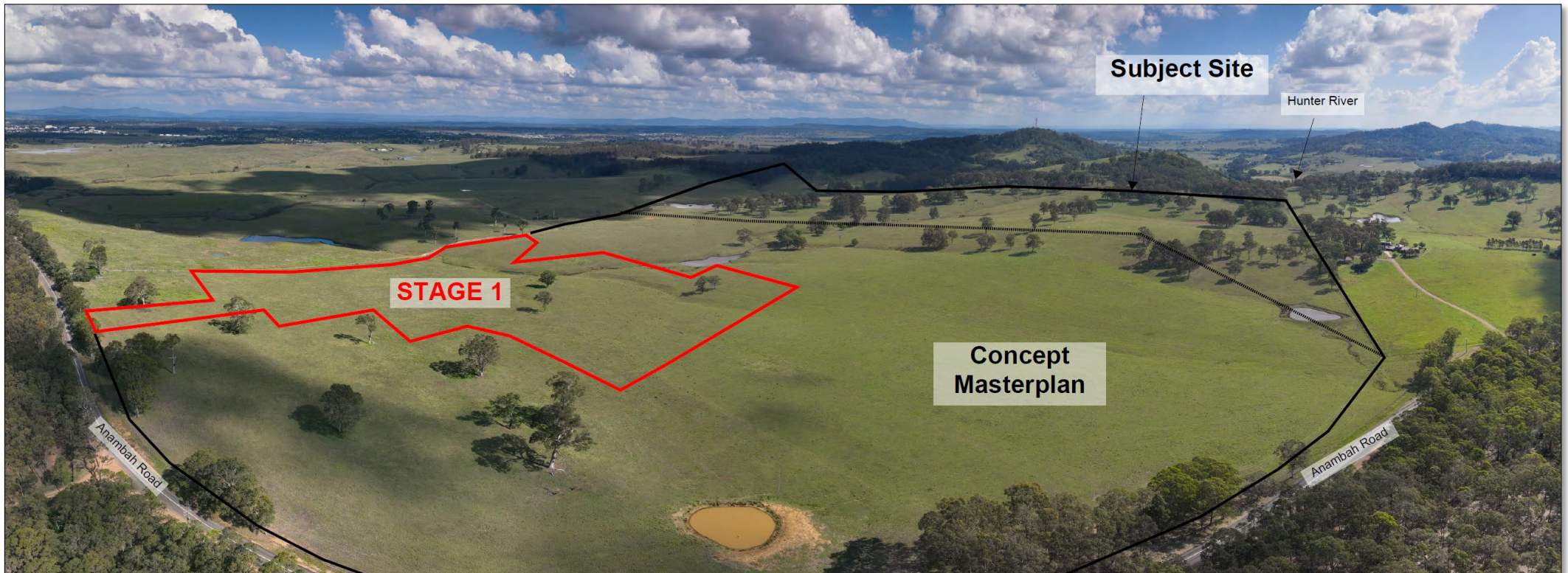


Plate 2: Indicative development footprint looking west



Plate 3: Forest vegetation north of the site and separated by Anambah Road (T1)



Plate 4: Forest vegetation identified as the primary bushfire hazard east of the site (T3)



Plate 5: Grassland paddocks located south of the site (T5)



Plate 6: Grassland paddocks located south of the site (T5)



Plate 7: Grassland paddocks with scattered trees located to the south of the site (T7)



Plate 8: Actively grazed grassland paddocks with scattered trees located to the west of the site (T8)



Plate 9: Actively grazed grassland paddocks with scattered trees located to the west of the site (T9)



Plate 10: Isolated forest vegetation located north of the proposed development footprint (T11)

3.3. Results

All vegetation identified within the current Bush Fire Prone Land map was confirmed during the site inspection.

The majority of the Site (concept masterplan) and its surrounds has been highly modified for farming and grazing and is dominated by a mixture of exotic and native *grasslands* with some scattered trees or isolated forest vegetation spread across the existing pastures. Vegetation located within and beyond 100m east of the Site (concept masterplan) is identified as *forest* vegetation, namely *Hunter Macleay Dry Sclerophyll Forest*. This vegetation is identified as the primary bushfire hazard for both the concept masterplan and Stage 1 development. It is noted, the proposed Stage 1 residential lots are greater than 100m from this hazard and is further separated by Anambah Road.

There is an existing riparian corridor located within the southern portion of the site that will be revegetated and assessed as a *freshwater wetland* hazard within both the concept masterplan and the Stage 1 development.

The results of hazard assessment for the concept masterplan and Stage 1 are detailed in **Table 2** and shown in **Figure 11** and **Figure 12** respectively.

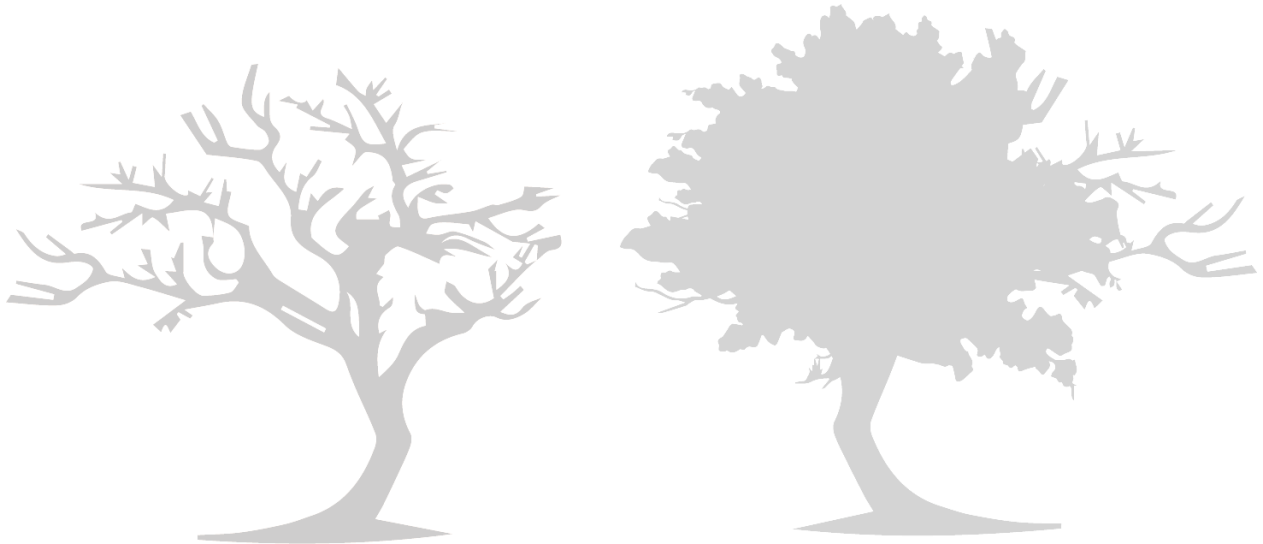


Table 2: Slope and Vegetation Assessment Results - Concept Masterplan & Stage 1

Transect	Vegetation Description	Vegetation Classification (PBP 2019)	Slope
T1	Forest vegetation identified as the primary bushfire hazard, north of the site and separated by Anambah Road	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	1.4° Downslope
T2	Forest vegetation, identified as the primary bushfire hazard, north-east of the site and separated by Anambah Road	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	-0.5° Upslope
T3	Forest vegetation, identified as the primary bushfire hazard, east of the site and separated by Anambah Road	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	6.2° Downslope
T4	Grassland vegetation from the edge of the proposed road south of the site	<i>Grassland</i>	3.3° Downslope
T5	Grassland vegetation from the edge of the proposed road south of the site	<i>Grassland</i>	1.1° Downslope
T6	Grassland vegetation from the southern site boundary	<i>Grassland</i>	3.4° Downslope
T7	Isolated forest vegetation from the southern site boundary	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	2.9° Downslope
T8	Grassland vegetation from the Stage 1 western development site boundary	<i>Grassland</i>	1.6° Downslope
T9	Grassland vegetation from the Stage 1 western development site boundary	<i>Grassland</i>	-5.0° Upslope
T10	Grassland vegetation from the Stage 1 north-western development site boundary	<i>Grassland</i>	6.3° Downslope
T11	Isolated forest vegetation from the Stage 1 northern development site boundary	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	3.2° Downslope
T14	Revegetated riparian corridor separated from the residential allotments by proposed roads	<i>Freshwater Wetlands</i>	2.2° Downslope
T15	Revegetated riparian corridor separated from the residential allotments by proposed roads	<i>Freshwater Wetlands</i>	-0.9° Upslope
T16	Revegetated riparian corridor west of the site	<i>Freshwater Wetlands</i>	-1.3° Upslope

Concept Masterplan

	Transect	Vegetation Description	Vegetation Classification (PBP 2019)	Slope
Stage 1*	T12	Grassland from the northern development boundary that forms part of future subdivision stages	<i>Grassland</i>	2.2° Downslope
	T13	Grassland from the eastern development boundary that forms part of future subdivision stages	<i>Grassland</i>	-1.1° Upslope
	T17	Grassland from the western development boundary that forms part of future subdivision stages	<i>Grassland</i>	1.5° Downslope

* Noting transects T12, T13 and T17 relate to Stage 1 and are in addition to all others related to the Concept Masterplan.

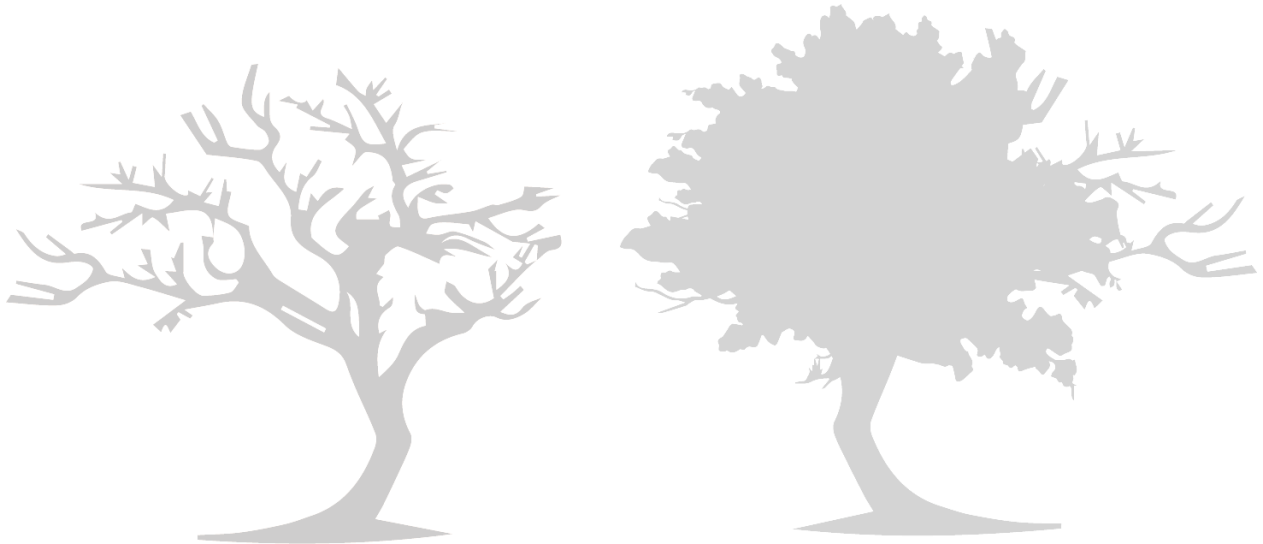
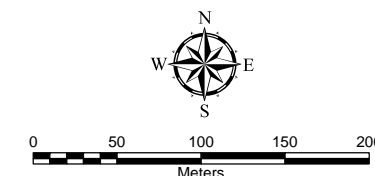


Figure 11 Slope & Vegetation Assessment



- | | | | |
|--|--------------------|--|---|
| | Subject site | | Vegetation Class |
| | 100m buffer | | Grassland |
| | 140m buffer | | Freshwater Wetland |
| | Stage 1 | | Coastal Valley Grassy Woodlands |
| | Contour (10m) | | Hunter - Macleay Dry Sclerophyll Forests |
| | Contour (2m) | | Northern Hinterland Wet Sclerophyll Forests |
| | LEP Zones 20220923 | | |
| | RL | | |
| | Downslope transect | | |
| | Upslope transect | | |

SOURCE:
Cadastral Boundary: NSW Department of Finance, Services and Innovation 2024
Vegetation: BPA 2014 based on SVTM NSW Department of Planning, Industry and Environment 2023
Surface analysis: Derived from CESSNOCK 1m resolution LiDAR: © Department Finance, Services and Innovation 2012
Aerial Photo: Nearmap 26/02/2024



A3 Scale: 1:4,500

File:2425-Gosforth-Fig6-SlopeVeg-240829 Date: 29/08/2024

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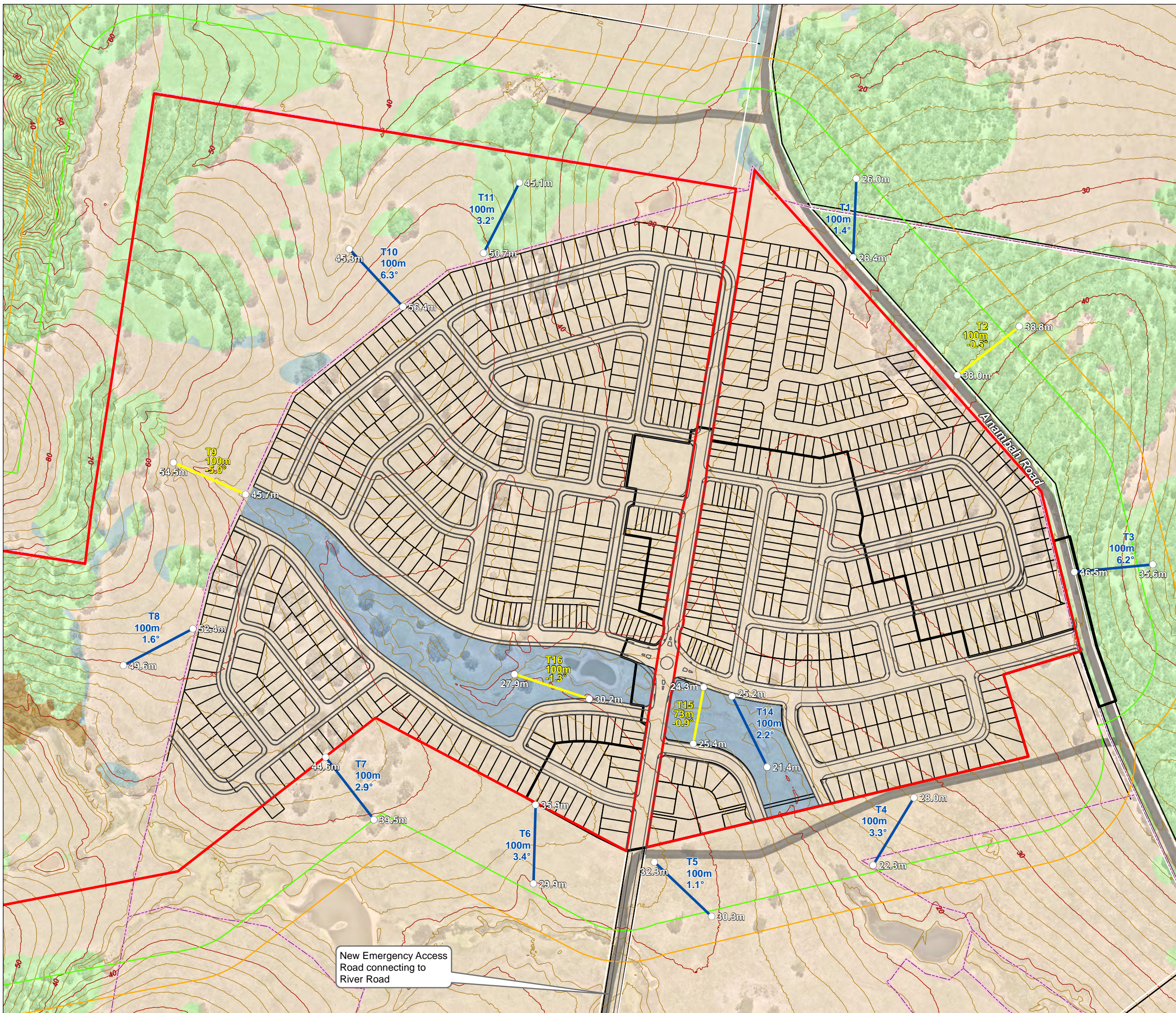
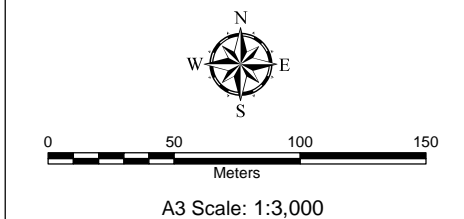


Figure 12 Slope & Vegetation Assessment



- | | |
|------------------------|--|
| Subject site (Stage 1) | RL |
| 100m buffer | Downslope transect |
| 140m buffer | Upslope transect |
| Contour (10m) | Vegetation Class |
| Contour (2m) | Grassland |
| LEP Zones 20220923 | Freshwater Wetland |
| | Hunter-Macleay Dry Sclerophyll Forests |

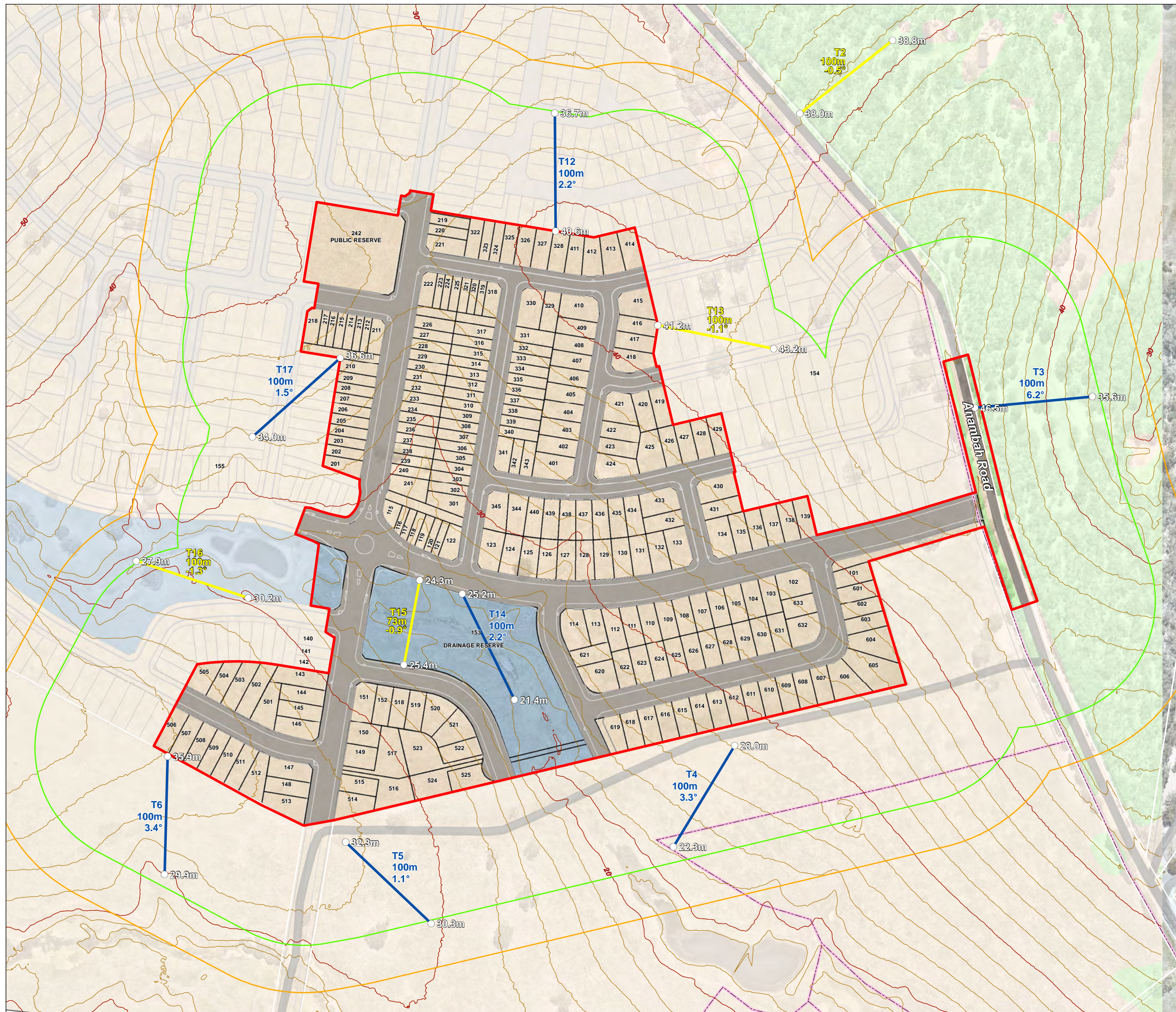
SOURCE:
Cadastral Boundary: NSW Department of Finance, Services and Innovation 2024
Vegetation: BPA 2014 based on SVTM NSW Department of Planning, Industry and Environment 2023
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File:2425-Gosforth-STAGE1-Fig6-SlopeVeg-240828 Date: 28/08/2024

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3.4. Significant Environmental Features

The recommended bushfire protection measures have been designed to minimise any unacceptable impacts on any significant environmental features for both the Study Area (concept masterplan) and Stage 1.

3.5. Threatened Species, populations or ecological communities

The area of the site to be affected by the proposed development has been identified to minimise impact on any threatened species, population or EEC. An independent Biodiversity Development Assessment has been completed by MJD Environmental (June 2024) to demonstrate the site meets the requirements of the Biodiversity Assessment Method 2017 (BAM) established under Section 6.7 of the *NSW Biodiversity Conservation Act 2016*.

All bushfire mitigation measures; including APZs has considered the existing and potential biodiversity values to avoid impact where possible.

3.6. Aboriginal Objects

A search of the AHIMS database (results contained in **Appendix B**) revealed there are potentially three (3) Aboriginal sites or places recorded near the subject site of which one (1) is located near the proposed Stage 1 development site. Whilst all bushfire mitigation measures, such as APZs have considered this and been designed to minimise disturbing any artefacts (if identified), it is recommended an Aboriginal Cultural Heritage Assessment Report be completed.



4. Bushfire Risk and Mitigation

This Bushfire Assessment Report (BAR) has adopted the methodology to determine the appropriate Bushfire Protection Measures (BPMs) detailed in PBP 2019. As part of the BAR, the recommended BPMs demonstrate the aims and objectives of PBP 2019 have been satisfied; including the matters considered by the RFS necessary to protect persons, property and the environment from the danger that may arise from a bushfire.

The following BPMs have been designed specific to Stage 1. However the methodology and approach to designing the BPMs adopted for Stage 1 also apply to the entire concept masterplan and will be incorporated into any future development applications for subsequent stages.

4.1. Asset Protection Zones

An APZ is an area surrounding a development that is managed to reduce the bushfire hazard to an acceptable level to mitigate the risk to life and property. The required width of the APZ varies with slope and the type of hazard. An APZ can consist of both an inner protection area (IPA) and an outer protection area (OPA).

An APZ can include the following:

- Lawns;
- Discontinuous gardens;
- Swimming pools;
- Roads, driveways and managed verges;
- Unattached non-combustible garages with suitable separation from the dwelling;
- Open space / parkland; and
- Car parking.

The presence of a few shrubs or trees in the APZ is acceptable provided that they:

- Do not touch or overhang any buildings;
- Are well spread out and do not form a continuous canopy;
- Are not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period; and
- Are located far enough away from any dwelling so that they will not ignite the dwelling by direct flame contact or radiant heat emission.

Woodpiles, wooden sheds, combustible material storage areas, large areas / quantities of garden mulch, stacked flammable building materials etc. are not recommended in the APZ.

4.1.1. Determining the Appropriate Setbacks

To achieve compliance with the performance criteria for APZs (Table 5.3a), the Acceptable Solutions outlined in Table A1.12.2 of PBP 2019 has been adopted as a deemed-to-satisfy solution.

As the development site lies within the Maitland City Council LGA, it is assessed under a FDI rating of 100. To ensure the APZs achieve the intent of Section 5.3 of PBP 2019, the APZs have been determined to ensure all lots within Stage 1 are able to accommodate a dwelling that will not be exposed to radiant heat levels exceeding 29kW/m².

Refer to **Table 3** for the recommended APZs for Stage 1. **Figure 16** presents the APZs for Stage 1 based on the existing bushfire hazard; several of these APZs are represented as a temporary measure. This approach acknowledges the land to the south (381 Anambah Road) is currently being investigated for residential development and it is understood a development application is currently being prepared. Following removal of the bushfire hazard, the APZs shown in **Figure 17** will apply.

If, at the issue of a subdivision certificate, the land to the south of Stage 1 has not been developed for residential purposes, a restriction to the use of the land pursuant to Section 88B of the *Conveyancing Act 1919* must be created over the impacted lots to specify that lots cannot be sold until such times the bush fire hazard is removed. The instrument may be lifted upon commencement of any future proposed development on the adjoining land, but only if the bush fire hazard is removed as part of the proposal. This approach has recently been adopted by the RFS and Council and several residential subdivisions to ensure the orderly development of individual properties within a broader URA that extends beyond each individual site.

In accordance with s4.22 of the EP&A Act, the likely APZs required for the broader concept masterplan have been determined and shown in **Figure 15**. These APZs demonstrate all lots within concept masterplan can be designed and sited to accomodate a dwelling that will not be exposed to radiant heat levels exceeding 29kW/m².

Refer to **Table 3** and **Figure 15** and **Figure 16 & 17** for the recommended APZs for the concept masterplan and Stage 1 respectively.



Table 3: Required and Recommended Asset Protection Zones - Concept Masterplan & Stage 1

		Vegetation Classification (PBP 2019)	Slope Class	PBP 2019 FDI 100 Table A1.12.2
Concept Masterplan	T1	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	1.4° Downslope	29m
	T2	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	-0.5° Upslope	24m
	T3	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	6.2° Downslope	36m
	T4	<i>Grassland</i>	3.3° Downslope	12m
	T5	<i>Grassland</i>	1.1° Downslope	12m
	T6	<i>Grassland</i>	3.4° Downslope	12m
	T7	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	2.9° Downslope	29m
	T8	<i>Grassland</i>	1.6° Downslope	12m
	T9	<i>Grassland</i>	-5.0° Upslope	10m
	T10	<i>Grassland</i>	6.3° Downslope	13m
	T11	<i>Forest</i> (Hunter Macleay Dry Sclerophyll Forest)	3.2° Downslope	29m
	T14	<i>Freshwater Wetlands</i>	2.2° Downslope	6m
	T15	<i>Freshwater Wetlands</i>	-0.9° Upslope	5m
T16	<i>Freshwater Wetlands</i>	-1.3° Upslope	5m	
Stage 1	T12	<i>Grassland</i>	2.2° Downslope	12m
	T13	<i>Grassland</i>	-1.1° Upslope	10m
	T17	<i>Grassland</i>	1.5° Downslope	12m

4.2. Landscaping and Vegetation Management

In APZs and IPAs, the design and management of the landscaped areas in the vicinity of buildings have the potential to improve the chances of survival of people and buildings. Reduction of fuel does not require the removal of all vegetation. Trees and plants can provide some bushfire protection from strong winds, intense heat and flying embers (by filtering embers) and changing wind patterns.

Generally landscaping in and around a bushfire hazard should consider the following:

- Priority given to retaining species that have a low flammability;
- Priority given to retaining species which do not drop much litter in the bushfire season and which do not drop litter that persists as ground fuel in the bush fire season;
- Priority given to retaining smooth barked species over stringy bark; and
- Create discontinuous or gaps in the vegetation to slow down or break the progress of fire towards the dwellings.

Landscaping within APZs and IPAs should give due regard to fire retardant plants and ensure that fuel loads do not accumulate as a result of the selected plant varieties.

The principles of landscaping for bushfire protection aim to:

- Prevent flame impingement on dwellings;
- Provide a defensible space for property protection;
- Reduce fire spread;
- Deflect and filter embers;
- Provide shelter from radiant heat; and
- Reduce wind speed.

Avoiding understorey planting and regular trimming of the lower limbs of trees also assists in reducing fire penetration into the canopy. Rainforests species such as Syzygium and figs are preferred to species with high fine fuel and/or oil content. Trees with loose, fibrous or stringy bark should be avoided. These trees can easily ignite and encourage ground fire to spread up to, and then through the crown of trees.

Consideration should be given to vegetation fuel loads present on site with particular attention to APZs. Careful thought must be given to the type and physical location of any proposed site landscaping. Inappropriately selected and positioned vegetation has the potential to 'replace' any previously removed fuel load.

Bearing in mind the desired aesthetic and environment sought by site landscaping, some basic principles have been recommended to help minimise the chance of such works contributing to the potential hazard on site.

Specific requirements for the management of vegetation and landscaping around vulnerable developments and within the APZ the following conditions apply:

- Within 10m of a building, flammable objects such as plants, mulches and fences must not be located close to vulnerable parts of the building such as windows, decks and eaves;
- Trees must not overhang the roofline of the building, touch walls or any other elements of a building;
- Grass should be no more than 100mm in height. All leaves and vegetation debris are to be removed at regular intervals (rake leaves and twigs from grass every week during the fire season);
- Establish lawn substitutes including non-flammable ground covers such as decorative stone or gravel;

- ❑ Plants greater than 100m in height at maturity must not be placed directly in front of a window or other glass features;
- ❑ Tree canopy separation of 2 metres and overall canopy cover no more than 15% at maturity;
- ❑ Preference should be given to smooth barked and evergreen trees;
- ❑ Shrubs should not be located under trees;
- ❑ Shrubs should not form more than 10% ground cover; and
- ❑ Provide a reliable and sufficient water supply and installation of sprinkler systems to create a well-watered landscape.

Whilst it is recognised that fire-retardant plant species are not always the most aesthetically pleasing choice for site landscaping, the need for adequate protection of life and property requires that a suitable balance between visual and safety concerns be considered.

It is reiterated again that it is essential that any landscaped areas and surrounds are subject to ongoing fuel management and reduction to ensure that fine fuels do not build up.

A Landscape Masterplan has been prepared for the concept masterplan by Peter Andrews and Associates and is contained in **Appendix C**.

4.3. Access

In the unlikely event of a serious bushfire, it will be essential to ensure that adequate ingress / egress and the provision of defensible space are afforded in the subdivision layout. All dwellings must have direct access to a public road. Section 5.3.2 of PBP 2019 requires a development to provide safe operational access to structures and water supply for emergency services while residents are seeking to evacuate.

Refer to **Appendix A** for the development plans for Stage 1 indicating the proposed access arrangements. Primary access will be provided from Anambah Road and an extension to the existing River Road will be provide an alternative emergency egress. A new collector road will be the primary public road that connects the proposed development from east to west and to multiple non-perimeter roads. All proposed roads will also provide connectivity to future stages of the Anambah Masterplan south of the development site.

All new perimeter roads and non-perimeter roads are designed in accordance with Maitland City Council development control plan and engineering specifications and either are in accordance with or exceed the minimum required for an Acceptable Solution under PBP 2019. A Road Hierarchy Plan has been prepared (**Figure 13**) to indicate the location of each road, the road pavement width and also the designation as a perimeter or non-perimeter road. The proposed 8.0m wide internal local streets (non-perimeter roads) are considered sufficiently wide enough to accommodate parking for light vehicles on both sides of road, outside of the primary vehicle carriageway. It is noted the standard for on-street parking required by Australian Standard *AS2890.5:2020 Parking facilities On-street parking* for roads with a speed limit of 50km/hr or less is to be between 2.0m and 2.3m. It is also noted that a RFS Category 1 Firefighting vehicle is 2.4m wide. Furthermore, applying the option of permitting short constrictions where the width of the access road may be reduced for sections less than 30m, an 8m wide road is considered wide enough to provide a continuous unobstructed carriageway with parking on both sides of the road. The combination of double width driveways along a typical residential local street will prevent a continuous line of parked cars on both sides of the local street. It is noted the majority of the proposed residential allotments fronting a non-perimeter road are located greater than 100m from the permanent bushfire hazard (or 50m from a grassland hazard) and therefore not on land considered 'bushfire prone'.

All new perimeter roads are 11.0m or greater (up to 15.4m wide) and thereby exceed the minimum required (8.0m) by PBP 2019.

Due to the lower risk bushfire hazard Stage1 is exposed to, we request the RFS customise the General Terms of Approval of the BFSAs to omit the Acceptable Solution requiring "*parking is provided*

outside of the carriageway width". This will permit some infrequent parking within the carriageway without compromising emergency services vehicles. Alternatively, the RFS may consider a minimum 4m wide carriageway for non-perimeter roads.

In summary, it is considered the proposed road network for Stage 1 provides safe, all-weather two-way through roads and safe operational access for emergency service personnel and evacuation purposes; complying with the relevant provisions contained in Section 5.3.2 of PBP 2019.

Moreover, the broader road network throughout the concept masterplan has adopted a similar road design and hierarchy. The aforementioned evidence applies to all roads with the Study Area and therefore are also consistent with the provisions contained in Section 5.3.2 of PBP 2019. In additional access measure is provided along the western boundary to provide defensible space access for hazard management across the balance of the development site. To achieve this a property access road will be built to the standard of a fire trail suitable for use by RFS Category 1 appliances as shown in **Figure 15**. The access road connects to a public road at either end and is placed within the proposed APZ. The access road and APZ adjoins existing open grazing land that has a considerably low fuel load due to historical livestock grazing. Whilst the livestock grazing is intended to continue, should the surface vegetation exceed 100mm in height, mechanical intervention will be required to slash the grass to an acceptable height.



Figure 13

Road Hierarchy Plan



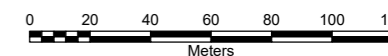
BUSHFIRE
PLANNING
AUSTRALIA

- Subject site (Stage 1)
- 100m buffer
- 140m buffer
- Collector Road
- Non-Perimeter Road
- Perimeter road
- Emergency Egress

LABEL	TYPE	WIDTH (m)
MC01	Collector Road	15.4
MC03	Collector Road	14.0
MC04	Non-Perimeter Road	11.0
MC05	Non-Perimeter Road	8.0
MC05	Non-Perimeter Road	8.0
MC06	Non-Perimeter Road	8.0
MC07	Perimeter road	11.0
MC08	Non-Perimeter Road	8.0
MC10	Non-Perimeter Road	8.0
MC11	Non-Perimeter Road	8.0
MC17	Non-Perimeter Road	8.0
MC18	Non-Perimeter Road	8.0
MC24	Perimeter road	11.0
MC27	Non-Perimeter Road	11.0
	Emergency Egress	

SOURCE:

Cadastral Boundary: NSW Department of Finance,
Services and Innovation 2024
Aerial Photo: Nearmap 26/02/2024

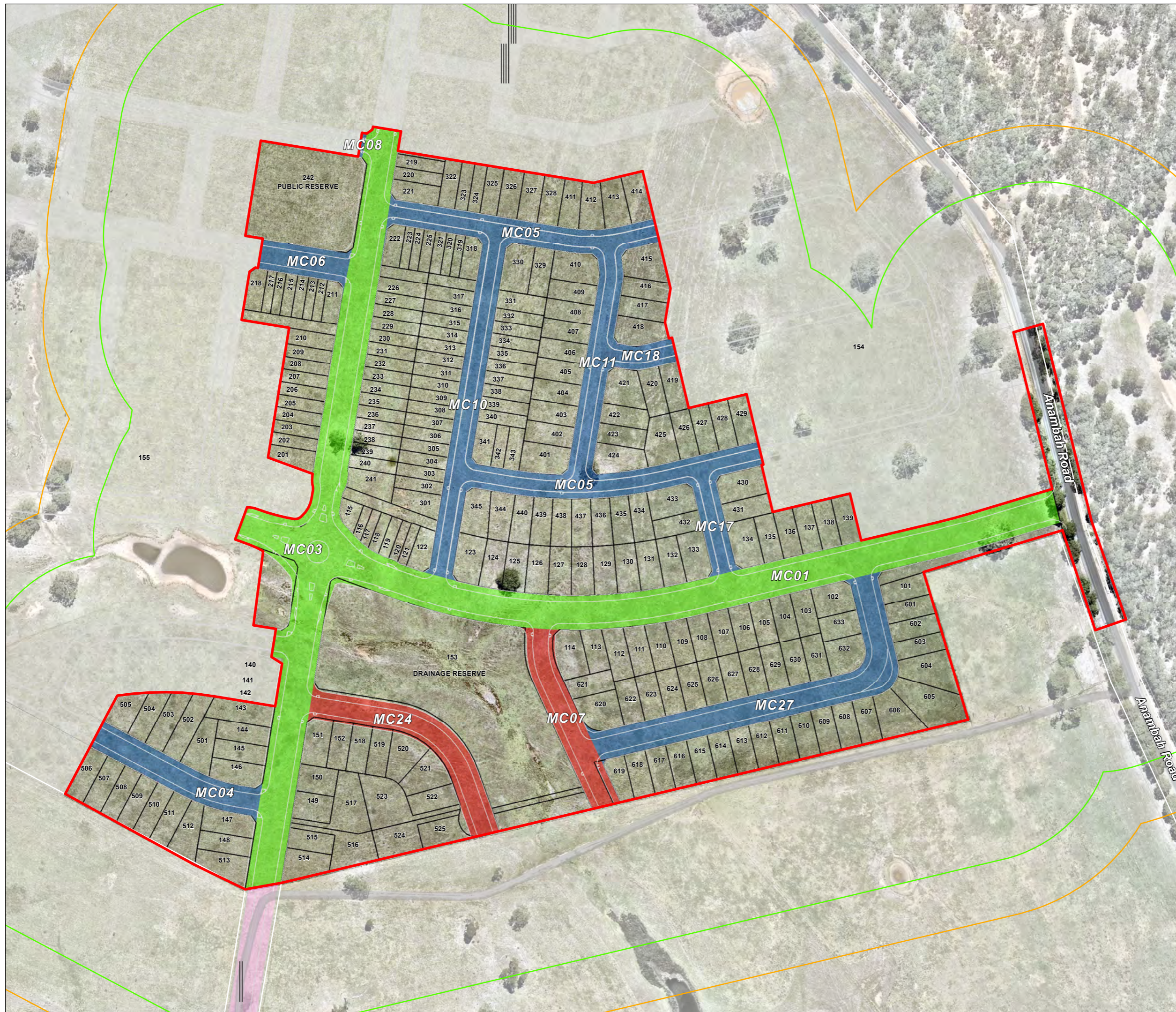


A3 Scale: 1:2,499

File:2425-Gosforth-STAGE1-Fig8-Road-Hierarchy-240828 Date: 28/08/2024

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4.4. Services - water, electricity and gas

4.4.1. Water

All sites within Stage 1 (and each subsequent stage) of the proposed development will be connected to the internal reticulated water supply.

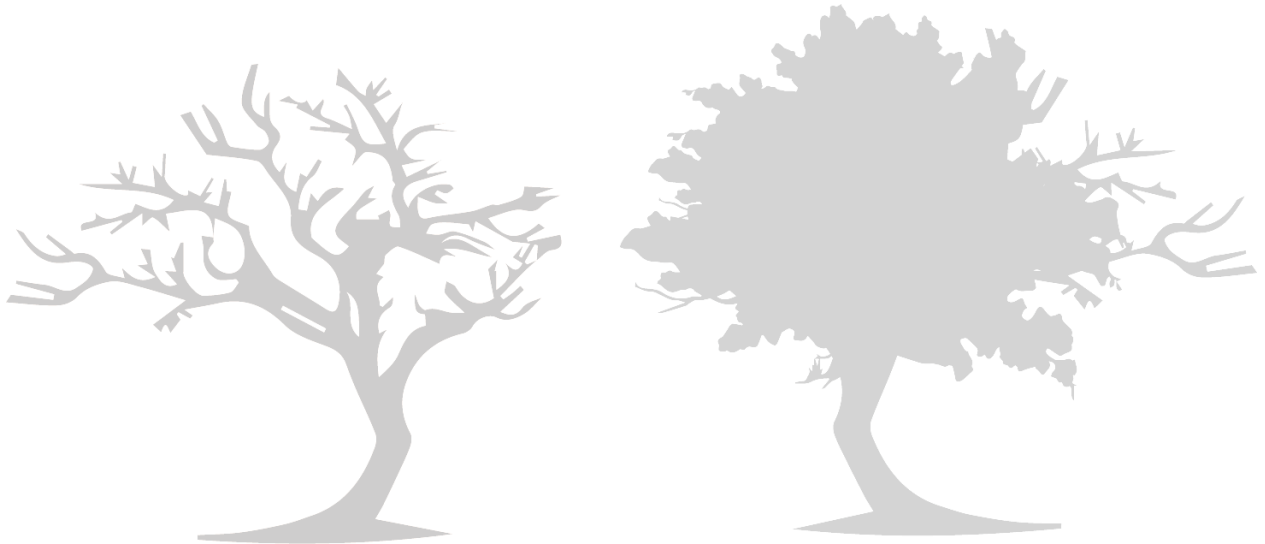
Fire hydrant spacing, sizing and pressure should comply with AS 2419.1-2005. Hydrants are not to be located within any road carriageway.

4.4.2. Electricity

All new electricity services will be located underground across the entire concept masterplan; including Stage 1.

4.4.3. Gas

Any reticulated or bottled gas should be installed and maintained according to the requirements of the relevant authorities and AS 1596-2002. It is expected that the location of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.



4.5. Construction Standards: Bushfire Attack Level

All buildings must satisfy the Performance Requirements of the National Construction Code: Building Code of Australia (BCA). Part H7P5 of Volume 2 of the BCA applies to dwellings located within designated bushfire areas, which are defined as:

Land which has been designated under a power in legislation as being subject, or likely to be subject to, bushfires.

Accordingly, all forthcoming habitable buildings must satisfy the requirements of Part H7D4 (NSW) of the BCA. The *Deemed-to-Satisfy* (DTS) provision of the BCA can only be achieved if dwellings in bushfire prone areas are constructed in accordance with Australian Standard AS3959-2018 *Construction of buildings in bushfire prone areas*. Alternatively, the DTS provisions can also be achieved if the habitable building is constructed in accordance with the NASH Standard 'Steel Framed Construction in Bushfire Areas'.

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.

The determinations of the appropriate bushfire attack level (BAL) is based on the maximum potential radiant heat exposure (**Figure 14**). BALs 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 BAL is derived by assessing the:

- ❑ Relevant FDI = 100;
- ❑ Flame temperature = 1090K;
- ❑ Slope = varied;
- ❑ Vegetation classification = Forest, Grassland and Freshwater Wetlands; and
- ❑ Building location.

The BALs for each transect across the concept masterplan and Stage 1 have been calculated and provided in **Table 4** and shown in **Figure 15** and **Figure 16 & 17** respectively.

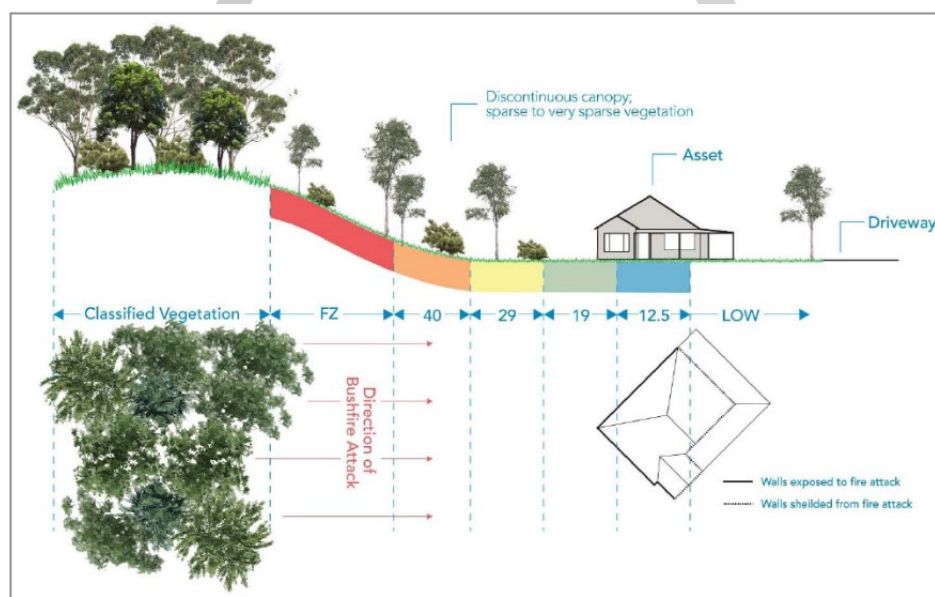


Figure 14: Bushfire Attack Level

Table 4: Required BALs - Concept Masterplan & Stage 1

		Transect	Vegetation Classification (PBP 2019)	Slope	APZ Provided	Distance from Hazard PBP A1.12.5	Bushfire Attack Level (BAL)
Concept Masterplan	T1, T7 & T11	Forest (Hunter Macleay Dry Sclerophyll Forest)	0.0°-<5.0° Downslope	29m	0m-<22m	BAL-FZ	
					22m-<29m	BAL-40	
					29m-<40m	BAL-29	
					40m-<54m	BAL-19	
					54m-<100m	BAL-12.5	
	T2	Forest (Hunter Macleay Dry Sclerophyll Forest)	-0.5° Upslope	24m	0m-<18m	BAL-FZ	
					18m-<24m	BAL-40	
					24m-<33m	BAL-29	
					33m-<45m	BAL-19	
					45m-<100m	BAL-12.5	
	T3	Forest (Hunter Macleay Dry Sclerophyll Forest)	6.2° Downslope	36m	0m-<28m	BAL-FZ	
					28m-<36m	BAL-40	
					36m-<49m	BAL-29	
					49m-<65m	BAL-19	
					65m-<100m	BAL-12.5	
	T4-T6 & T8	Grassland	0.0°-<5.0° Downslope	12m	0m-<9m	BAL-FZ	
					9m-<12m	BAL-40	
					12m-<17m	BAL-29	
					17m-<25m	BAL-19	
					25m-<50m	BAL-12.5	
	T9	Grassland	-5.0° Upslope	10m	0m-<8m	BAL-FZ	
					8m-<10m	BAL-40	
					10m-<15m	BAL-29	
					15m-<22m	BAL-19	
					22m-<50m	BAL-12.5	
	T10	Grassland	6.3° Downslope	13m	0m-<10m	BAL-FZ	
					10m-<13m	BAL-40	
					13m-<20m	BAL-29	
20m-<28m					BAL-19		
28m-<50m					BAL-12.5		
T14	Freshwater Wetlands	2.2° Downslope	6m	0m-<4m	BAL-FZ		
				4m-<6m	BAL-40		
				6m-<8m	BAL-29		
				8m-<12m	BAL-19		
				12m-<100m	BAL-12.5		

Transect		Vegetation Classification (PBP 2019)	Slope	APZ Provided	Distance from Hazard PBP A1.12.5	Bushfire Attack Level (BAL)
Stage 1	T15 & T16	Freshwater Wetlands	<-1.3° Upslope	5m	0m-<4m	BAL-FZ
					4m-<5m	BAL-40
					5m-<7m	BAL-29
					7m-<11m	BAL-19
					11m-<100m	BAL-12.5
	T12 & T17	Grassland	0.0°-<5.0° Downslope	12m	0m-<9m	BAL-FZ
					9m-<12m	BAL-40
					12m-<17m	BAL-29
					17m-<25m	BAL-19
					25m-<50m	BAL-12.5
	T13	Grassland	-1.1° Upslope	10m	0m-<8m	BAL-FZ
8m-<10m					BAL-40	
10m-<15m					BAL-29	
15m-<22m					BAL-19	
22m-<50m					BAL-12.5	



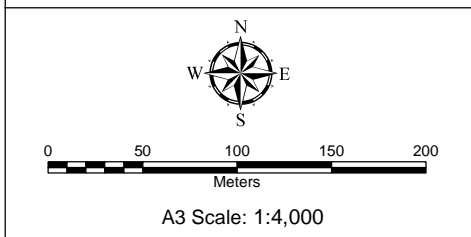
Figure 15

Subdivision BAL Plan



- | | | | |
|-------------------------|---|---|-----------------------|
| | Subject site | | Fire trail |
| | 100m buffer | | Asset Protection Zone |
| | 140m buffer | | |
| | Stage 1 | | |
| Vegetation Class | | Required Bushfire Attack Levels (PBP 2019 Table A1.12.5) | |
| | Grassland | | BAL - FZ |
| | Freshwater Wetland | | BAL - 40 |
| | Hunter - Macleay Dry Sclerophyll Forests | | BAL - 29 |
| | Northern Hinterland Wet Sclerophyll Forests | | BAL - 19 |
| | | | BAL - 12.5 |

SOURCE:
Cadastral Boundary: NSW Department of Finance, Services and Innovation 2024
Aerial Photo: Nearmap 26/02/2024
Vegetation: BPA 2014 based on SVTM NSW Department of Planning, Industry and Environment 2023



File:2425-Gosforth-Fig7-BALs-240830 Date: 30/08/2024

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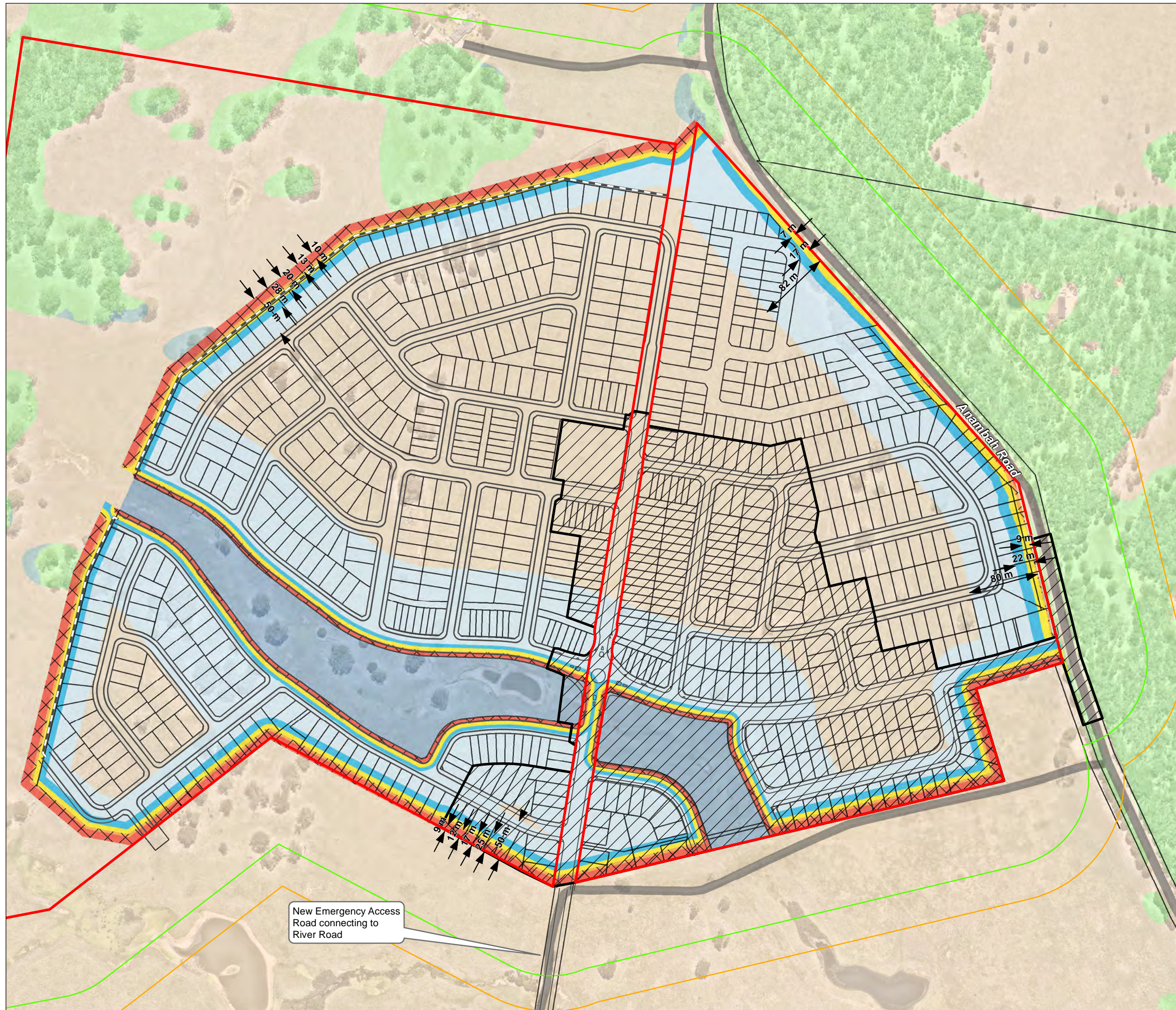















Figure 16

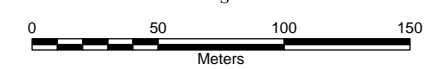
Temporary Subdivision BAL Plan



BUSHFIRE
PLANNING
AUSTRALIA

- | | | | |
|---|--|---|---------------------------------|
|  | Subject site |  | Asset Protection Zone |
|  | 100m buffer |  | Temporary Asset Protection Zone |
|  | 140m buffer | | |
| Vegetation Class | | | |
|  | Freshwater Wetland |  | BAL - FZ |
|  | Grassland |  | BAL - 40 |
|  | Hunter - Macleay Dry Sclerophyll Forests |  | BAL - 29 |
| | |  | BAL - 19 |
| | |  | BAL - 12.5 |

SOURCE:
Cadastral Boundary: NSW Department of Finance,
Services and Innovation 2024
Aerial Photo: Nearmap 26/02/2024

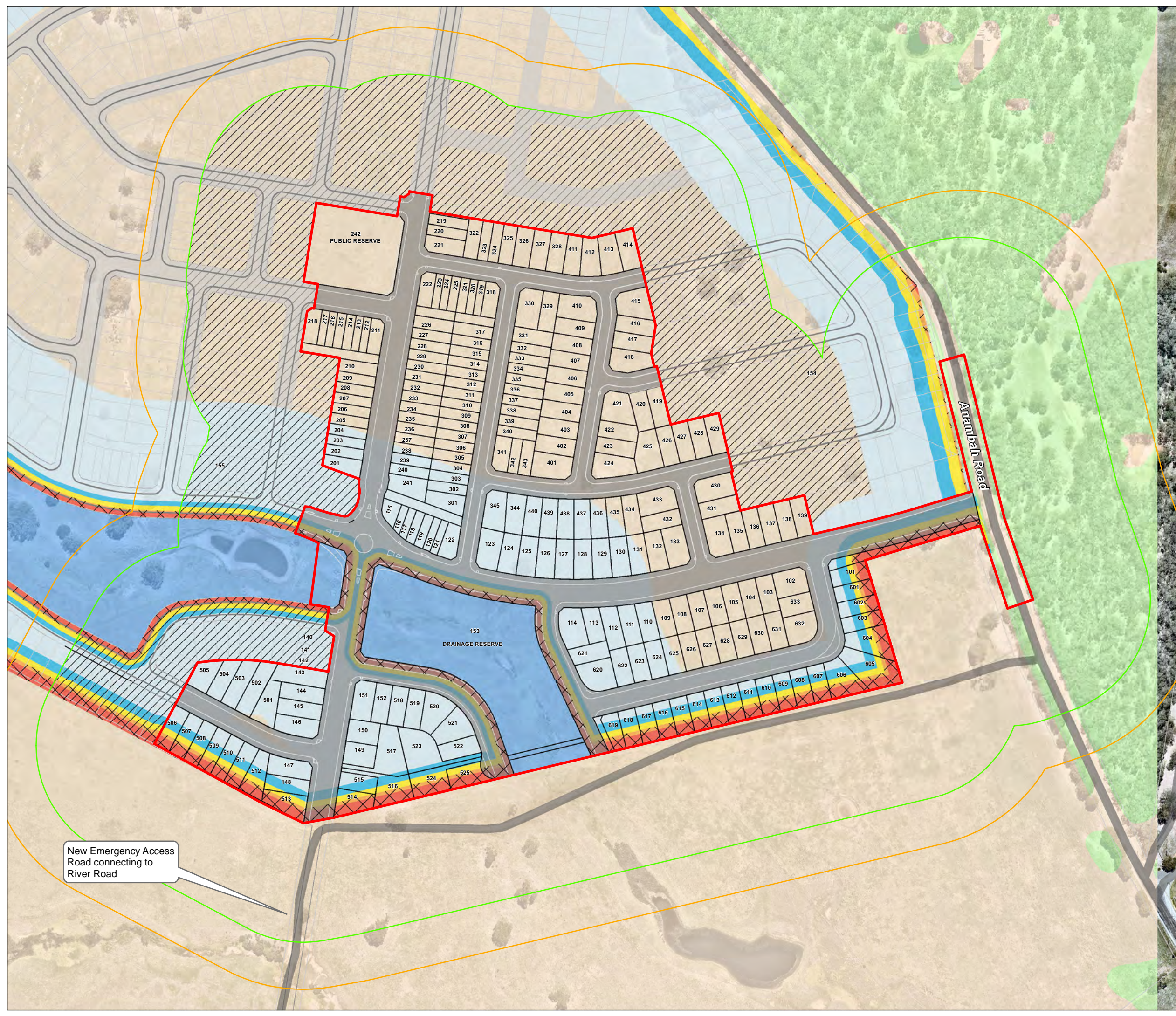


A3 Scale: 1:3,000

File:2425-Gosforth-STAGE1-Fig7a-BALS-Temporary-240829 Date: 29/08/2024

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New Emergency Access Road connecting to River Road

Figure 17

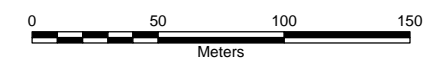
Permanent Subdivision BAL Plan



Subject site	Asset Protection Zone
100m buffer	50m APZ / Managed land
140m buffer	
Vegetation Class	
Freshwater Wetland	
Grassland	
Hunter - Macleay Dry Sclerophyll Forests	
Temporary Asset Protection Zone	
Required Bushfire Attack Levels (PBP 2019 Table A1.12.5)	
BAL - FZ	
BAL - 40	
BAL - 29	
BAL - 19	
BAL - 12.5	

SOURCE:

Cadastral Boundary: NSW Department of Finance, Services and Innovation 2024
Aerial Photo: Nearmap 26/02/2024

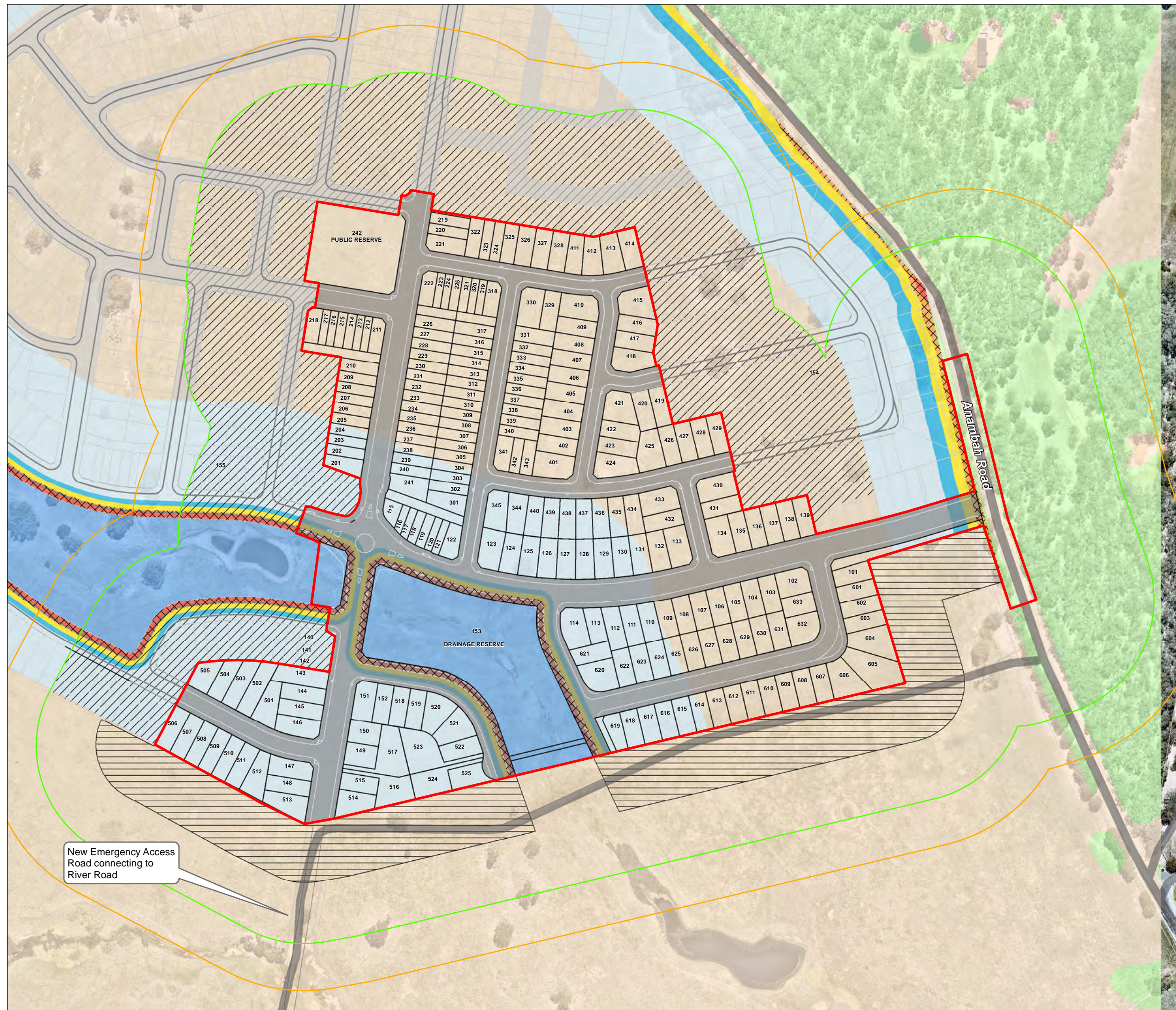


A3 Scale: 1:3,000

File:2425-Gosforth-STAGE1-Fig7b-BALs-Permanent-240829 Date: 29/08/2024

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4.6. Emergency Services

There is a NSW Fire & Rescue Station located at 2 Mustang Drive, Rutherford, approximately 5.4km or 5 minutes drive away from the site (**Figure 18**). This station would likely be first responders in an emergency.

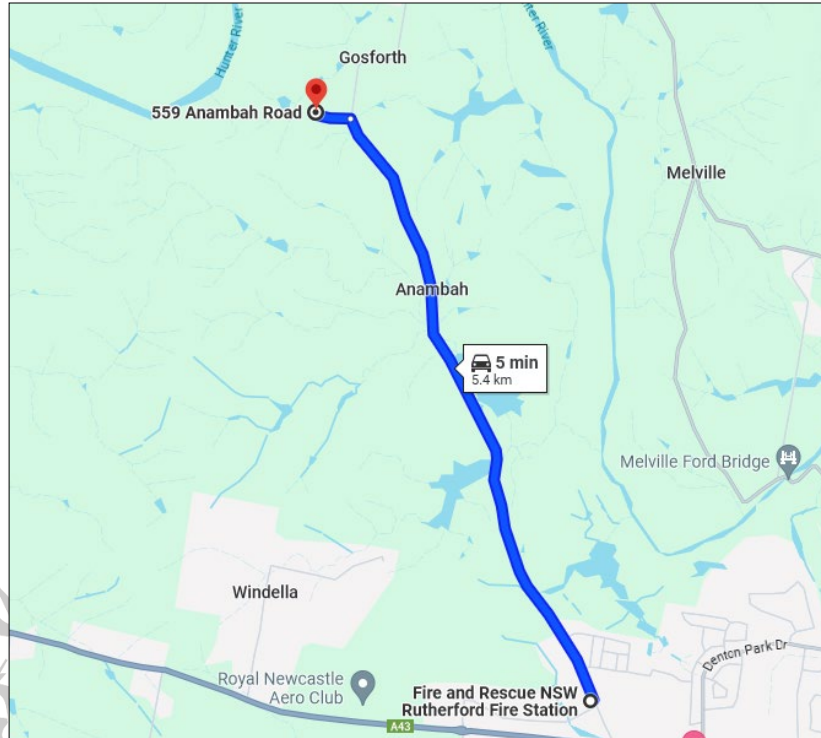


Figure 18: NSW Fire & Rescue - Rutherford

5. Conclusion and Recommendations

The Bushfire Assessment Report for the proposed staged residential subdivision at 559 Anambah Road, Gosforth, indicates that Stage 1 of the development, which includes 240 residential lots and associated infrastructure, complies with the specifications and requirements outlined in PBP 2019. The assessment further demonstrates that all future stages of the concept masterplan can also achieve compliance with PBP 2019, ensuring the safety and resilience of the development against bushfire risks.

The broader development site, identified as having a medium bushfire hazard due to its proximity to the *Hunter Macleay Dry Sclerophyll Forest*, will require ongoing vegetation management to mitigate the existing bushfire risks. The recommended bushfire protection measures incorporated into the design of Stage 1, including the proposed revegetation of detention basins and watercourses as *freshwater wetlands*, has been demonstrated to achieve the aims objectives of PBP 2019; subject to the following key recommendations:

Asset Protection Zones

1. All land within the site zoned R1 Residential; excluding the riparian corridors shall be managed as an Inner Protection Area (IPA) as outlined within Appendix 4 of PBP 2019 and the RFS document Standards for asset protection zones;
2. Asset Protection Zones shall be provided as indicated on **Figure 16**;
3. At the issue of a subdivision certificate, if the land to the south of proposed lots impacted by the temporary APZs demonstrated in **Figure 16** has not been developed for residential purposes, a restriction to the use of the land pursuant to Section 88B of the Conveyancing Act 1919 must be created over the impacted lots to specify the affected lots cannot be sold until such times the bush fire hazard is removed. The instrument may be lifted upon commencement of any future proposed development on the adjoining land, but only if the bush fire hazard is removed as part of the proposal. The name of authority empowered to release, vary or modify the instrument shall be Maitland City Council;

Landscaping

4. Vegetation within road verges (including swales) to be consistent with a grassland vegetation classification with tree canopy less than 10% at maturity;
5. Vegetation with the stormwater basins; including associated batters shall be planted consistent with a grassland vegetation classification with tree canopy less than 10% at maturity;
6. Consideration should be given to landscaping and fuel loads on site to decrease potential fire hazards on site in accordance with Appendix 4 of PBP 2019;

Access

7. Perimeter roads shall be constructed in accordance with the engineering design plans (**Appendix A**) and the following general requirements of Table 5.3b of PBP 2019:
 - k. Minimum 8.0m wide pavement width measured kerb to kerb;
 - l. Hydrants are located clear of parking areas;
 - m. Curves of roads have a minimum inner radius of 6m;
 - n. The road crossfall does not exceed 3 degrees; and
 - o. A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches is provided.
8. Non-perimeter roads shall be constructed in accordance with the engineering design plans (**Appendix A**) and the following general requirements of Table 5.3b of PBP 2019:
 - p. Minimum 5.5m wide pavement width measured kerb to kerb;

- q. Hydrants are located clear of parking areas;
 - r. Curves of roads have a minimum inner radius of 6m;
 - s. The road crossfall does not exceed 3 degrees; and
 - t. A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches is provided.
9. A temporary access road shall be provided during the staged construction of the development to connect to River Road;
 10. Any temporary turning heads shall be constructed in accordance Appendix A3.3 of PBP 2019;
 11. Design and construct a property access road (to be used as a fire trail) around the western boundary of the concept masterplan as shown in **Figure 15** in accordance with Table 1: Category 1 Fire Trail requirements as detailed in the NSW RFS Fire Trail Standards 2017;

Services

12. All new lots are to be connected to a reliable water supply network and that suitable fire hydrants are located throughout the development site that are clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure shall comply with AS2419.1 2005 and section 5.3.3 of PBP 2019.

Construction

13. All future dwellings to be constructed on the proposed lots shall have due regard to the specific considerations given in the National Construction Code: Building Code of Australia (BCA) which makes specific reference to Australian Standard AS3959-2018 Construction of buildings in bushfire prone areas (AS3959-2018) and the NASH Standard Steel Framed Construction in Bushfire Prone Areas;

This assessment has been made based on the bushfire hazards observed in and around the site at the time of inspection and production (August 2024) and demonstrates the development has satisfied the aims and objectives of Planning for Bushfire Protection 2019 (PBP 2019).

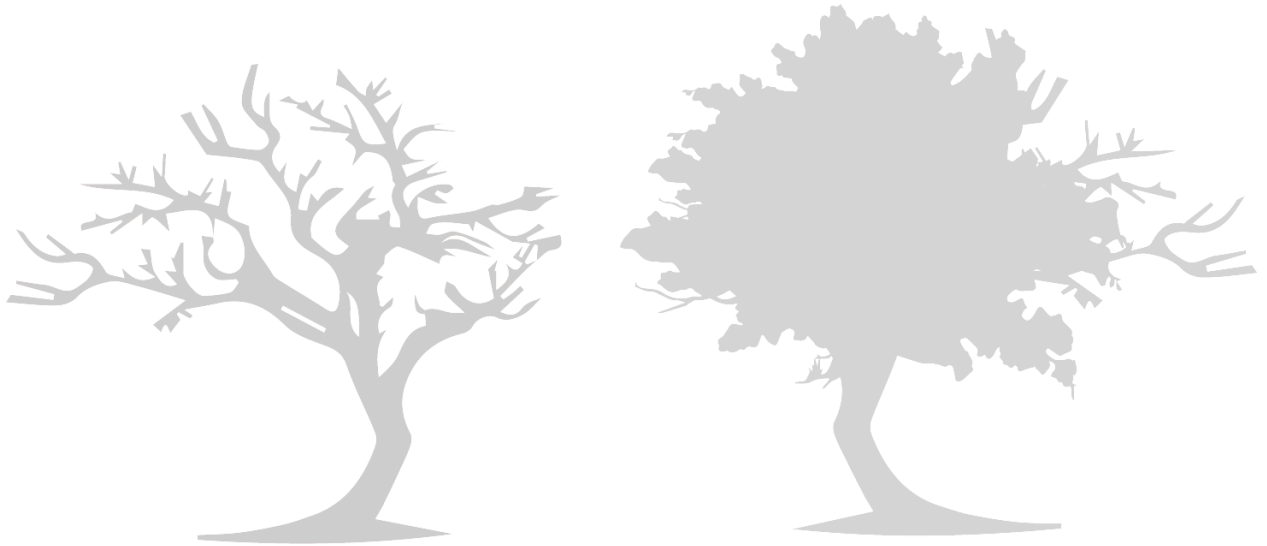
Finally, should the above recommendations be implemented, the existing bushfire risk should be suitably mitigated to offer an acceptable level of protection to life and property for those persons and assets occupying the site, but they do not and cannot guarantee that the area will not be affected by bushfire at some time and that property and life damage/loss will not occur.

6. References

- ❑ Keith, D. (2004). *Ocean Shores to Desert Dunes - The Native Vegetation of New South Wales and the ACT.*
- ❑ NSW Rural Fire Service (2005). *Standards for Asset Protection Zones.* NSW Rural Fire Service.
- ❑ NSW Rural Fire Service (2019). *Planning for Bushfire Protection - A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners.*
- ❑ Ramsay, GC and Dawkins, D (1993). *Building in Bushfire-prone Areas - Information and Advice.* CSIRO and Standards Australia.
- ❑ Rural Fires and Environmental Assessment Legislation Amendment Act 2002.
- ❑ Standards Australia (2018). AS 3959-2018: Construction of Buildings in Bushfire-prone Areas.



Appendix A: Plan of Proposed Concept Masterplan & Stage 1 Residential Subdivision



REV.	DATE	AMENDMENTS	SUR	DFT	CHK
A	20.08.24	ORIGINAL ISSUE	..	AL	AL

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LASCELLES
CONSULTING SURVEYORS
280 MARLBOROUGH ROAD,
MELBOURNE VIC 3000
ABN: 58 194 280 100
E: admin@delfs.com.au
delfs.com.au

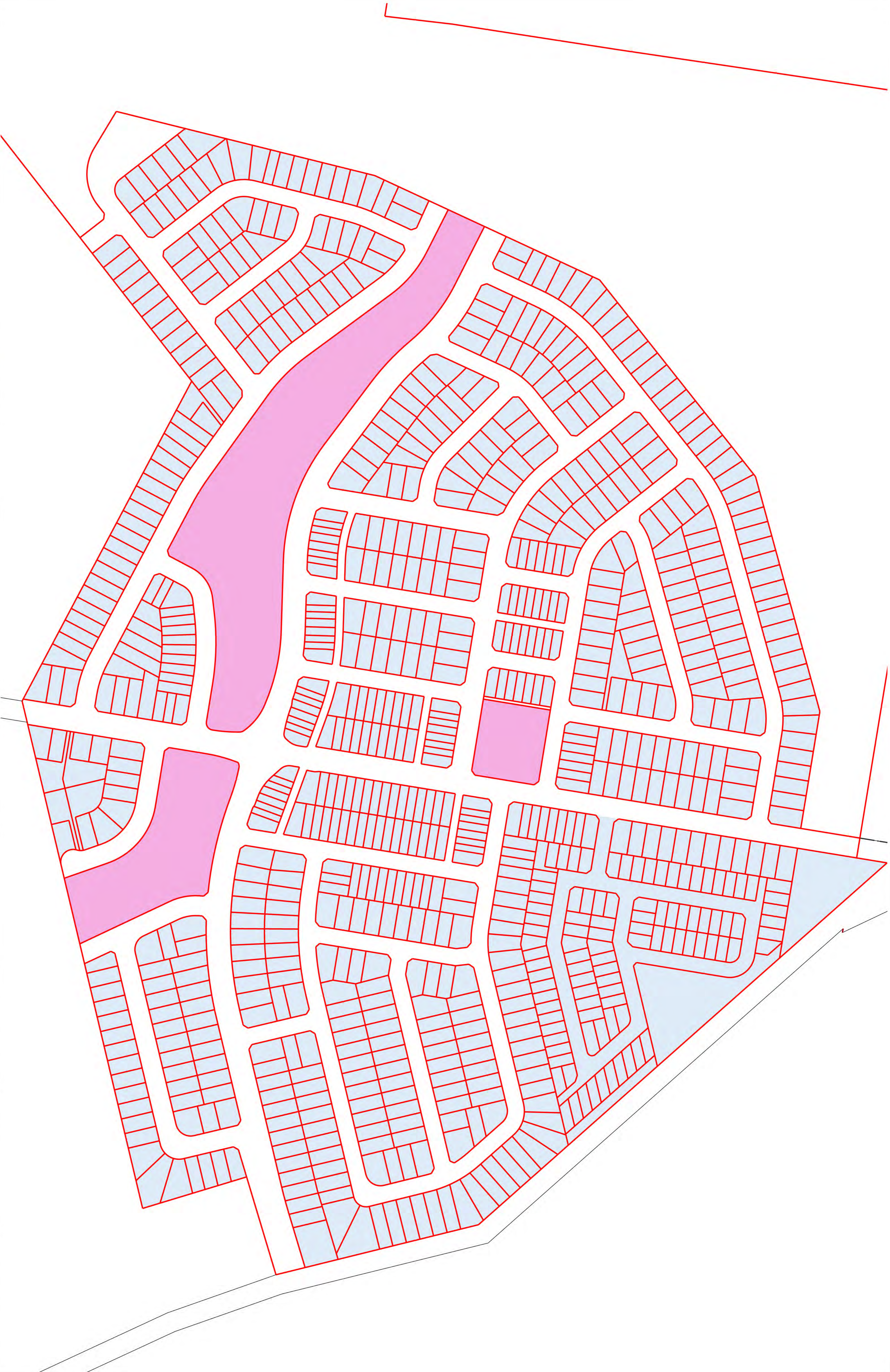
PROPOSED SUBDIVISION OF LOT 55
DP874170 & LOT 177 DP874171

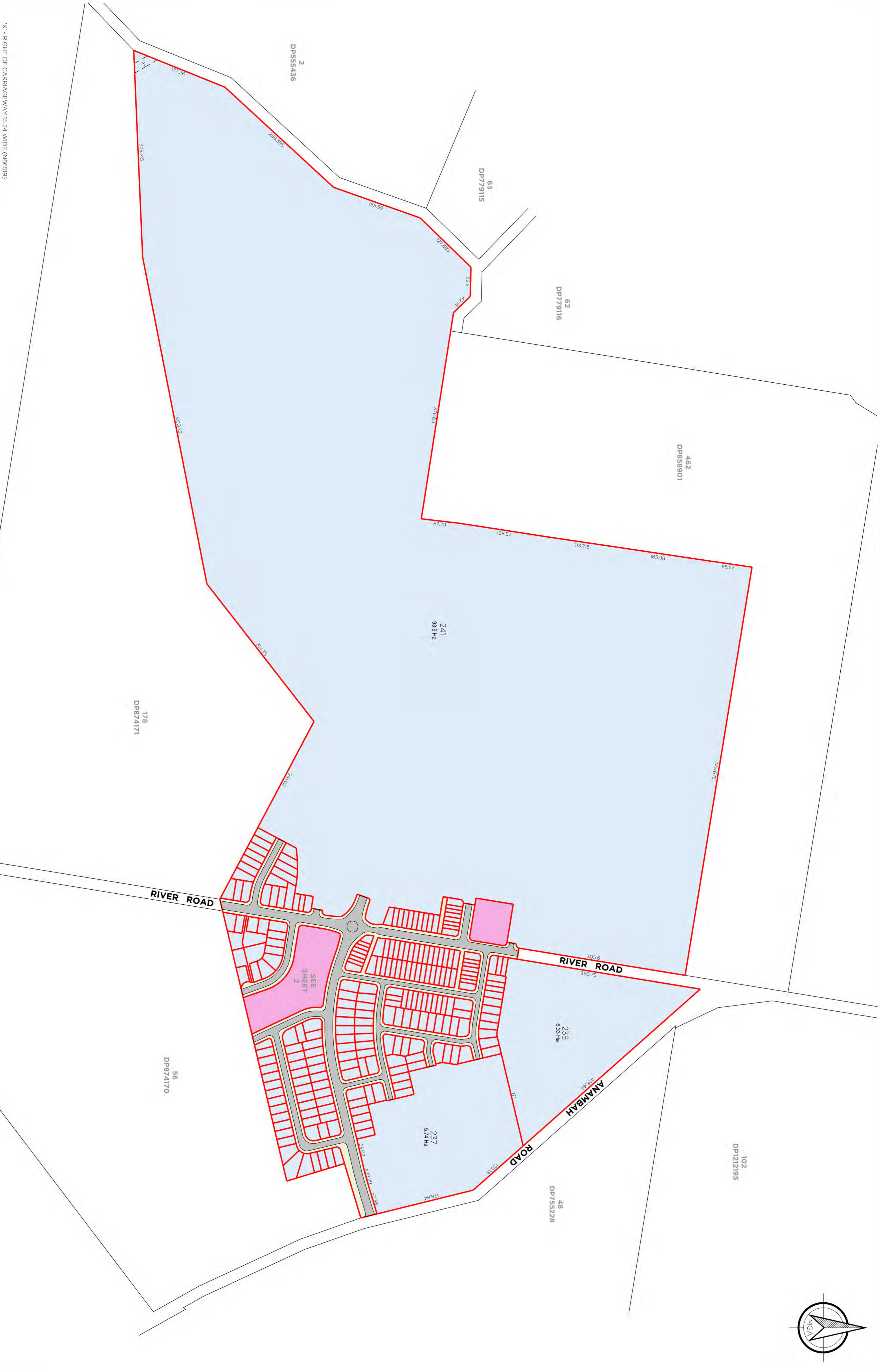
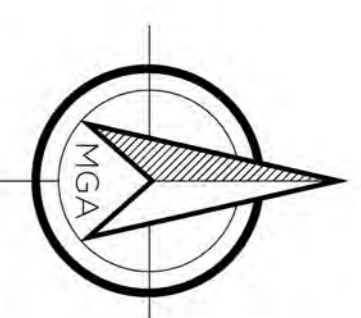
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559 ANAMBAB ROAD
GOSFORTH
CLIENT:
THIRD ANAMBAB

CAD REF: 24200 OVERALL
LAYOUT

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ORIENTATION: ..
EASTING: ..
NORTHING: ..
CLASS: .. ORDER: ..
HEIGHT DATUM: .. ORDER: ..
CLASS: .. ORDER: ..
DATE: ..

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SHEET: **1** REV: **A1** PROJECT NO: **24200**





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A	20.08.24	ORIGINAL ISSUE	..	AL	AL

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CONSULTING SURVEYORS
280 WATLAND ROAD,
FISHERS HILL, NSW 2230
ABN: 58 194 280 100
E: admin@delfs.com.au
delfs.com.au

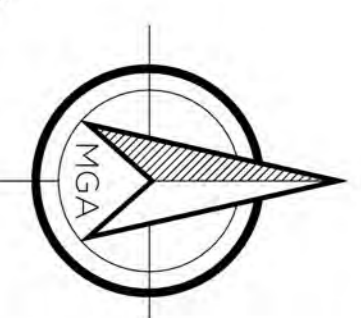
STAGE 1
PROPOSED SUBDIVISION OF LOT 55
DP874170 & LOT 177 DP874171

SITE ADDRESS:
559 ANAMBABAH ROAD
GOSFORTH
CLIENT:
THIRD ANAMBABAH

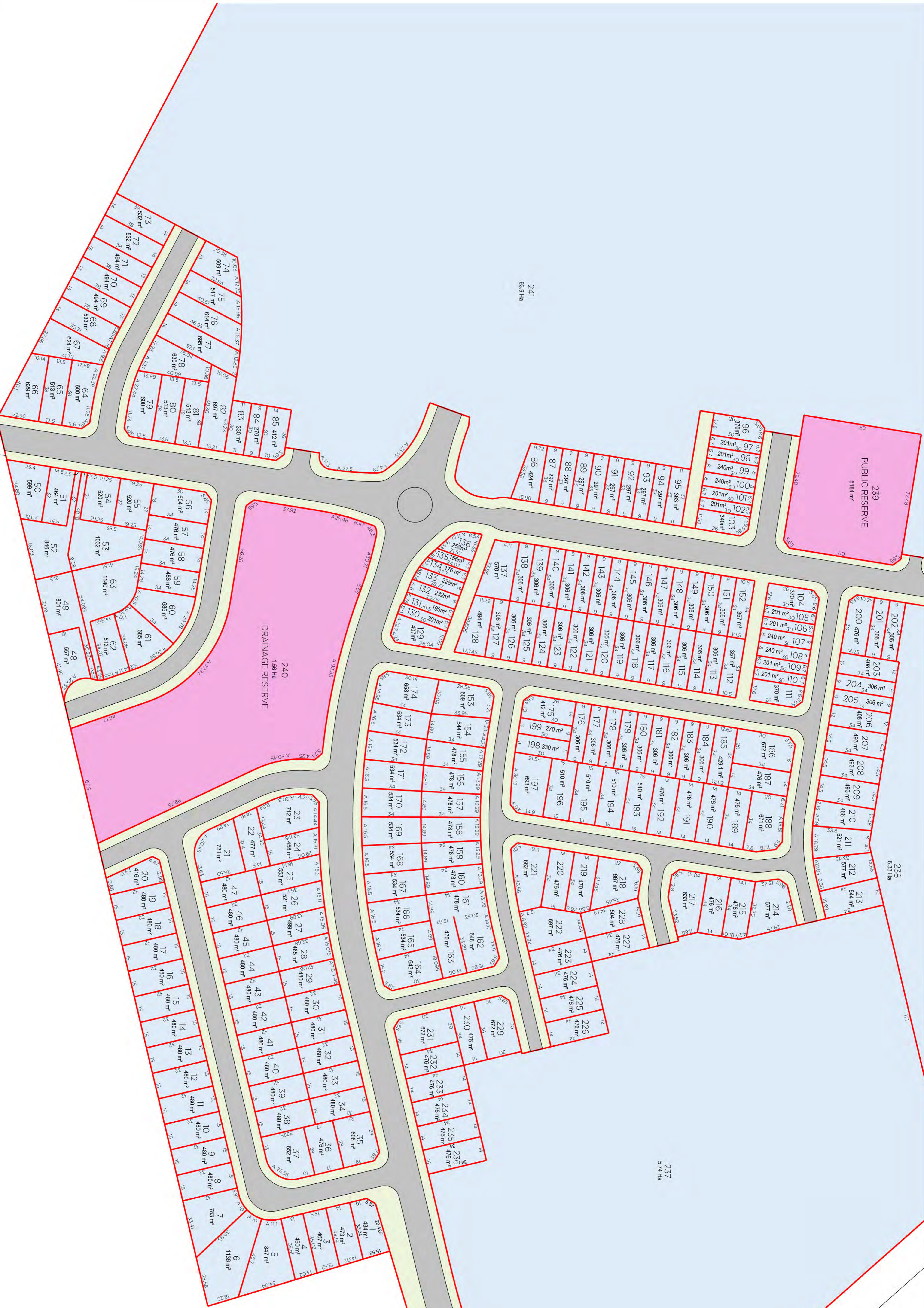
CAD REF: 24200_Stage 1_Rev A
JAS-ANZ
YOU DIG

POSITION DATUM: MGA (GROUND)
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NORTHING: ..
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REV: A1
PROJECT NO: 24200
CHECKED: AL
DATE: 20.08.2024



ANAMBABAH ROAD



REV.	DATE	AMENDMENT(S)	SUR DFT	CHK
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DELFS LASCELLES
CONSULTING SURVEYORS
280 MARLBOROUGH ROAD
SYDNEY NSW 2000
PH: 61 2 9550 2300
FAX: 61 2 9550 1100
E: admin@delfs.com.au
delfs.com.au

STAGE 1
PROPOSED SUBDIVISION OF LOT 55
DP874170 & LOT 177 DP874171

SITE ADDRESS:
559 ANAMBABAH ROAD
GOSFORTH

CLIENT:
THIRD ANAMBABAH

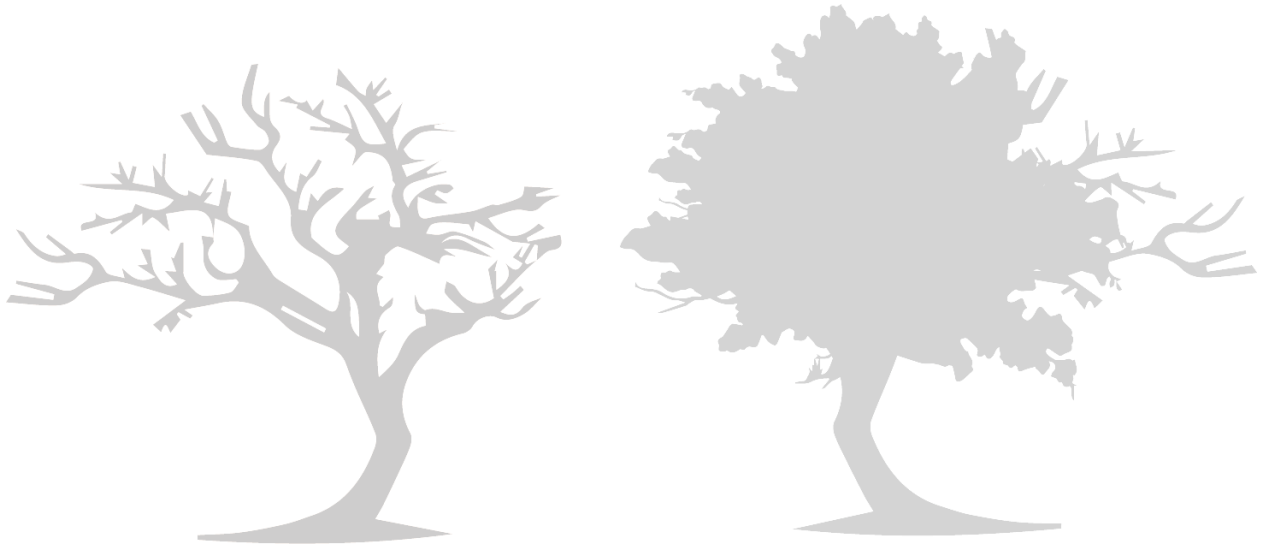
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	DATE: 20.08.2024	

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DP874170

Appendix B: AHIMS Search Results



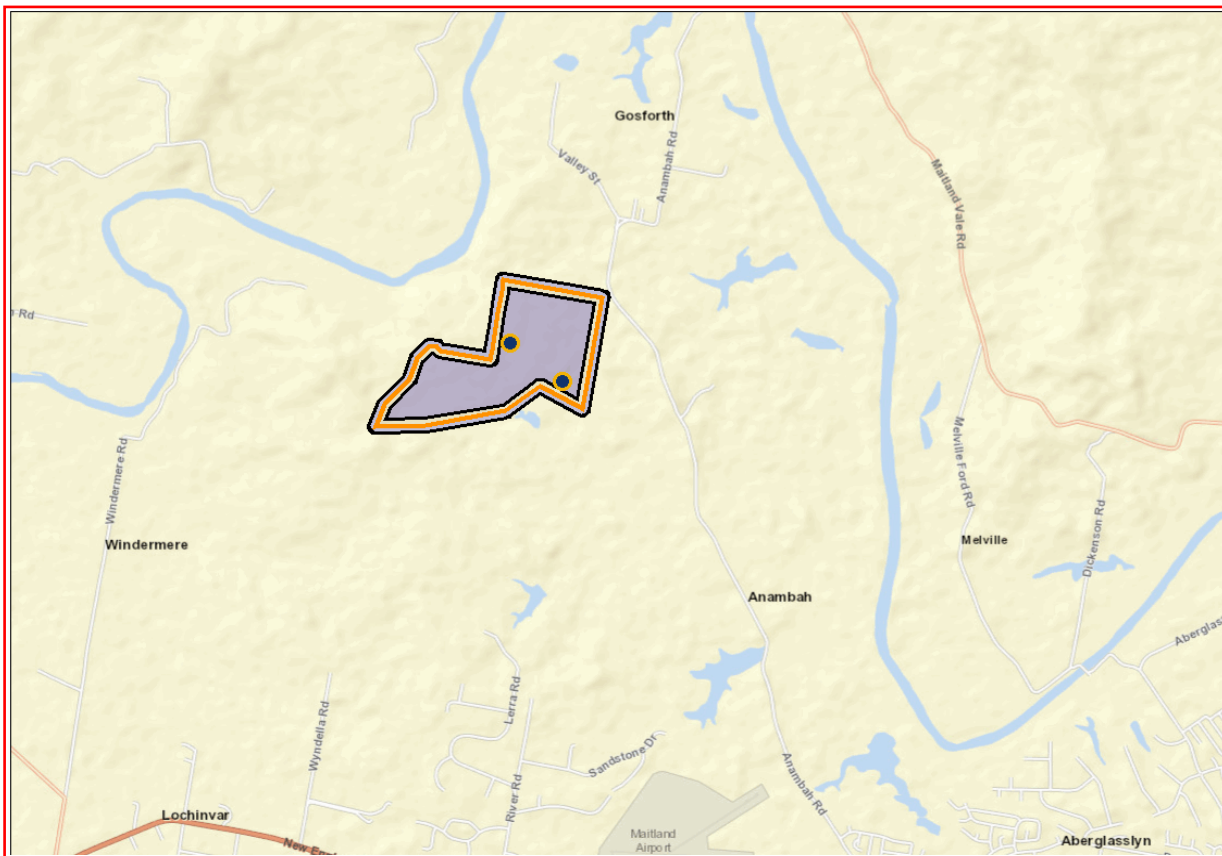
Katrina Greville
21 Costata Crescent
Adamstown New South Wales 2289
Attention: Katrina Greville
Email: klmukevski@bigpond.com

Date: 21 August 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 177, DP:DP874171, Section : - with a Buffer of 50 meters, conducted by Katrina Greville on 21 August 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

2	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

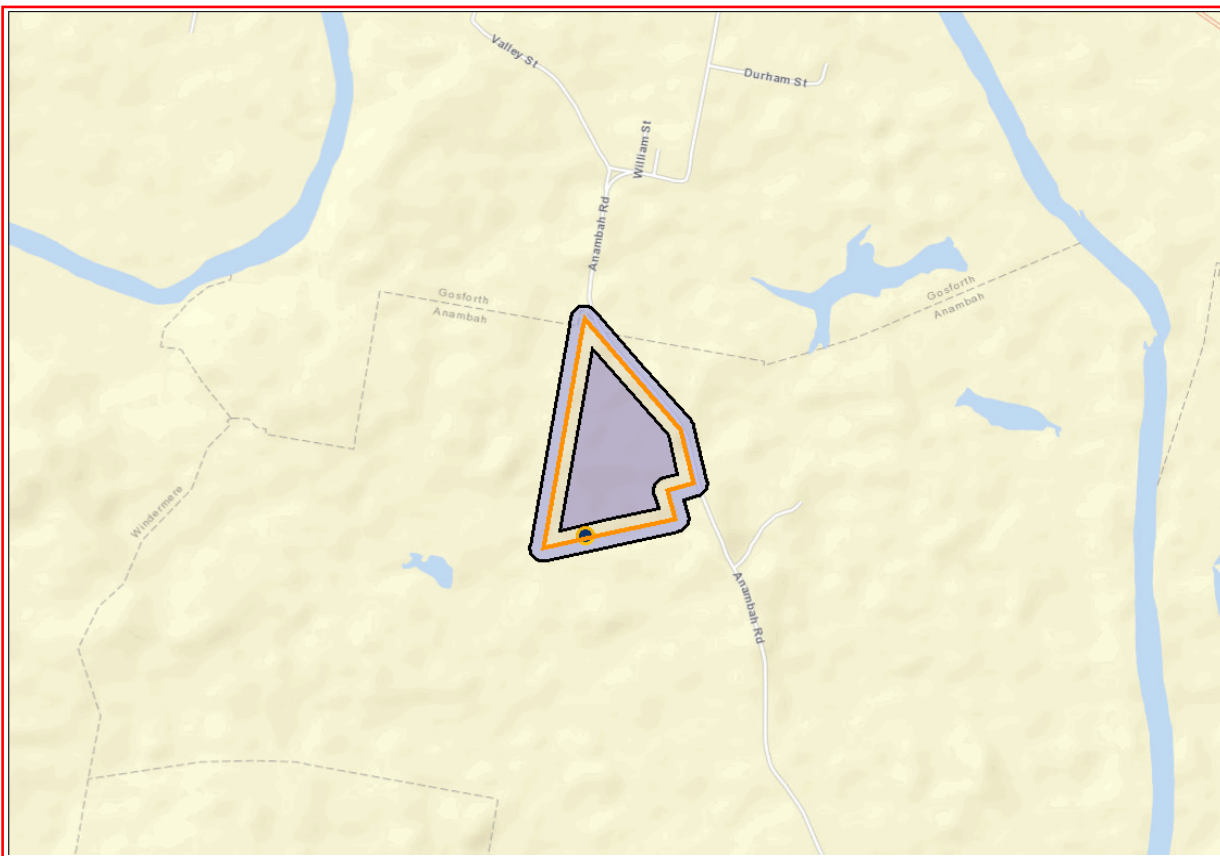
Katrina Greville
21 Costata Crescent
Adamstown New South Wales 2289
Attention: Katrina Greville
Email: klmukevski@bigpond.com

Date: 21 August 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 55, DP:DP874170, Section : - with a Buffer of 50 meters, conducted by Katrina Greville on 21 August 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

1	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(https://www.legislation.nsw.gov.au/gazette\)](https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Appendix C: Landscape Masterplan

