

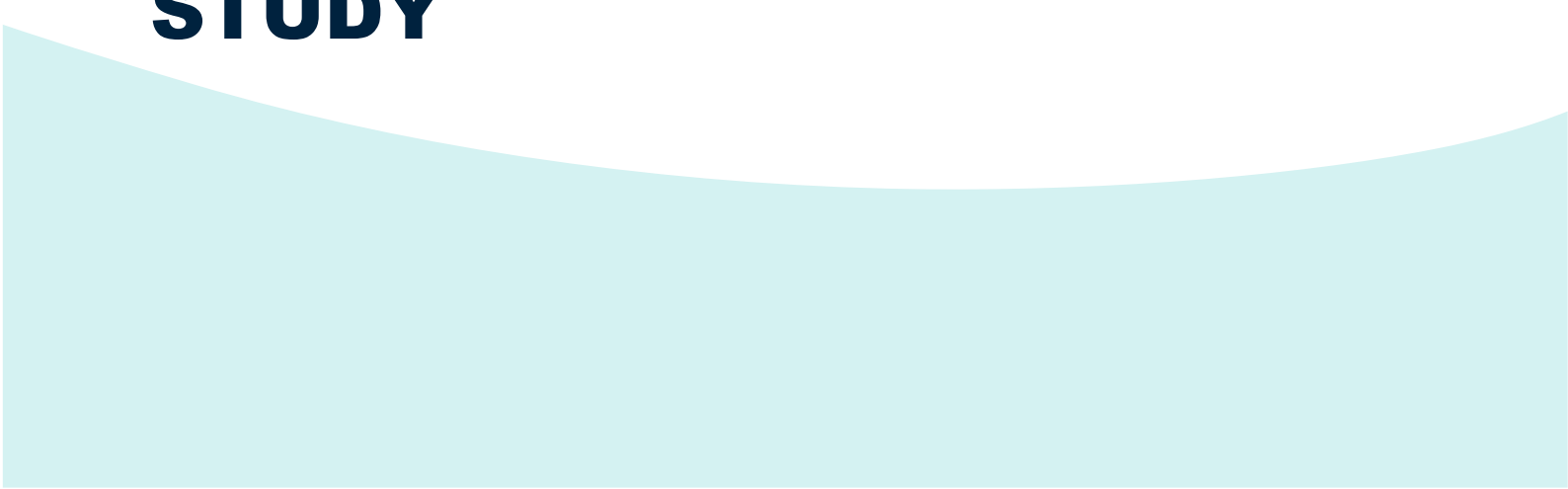
APPENDIX 5

January 2026

Wingham Urban Release Area 1



ADDENDUM LETTER – STRATEGIC BUSHFIRE STUDY



30 January 2026

Midcoast Council
2 Biripi Way
Taree NSW 2430

Dear Sir/Madam,

Bushfire Addendum – Wingham Road Planning Proposal

Strategic Bushfire Study

The Strategic Bushfire Study by Peterson Bushfire dated 4 June 2024 demonstrated that the proposed rezoning of land at Lot 92 Wingham Road, Wingham satisfies the NSW Rural Fire Service (RFS) document *Planning for Bush Fire Protection 2019* (PBP) and Planning for Bush Fire Protection Ministerial Direction.

The proposal assessed by the Strategic Bushfire Study included rezoning 28.56 hectares to R1 General Residential (R1) and other land to C4 Environmental Living (C4) which would provide a buffer and interface between the bushfire hazards to the north and north-west and the proposed R1 General Residential Zone which will span along Wingham Road and Youngs Road. The rezoning was proposed to accommodate approximately 300 dwellings.

The Strategic Bushfire Study confirmed the proposed residential development will be suitable within the context of bushfire risk. It was confirmed that compliant bushfire protection measures including Asset Protection Zones (APZs) and adequate access for evacuation could be achieved within the design and existing and supporting infrastructure. Appropriate APZs were proposed which would need to comply with the standard of an Inner Protection Area as described within Appendix A4.1.1 of PBP. Evacuation routes were also confirmed and the requirements for road designs was prescribed.

In relation to the proposed C4 area, the Strategic Bushfire Study confirmed:

“Building envelopes and corresponding APZs within the C4 lots can be determined at time of development application for those lots. The lots are large enough that a building envelope and APZ can be accommodated within each lot. The size of the APZ will depend on the final location of the building envelope.”

Current Planning Proposal

Peterson Bushfire is advised that the planning proposal has been amended so that the total site assessed in the Strategic Bushfire Study is unchanged however the portion proposed to be rezoned to R1 has reduced to 23.15 hectares and is now estimated to provide for approximately 240 lots.

Also, the portion of land proposed to be rezoned to C4 is reduced and separated into two parcels. We understand that the proposed C4 land will be included in one lot rather than the two that were proposed at the time of the Strategic Bushfire Study.

We have reviewed the revised Precinct Plan which is displayed in Figure 1 with the R1 boundary that was considered in the Strategic Bushfire Study identified in the dashed brown line. The extent of land proposed to be rezoned R1 is unchanged at the west of the site and has been reduced at the north and east.

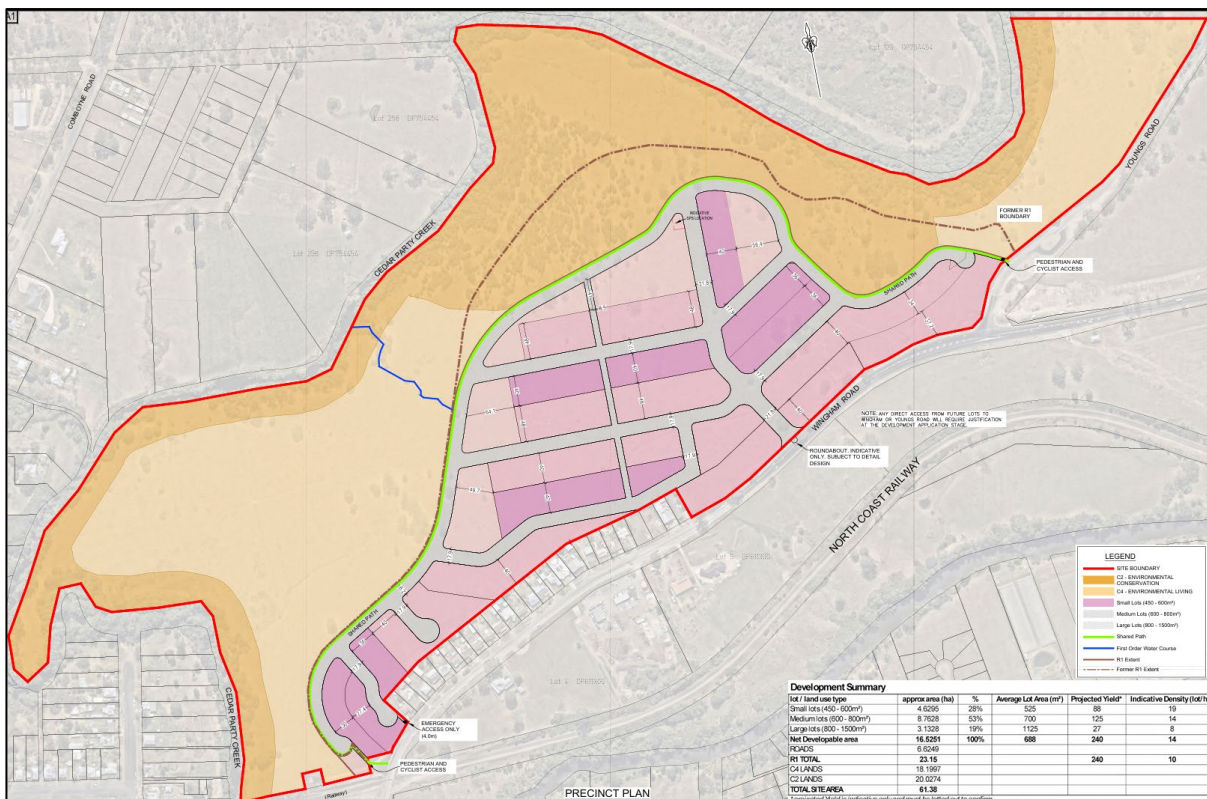


Figure 1: Precinct Plan

Assessment of revised Planning Proposal

Peterson Bushfire has assessed the revised rezoning and provides the following comments:

- The proposed change in R1 area does not alter the bushfire risk at the site.
- Notwithstanding the above, the reduced R1 footprint and dwelling estimate will reduce evacuation demand and traffic volumes during bushfire emergencies.
- The revised rezoning remains suitable within the context of bushfire risk and in consideration of the PBP and Ministerial Direction providing the appropriate bushfire protection measures, such as APZs and adequate access are maintained.
- APZs will remain the same or decrease in size. The final APZ dimension can be determined at subdivision stage.
- Inclusions of a perimeter road and the road design from the Strategic Bushfire Study should be maintained.
- The Strategic Bushfire Study remains current and relevant for the purposes of the rezoning and should be considered a conservative or worst-case assessment, with bushfire impacts under the reduced R1 footprint being equal to or less than those previously assessed.

Yours sincerely,



David Peterson

Director

STRATEGIC BUSHFIRE STUDY



Strategic Bushfire Study

Planning Proposal

Wingham Road, Wingham

MPT Farms

04 June 2024

(Ref: 23045)

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Contents

Executive summary	3
1 Introduction	4
1.1 Background and purpose	4
1.2 Location of subject land.....	4
1.3 Description of proposal.....	4
1.4 Assessment requirements and approach	7
2 Bushfire landscape assessment.....	10
2.1 Vegetation communities	12
2.2 Topography	14
2.3 Fire weather	14
2.4 Fire history	16
2.5 Fire intensity analysis.....	19
2.6 Potential fire attack scenario	24
3 Land use assessment.....	26
3.1 Bushfire risk	26
3.2 Suitability of proposed land use.....	26
3.3 Asset Protection Zones (APZ)	27
4 Access and emergency services	31
4.1 Capacity of external road network	31
4.2 Alternate access for the proposal	31
4.3 Perimeter access	31
4.4 Road design.....	33
4.5 Emergency services.....	34
4.6 Infrastructure	37
5 Ministerial directions compliance	38
5.1 Direction 4.3 Objectives	38
5.2 Direction 4.3 Provisions.....	38
6 Conclusion	41
References	42

Executive summary

This report is a 'Strategic Bushfire Study' prepared to address the requirements of the NSW Rural Fire Service (RFS) document *Planning for Bush Fire Protection 2019* (NSW RFS 2019) and the *Environmental Planning and Assessment Act 1979* Section 9.1(2) Ministerial Direction 4.3 – 'Planning for Bush Fire Protection' for the proposal to rezone land to allow residential subdivision for residential development.

The subject land is a 61 hectare lot situated between Wingham Road and Cedar Party Creek at the eastern entrance to Wingham township. The Planning Proposal seeks to rezone the subject land from RU1 Primary Production to R1 General Residential and C4 Environmental Living to facilitate future subdivision to create an estimated 300 lots.

This study is based on a detailed investigation into landscape and site influences on bushfire behaviour. The landscape analysis informed a risk assessment to determine adequacy of the concept precinct plan. Research on bushfire hazard (comprising vegetation and topography), fire weather, fire history, and fire intensity patterns has allowed an analysis of potential fire scenarios that could impact the subject land. The problematic fire scenario is the potential for a grassfire to spread under winds from the western sector.

A risk assessment identified future subdivision at the subject land to be 'medium' risk. The risk profile is deemed acceptable for low density residential development providing bushfire protection measures compliant with PBP can be accommodated within the design. Measures include Asset Protection Zones (APZ) and adequate access for evacuation.

This study demonstrates the proposal to rezone the subject site satisfies EP&A Act s.9.1(2) Direction 4.3 – 'Planning for Bush Fire Protection' and *Planning for Bush Fire Protection 2019*.

1 Introduction

1.1 Background and purpose

MPT Farms commissioned Peterson Bushfire to prepare a 'Strategic Bushfire Study' to inform and support a Planning Proposal that seeks to rezone land in Wingham, NSW to allow future residential subdivision.

This Strategic Bushfire Study has been prepared in accordance with Section 4.2 of the RFS document *Planning for Bush Fire Protection 2019* (NSW RFS 2019) and addresses the requirements for assessment of rezoning proposals involving bushfire prone land, namely Section 4.4 of *Planning for Bush Fire Protection 2019* and the *Environmental Planning and Assessment Act 1979* Section 9.1(2) Ministerial Direction 4.3 – 'Planning for Bush Fire Protection'.

This study is based on a detailed investigation into landscape and site influences on bushfire behaviour and development design.

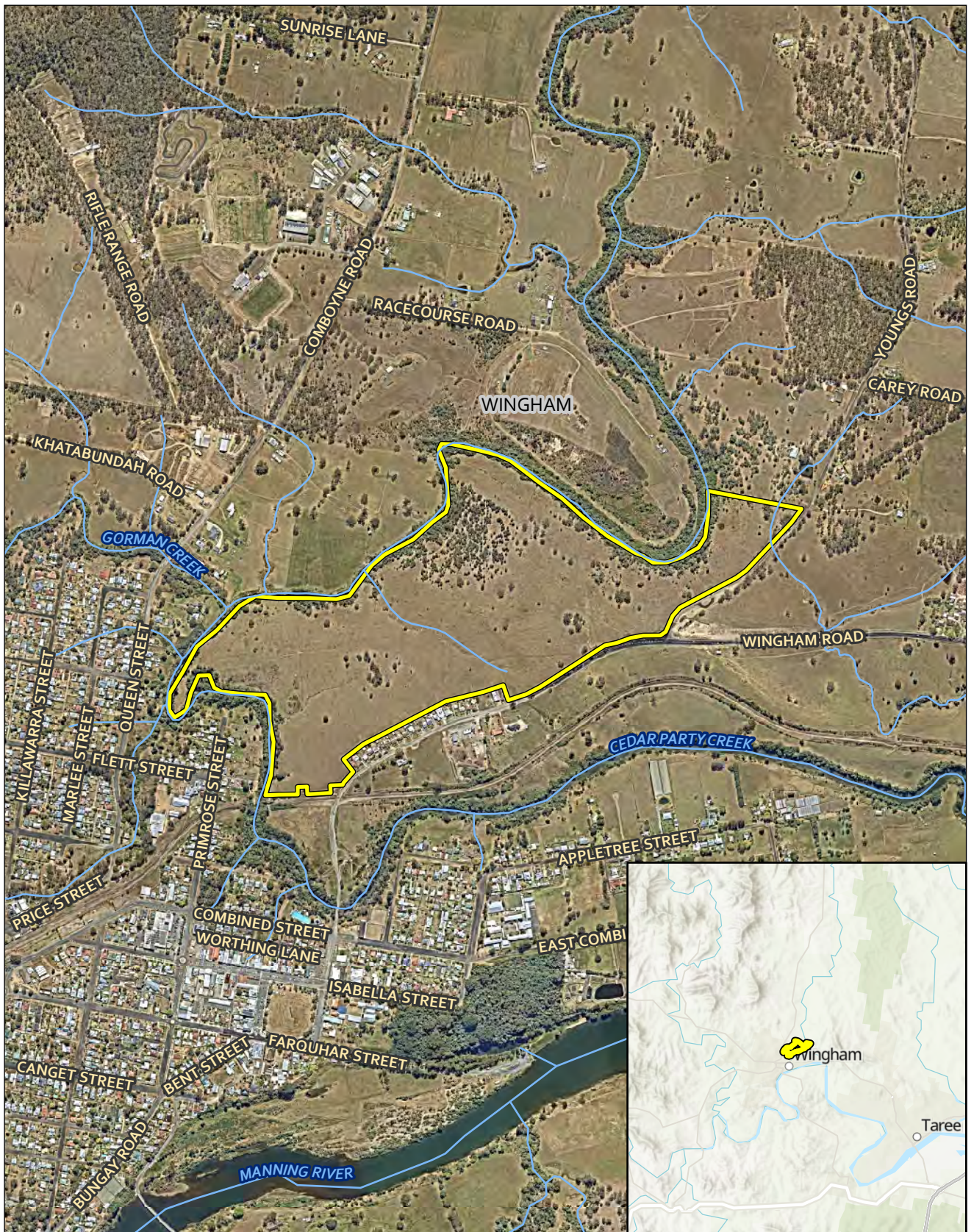
1.2 Location of subject land

The subject land is a large single lot situated between Wingham Road and Cedar Party Creek at the eastern entrance to Wingham. The location of the subject land is shown on Figure 1. At just over 61 hectares in size, the subject land is predominantly in a cleared state and has been used for cattle grazing as permitted by the RU1 Primary Production land zoning. Cedar Party Creek forms the northern and western boundary whilst the railway line, Wingham Road and Youngs Road form the southern and eastern boundaries.

The adjoining lands to the north and east consist predominantly of cleared lots and parkland, and the adjoining lands to the south and west consist predominantly of Wingham township.

1.3 Description of proposal

The Planning Proposal seeks to rezone the subject land from RU1 Primary Production to R1 General Residential and C4 Environmental Living. The rezoning will facilitate future subdivision with an estimated 300 lots. A concept precinct plan is included as Figure 2.



Legend

-  Watercourse
-  Subject Land



Date: 9/05/2024

0 125 250 500
Metres

Figure 1: Location of the Subject Land

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

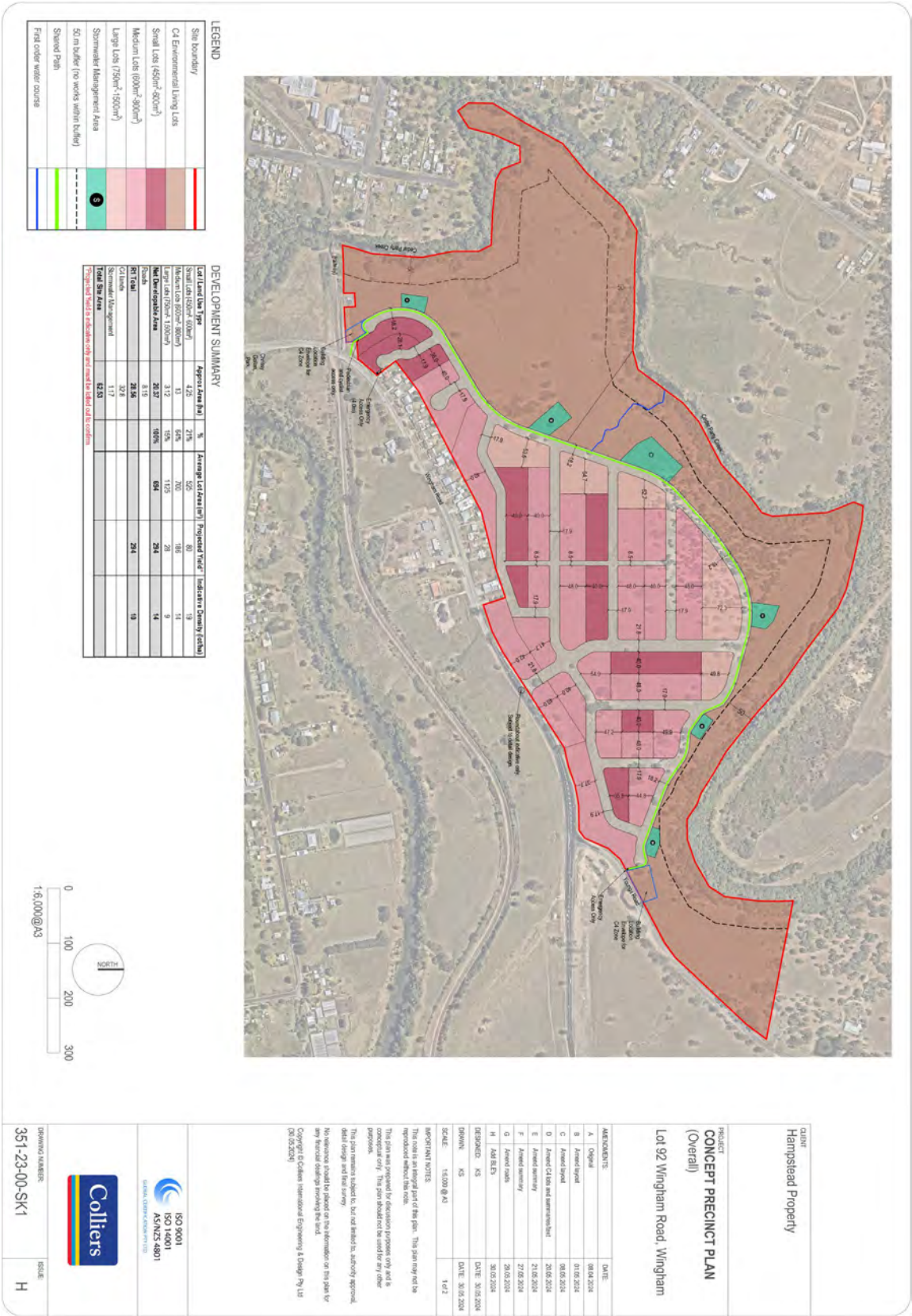


Figure 2: Concept precinct plan

1.4 Assessment requirements and approach

The subject land is identified as bushfire prone land as shown on Figure 3. When investigating the capability of bushfire prone land to be rezoned, submissions must have regard to Section 9.1(2) Direction 4.3 – ‘Planning for Bush Fire Protection’ of the *Environmental Planning and Assessment Act 1979*. The objectives of Direction 4.3 are:

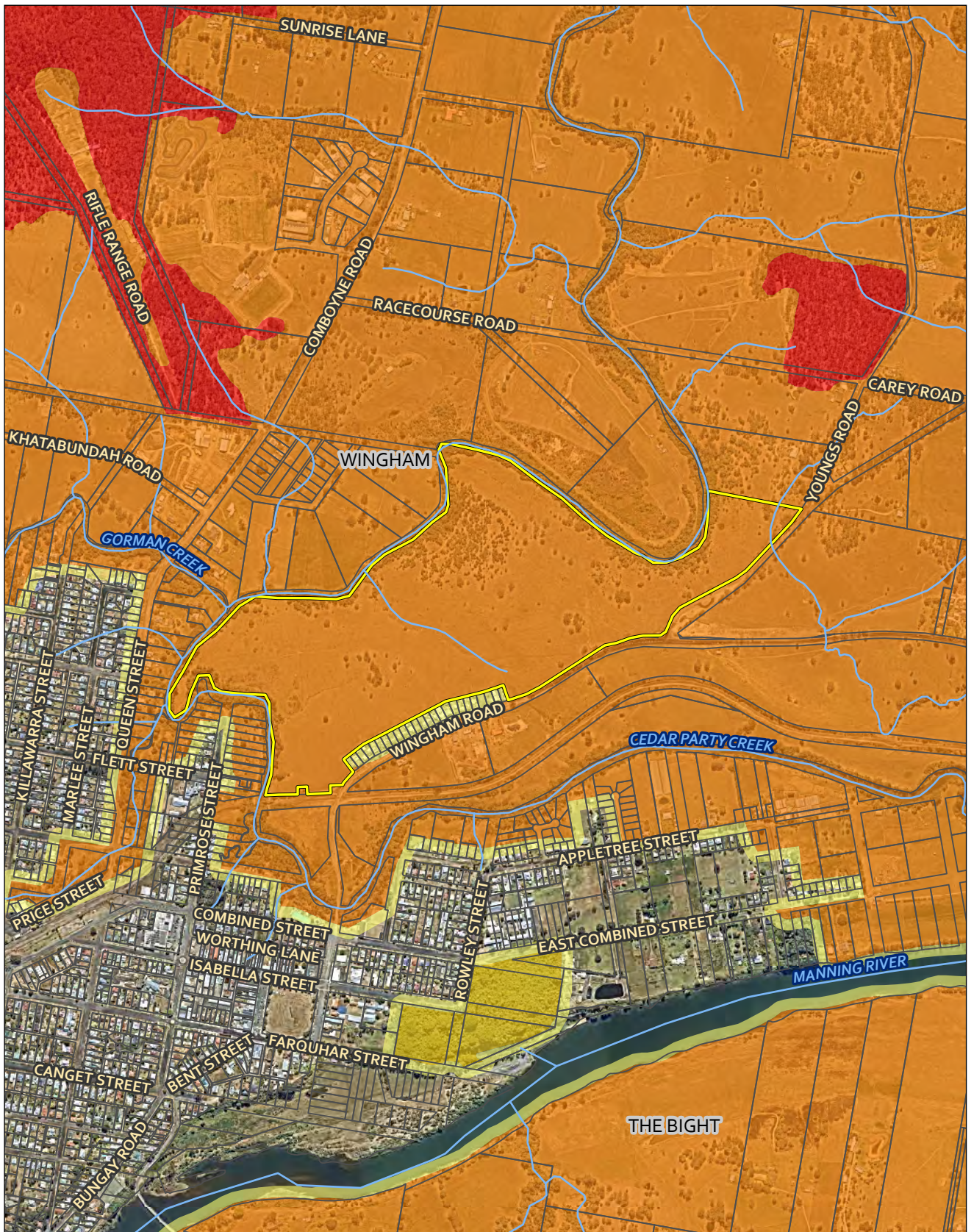
- *To protect life, property and the environment from bushfire hazards, by discouraging the establishment of incompatible land uses in bushfire prone areas; and*
- *To encourage sound management of bushfire prone areas.*

Direction 4.3 instructs councils on the bushfire matters which need to be addressed when drafting and amending Local Environmental Plans (LEP). They are as follows:

- *In the preparation of a planning proposal the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a gateway determination under section 3.34 of the Act, and prior to undertaking community consultation in satisfaction of clause 4, Schedule 1 to the EP&A Act, and take into account any comments made.*
- *A planning proposal must:*
 - o *have regard to the document Planning for Bush Fire Protection 2019;*
 - o *introduce controls that avoid placing inappropriate developments in hazardous areas; and*
 - o *ensure that bushfire hazard reduction is not prohibited within the Asset Protection Zone (APZ).*
- *A planning proposal must, where development is proposed, comply with the following provisions, as appropriate:*
 - o *provide an Asset Protection Zone (APZ) incorporating at a minimum:*
 - *an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and,*
 - *an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road.*
 - o *for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under Section 100B of the Rural Fires Act 1997), the APZ provisions must be complied with,*

- o *contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,*
- o *contain provisions for adequate water supply for fire-fighting purposes,*
- o *minimise the perimeter of the area of land interfacing the hazard which may be developed,*
- o *introduce controls on the placement of combustible materials in the Inner Protection Area.*

This Strategic Bushfire Study has been prepared to address the above requirements following the format specified by Section 4.2 of *Planning for Bush Fire Protection 2019* (referred to as 'PBP' throughout this report). The study is to present a landscape assessment of fire behaviour that may impact the site and implications for land use, development layout, access and evacuation, and fire-fighting infrastructure.



Legend

- | | | |
|--|---|---|
|  Watercourse | Bushfire Prone Land |  Vegetation Category 3 |
|  Subject Land |  Vegetation Buffer | |
|  Cadastre |  Vegetation Category 1 | |
| |  Vegetation Category 2 | |



Date: 13/05/2024

0 125 250 500
Metres

Figure 3: Bushfire Prone Land

Coordinate System: GDA2020 MGA Zone 56

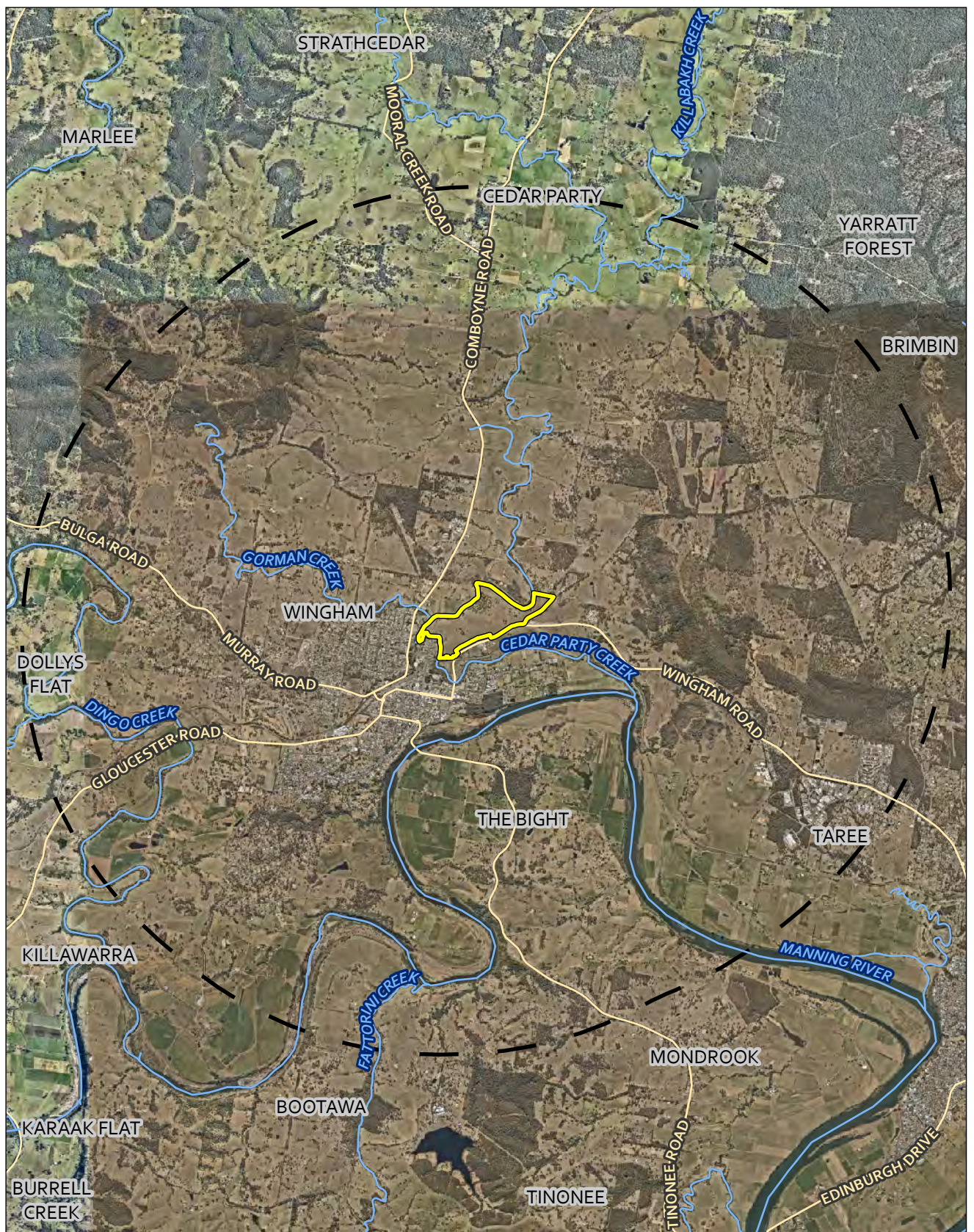
Imagery: © Nearmap

2 Bushfire landscape assessment

An analysis of the bushfire landscape, or parameters that give rise to the bushfire threat, provides the foundation for strategic decision-making on appropriate land use patterns, access for evacuation and infrastructure. The parameters to be analysed are discussed in the following subsections and consist of bushfire hazard (comprising vegetation and topography), fire weather, fire history, and fire intensity patterns.

Figure 4 shows the wider landscape influencing a bushfire approaching the subject land. The predominant bushfire landscape features within the 5 km assessment area consist of:

- A predominance of cleared rural lands.
- Wingham township to the south and west.
- Manning River valley to the south beyond Wingham township.
- Forested vegetation associated with Careys Mountain to the east. The forest vegetation is isolated from the forests of Brimbin Nature reserve further to the east and is separated from the subject land by more than 1 km.
- Forest vegetation associated with Khatabundah Mountain to the north-west. The forest vegetation is separated from the subject land by more than 3 km.
- Small and isolated patches of forest vegetation, such as in the rifle range to the north-west.



Legend

-  Watercourse
-  Subject Land
-  Subject Land Buffer - 5km

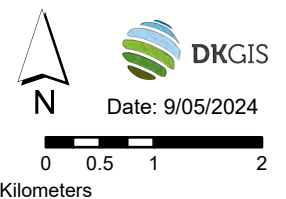


Figure 4: Landscape Context

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

2.1 Vegetation communities

Bushfire fuel is the vegetative material in the landscape that burns during a bushfire. Bushfire behaviour is significantly influenced by fuel load, driving the intensity of a bushfire.

The vegetation communities within 5 km of the subject land have been mapped by Department of Planning, Industry & Environment (State Vegetation Type Map). The communities are shown on Figure 5, and it is apparent from the mapping that there is a predominance of cleared lands surrounding. Dry sclerophyll forests are situated within 5 km in the east and north-west directions.

Within the subject land and the 140 m vegetation assessment area surrounding the subject land, the hazards consist of the following:

- ***Dry rainforest along Cedar Party Creek***

The banks of Cedar party Creek support dry rainforest and exotics.

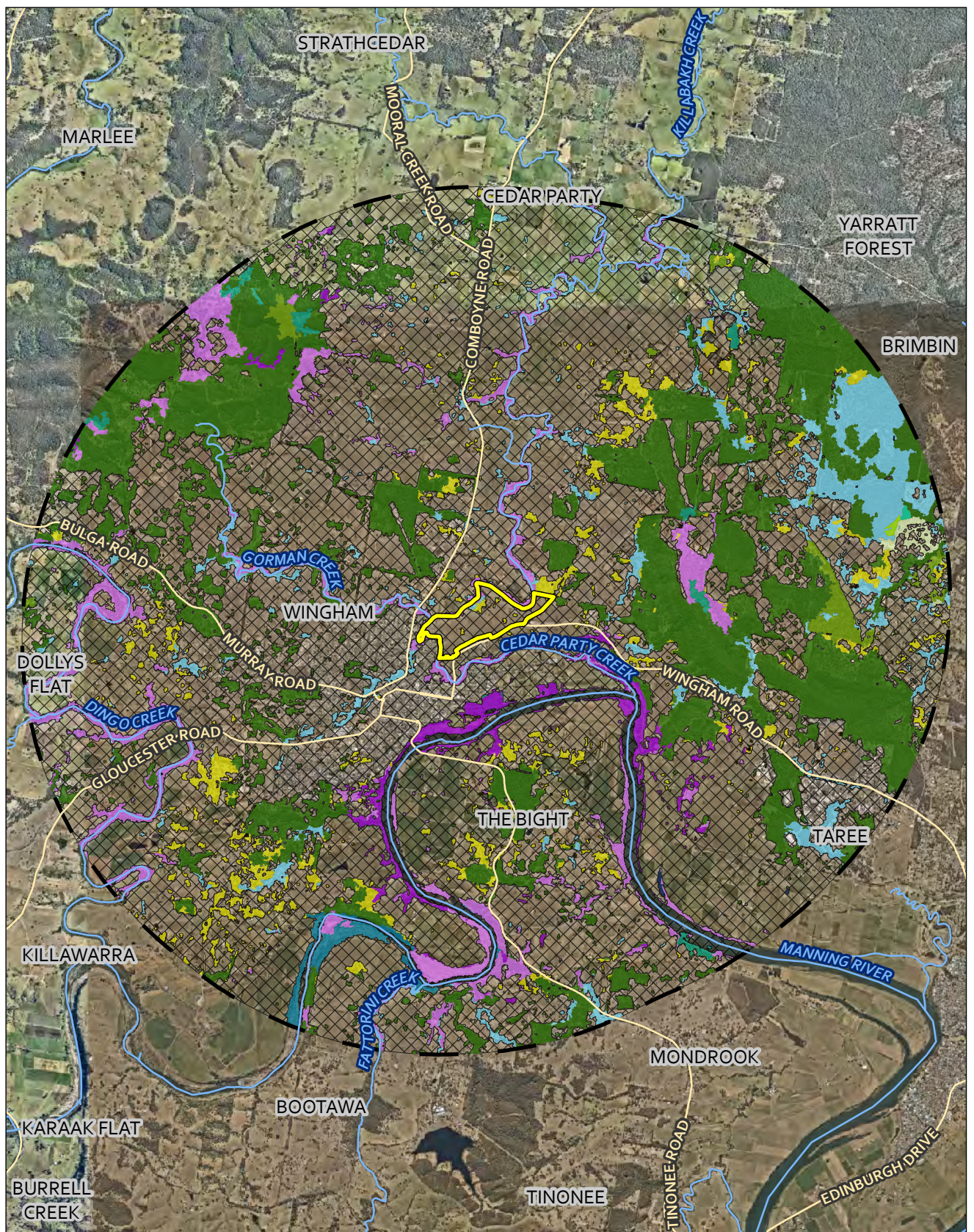
- ***Dry and wet sclerophyll forest***

Above the banks of Cedar Party Creek the rainforest is replaced by a mixture of dry and wet sclerophyll forest depending on the aspect. The forest forms a narrow corridor above the rainforest in some reaches of the riparian area, and broadens in size into larger patches, particularly on the steeper country.

- ***Grassland***

Beyond the riparian zones containing rainforest and forest is cleared paddocks which has the potential to present a grassland hazard. The paddocks are to be classified as a 'grassland' hazard.

Those lands that do not present a bushfire hazard as described above are classified 'managed land' as they are well maintained and display evidence of a history of maintenance by regular mowing. Such lands include Wingham Park to the north, Youngs Road and Wingham Road corridors, residential lots along Wingham Road, the railway corridor and the Wingham township.



Legend

Watercourse	Subtropical Rainforests	Hunter-Macleay Dry Sclerophyll Forests
Subject Land	Coastal Floodplain Wetlands	Northern Gorge Dry Sclerophyll Forests
Subject Land Buffer - 5km	Eastern Riverine Forests	North Coast Wet Sclerophyll Forests
Vegetation Class	Coastal Valley Grassy Woodlands	Northern Hinterland Wet Sclerophyll Forests
Montane Lakes	Coastal Swamp Forests	Cleared
Dry Rainforests	Coastal Dune Dry Sclerophyll Forests	



Date: 13/05/2024

0 0.5 1 2
Kilometers

Figure 5: Vegetation Communities

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

2.2 Topography

Steeper slopes can significantly increase the rate of spread of fires, and it has been shown that with each 10 degree increase or decrease in slope a corresponding doubling or halving, respectively, in the rate of spread can be expected (McArthur 1962). Therefore slope is a major factor determining the direction and rate of fire spread.

Figure 6 shows the pattern of the terrain across the surrounding landscape (within 5 km of the subject land). The surrounding lands are predominantly gently undulating. The terrain becomes steeper in the east around Careys Mountain and the north-west around Khatabundah Mountain. The steeper lands are 'upslopes' leading away from the subject land.

The 'effective slope' influencing fire behaviour approaching the developable area within the subject land has also been assessed in accordance with the methodology specified within PBP. The slope was determined using a 2 m contour layer. The effective slope is predominantly within the PBP slope classes of 'downslope 0-5 degrees' and 'downslope 5-10 degrees'.

2.3 Fire weather

As described in the *Mid Coast Bush Fire Risk Management Plan* (MCBFMC 2019) the Wingham area has a warm temperate climate with predominant summer rainfall.

The bushfire season generally runs from July to November and can extend into January if summer rainfall is lower. Dangerous bushfire seasons are most associated with a combination of two or more of the following factors:

- Persistent north-west to south-west winds
- Lower than average rainfall through winter and spring
- Occurrence of an extended drought period

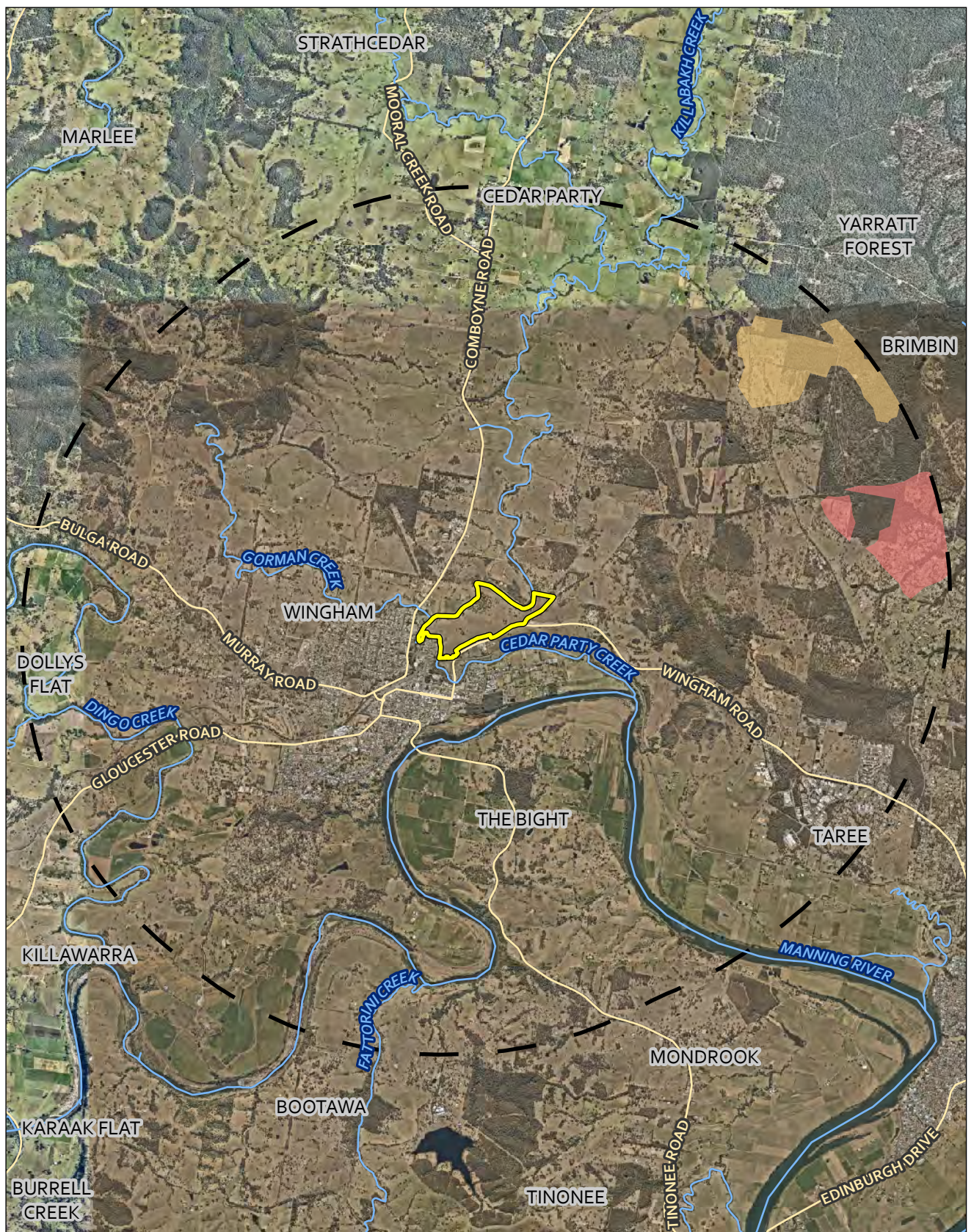
2.4 Fire history

Information on fire history such as temporal and spatial pattern of fire spread is a useful factor in understanding bushfire risk.

Fire history is shown on Figures 7 (time since last fire) and 8 (fire frequency). The fire history mapping shows that the surrounding land has not been affected by wildfire in decades (the wildfire data does not include small fires and ignitions). The last fire occurred more than 40 years ago more than 3.5 kms to the north-east of the subject land.

The fires of the 2019/2020 'Black Summer' fire season stopped 9 km to the south-east and 14 km to the north-west of the subject land.

The fire history mapping reveals that although there are significant areas of grassland surrounding, the locality has an uneventful fire history.



Legend

Watercourse

Major Roads

Subject Land

Subject Land Buffer - 5km

Time Since Wildfire

40-50 Years

50-60 Years



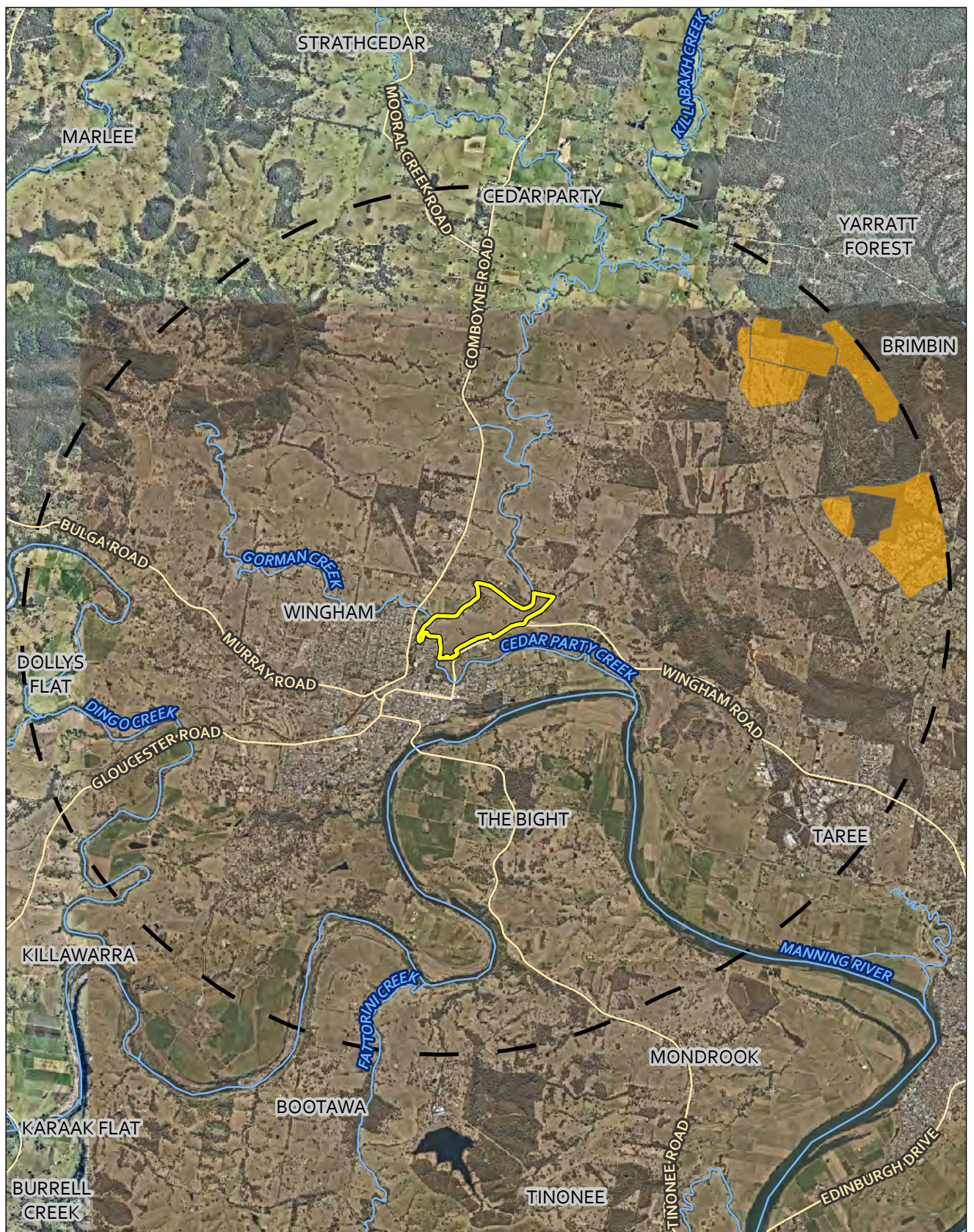
Date: 10/05/2024

0 0.5 1 2
Kilometers

Figure 7: Time since Wildfire

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap



Legend

- Watercourse
- Major Roads
- Subject Land
- Subject Land Buffer - 5km
- Wildfire Frequency**
- 1

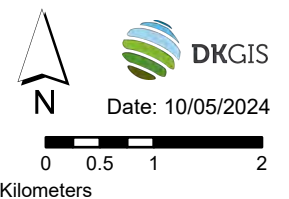


Figure 8: Wildfire Frequency

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

2.5 Fire intensity analysis

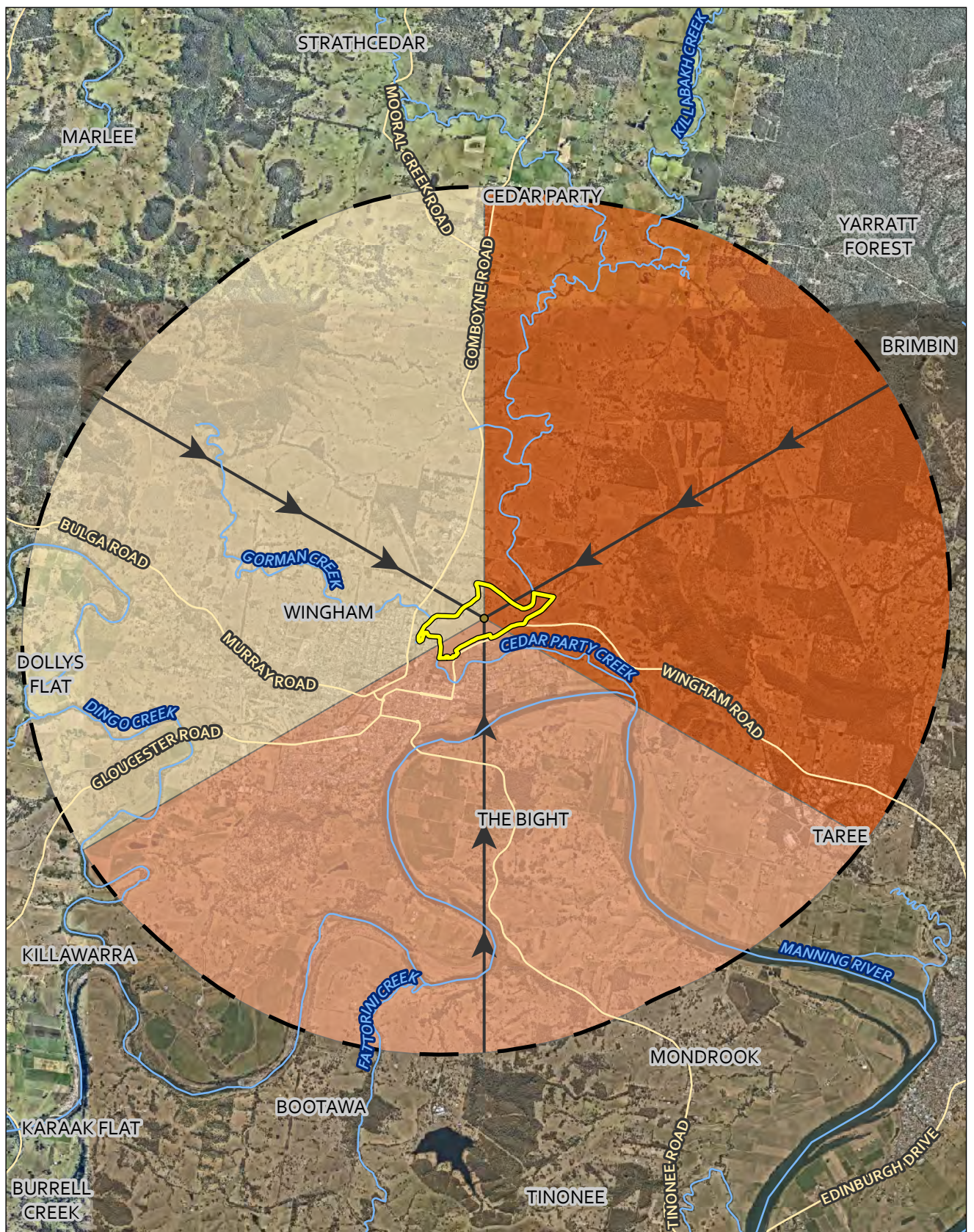
The predicted fire intensity within 5 km of the subject land has been modelled using GIS. The GIS model is based on the fire behaviour formula of McArthur Mk 5 (1962) and utilised inputs of vegetation (fuel load), slope and aspect as summarised below:

- Vegetation (Figure 5) fuel loads (t/ha) based upon likely climax fuel loads as specified by the NSW Rural Fire Service document *Comprehensive Vegetation Fuel Loads* (NSW RFS 2019);
- Slope in degrees (Figure 6);
- Fire weather represented by a Fire Danger Index (FDI) of 80. This is the planning (design) level specified by PBP; and
- A direction of fire spread under the influence of winds from three sectors as follows (refer to Figure 9 for diagrammatic representation of the three sectors):
 - North to south-east (Figure 10);
 - South-east to south-west (Figure 11); and
 - North to south-west (Figure 12).

The fire intensity mapping displays the intensity of a fire travelling under winds from each sector by providing an understanding of rate of spread, risk to fire-fighters, fire control line feasibility and the relative bushfire risk across the landscape.

The mapping of areas into varying degrees of intensity does not indicate how often an area will receive potentially damaging fires, however, it provides a useful comparative ranking across the landscape. Mapping intensity assists in understanding the potential behaviour of bushfires and fire pathways. For example, locations with an expanse of higher bushfire intensity running in a west to east direction may represent a potential fire pathway.

All fire intensity figures show a predominance of lower intensity fire regardless of the wind direction. This is due to a reasonable even fuel class (grassland) and gentle topography. The changes in intensity experienced within the steeper country to the east and north-west are not of significance to the subject land due to the separation distances.



Legend

Watercourse

Major Roads

Subject Land

Subject Land Buffer - 5km

FFDI Direction Analysis

N - SE

SE - SW

SW - N



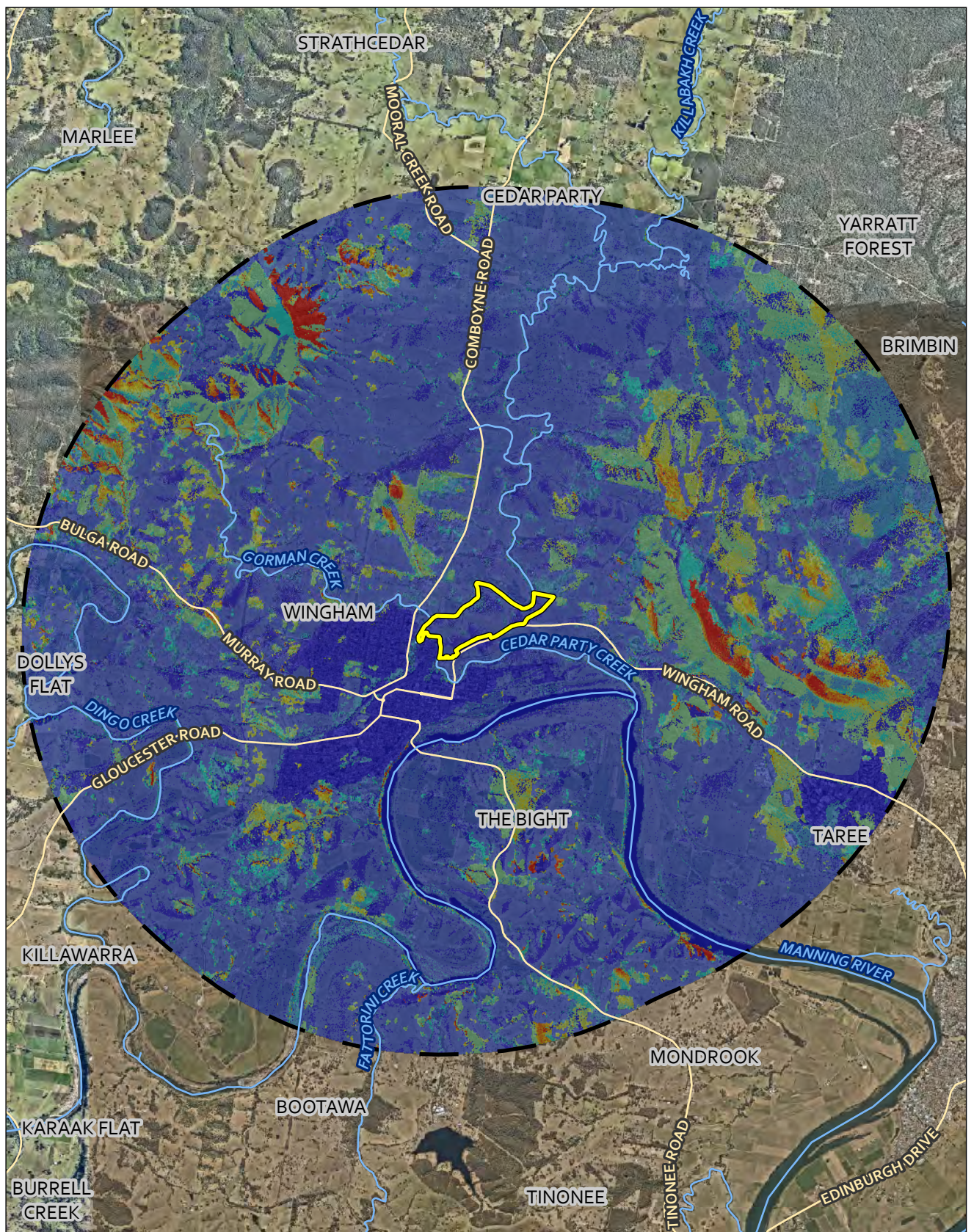
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Kilometers

Figure 9: FFDI Direction Analysis

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap



Legend

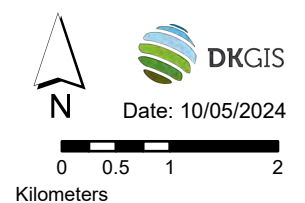
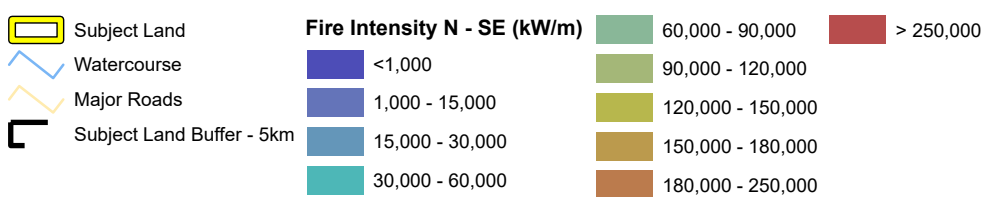
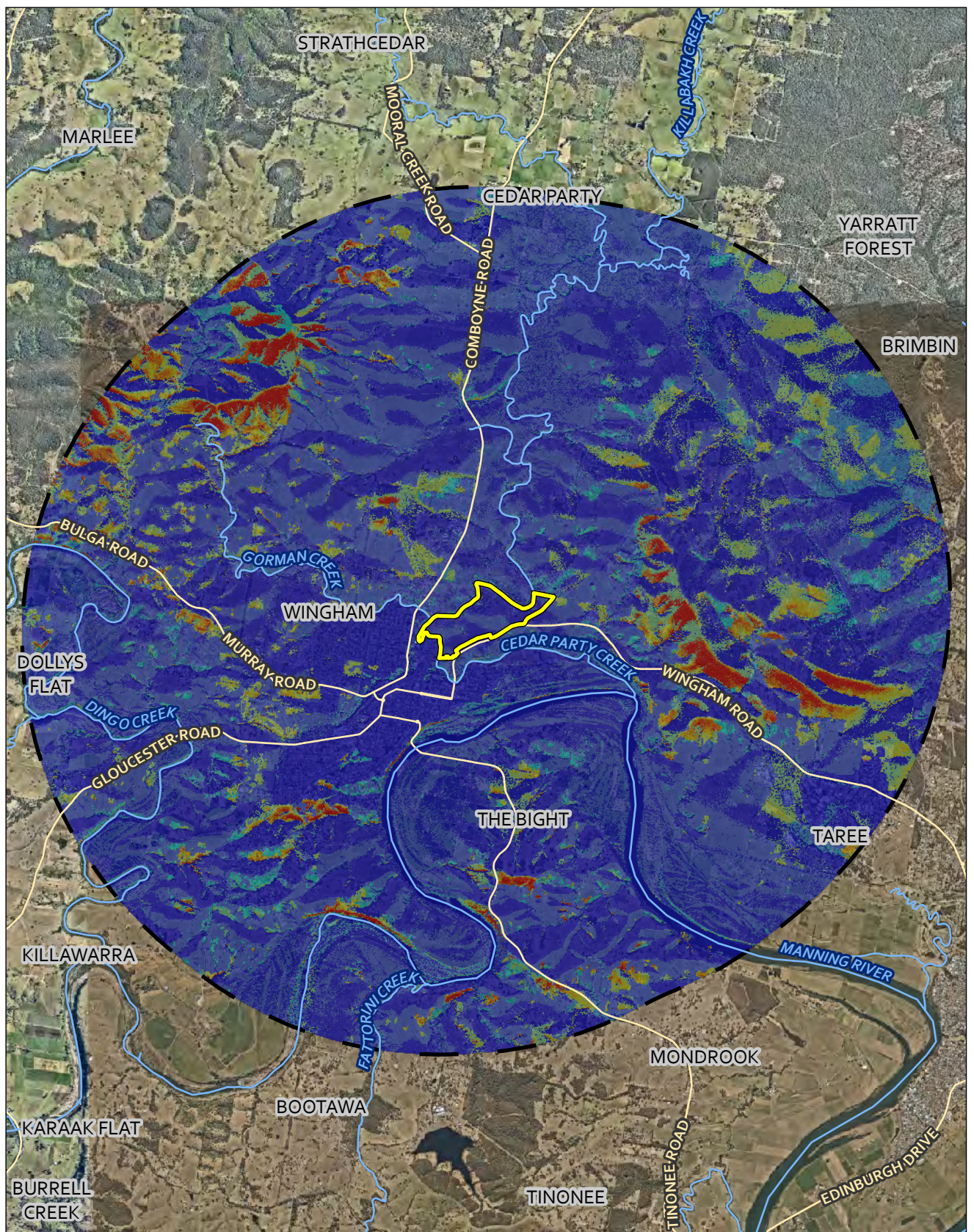


Figure 10: Fire Intensity N-SE

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap



Legend

Subject Land

Watercourse

Major Roads

Subject Land Buffer - 5km

Fire Intensity SE - SW (kW/m)

<1,000

1,000 - 15,000

15,000 - 30,000

30,000 - 60,000

60,000 - 90,000

90,000 - 120,000

120,000 - 150,000

150,000 - 180,000

180,000 - 250,000

> 250,000



DKGIS

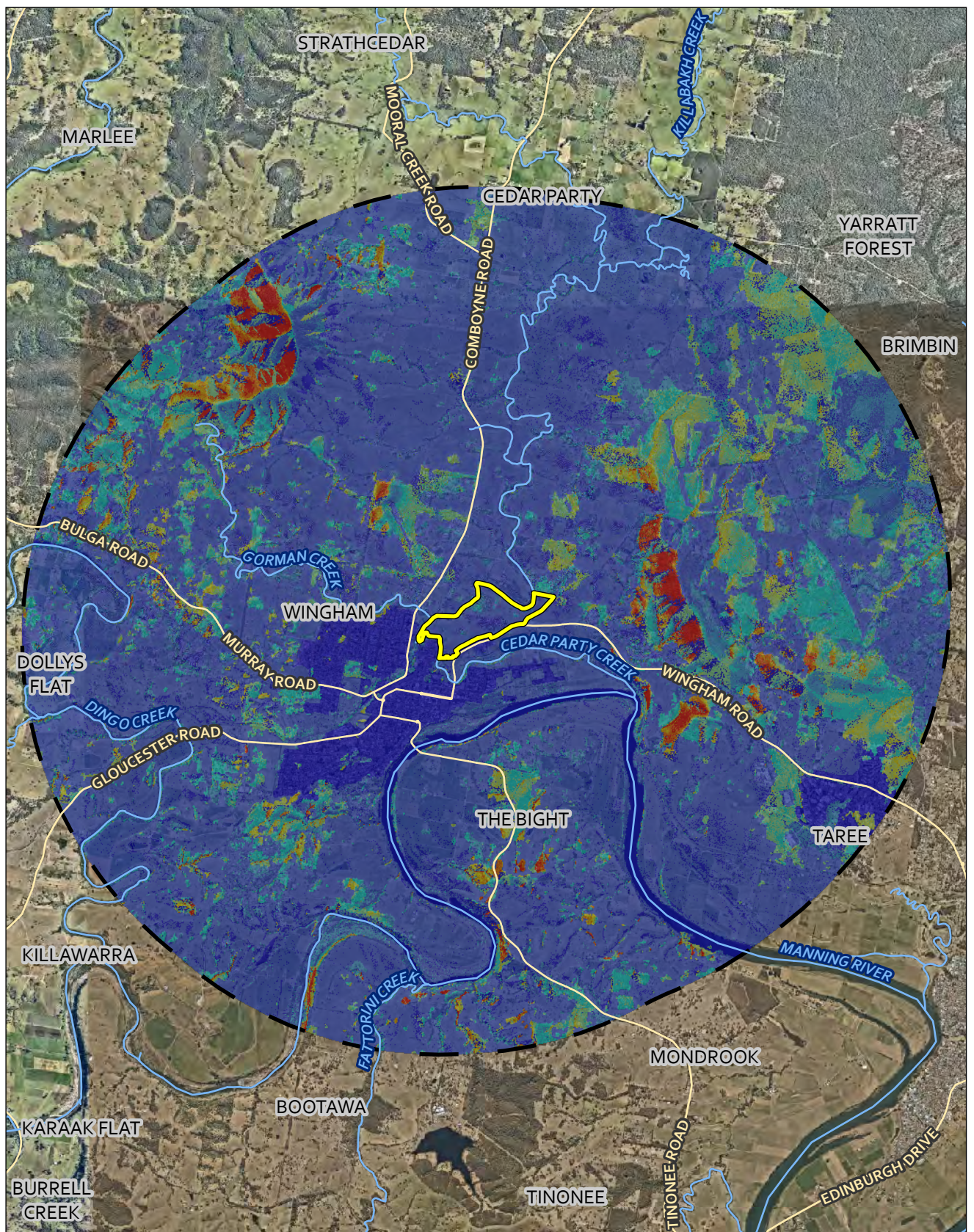
Date: 10/05/2024

0 0.5 1 2
Kilometers

Figure 11: Fire Intensity SE-SW

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap



Legend

- Subject Land
- Watercourse
- Major Roads
- Subject Land Buffer - 5km

Fire Intensity N - SW (kW/m²)

- <1,000
- 1,000 - 15,000
- 15,000 - 30,000
- 30,000 - 60,000

- 60,000 - 90,000
- 90,000 - 120,000
- 120,000 - 150,000
- 150,000 - 180,000
- 180,000 - 250,000

- > 250,000



Date: 10/05/2024

0 0.5 1 2
Kilometers

Figure 12: Fire Intensity SW-N

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

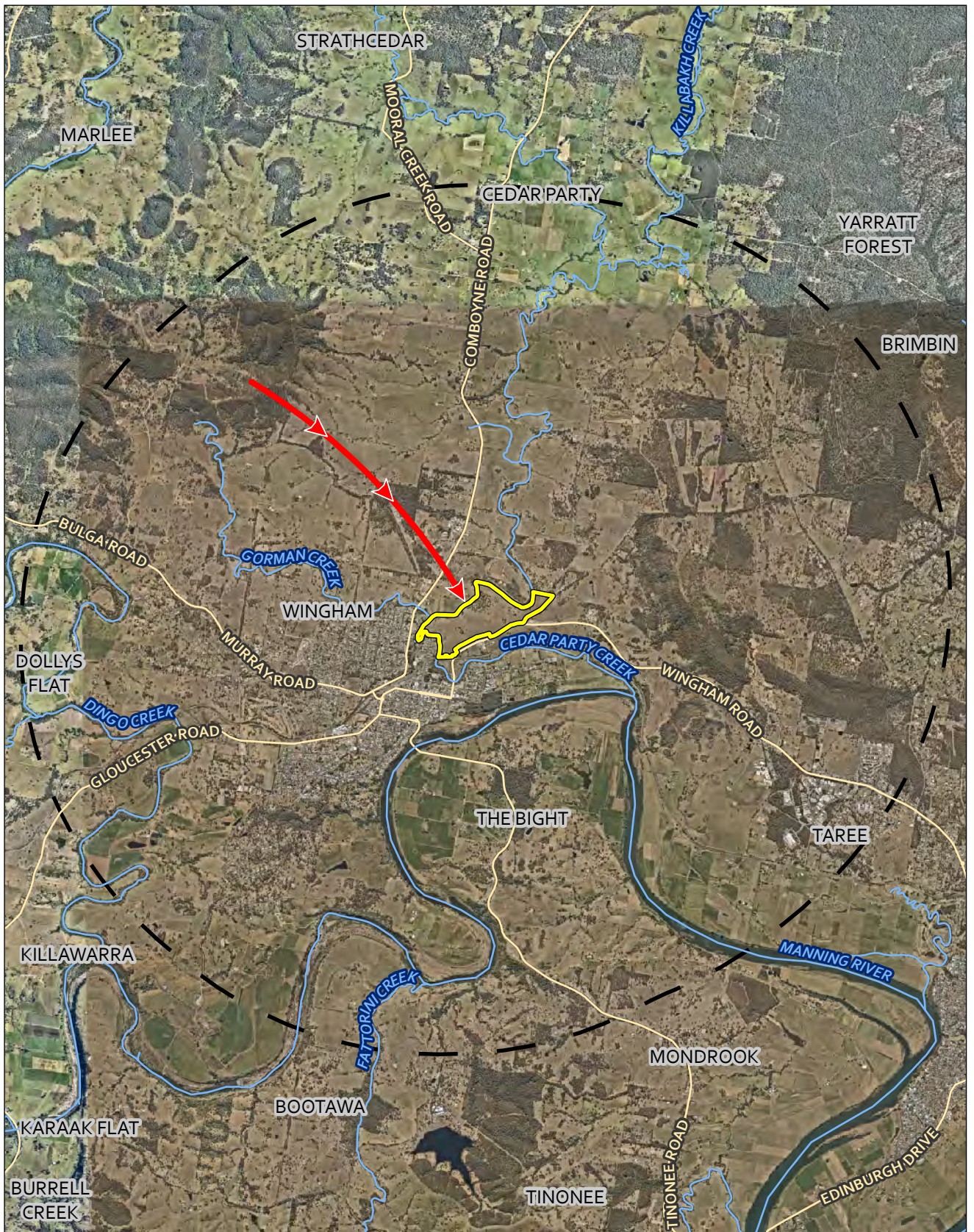
2.6 Potential fire attack scenario

Based on the information provided in the preceding sections on hazard, weather, historical fire activity, and intensity, likely fire behaviour and potential fire paths and scenarios can be predicted.

The problematic fire scenario is the combination of undesirable fire weather (i.e. hot and dry westerly winds during late spring and summer) and ignition in the north-west creating the potential for a grassfire to spread towards and within the subject land. An example of a problematic fire attack scenario is illustrated on Figure 13.

Fire attack from the eastern sector is of less concern due to the influence of humid, coastal breezes on fire rate of spread. Fire attack from the south and west is not a concern due to the presence of the Wingham township.

The overall predominance of cleared lands and grassland generally immediately surrounding the subject land in all directions means that the development of a high intensity fire front towards the subject land is not possible. Fire intensity in grassland environments is much less than that within forests. There are more opportunities to control fire in grassland, however the spread of fire can be much faster.



Legend

-  Watercourse
-  Major Roads
-  Subject Land
-  Subject Land Buffer - 5km
-  Potential Fire Path



Date: 13/05/2024

0 0.5 1 2
Kilometers

Figure 13: Potential Fire Attack Scenarios

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

3 Land use assessment

The following land use assessment considers the risk profile of the site based on the bushfire landscape assessment in the preceding chapter, the suitability of the proposed land use, and the feasibility of the Asset Protection Zone (APZ) requirements.

3.1 Bushfire risk

The risk of a bushfire igniting, spreading and causing damage to future development at the subject land has been assessed following the outcomes of the preceding Section 2 - Bushfire Landscape Assessment. As detailed in Section 2, considerations for the determination of bushfire risk include fire intensity mapping (a product of vegetation, topography and fire weather), fire history and fire attack scenarios.

The risk has been assessed using the same methodology used by NSW Rural Fire Service in developing the *Mid Coast Bush Fire Risk Management Plan*. The method follows the procedures and considerations of *AS/NZS ISO 31000:2018 Risk management – Guidelines* and provides a risk classification scheme through qualitative scales to assess the likelihood and consequence of fire impact.

The risk determined by the *Mid Coast Bush Fire Risk Management Plan* for the existing Wingham township is 'high' on a scale of Extreme, Very High, High, Medium, and Low. The 'high' risk rating was based on a likelihood of 'likely' and consequence of 'high'.

Extrapolating from the risk rating given to the existing township, the risk rating for future residential development at the subject land is determined to be 'medium' based on a likelihood of 'likely' (as per the adjacent Wingham township) and consequence of 'minor'. A lower consequence rating has been applied to the subject land compared to the Wingham township as future development will have bushfire protection measures compliant with PBP reducing the risk compared to the existing housing stock within the township. Measures include APZ, BALs for dwellings, perimeter roads, compliant road layout for evacuation and emergency response, and adequate hydrant supply.

3.2 Suitability of proposed land use

The subject land is proposed to be rezoned to allow residential subdivision creating approximately 300 lots. The land adjoining Cedar Party Creek is proposed to be rezoned C4 Environmental Living and will provide a buffer and interface between the bushfire hazards to the north and north-west and the proposed R1 General Residential Zone which will span along Wingham Road and Youngs Road and form the central portion of the subject land (refer to Figure 2).

Expansion of residential development into the subject land will be suitable within the context of bushfire risk. The risk profile does not preclude residential expansion and intensification providing bushfire protection measures compliant with PBP can be accommodated within the design and the existing and supporting infrastructure can accommodate the additional

development. Bushfire protection measures include APZ and adequate access for evacuation of residents and response of emergency authorities. The suitability of the measures is discussed in the following sections.

3.3 Asset Protection Zones (APZ)

Using the vegetation and slope data presented in Sections 2.1 and 2.2, APZs have been determined and accommodated within the subject land where required. The APZ layer is shown on Figure 14 and APZ determination is listed in Table 1. The APZ dimensions are compliant with the PBP Acceptable Solutions as listed in Table A1.12.2 of PBP.

The concept precinct plan has been designed to accommodate the required APZ dimensions between building envelopes and bushfire hazards. An APZ has been provided along the northern and western interface of the R1 zone and will consist of a perimeter road and building setbacks within lots. Wingham Road and Youngs Road will provide the necessary APZ to the east and south.

Building envelopes and corresponding APZs within the C4 lots can be determined at time of development application for those lots. The lots are large enough that a building envelope and APZ can be accommodated within each lot. The size of the APZ will depend on the final location of the building envelope.

Table 1: APZ determination

Location ¹	Vegetation ²	Slope ³	APZ ⁴	APZ placement ⁵
A	Grassland	Downslope >0-5°	11 m	Proposed perimeter road
B	Grassland	Downslope >5-10°	12 m	Proposed perimeter road
C	Grassland	Downslope >0-5°	11 m	Proposed perimeter road
D	Grassland	Downslope >5-10°	12 m	Proposed perimeter road
E	Grassland	Downslope >0-5°	11 m	Proposed perimeter road
F	Low hazard riparian	Downslope >5-10°	15 m	Proposed perimeter road and setbacks within lots
G	Grassland	Downslope >5-10°	12 m	Proposed perimeter road
H	Grassland	Downslope >0-5°	11 m	Proposed perimeter road
I	Forest	Downslope >5-10°	31 m	Proposed perimeter road and setbacks within lots
J	Forest	Downslope >0-5°	25 m	Proposed perimeter road and setbacks within lots

Location ¹	Vegetation ²	Slope ³	APZ ⁴	APZ placement ⁵
K	Grassland	Downslope >5-10°	12 m	Proposed perimeter road
L	Forest	Downslope >5-10°	31 m	Proposed perimeter road and setbacks within lots
M	Grassland	Downslope >10-15°	14 m	Proposed perimeter road
Wingham Rd & Youngs Rd	Grassland	Downslope >0-5°	11 m	Existing road corridor
	Grassland	Downslope >5-10°	12 m	Existing road corridor

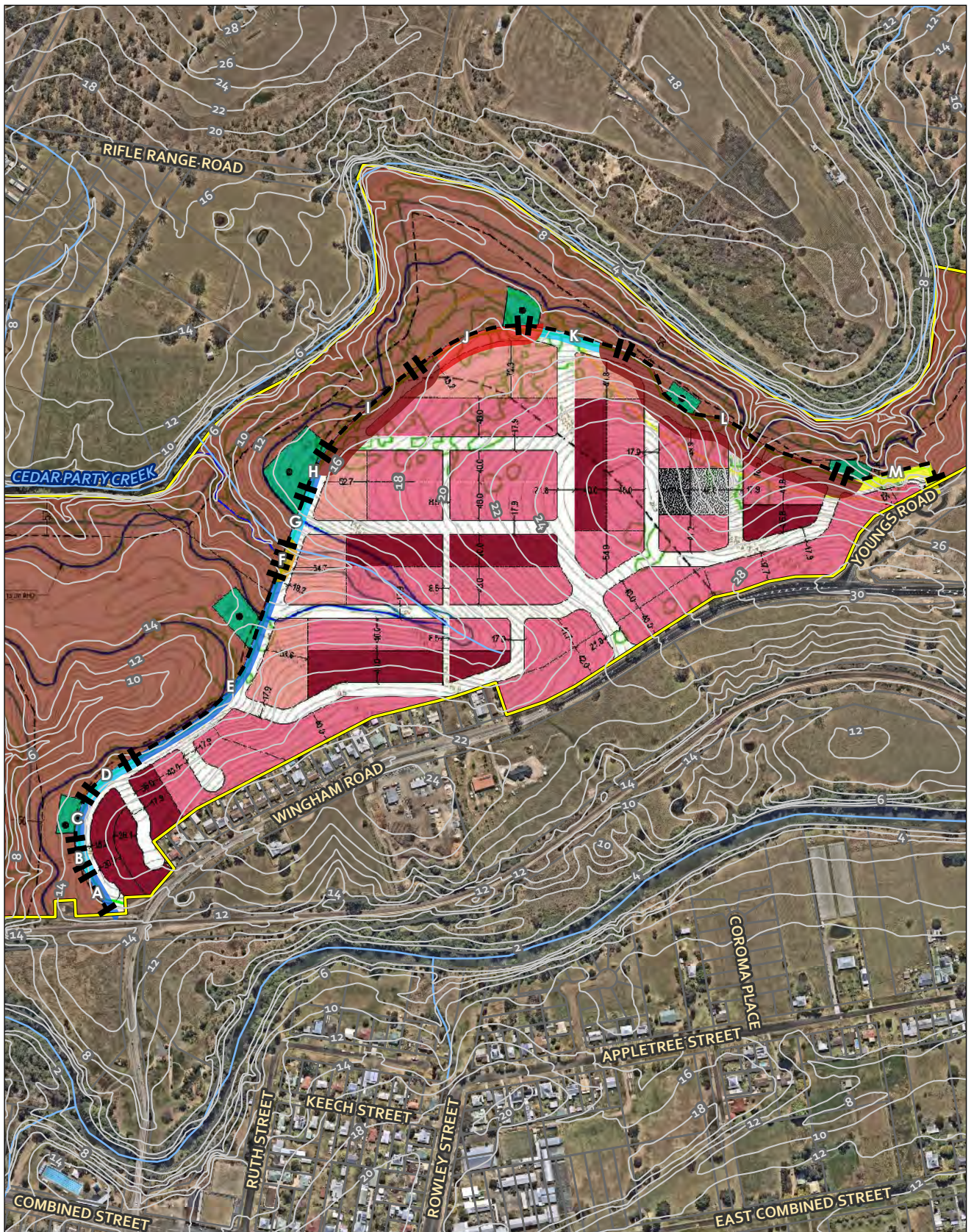
¹ Location of hazard interface as shown on Figure 14.

² Predominant vegetation classification over 140 m from developable area.

³ Effective slope assessed over 100 m from developable area where the bushfire hazard occurs.

⁴ Minimum APZ required by 'Planning for Bush Fire Protection 2019' Table A1.12.3 (FDI-80).

⁵ Land use that will accommodate the APZ.



Legend

- Contour - 2m
- Watercourse
- Subject Land
- Cadastre

Asset Protection Zone

- | | |
|-----|-----|
| 11m | 15m |
| 12m | 25m |
| 14m | 31m |



Date: 27/05/2024

0 100 200 400
Metres

Figure 14: Bushfire Hazard Analysis and Asset Protection Zone (APZ) Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

Future subdivisions and APZs are to be maintained to comply with the standard of an Inner Protection Area (IPA) as described within Appendix A4.1.1 of PBP.

The IPA requirements stated within PBP are repeated below:

A4.1.1 Inner Protection Areas (IPAs)

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

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

When establishing and maintaining an IPA the following requirements apply:

- **Trees**
 - o *tree canopy cover should be less than 15% at maturity;*
 - o *trees at maturity should not touch or overhang the building;*
 - o *lower limbs should be removed up to a height of 2m above the ground;*
 - o *tree canopies should be separated by 2 to 5m; and*
 - o *preference should be given to smooth barked and evergreen trees.*
- **Shrubs**
 - o *create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided;*
 - o *shrubs should not be located under trees;*
 - o *shrubs should not form more than 10% ground cover; and*
 - o *clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.*
- **Grass**
 - o *grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and*
 - o *leaves and vegetation debris should be removed.*

4 Access and emergency services

The following subsections demonstrate how the existing road network will have the capacity to manage additional traffic generated by the proposal during an emergency and how the proposed subdivision roads provide a compliant level of access.

4.1 Capacity of external road network

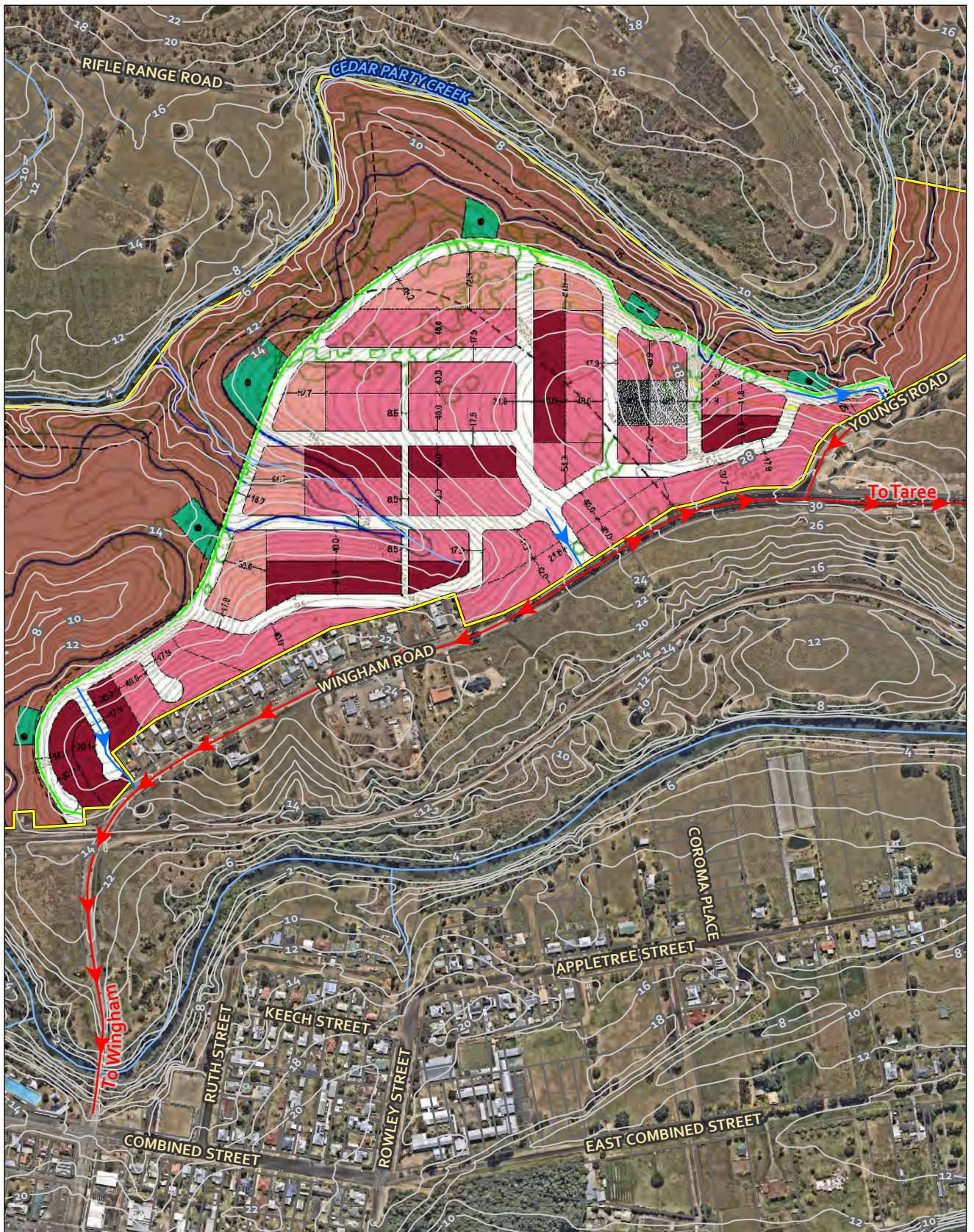
Future development at the subject land will gain its access direct from Wingham Road. Wingham Road is a regional road and provides alternate directions of access and egress being to the east to Taree and to the west into the Wingham township immediately adjacent. Youngs Road will also provide an access point to the north. Figure 15 shows the available access routes.

4.2 Alternate access for the proposal

The concept precinct plan provides a single access point to Wingham Road central to the subject land. This will be complemented by two additional emergency access points; one at each end of the subject land. The emergency access points will provide a sealed 4 m wide accessway between the external road and the internal cul-de-sacs that can only be used during times of an emergency (refer to Figure 15).

4.3 Perimeter access

A perimeter road has been provided between the proposed R1 lots and the bushfire hazards to the north and west within the proposed C4 lots and beyond. Building envelopes within the C4 lots do not require a public perimeter road due to the large size of the lots and the degree of separation between each building envelope. Fire-fighter access around building envelopes in the C4 lots can be achieved by internal driveways within each lot and are to be assessed and determined at time of development application for individual dwellings.



Legend

- Contour - 2m
- Watercourse
- Subject Land
- Cadastre

Evacuation Route

- Internal
- External



DKGIS
Date: 27/05/2024

0 100 200 400
Metres

Figure 15: Access and Evacuation

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

4.4 Road design

All subdivision roads are to comply with the PBP Acceptable Solutions for public roads in bushfire prone areas as required by PBP Table 5.3b. The requirements are repeated below.

PBP (Table 5.3b) design standards for roads servicing residential subdivision:

- *Property access roads are two-wheel drive, all weather roads.*
- *Perimeter roads are provided for residential subdivisions of three or more allotments.*
- *Subdivisions of three or more allotments have more than one access in an out of the development.*
- *Traffic management devices are constructed to not prohibit access by emergency service vehicles.*
- *Maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient.*
- *All roads are through roads;*
- *Dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end.*
- *Where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road.*
- *Where access/egress can only be achieved through forest, woodland or heath vegetation, secondary access shall be provided to an alternate point on the existing public road system.*
- *One way public access roads are no less than 3.5 m wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.*
- *The capacity of perimeter and non-perimeter road surfaces and any bridges and causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); Bridges/causeways to clearly indicate load rating.*
- *Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression.*
- *Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005 – Fire hydrant installations: System design, installation and commissioning.*
- *There is suitable access for a Category 1 fire appliance to within 4 m of the static water supply where no reticulated supply is available.*

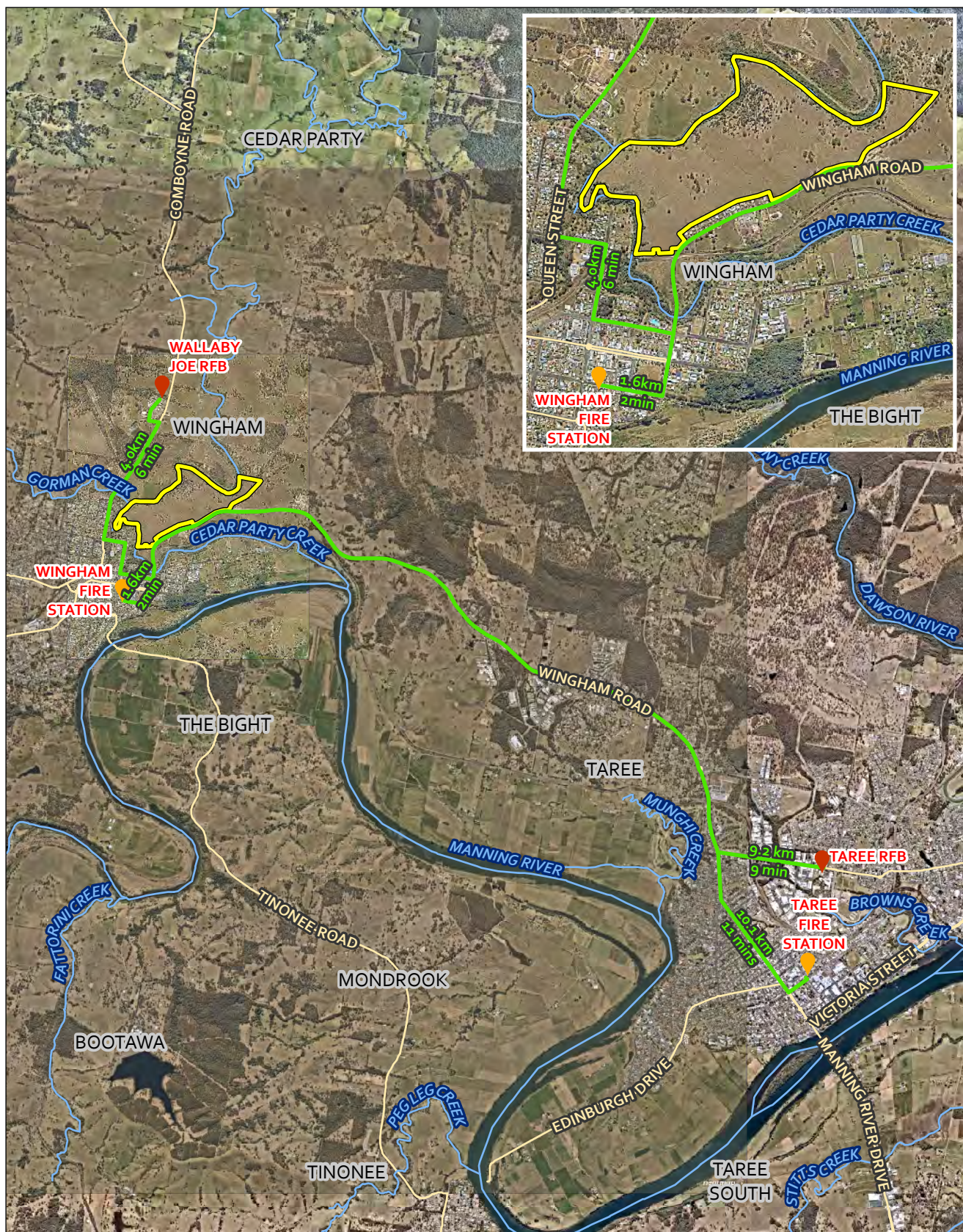
- *Perimeter roads:*
 - o *are two-way sealed roads;*
 - o *8 m carriageway width kerb to kerb;*
 - o *parking is provided outside of the carriageway width;*
 - o *hydrants are located clear of parking reserves;*
 - o *are through roads, and these are linked to the internal road system at an internal of no greater than 500 m;*
 - o *curves of roads have a minimum inner radius of 6 m;*
 - o *the maximum road grade is 15° and average grade of not more than 10°;*
 - o *the road crossfall does not exceed 3°;*
 - o *a minimum vertical clearance of 4 m to any overhanging obstruction, including tree branches, is provided.*
- *Non-perimeter roads:*
 - o *Minimum 5.5 m carriageway width kerb to kerb;*
 - o *parking is provided outside of the carriageway width;*
 - o *hydrants are located clear of parking areas;*
 - o *roads are through roads, and these are linked to the internal road system at an internal of no greater than 500 m;*
 - o *curves of roads have a minimum inner radius of 6 m;*
 - o *the road crossfall does not exceed 3°;*
 - o *a minimum vertical clearance of 4 m to any overhanging obstructions, including tree branches, is provided.*

4.5 Emergency services

An expansion of residential development in Wingham may increase demand on emergency services, fire-fighting infrastructure and operational capability. Regarding demand for emergency services, a review of the existing fire-fighting services within 10 km by road revealed that there are a total of four fire stations including the RFS Fire Control Centre for the district. These are listed below and mapped on Figure 16.

It is considered that the proximity of four fire stations (detailed below), including the district fire control centre, will be suitable for the growth in residential development created by the Planning Proposal.

- Fire & Rescue NSW Wingham Fire Station: 22 Farquhar Street, Wingham (1.6 km south by road)
- Wallaby Joe Rural Fire Brigade: 10 Industrial Close, Wingham (4 km north-west by road)
- RFS Fire Control Centre: 28 Muldoon Street, Taree (9.2 km east by road)
- Fire & Rescue NSW Taree Fire Station: 75 Pulteney Street, Taree (10.1 km east by road)



Legend

- Watercourse
- Major Roads
- Subject Land
- NSW Rural Fire Service
- Fire and Rescue NSW



Date: 10/05/2024

0 0.5 1 2
Kilometers

Figure 16: Fire Stations Within 10km

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

4.6 Infrastructure

Future development at the subject land will need to meet the applicable infrastructure requirements of PBP. The general requirements for development are discussed below and are considered achievable.

4.6.1 Water

To comply with PBP, future development should be serviced by a reticulated water supply. Fire hydrant spacing, sizing and pressures should comply with Australian Standard AS 2419.1 – 2021 *Fire hydrant installations – Part 1: System design, installation and commissioning*.

4.6.2 Electricity and gas

It is expected that future electricity supply to the site will be underground and therefore compliant with PBP.

Reticulated gas is to be installed and maintained in accordance with Australian Standard AS/NZS 1596:2014 *The storage and handling of LP Gas* and the requirements of relevant authorities. The PBP acceptable solution requirements for these services are expected to be achievable for future development.

5 Ministerial directions compliance

This section summarises how compliance with Section 9.1(2) Direction 4.3 – ‘Planning for Bush Fire Protection’ (*Environmental Planning and Assessment Act 1979*) is achieved. The response to requirements is set out below following the structure of Direction 4.3.

5.1 Direction 4.3 Objectives

Objective 1

“To protect life, property and the environment from bushfire hazards, by discouraging the establishment of incompatible land uses in bushfire prone areas”

The intention of the objective is to avoid a development outcome that is faced by or poses a risk that cannot be managed to an acceptable level (i.e. compliant with PBP). The assessment of ‘incompatible’, ‘inappropriate’ and ‘acceptable’ is a subjective one, and one that is not defined within PBP, legislation or related policy. To guide an assessment, reference should be made to the measures specified by PBP such as the ability to establish and maintain adequate APZs, and the assurance of acceptable access and evacuation.

Subdivision of the subject land will result in a continuation of the pattern of existing development within the Wingham township to the west and south. This assessment demonstrates that the risk can be managed to an acceptable level by implementing the recommendations therefore making it compatible with the surrounding environment. Compliant APZs coupled with adequate access designed to address the bushfire risk produces a landuse that is not considered incompatible with the surrounding bushfire prone area.

Objective 2

“To encourage sound management of bushfire prone areas”

The recommended bushfire protection measures demonstrate sound management of the subject land for residential subdivision.

5.2 Direction 4.3 Provisions

Provision 1

“have regard to the document Planning for Bush Fire Protection 2019”

The Planning Proposal has been assessed in accordance with PBP.

Provision 2

“introduce controls that avoid placing inappropriate developments in hazardous areas”

The proposal is not considered inappropriate for the level of bushfire hazard in the area. Controls (bushfire protection measures) will be set in place to ensure compliance with PBP.

Provision 3

“ensure that bushfire hazard reduction is not prohibited within the Asset Protection Zone (APZ)”

Proposed APZs will be contained wholly within road reserves and building setbacks within proposed lots. These areas will be routinely managed. APZs will not be placed within reserves where retention or enhancement of vegetation is proposed.

Provision 4

“provide an Asset Protection Zone (APZ) incorporating at a minimum:

- an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and,
- an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road.”

APZs will be provided to comply with the distances prescribed by PBP as detailed in Section 3.3. Perimeter access is also proposed.

Provision 5

“for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under Section 100B of the Rural Fires Act 1997), the APZ provisions must be complied with”

Section 3.3 details APZs compliant with the Acceptable Solutions.

Provision 6

“contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks”

The concept subdivision layout features two-way roads and a compliant road layout. More detail on the proposed access is detailed in Section 4.2 – 4.4.

Provision 7

“contain provisions for adequate water supply for fire-fighting purposes”

All aspects of future development will have a hydrant supply that complies with PBP. More details are provided at Section 4.6.

Provision 8

“minimise the perimeter of the area of land interfacing the hazard which may be developed”

The hazard interface is uniform in shape and there are no incursions of hazard into the development that may create ‘bottle-necks’ or ‘pinch-points’.

Provision 9

“introduce controls on the placement of combustibile materials in the Inner Protection Area”

Section 3.3 details how the site and any APZs are to be maintained.

6 Conclusion

This Strategic Bushfire Study has been prepared in accordance with Section 4.2 of the RFS document *Planning for Bush Fire Protection 2019* (NSW RFS 2019) and addresses the requirements for assessment of rezoning proposals involving bushfire prone land, namely Section 4.4 of *Planning for Bush Fire Protection 2019* and the *Environmental Planning and Assessment Act 1979* Section 9.1(2) Ministerial Direction 4.3 – ‘Planning for Bush Fire Protection’.

This Strategic Bushfire Study has been prepared involving landscape analysis of the surrounding bushfire environment and risk assessment. Risk profiling based on bushfire landscape analysis has resulted in a ‘medium’ rating for the proposed residential zones. The proposal is not incompatible with the determined level of risk providing the appropriate bushfire protection measures, such as APZs and adequate access, are accommodated by the concept precinct plan.

As demonstrated by this study, the proposal to rezone the subject land satisfies *Environmental Planning and Assessment Act 1979* Section 9.1(2) Ministerial Direction 4.3 – ‘Planning for Bush Fire Protection’ and Section 4.2 of *Planning for Bush Fire Protection 2019*. The proposal is not considered incompatible with the surrounding environment and bushfire risk.



David Peterson
Director



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