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# BUSHFIRE REZONING REPORT

## Planning Proposal - Residential Rezoning

**Lot 32 DP 1169053**

**Lot 32 Tuckeroo Avenue,**

**Mullumbimby NSW 2478**

Prepared for: Gainsplay Pty Ltd

Prepared by: Peter Thornton
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| **Date:** 10 July 2025 | **Reference:** 25/751P |
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| GLOSSARY | |
|---|---|
| **Abbreviation** | **Definition** |
| Owner | Gainsplay Pty Ltd |
| APZ | Asset Protection Zone |
| AS 3959 | Australian Standard 3959-2018 Construction of Buildings in Bushfire Prone Areas |
| BFMP | Bush Fire Management Plan |
| BPMs | Bushfire Protection Measures |
| BFSA | Bush Fire Safety Authority |
| Council | Byron Shire Council |
| EP&A Act | Environmental Planning and Assessment Act 1979 |
| EP&A Regulation | Environmental Planning and Assessment Regulation 2021 |
| IPA | Asset Protection Zone - Inner Protection Area |
| OPA | Asset Protection Zone - Outer Protection Area |
| PBP2019 | Planning for Bushfire Protection 2019 and Addendum 2022 |
| RFS | New South Wales Rural Fire Service |
| SFPP | Special Fire Protection Purpose |

## Table of Contents


1.0 EXECUTIVE SUMMARY ..... 4

2.0 INTRODUCTION ..... 8

2.1 GENERAL ..... 8

2.2 SCOPE AND LIMITATIONS ..... 9

2.3 INFORMATION TO BE PROVIDED WITH SUBDIVISION DA ..... 10

2.4 SIGNIFICANT ENVIRONMENTAL FEATURES ..... 11

2.5 STRATEGIC BUSHFIRE STUDY REQUIREMENTS ..... 11

2.6 PLANNING DIRECTION 4.3 ..... 16

3.0 PROPOSED DEVELOPMENT ..... 20

4.0 BUSHFIRE THREAT ASSESSMENT ..... 22

4.1 BUSHFIRE PRONE LAND MAP ..... 23

4.2 BUSHFIRE ANALYSIS ..... 23

5.0 ASSET PROTECTION ZONES ..... 30

6.0 WATER AND UTILITY SERVICES ..... 34

7.0 ACCESS ..... 35

8.0 LANDSCAPING ..... 39

9.0 CONCLUSION ..... 39

APPENDIX A: Concept Plan of Subdivision ..... 41

APPENDIX B: Asset Protection Zones Appendix 4 PBP 2019 ..... 44

APPENDIX C: Road Widths A3.3 PBP2019 ..... 48

APPENDIX D: Subdivision Requirements Table 5.3a, 5.3b and 5.3c PBP2019 ..... 50

## 1.0 EXECUTIVE SUMMARY

This bushfire planning proposal (rezoning) report is provided to support the Planning Proposal for residential rezoning. The preliminary concept layout plan for indicates eight (8) R2 Low Density Torrens Title lots, and one R3 Medium, at Lot 32 DP 1169053 Tuckeroo Avenue, Mullumbimby. The indicative layout has been assessed against the acceptable solutions of Section 4 and 5 of Planning for Bushfire Protection (PBP) 2019 and Local Planning Direction 4.3.

This report has determined the proposed rezoning is appropriate in the bush fire hazard context, noting the remnant/rainforest hazard vegetation is the primary bushfire risk, and the site is located within the urban area of Mullumbimby. Bush fire mitigation and management measures for the future development can be adequately addressed with the proposal having the ability to comply with PBP2019 via a combination of acceptable solutions and/or performance solutions in consultation with NSW RFS. Noting detailed plans will be required with future subdivision applications addressing the matters raised in this report.

Potential opportunities have been identified for performance assessment where compliance with acceptable solutions of PBP2019 cannot be achieved. Consultation with NSW RFS via a Bushfire Design Brief and concurrence at subdivision stage will be required, demonstrating methodology for a performance solution, to justify the following access variations, noting preliminary comments are provided in Section 7 of this report supporting the variations–

- No perimeter roads (Table 5.3b perimeter roads are required for residential subdivisions of three or more allotments); and
- A reduction in the requirement of PBP2019 for a 12m outer radius cul-de-sac to the west serving the Torrens title lots to 10m outer radius (Table 5.3b - 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);
- Non-perimeter roads do not have an unobstructed carriageway width of 5.5m clear of on-street carparking (Table 5.3b – non-perimeter roads must have an unobstructed carriageway width of 5.5m, with parking located outside of this width). A 6m carriageway width proposed.

Whilst we believe there is merit for these performance solutions, should the performance solutions not receive concurrence from NSW RFS at subdivision stage (with exception to the perimeter road), the site can support the development with modification to the indicative design layout.

Based on the information available, the indicative subdivision layout, demonstrates at a high level, appropriate for this stage of development, that the Asset Protection Zones (APZs) and road network can generally be supported within a future subdivision, subject to detailed design addressing matters raised in this report, and potential modification of the building envelope locations. It is noted the concept plans are indicative only and further assessment will need to be undertaken at subdivision approval stage when detailed plans are made available.

| **Extent of compliance and/or deviation from specifications** | | |
|---|---|---|
| Parameter | Requirement | Method of Assessment |
| Local Planning Direction 4.3 | Capable of compliance except clarification is required for –<br><br>Clause 3 - A planning proposal must comply with the following provisions, as appropriate:<br>Clause 3(c) Contain provisions for two-way access roads with links to perimeter roads | The rezoning is considered appropriate for the site, subject to matters raised in this report. Perimeter roads are not proposed. A performance approach is considered appropriate to address the lack of perimeter roads and address the performance criteria of Table 5.3b PBP2019. |
| Planning for Bushfire Protection 2019 | Section 4 - Table 4.2.1 PBP 2019 | Acceptable solutions and potential performance solutions as detailed below |
| | Section 5 – Table 5.3 Capable of compliance with acceptable solutions in Section 5 PBP except for –<br>**Access**<br>• Performance solutions for no perimeter roads. (Table 5.3b perimeter roads are required for residential subdivisions of three or more allotments);<br>• Performance solutions for a reduction in the requirement for a 12m outer radius cul-de-sac to 10m outer radius, to the west serving the Torrens title lots (Table 5.3b dead end roads are not recommended, but if unavoidable, are not more than 200m in length, incorporate a minimum 12m outer radius turning circle).<br>• Non-perimeter roads serving the western precinct cul-de-sac do not have an unobstructed carriageway width of 5.5m clear of on-street carparking (Table 5.3b – non-perimeter roads must have an unobstructed carriageway width of 5.5m, with parking located outside of this width). A 6m carriageway width proposed. | Acceptable solutions, potential for performance solutions subject to RFS review, civil designer to demonstrate compliance except where noted. |

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| | **Water supply** - Further detail to be submitted with future reporting at subdivision stage to demonstrate fire hydrant coverage of the entire perimeter of indicative building envelopes, in accordance with Planning for Bushfire Protection. | Acceptable solution, hydraulic designer to demonstrate compliance. |
| | **Asset Protection Zones** - The entire area of all sites will need to be managed and maintained as APZ's, except where noted. The steep slopes within the allotments, exceeding 18$^{o}$ will require consideration as APZ's cannot be located on land steeper than 18$^{o}$. | Further details required with future reporting demonstrating retained/revegetated areas, and planting within areas such as the stormwater basin. A detailed slope analysis to be provided with subdivision reporting. |

The above summary is provided on the assumption that all bushfire protection measures will otherwise comply with the acceptable solutions of Planning for Bush Fire Protection 2019 (PBP2019), subject to detailed design at the subdivision application stage.

The planning proposal demonstrates that the required Asset Protection Zones (APZs) can be accommodated on the development site, particularly given merit to reduce APZs via performance solution, and that the indicative road network has the potential to support evacuation during an emergency, subject to traffic engineers report.

Consideration has also been given to the Byron Shire Council Development Control Plan as it relates to bushfire planning. The following comments summarise the assessment relevant to Section 4 and 5 of PBP2019.

**Access**

All public and property access roads identified are to comply with Table 5.3(b) of PBP2019 by way of acceptable or performance solutions or a combination of each. The following are considered as having merit for a future performance solution subject to NSW RFS concurrence. This is further discussed in Section 7 of this report.

1. Provision of perimeter roads is not considered warranted, noting the allotment is generally surrounded by residential development, is relatively low threat with remnant/rainforest pockets, and there is limited need for operation works to reduce bushfire intensity within the hazard (Table 5.3b perimeter roads are required for residential subdivisions of three or more allotments).

   The acceptable solutions non-perimeter road requirements for the public road (west precinct) and within the subject property in the eastern precinct are to comply with Table 5.3b General (where applicable) and Non-Perimeter Road requirements.

It is suggested that there is merit with the application for subdivision to apply a performance solution to reduce the unobstructed width of 5.5m particularly for the public road to the west precinct subject to NSW RFS concurrence with the issue of a Bush Fire Safety Authority. This is based on the following –

- Low density to the west and short public road length within an urban area,
- Street hydrants available – reticulated water.
- The bushfire hazard directly impacting the subdivision will have a low intensity in comparison to vegetation types and fire runs that will likely require potential mass evacuation.
- Whilst we have correctly identified the potential bushfire hazards on the basis on the ecological advice, it is likely that when the Bush Fire Prone Land mapping is next updated, there is a possibility that these areas are not mapped as a bushfire hazard i.e. low threat.

Notwithstanding this, should a performance solution for this item not be accepted at subdivision, the land can support compliance with the acceptable solutions.

2. Performance solutions for a reduction in the requirement for a 12m outer radius cul-de-sac to 10m outer radius, to the west serving the Torrens title lots commensurate with the bushfire risk (Table 5.3b dead end roads are not recommended, but if unavoidable, are not more than 200m in length, incorporate a minimum 12m outer radius turning circle).

   It is suggested that there is merit with the application for subdivision to apply a performance solution to reduce the outer radius cul-de-sac for the public road to the west precinct and allow the standard Council required widths, subject to NSW RFS concurrence with the issue of a Bush Fire Safety Authority. This is based on the following –

   - Low density to the west and short public road length within an urban area;
   - The bushfire hazard directly impacting the subdivision will have a low intensity in comparison to vegetation types and fire runs that will not require rapid evacuation for a fire appliance;
   - Whilst we have correctly identified the potential bushfire hazards on the basis on the ecological advice, it is likely that when the Bush Fire Prone Lane mapping is next updated, there is a possibility that these areas are not mapped as a bushfire hazard i.e. low threat.

**Asset Protection Zones**

Asset Protection Zones are to comply with Table 5.3(a) of Planning for Bushfire Protection 2019. A plan showing all vegetation to remain on-site and any compensatory planting/revegetation is to be provided with future reporting for subdivision.

The entire area of all sites is to be managed and maintained as APZ's except where noted. The steep slopes within the allotments exceeding 18$^{o}$ will require consideration as APZ cannot be located on land steeper than 18$^{o}$.

**Water supply**

Reticulated water supply is to comply with Table 5.3c PBP2019. See Appendix D of this report. All allotments to be serviced with street hydrants in accordance with Australian Standard 2419.1-2021.

**Electricity and Gas**

Electricity and Gas to comply with Section 5.3.3 and Table 5.3c of PBP2019.

**Landscaping**

Landscaping to comply with Table 5.3a and Appendix 4 of PBP2019. Fencing within the setback distance to hazard vegetation, or within designated APZ's is to comply with s7.6 PBP2019. Identification of areas to be managed as 'low-threat' land such as areas outside of retained vegetation and stormwater basin to be confirmed with future subdivision reporting to allow confirmation of building setback distances to hazard vegetation.

# 2.0 INTRODUCTION

## 2.1 General

This report has been prepared to support a Planning Proposal for residential rezoning and identifies the extent of compliance and/or deviation from Planning for Bushfire Protection 2019, having regard to the overall bushfire context, having regard to the limited information provided as part of the planning proposal application.

The report has made recommendations to inform future design detail for compliance with each of the heads of consideration appropriate to the acceptable solutions criteria of Section 5 of Planning for Bushfire Protection 2019, or nominated areas where opportunities for performance assessment may be appropriate.

Figures 1 and 2 demonstrate the site location and indicative subdivision layout plan. The advice provided within this constraints report will need to be updated should the indicative layout plan or proposed uses change. Further assessment and reporting will be required once specific details are available with future subdivision applications to address matters such as road design, water supply, vegetation management plans, APZs, utilities, staging and performance solutions etc.

This report has been prepared on the basis that the future residential development will be for long-term residential use only. Special Fire Protection Purpose (SFPP) uses which are developments occupied by people who are at-risk members of the community e.g. group homes, SDA housing, or short-term tourist accommodation, have not been considered.

## 2.2 Scope/limitations

The proposed Torrens title and strata subdivision lots are required to meet all requirements of Table 5.3a, 5.3b, 5.3c PBP2019 for subdivision. The report demonstrates the degree to which the concept layout proposal complies with or deviates from the acceptable solutions of Planning for Bushfire Protection 2019 having regard to the limited detailed design information available. The report however, identifies where there is merit for performance solutions for compliance with the relevant performance criteria.

- The report considers the indicative subdivision layout and indicative building layout. Detailed road designs have not been assessed other than as discussed in this report. Compliance with Table 5.3(b) of PBP2019 will be the responsibility of civil design engineers at development application stage.

- Planning for Bushfire Protection 2019 is currently under review. The nature of proposed changes and timing for introduction of the updated document is unknown.

- This report does not apply to tourist accommodation, residential accommodation associated with Group Homes or Specialist Disability Housing (SDA) which would be classified as Special Fire Protection Purpose (SFPP) development under Planning for Bushfire Protection 2019 and subject to additional bushfire protection measures not addressed in this report.

- Due to a range of limitations, the measures contained in this document do not guarantee that loss of life, injury and/or property damage will not occur during a bush fire event. Limitations of this document include, but are not limited to uncertainties in the following areas - Fire Danger Index; Fuel loads; Existing developments; Human behaviour; and Maintenance.

- The contents of this report are limited to recommendations for bushfire protection and Planning for Bushfire Protection 2019, and do not consider requirements of Fire and Rescue NSW.

## 2.3 Information to be provided at development application stage for subdivision

- Asset protection zones including APZ setbacks must be measured from the proposed building envelopes to the point where on-going management will not occur. The distance to vegetation for the purpose of establishing the Bushfire Attack Level (BAL) include managed road reserves however must not extend to areas where management cannot be provided in perpetuity. Area of unmanaged road verges on the hazard side of road reserves will be included as hazard vegetation unless demonstrated as managed low-threat vegetation.

- Asset protection zones to be located on land no steeper than 18$^{o}$. Terracing may be introduced as a means of achieving compliance.

- The plans submitted with the development application for subdivision are to demonstrate compliance with Table 5.3(b) of PBP2019. The design is to consider parking locations both designated and street parking to be located outside the required unobstructed carriageway width. Design certification will be required by the Civil Engineer. Any variations will need to be considered to determine merit for performance assessment in consultation with NSW RFS.

- Any Special Fire Protection Purposes (SFPP) development should be identified at an early stage to ensure APZ setbacks to hazard vegetation can be achieved in accordance with Table A1.12.1 PBP2019. SFPP development has not been considered in this report.

- Any APZ's on public open space will require consideration in relation to required managed/low-threat land between the proposed allotments and bushfire hazard vegetation. Any open space areas to be dedicated back to Byron Shire Council to be managed as 'low threat' land must be demonstrated in a Vegetation Management Plan with Council concurrence prior to issue of a final bushfire report at subdivision stage.

- The future subdivision will require bushfire fighting water supply by way of a compliant fire hydrant system in accordance with Table 5.3(c) of PBP2019. Fire hydrant design to be accompanied by a design certificate from the consultant hydraulic engineer at development application stage.

- The future subdivision will require compliance with the requirements for electricity services and gas services (if applicable) in accordance with Table 5.3(c) of PBP2019. Utilities design to be certified by the design consultant at development application stage.

## 2.4 Significant Environmental Features

An assessment is to be undertaken, if applicable, regarding:

- SEPP (Biodiversity and Conservation) 2021
- SEPP (Resilience and Hazards) 2021
- Biodiversity Conservation Act 2016 (NSW)
- Local Land Services Act 2013 (NSW)
- Land Management (Native Vegetation) Code 2017 (NSW)
- National Parks and Wildlife Act 1974 (NSW)
- Environmental Protection and Biodiversity Conservation Act 1999 (Cwlth)

This report does not consider the above legislation, or the impact of recommendations made in this report. The above considerations are to be made by others in acknowledgement of the recommendations in this report, it being noted that vegetation removal has been proposed in the consultant ecologists constraints report.

## 2.5 Strategic Bush Fire Study requirements (Table 4.2.1 PBP 2019)

The bushfire constraints and opportunities assessment has been undertaken with regard to PBP2019 Section 4 as demonstrated in Table 1 Strategic Bushfire Study requirements. The outcome of the Strategic Bushfire Study demonstrates that the site will be suitable for residential rezoning subject to detailed plans provided a subdivision stage demonstrating compliance with the required bushfire protection measures of Planning for Bushfire Protection 2019.

The following summary provides comment on matters requiring particular attention in future reporting at subdivision stage.

**Table 1:** Summary Strategic Bush Fire Study requirements (Table 4.2.1 PBP 2019).

| ISSUE | DETAIL | ASSESSMENT CONSIDERATIONS | COMMENT |
|---|---|---|---|
| **Bush fire landscape assessment** | A bush fire landscape assessment considers the likelihood of a bush fire, its potential severity and intensity and the potential impact on life and property in the context of the broader surrounding landscape. | The bush fire hazard in the surrounding area, including vegetation, topography, and weather. | Rezoning suitable<br>• A bushfire hazard assessment has been undertaken based on the existing off site vegetation, and preliminary ecological inputs. The site is located within the urban area of Mullumbimby and is surrounded by residential development. Pockets of hazard vegetation impact the site, however the assessment found lower bushfire risks such as rainforest/remnant being the predominant bushfire hazard with short and disrupted fire runs predominantly on upslopes. The forecast fire intensity will be at a lower level and in fact may not be mapped as a bushfire hazard with future updated Bush Fire Prone Land mapping. |
| | | The potential fire behaviour that might be generated based on the above. | Rezoning suitable<br>• Fire behaviour in several areas is forecast to be less intense than that provided by the acceptable solutions of PBP2019. This is due to most of the rainforest vegetation being upslope from future assets thereby having a reduced rate of spread, noting the presence of multiple disrupted short fire runs. The asset protection zones have generally applied the acceptable solutions of Table A1.12.3 PBP2019. However, there is considered merit to reduce these APZs with a performance solution being applied at development application stage for subdivision and may also be considered low-threat with future updated Bush Fire Prone Land mapping. |
| | | Any history of bush fire in the area. | Rezoning suitable |
| | | Potential fire runs into the site and the intensity of such fire runs. | Rezoning suitable<br>• There are disrupted short fire runs through remnant rainforest (low fuel), on upslopes in several areas that will reduce fire intensity and merit to apply performance solutions to reflect the reduced fire intensity. Potentially may be considered low threat with updated bushfire prone land mapping if the development proceeds. |

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| | | The difficulty in accessing and suppressing a fire, the continuity of bush fire hazards or the fragmentation of landscape fuels and the complexity of the terrain. | Rezoning suitable.<br>• There are two clear precincts, separated by Tuckeroo Avenue. Given the vegetation type, the fragmented hazard vegetation (short fire runs) and the proposed and existing road network, it is not considered as onerous to access or suppress a bushfire directly impacting the development. |
| **Land use assessment** | The land use assessment will identify the most appropriate locations within the masterplan area or site layout for the proposed land uses. | The risk profile of different areas of the development layout based on the above landscape study. | Rezoning suitable. There are two clear precincts connected by two access roads providing an alternate egress road from all areas with the maximum dead end road length of less than 200m connecting directly to Tuckeroo Ave providing alternative access and egress routes. |
| | | The proposed land use zones and permitted uses. | Rezoning suitable – This report is based on non-SFPP long term residential use. |
| | | The most appropriate siting of different land uses is based on risk profiles within the site (i.e. not locating development on ridge tops, SFPP development to be in lower risk areas of the site). | Rezoning suitable – Relatively low risk location within existing urban area.<br>The entire area of all sites will need to be managed and maintained as APZ's, except where vegetation is to be retained/replanted, subject to design development with the subdivision application. The steep slopes within the allotments, exceeding 18$^{o}$ will require consideration as APZ's cannot be located on land steeper than 18$^{o}$. Geotechnical engineer input will be required should vegetation removal occur on the steeper areas of the site. |
| | | The impact of the siting of these uses on APZ provision. | Rezoning suitable.<br>• APZ's have been applied based on the ecologists preliminary report, and existing vegetation where noted. Confirmation of vegetation to be removed will be required by the ecologist at subdivision application stage, noting any retained vegetation within the site, and the proposed stormwater basin may constitute a bushfire hazard and require APZ's to be applied. |
| **Access and egress** | A study of the existing and proposed road | The capacity for the proposed road network to deal with evacuating residents and | Rezoning suitable subject to traffic engineers report if considered appropriate, and RFS review of preliminary proposed performance assessment. The existing urban road network will be relied upon for evacuation, with the proposed public road extension to |

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| | networks both within and external to the masterplan area or site layout. | responding emergency services, based on the existing and proposed community profile. | the west via a cul-de-sac less than 200m in length, and a new internal access road to the east less than 200m in length with a turning head. Tuckeroo Ave provides two way access and egress routes. Performance Solutions considered to have merit for the following variations-<br>• No perimeter roads;<br>• A reduction in the requirement of PBP2019 for a 12m outer radius cul-de-sac to the west serving the Torrens title lots to 10m outer radius;<br>• Non-perimeter roads reduced unobstructed carriageway width particularly to the west – standard Council road requirements. A 6m carriageway width proposed.<br>Rezoning suitable, subject to detailed civil plans demonstrating compliance with PBP2019 at subdivision stage, and RFS review of proposed performance measures.<br><br>From a high level of bushfire review the external public road network does not appear concerning. However, for an accurate assessment, if required, the capacity wider public road network will need to be considered by a traffic consultant with subdivision reporting, having regard to the assessment considerations of PBP2019 which requires the following matters to be addressed –<br>• *The capacity for the proposed road network to deal with evacuating residents and responding emergency services, based on the existing and proposed community profile; and*<br>• *The location of key access routes and direction of travel; and*<br>• *The potential for development to be isolated in the event of a bush fire.* |
| | | The location of key access routes and direction of travel. | Rezoning suitable subject to traffic engineers report with the subdivision application - Within 200m of existing two-way public road. |
| | | The potential for development to be isolated in the event of a bush | Rezoning suitable - Urban location and access roads less than 200m in length to a public through road present low risk having regard to the remnant and rainforest hazard. |

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| | | fire. | |
| **Emergency services** | An assessment of the future impact of new development on emergency services. | Consideration of the increase in demand for emergency services responding to a bush fire emergency including the need for new stations/brigades. | Others are to review this consideration as part of the assessment process. |
| | | Impact on the ability of emergency services to carry out fire suppression in a bush fire emergency. | Access performance solutions to be considered by RFS.<br>Rezoning considered suitable subject to detailed civil and hydraulic plans demonstrating compliance with PBP2019 at subdivision stage, noting access performance based design brief to be submitted to NSW RFS at the time of subdivision application and prior to final bushfire reporting to address variations to the acceptable solutions for access as required by Planning for Bushfire Protection 2019. |
| **Infrastruc-ture** | An assessment of the issues associated with infrastructure and utilities. | The ability of the reticulated water system to deal with a major bush fire event in terms of pressures, flows, and spacing of hydrants. | Reticulated water supply and hydrants proposed. Suitability of the water supply to be assessed by others. |
| | | Life safety issues associated with fire & proximity to high voltage power lines, gas supply lines etc. | Rezoning suitable – Electricity supply to comply with Planning for Bushfire Protection 2019. |
| **Adjoining land** | The impact of new development on adjoining landowners and their ability to undertake bush fire management. | Consideration of the implications of a change in land use on adjoining land including increased pressure on BPMs through the implementation of Bush Fire Management Plans. | Rezoning suitable. Future residential development will result in improvement of current conditions. Note: any revegetation must not increase the bushfire risk to adjoining development. |

## 2.6 Local Planning Direction 4.3

As required by section 4.4.1 Planning for Bushfire Protection 2019, this report provides comment on compliance with the heads of consideration required by Section 9.1 of *EP&A Act 1979* and Local Planning Direction 4.3. A summary of each provision is provided in Table 2.

**Table 2**: Local Planning (Ministerial) Direction 4.3

| **Local Planning Direction 4.3** | | | |
|---|---|---|---|
| **Item** | **Parameter** | **Comment** | **Suitable for rezoning** |
| **Clause 2: A planning proposal must:** | | | |
| 2(a) | Have regard to Planning for Bushfire Protection 2019 | The report identifies the Bushfire Protection Measures likely to be required for the proposed residential rezoning reviewed against an indicative subdivision layout. Performance solutions are proposed for variations to acceptable solutions for access where noted in Section 7 of this report, noting the relatively low bushfire risk and urban environment.<br><br>Detailed design plans are to be assessed at subdivision stage with sufficient detail demonstrating compliance with Table 5.3(a) of PBP2019, e.g. road design, hydrant locations, location of on-street car parking, indicative building envelopes. | Yes - subject to RFS review, noting detailed plans will be required with the application for subdivision. Performance solutions will be required for variations to acceptable solutions for access where noted in Section 7 of this report at subdivision stage. |
| 2(b) | Introduce controls that avoid placing inappropriate developments in hazardous areas | The development site is located within established residential development within the urban area of Mullumbimby. Areas of remnant and rainforest vegetation impact the site. Resulting from a bushfire hazard assessment, the report identifies Bushfire Protection Measures required by Planning for Bushfire Protection 2019. The rezoning is considered appropriate for the site, subject to matters raised in this report. | Yes - subject to detailed plans and Performance Solutions addressing the matters raised in this report with the subdivision application. |

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| | | The main topographical constraints are the steep slopes within the site, with some areas likely to exceed 18°, noting asset protection zones cannot be located on slopes exceeding 18°. Detailed survey and additional assessment will be required with the subdivision application. Topography will need to be further assessed by others when detailed design is provided and the introduction of appropriate controls at the appropriate time of the planning process.<br><br>The steeper slopes may require contouring and earthworks to facilitate APZ management and maintenance.<br><br>Controls such as all fencing on bushfire prone land is to comply with s7.6 of PBP2019 may be appropriate to ensure fencing, once development commences, will be constructed of compliant materials. | |
| 2(c) | Ensure that bushfire hazard reduction is not prohibited within the Asset Protection Zone (APZ) | Design development is to ensure all required asset protection zone setbacks are capable of being provided within proposed future residential allotments or managed low threat road reserves.<br><br>The ecology report to be submitted with the development application for subdivision will need to confirm areas where vegetation cannot be removed, and suitability of APZ locations to ensure bushfire hazard reduction is not prohibited within proposed APZ's. | Yes - subject to further assessment by others e.g. ecologist to confirm areas where vegetation removal can be undertaken for the purposes of APZ's and where bushfire hazard reduction is not prohibited. |
| **Clause 3: A planning proposal must, where development is proposed, comply with the following provisions, as appropriate:** | | | |
| 3(a) | Provide an Asset Protection Zone (APZ) incorporating at a minimum:<br>i. an Inner Protection Area bounded by a perimeter road or reserve which | Locations of asset protection zones have been identified in the report appropriate to the non-special fire protection purpose residential development. Compliance will need to be determined by other consultants relating to areas such as ecology, cultural heritage, and proposed infrastructure. | Yes - subject to future access performance solution for no perimeter roads, and assessment by others e.g. ecologist etc. |

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| | 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<br><br>ii. an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road. | An indicative subdivision layout with APZ setbacks has been provided. The assessment provides reference to the requirements for access and APZs pursuant to Table 5.3(a) and (b) PBP2019 (residential non-SFPP), and proposed future performance solutions to remove the need for a perimeter road. | |
| 3(b) | 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. | Not applicable. Planning proposal for non-infill residential rezoning.<br><br>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. SFPP development has not been considered in this report. | Yes - subject to RFS review. |
| 3(c) | Contain provisions for two-way access roads with links to perimeter roads and/or to fire trail networks | An indicative road network has been provided. Two-way roads are proposed; however, perimeter roads are not proposed. Detailed civil plans provided with future subdivision reporting will need to demonstrate compliance with Table 5.3b PBP2019, except where variations are proposed in consultation with NSW RFS via the bushfire design brief process, including access variations identified in Section 7 of this report. | Yes - subject to RFS review. |

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|---|---|---|---|
| 3(d) | Contain provisions for adequate water supply for firefighting purposes | Reticulated water supply is proposed. Water, electricity and gas services will be required to comply with Section 5.3.3 and Table 5.3c of Planning for Bushfire Protection 2019 for future non-SFPP development.<br><br>Design certification will be required by the hydraulic consultant confirming compliant fire hydrant design for reticulated water supply pursuant to the requirements of Planning for Bushfire Protection 2019, to be assessed at subdivision stage. Capability statement may be an option at this early stage. | Yes - subject to detailed plans and hydraulic certification demonstrating compliance with acceptable solutions to be provided with subdivision reporting. |
| 3(e) | Minimise the perimeter of the area of land interfacing the hazard which may be developed | A future performance solution will be proposed to remove the requirement for perimeter roads, commensurate to the remnant/rainforest hazard and urban location. See section 7 of this report. | Yes - subject to RFS review. |
| 3(f) | Introduce controls on the placement of combustible materials in the Inner Protection Area. | Asset protection zones are to be managed and maintained in accordance with Table 5.3a PBP2019. This requirement limits the placement of combustible material with the Inner Protection Area. Controls such as all fencing on bushfire prone land to comply with s7.6 of PBP2019 will be appropriate to ensure fencing, once development commences, will be constructed of compliant materials. | Yes - subject to RFS review. |

**Consistency** A planning proposal may be inconsistent with the terms of Direction 4.3 only if the relevant planning authority can satisfy the Planning Secretary (or an officer of the Department nominated by the Secretary) that the council has obtained written advice from the Commissioner of the NSW Rural Fire Service to the effect that, notwithstanding the non-compliance, the NSW Rural Fire Service does not object to the progression of the planning proposal

## 3.0 PROPOSED DEVELOPMENT

The concept layout relates to the planning proposal for residential rezoning, and incorporates seven (7) R2 low density allotments on the western side of Tuckeroo Avenue, and one (1) low density allotment on the eastern side of Tuckeroo Avenue. Also on the eastern side of Tuckeroo is a medium density allotment incorporating an indicative layout with 33 residential units.

Figure 1 demonstrates the site location, with the concept layout shown in Figure 2. The development site is currently vacant and zoned as R5 large lot residential.

**Table 3** - Existing site description

| **Parameter** | **Description** |
|---|---|
| Local Government area | Byron Shire Council (FFDI 80) |
| Property Description | Lot 32 Tuckeroo Avenue, Mullumbimby NSW 2478<br>Lot 32 DP 1169053 |
| Site area | 2.4 Hectares (approximately) |
| Existing Zoning | Small area of R2 Low Density Residential to the northwest;<br>R5 Large Lot Residential |
| Bushfire Prone Land Map | Mapped Category 1, 2 and 3 vegetation |
| Emergency Services | Mullumbimby Fire Station - Fire and Rescue NSW |

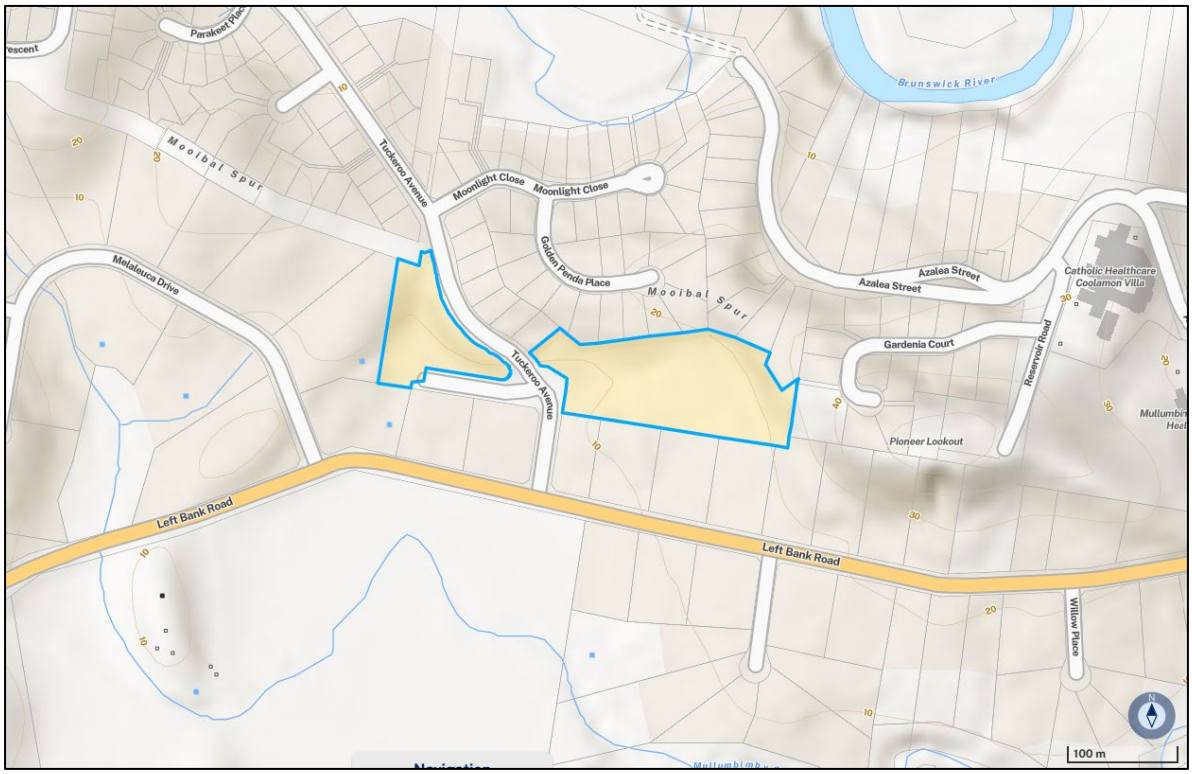



Figure 1: Locality map Base map: NSW Gov. *Six maps*

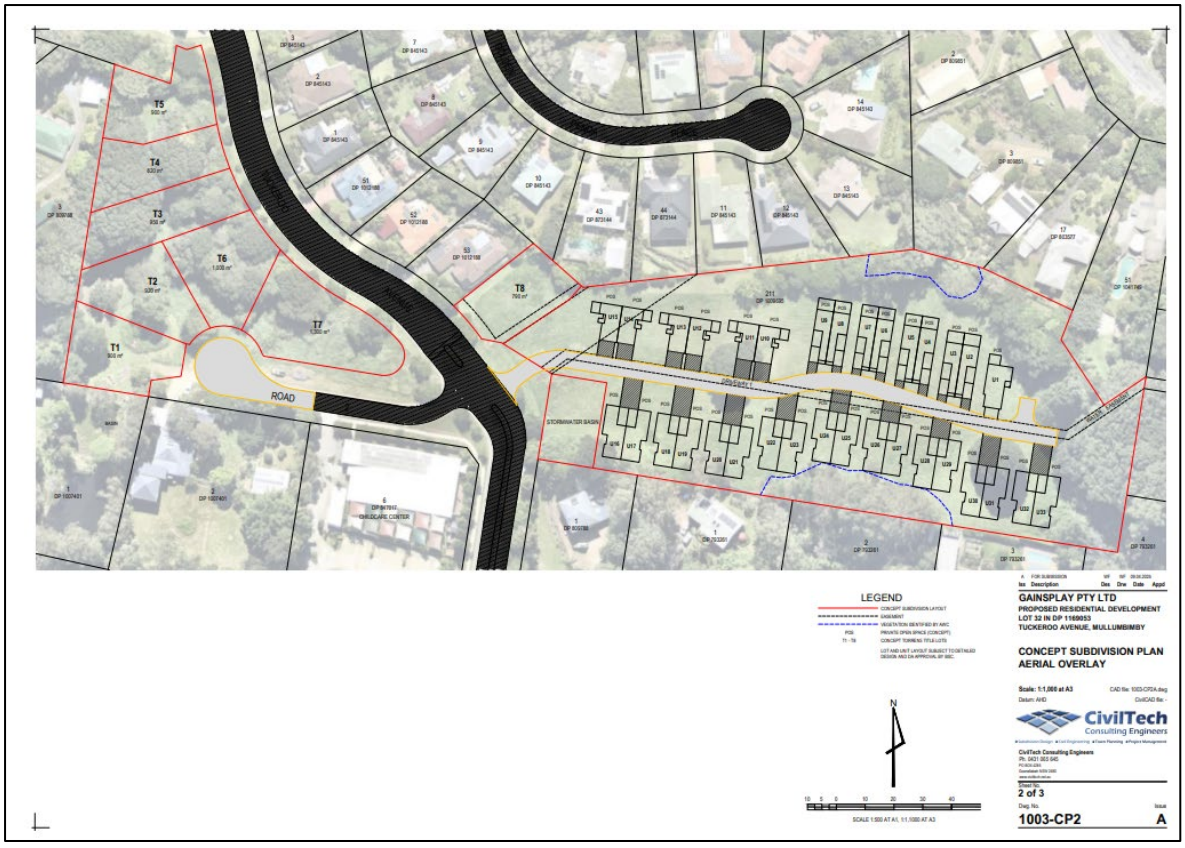



Figure 2: Indicative concept subdivision layout plan

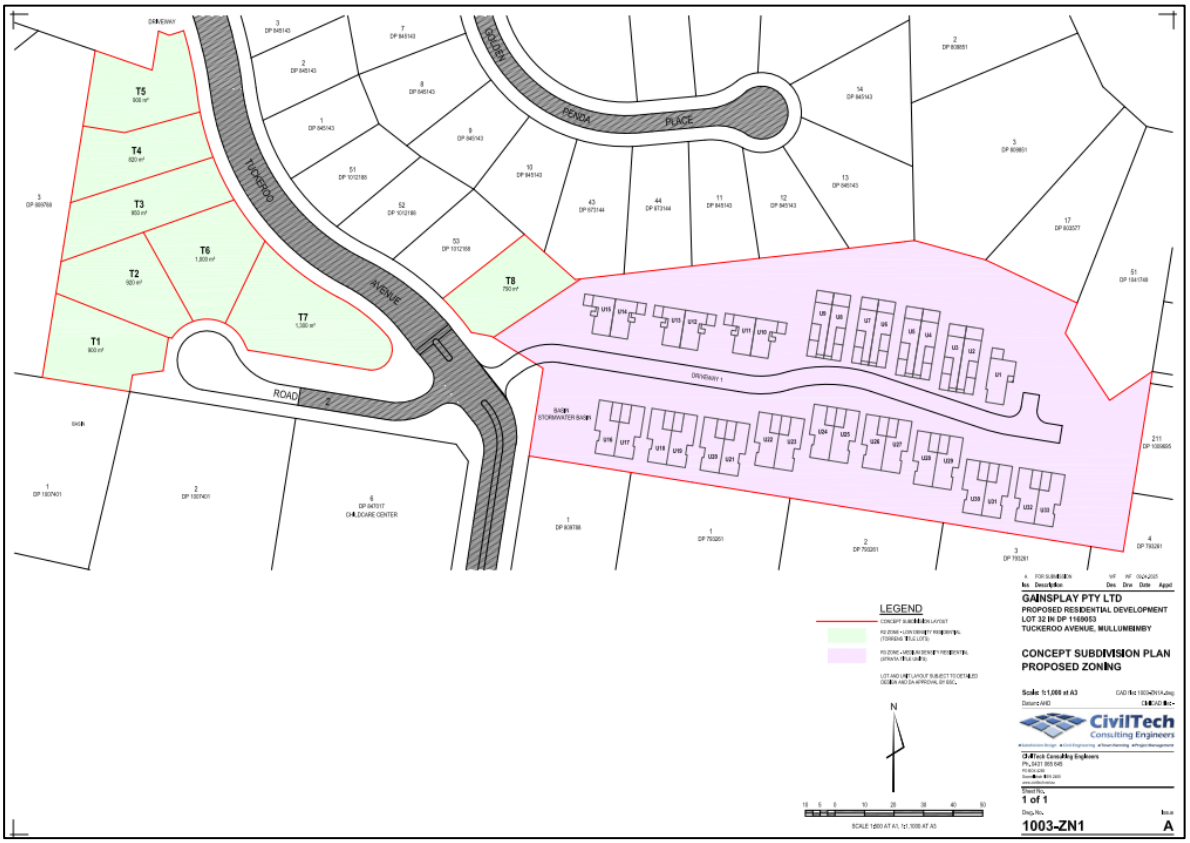



Figure 3: Proposed zoning plan - Pink R3 medium density, green R2 low density

# 4.0 BUSHFIRE THREAT ASSESSMENT

## 4.1 Bushfire Prone Land Mapping

Bushfire threats impacting the site include land that is mapped as Bushfire Prone Land, and other vegetated areas that do not meet the low-threat exclusions of PBP2019. Bushfire prone land mapping identifies the subject site as being bushfire prone as shown in Figure 4. Aerial mapping (Figure 5) and inspection of the site reveals the bushfire prone land map overestimates the extent of hazard vegetation, and is not considered accurate in respect to the current hazard as detailed below-

- Mapped Category 1 forest vegetation within the Eastern Precinct and beyond the eastern boundary consists of Category 2 Camphor Laurel and rainforest species on a steep upslope.

  It is noted 18 Gardenia Court adjoining the eastern boundary has recently been cleared and has construction approval for a dwelling. The development consent requires a 4m wide regeneration zone along the western side of the lot adjacent to the subject site, including retention of the Camphor Laurel trees, and the entire site managed and maintained as an APZ, except for canopy coverage in the area of the Camphor trees. The Category 2 rainforest vegetation further to the east is considered accurately mapped.

- Tuckeroo Avenue dividing the eastern and western precincts is mapped as Category 3 vegetation, however, has been assessed as low-threat.

- To the south beyond Left Bank Road is a small area of unmapped forest vegetation (0.6ha) which is mapped as Category 3 grassland, noting significant areas of low-threat land including Left Bank Road separate the subject site from the small stand of forest.

- The mapped Category 3 grassland within the adjoining allotment to the west of the western precinct has been assessed as low-threat managed land surrounding dwellings. The rainforest vegetation within the western precinct will largely be removed.

- The mapped rainforest and forest vegetation on the western side of Melaleuca Drive have been assessed as Category 2 rainforest.

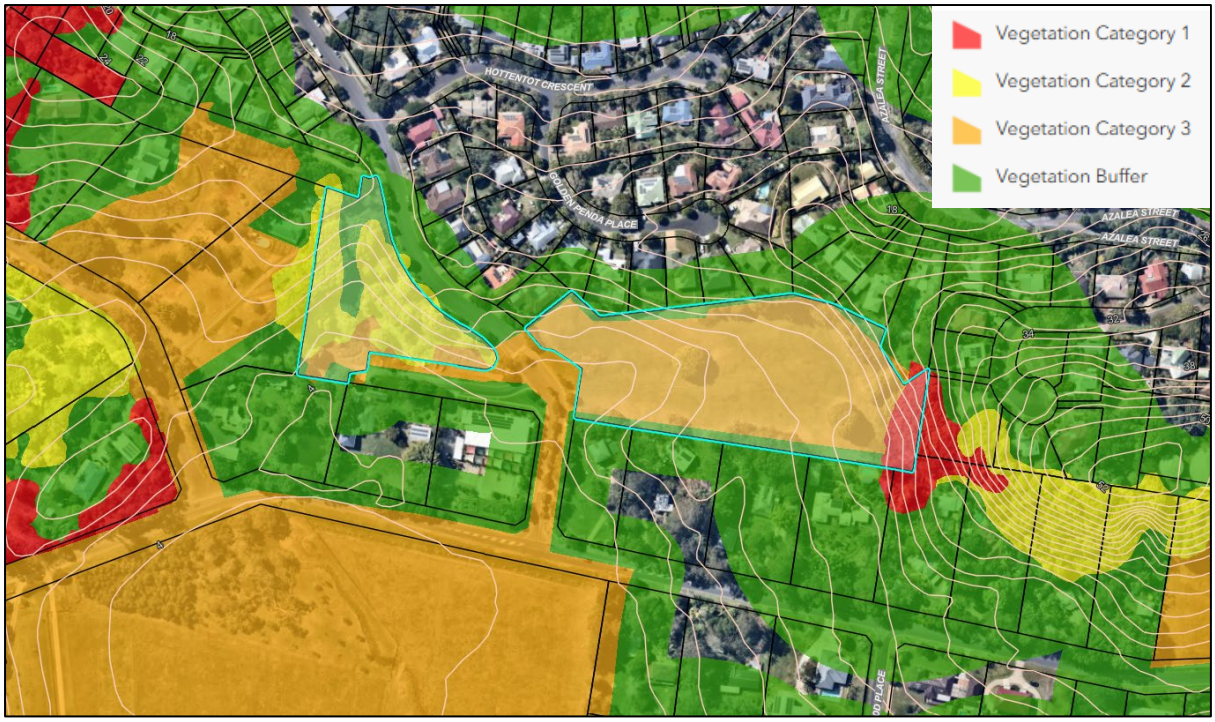



Figure 4: Bushfire prone land map *Source: Byron Shire Council (2023)*

Figure 5: Aerial Map with 2m contours Base map: Byron Shire Council mapping

## 4.2 Bushfire Vegetation and Slope Analysis

The following vegetation and slope analysis forms the basis of the bushfire constraints assessment. Vegetation assessment within the site is based on the Preliminary Ecological Assessment prepared AWC Pty Ltd revision D, dated 13 January 2025, project 241992d, shown in Figures 7 and 8.

This report does not take into consideration any compensatory plantings/revegetation within the site. A vegetation management plan will be required with future subdivision reporting confirming all vegetation to remain, and any compensatory/revegetation within the site.

### 4.2.1 Eastern precinct

Located on the eastern side of Tuckeroo Avenue is a large vacant site proposed for 33 strata units, and one Torrens title allotment. This area is referred to as the eastern precinct in this report and is predominantly cleared, and regularly slashed resulting in mixed exotic dominant grassland (ecology report). In accordance with the ecologists report, protected vegetation to be retained on-site has been assessed as rainforest/remnant as shown in red in Figure 6, with the proposed stormwater basin assessed as remnant until further details are available and ongoing management of the area has been confirmed.

The Ecologists report also notes that further surveys are required to identify potential Harry Joint Grass (HJG) locations, which will need to be assessed with future reporting.

For the purposes of bushfire hazard assessment at this preliminary stage, the existing rainforest vegetation on the steep upslopes to the east have been assessed as rainforest until vegetation management plans are available. Beyond the eastern boundary is Category 2 upslope rainforest vegetation. The mapped forest vegetation to the east consists predominantly of Camphor Laurel and rainforest species.

Vegetation within the site to the east will require consideration in relation to ongoing management should an APZ be proposed in this area. APZs cannot be located on land having a slope steeper than 18$^{o}$. A geotechnical engineers report will be required with future subdivision reporting should vegetation removal and/or terracing be proposed in this area.

18 Gardenia Court immediately to the east, has recent development consent for a 2 lot subdivision, and construction approval for a dwelling. The approval includes vegetation removal except for a 4m wide strip of vegetation along the western (common) boundary incorporating existing Camphor Laurel trees to be retained. The site has been cleared and is required to be managed and maintained as an APZ.

To the north, south and west are low-threat residential allotments including the future proposed R2 low density lots within the western precinct, assessed as part of this report.

Photo 1: Vegetation along the southern boundary of the eastern precinct

Photo 2: Low-threat residential development to the south of the eastern precinct

Figure 6: Aerial image showing 140m investigation area *Base map: Nearmap 21.12.24*

### 4.2.2 Western precinct

On the western side of Tuckeroo Avenue is the western precinct characterised by steep slopes falling to the west from Tuckeroo Avenue. As detailed in the Ecological report and plans in Figures 8 and 9, vegetation within the western precinct is dominated by Camphor Laurel. While this area of the site is mapped with areas of "High Environmental Value", the Ecological report found that-

> "*most vegetation at the site is poor quality, non-native and camphor dominated, with very small patches of native vegetation"*
> and
> *"This immature vegetation has limited habitat value due to the dominance of weeds and general lack of habitat features suitable for native fauna beyond dense mid and ground layer vegetation and leaf litter. There is limited connectivity to the north due to existing housing, however vegetation is contiguous with patches to the south and west".*

We are advised that most of the vegetation within the western precinct will be removed. The gradient within the site will require consideration to ensure APZs are not located on slopes steeper than 18$^{o}$. Noting the entire area of all allotments will be required to be managed as an APZ (inner protection area), except where noted in this report.

To the north of the western precinct is a 20m wide unnamed road reserve comprising a narrow strip of rainforest vegetation on flat ground adjoining the subject site. The vegetation connects with rainforest to the west, with the total area of unmanaged vegetation less than 0.25ha. The location of the northern boundary could not be clearly established at the time of inspection. This vegetation is partially mapped as rainforest and grassland. The vegetation does not meet the 'Low-threat' vegetation exclusions pursuant to sA1.10 PBP2019, and therefore is considered rainforest on flat ground for the purposes of this report, noting there is merit to reduce the APZ with a specific performance solution in this area with the development application for subdivision. This area has the potential to be down graded to low-threat once the allotment boundaries are located and vegetation removal within the site confirmed.

To the north beyond the unnamed road reserve, and to the east is Tuckeroo Avenue and residential development assessed as low-threat. To the south is a childcare centre and large lot residential allotments assessed as low-threat.

Beyond the western boundary is an area of mapped Category 2 vegetation comprising Camphor Laurel and mixed species on the adjoining allotment, surrounding a small dam. The mapped grassland further to the west was found to be managed curtilage. Beyond

Melaleuca Ave to the west are two small areas of mapped rainforest and forest which have been assessed as rainforest.

To the south beyond Left Bank Road is small area of forest having an area of approximately 0.6ha which is mapped as grassland. Areas of mapped forest and rainforest to the west of Melaleuca Drive are located greater than 80m from the site and separated from the site by low-threat residential land.

Photo 3: Rainforest to the north

Figure 7: Western precinct with small areas of fragmented hazard vegetation shown in red

Photo 1: Low-threat land to the west of the western precinct

Photo 2: Rainforest vegetation to the north and northwest of the western precinct

Figure 8: Ecological report ground truthed vegetation within the site

Figure 9: Vegetation likely to be retained within the eastern precinct

## 5.0 ASSET PROTECTION ZONES

As noted in Section 4, an acceptable solution approach has been undertaken when determining preliminary indicative APZ setback distances in accordance with Table A1.12.3 of PBP2019. Figures 10-13 demonstrate the acceptable solution asset protection zones, noting there is merit to reduce several asset protection zones by way of a performance-based design brief in consultation with NSW RFS when detailed design and vegetation management plans are provided in preparation for the development application for residential subdivision.

All asset protection zones must comply with all aspects of Table 5.3(a) of PBP2019. For the planning proposal however, it is considered that the APZs setbacks can be supported in some form for future residential development.

**APZ management**

Confirmation than APZ setback distances to hazard vegetation can be achieved is to be provided with the development application for subdivision. Details of landscaping and management of open spaces will be required to confirm APZ setback distances and location having regard to replanting, stormwater basins and other areas which may not be assessed as 'low-threat' managed land.

**Table A1.12.3**

Minimum distances for APZs – residential development, FFDI 80 areas (≤29kW/m², 1090K)

| KEITH VEGETATION FORMATION | EFFECTIVE SLOPE | | | | |
|---|---|---|---|---|---|
| | Up slopes and flat | >0°-5° | >5°-10° | >10°-15° | >15°-20° |
| | Distance (m) from the asset to the predominant vegetation formation | | | | |
| Rainforest | 9 | 12 | 15 | 20 | 25 |
| Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland | 20 | 25 | 31 | 39 | 48 |
| Grassy and Semi-Arid Woodland (including Mallee) | 11 | 13 | 17 | 21 | 27 |
| Forested Wetland (excluding Coastal Swamp Forest) | 8 | 10 | 13 | 17 | 22 |
| Tall Heath | 16 | 18 | 20 | 22 | 25 |
| Short Heath | 9 | 10 | 12 | 13 | 15 |
| Arid-Shrublands (acacia and chenopod) | 6 | 7 | 8 | 9 | 10 |
| Freshwater Wetlands | 5 | 6 | 6 | 7 | 8 |
| Grassland | 10 | 11 | 12 | 14 | 16 |

Figure 14: APZ setback distances for residential subdivision

Additional assessment will be required at subdivision stage as detailed below-

- Confirmation that APZs, and APZ setback distances as detailed in this report can be achieved when measured from an indicative building envelope. Potential building envelopes will need to be shown on future subdivision layout plans demonstrating

exposure to radiant heat levels will not exceeding 29kW/m² on each proposed lot. The 9m APZ setback shown in Figures 10-13 is based on acceptable solutions for exposure to radiant heat levels not exceeding 29kW/m².

- APZ's must be located on slopes not steeper than 18 degrees. All lots within the future subdivision are to be managed and maintained as an APZ to prevent the spread of a fire towards the future buildings in accordance with Appendix 4 of Planning for Bushfire Protection 2019 and the requirements of 'Standards for Asset Protection Zones' RFS 2005, except where vegetation management plans are provided.

- Vegetation Management Plan to be provided confirming vegetation removal, particularly within the steeper areas of the site. Further assessment of APZ setback distances will be required at subdivision stage..

- Details of the ongoing management arrangements of the future stormwater basin, and landscaped areas to be provided at subdivision stage. APZ setbacks will be measured to these areas unless ongoing management arrangements as 'low-threat' managed land can be demonstrated.

- Final contours having regard to on-site earthworks will need to be considered prior to confirming APZ setback requirements. The slope within APZ's must not exceed 18 degrees. Noting contouring for driveways to the western Torrens title lots will likely be required.

- Performance modelling to establish potential opportunities to reduce APZ setbacks to the rainforest/remnant vegetation, and steep upslopes can be determined once vegetation management plans are available with the application for subdivision.

- Potential building envelopes will need to be shown on future subdivision layout plans demonstrating exposure to radiant heat levels will not exceeding 29kW/m² on each proposed lot.

- APZ setbacks provided in this report are based in rainforest/remnant vegetation, to be confirmed with subdivision reporting.

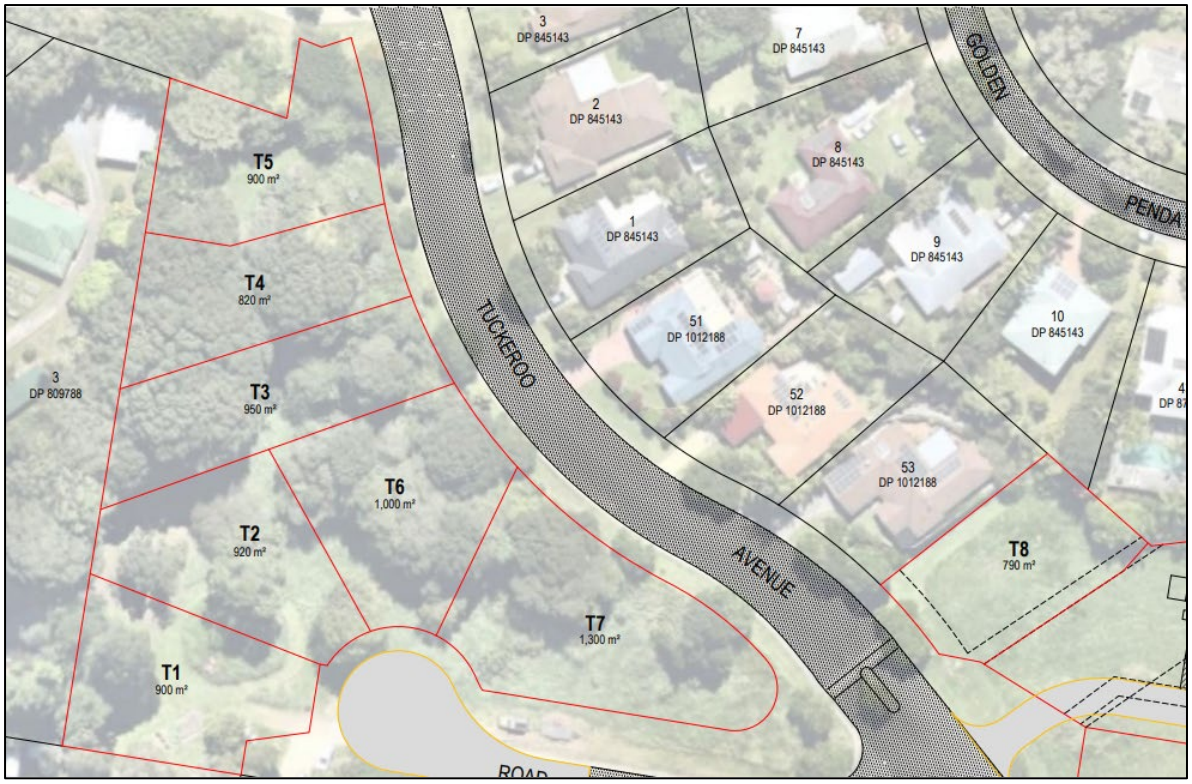



Figure 10: Western precinct – Ecologist report suggests most vegetation within the site will be removed

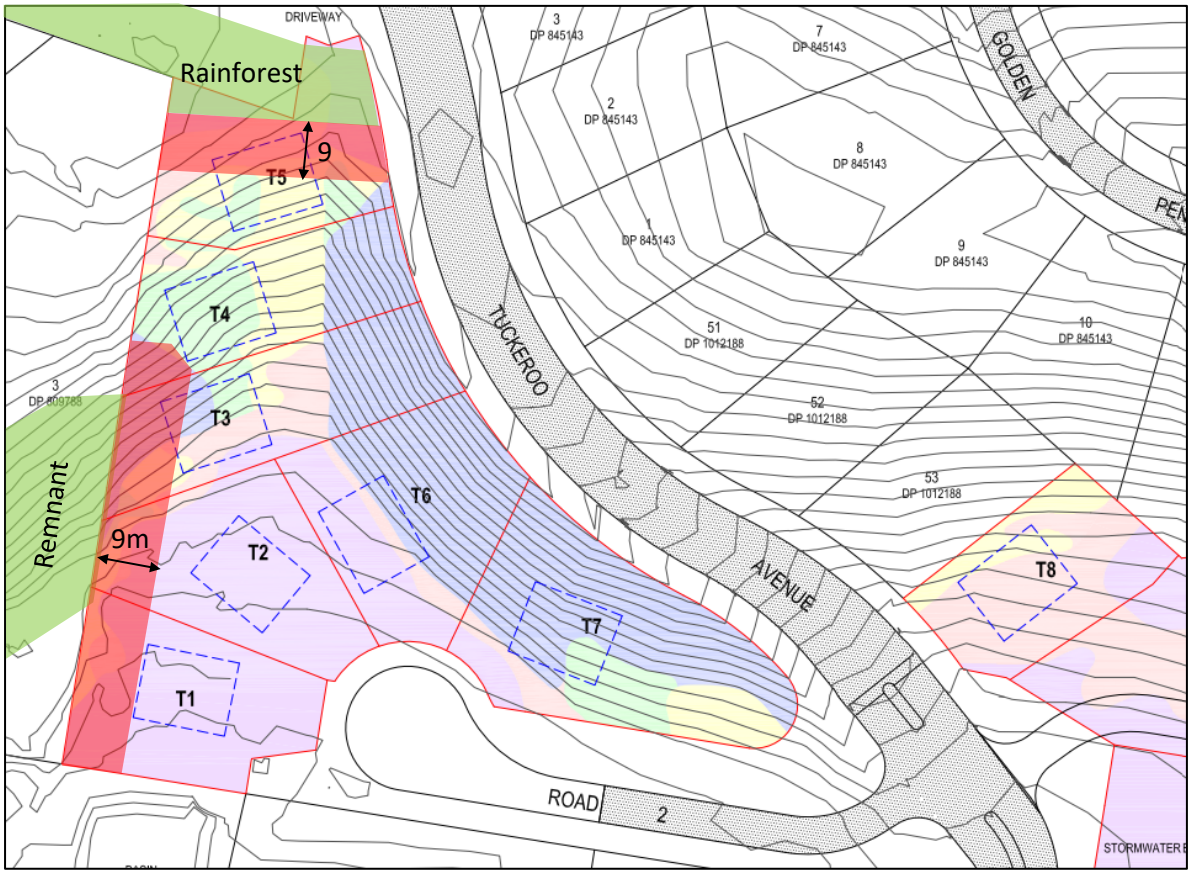



Figure 11: Western precinct - Approximate 9m APZ setback distance from hazard vegetation off-site and along the northern boundary, subject to confirmation of permitted tree removal. Potential to reduce the APZ with performance solutions.

Figure 12: Eastern precinct - Approximate 9m APZ setback distance from hazard vegetation on-site and stormwater basin, subject to confirmation of permitted tree removal. Potential to reduce the APZ with performance solutions.

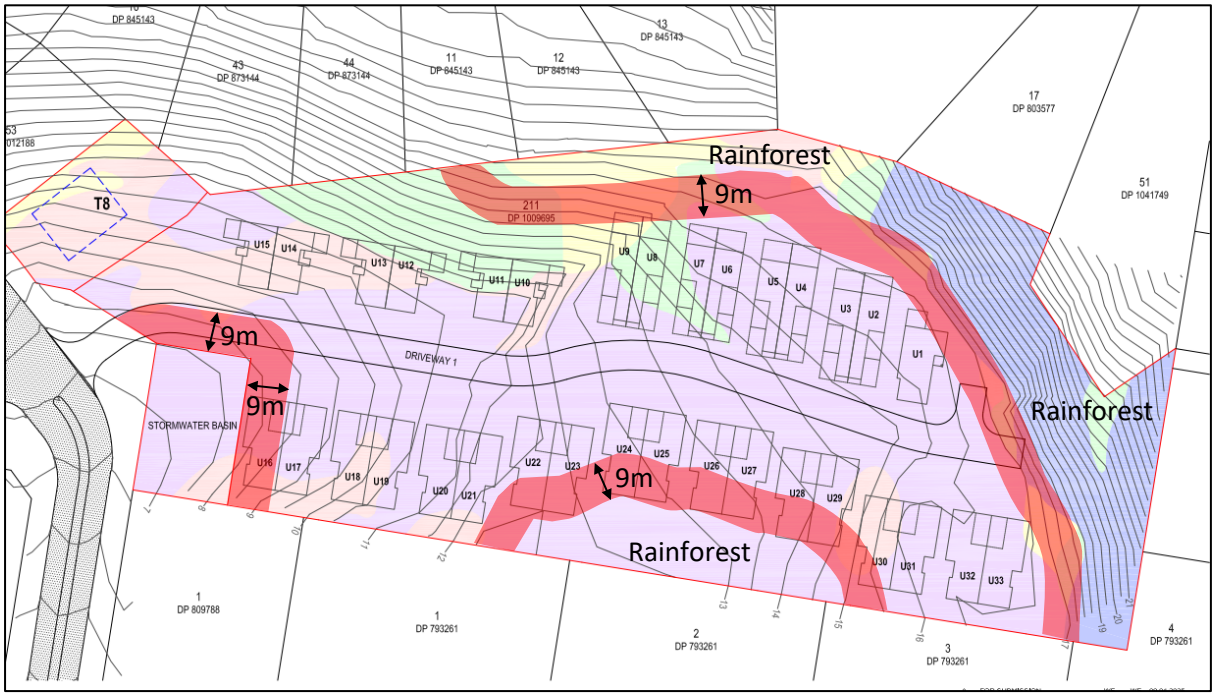



Figure 13: Eastern precinct - Approximate 9m APZ setback distance from existing unmanaged vegetation and proposed stormwater basin, subject to confirmation of permitted tree removal. Potential to reduce the APZ with performance solutions.

# 6.0 WATER AND UTILITY SERVICES

## 6.1 Water Services

The subdivision will be provided with a reticulated water service. Water supply to the subdivision must comply with Section 5.3.3 and Table 5.3c Planning for bushfire protection. Further details are provided in Appendix D.

Street hydrants must be designed in accordance with Australian Standard 2419.1-2021. A capability statement from a competent and experienced hydraulic consultant confirming compliance can be achieved will be required with the future subdivision application.

Future subdivision plans to include an indicative building envelope on each allotment demonstrating hydrant coverage around the perimeter of a future dwelling. To maximise opportunities for future complying development, street hydrants should be located within 70m of the most distant part of a future dwelling, measured around obstructions.

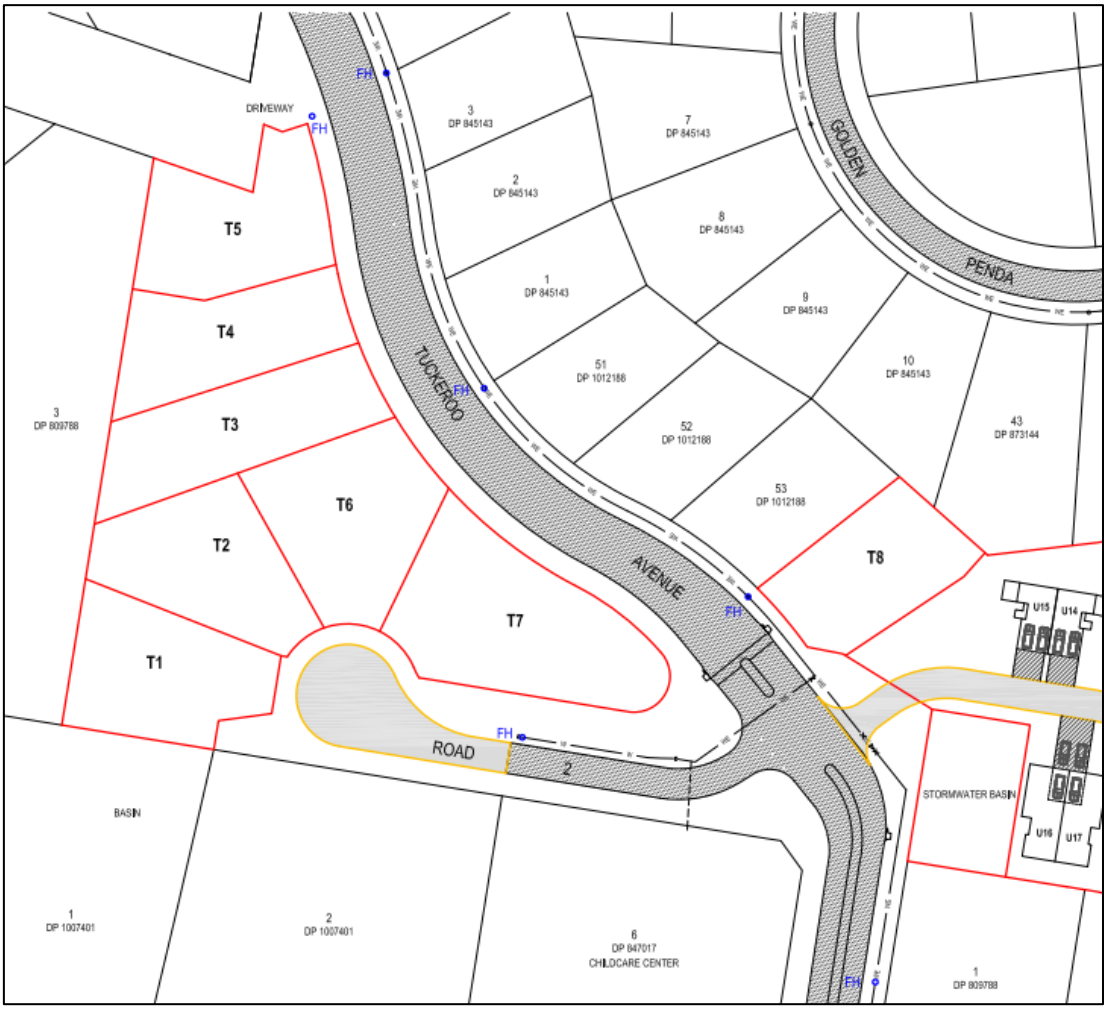



Figure 15: Existing street hydrant locations

## 6.2 Electricity and Gas Services

### Electricity Services

New electrical transmission lines, if required, are to comply with Section 5.3.3 and Table 5.3c of Planning for Bushfire Protection 2019 as follows:

- where practicable, electrical transmission lines are underground; and
- where overhead, electrical transmission lines are proposed as follows:
  - lines are installed with short pole spacing of 30m, unless crossing gullies, gorges or riparian areas; and
  - no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 *Guideline for Managing Vegetation Near Power Lines*.

### Gas Services

Gas services are to comply with Section 5.3.3 and Table 5.3c of Planning for Bushfire Protection 2019 should a reticulated gas service be considered.

# 7.0 ACCESS

From a high-level bushfire assessment, the external road network appears to be suitable. However, for an accurate, quantifiable assessment, if required, the capacity of the wider public road network is to be considered by a traffic consultant with subdivision reporting, in accordance with Table 4.2.1 PBP2019 which requires the following matters to be addressed –

- *The capacity for the proposed road network to deal with evacuating residents and responding emergency services, based on the existing and proposed community profile; and*
- *The location of key access routes and direction of travel; and*
- *The potential for development to be isolated in the event of a bush fire.*

New roads are required to comply Table 5.3b Planning for Bushfire Protection 2019, noting the potential for a performance assessment in areas identified in this report. Any variations to the acceptable solutions will require consultation with NSW RFS via a Bushfire Design Brief, demonstrating methodology for a performance solution at subdivision stage.

Detailed civil design for public roads and the property access road to the strata allotments will be required with subdivision application demonstrating compliance with the acceptable solutions of Section 5 and Table 5.3b Planning for Bushfire Protection 2019 (see attached in Appendix D). Given the number of proposed strata allotments (33) the property access road should be designed to meet all requirements of a non-perimeter road Table 5.3b PBP2019, however there is merit to investigate a performance solution at subdivisions stage is needed.

An indicative road layout has been provided, incorporating two-way dead-end roads less than 200m in length, with each precinct having one access road connecting to Tuckeroo Avenue. Four of the Torrens title lots will have access directly from Tuckeroo Ave.

Roads have been assessed against Local Planning Direction 4.3, which requires two-way roads connecting to perimeter roads where appropriate. The proposed two-way dead-end roads without perimeter roads will meet the concessions available in PBP2019 i.e. 200m maximum length, and are considered appropriate in the context of Local Planning Direction 4.3.

Civil designer to provide assessment against each of the access requirements of Table 5.3b PBP2019 to be demonstrated with a detailed road design and cross-sections with future subdivision application.

While detailed road design has not been assessed at this stage, the following variations from the acceptable solutions are considered potentially acceptable, subject to a performance-based design and concurrence from the NSW Rural Fire Service. The proposed road work is considered reasonable subject with compliance with the acceptable or performance-based solutions.

**Potential opportunities for access performance solutions**

The following options are raised as potential opportunities where compliance with acceptable solutions of PBP2019 cannot be achieved and will require consultation with NSW RFS via a Bushfire Design Brief, demonstrating methodology for a performance solution at subdivision stage.

- Perimeter roads are not proposed (*Table 5.3b - perimeter roads are required for residential subdivisions of three or more allotments*). The removal of the requirement for perimeter roads is considered to have merit due to-

  - The site is within the urban area of Mullumbimby township, and is generally surrounded by residential development;

- The existing urban road network services the site;
- Relatively low risk remnant and rainforest vegetation, noting the bushfire prone land map overestimates the extent of hazard vegetation;
- Access is generally available to hazard vegetation from the public road network, the subject allotments, adjoining allotments, and the vehicle turning area within the eastern precinct.

Subject to detailed performance based-design brief reporting with the future subdivision application and concurrence of NSW RFS, however consideration is requested with the assessment of this report. Figure 14 indicates areas where the perimeter road does not extend between the proposed development and the hazard vegetation.

- One access is proposed serving the proposed lots T1, T2, T6 and T7 in the western precinct (Table 5.3b subdivisions of three or more allotments are required to have more than one access in and out of the development). The removal of the requirement for an alternative access road is considered to have merit due to the small number of lots, and the proximity to the wider road network and/or relatively low risk vegetation. A performance based-design brief will be required with concurrence of NSW RFS at subdivision application stage; however, consideration is requested with the assessment of this report;

- A reduction in the requirement for a 12m outer radius cul-de-sac to 10m outer radius serving lots T1, T2, T6 and T7 in the western precinct (*Table 5.3b - 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*). The reduction to a 10 outer radius turning circle is commensurate to the size of a standard turning area in a non-bushfire prone area.

  The variation is considered to have merit due to the small number of lots, and the proximity to the wider road network and/or relatively low risk vegetation, noting the bushfire prone land mapping over estimates the extent of bushfire prone land. A performance based-design brief will be required with concurrence of NSW RFS at subdivision application stage; however consideration is requested with the assessment of this report;

- Non-perimeter roads do not have an unobstructed carriageway width of 5.5m clear of on-street carparking (Table 5.3b – non-perimeter roads must have an unobstructed carriageway width of 5.5m, with parking located outside of this width). A 6m carriageway width is proposed commensurate with roads in a non-bushfire prone area.

The existing unnamed dead end road leading to the western precinct lots T1, T2, T6 and T7 is utilised by residents for on-street parking. The variation in this area is considered to have merit due to the small number of proposed lots, and the proximity to the wider road network and/or relatively low risk vegetation, noting the bushfire prone land mapping overestimates the extent of bushfire prone land. A performance based-design brief will be required with concurrence of NSW RFS at subdivision application stage; however consideration is requested with the assessment of this report.

The road width within the eastern precinct strata lots is required to comply with the 5.5m wide unobstructed carriageway width, noting all parking must be located clear of the 5.5m road carriageway width, and outside of the fire appliance turning area. This requirement can be enforced via the strata by-laws with provision for no-parking along the property access road. Alternatively, if parking is required along the property access road then the parking must be shown on the civil plans submitted with the development application for subdivision and the road width increased accordingly.

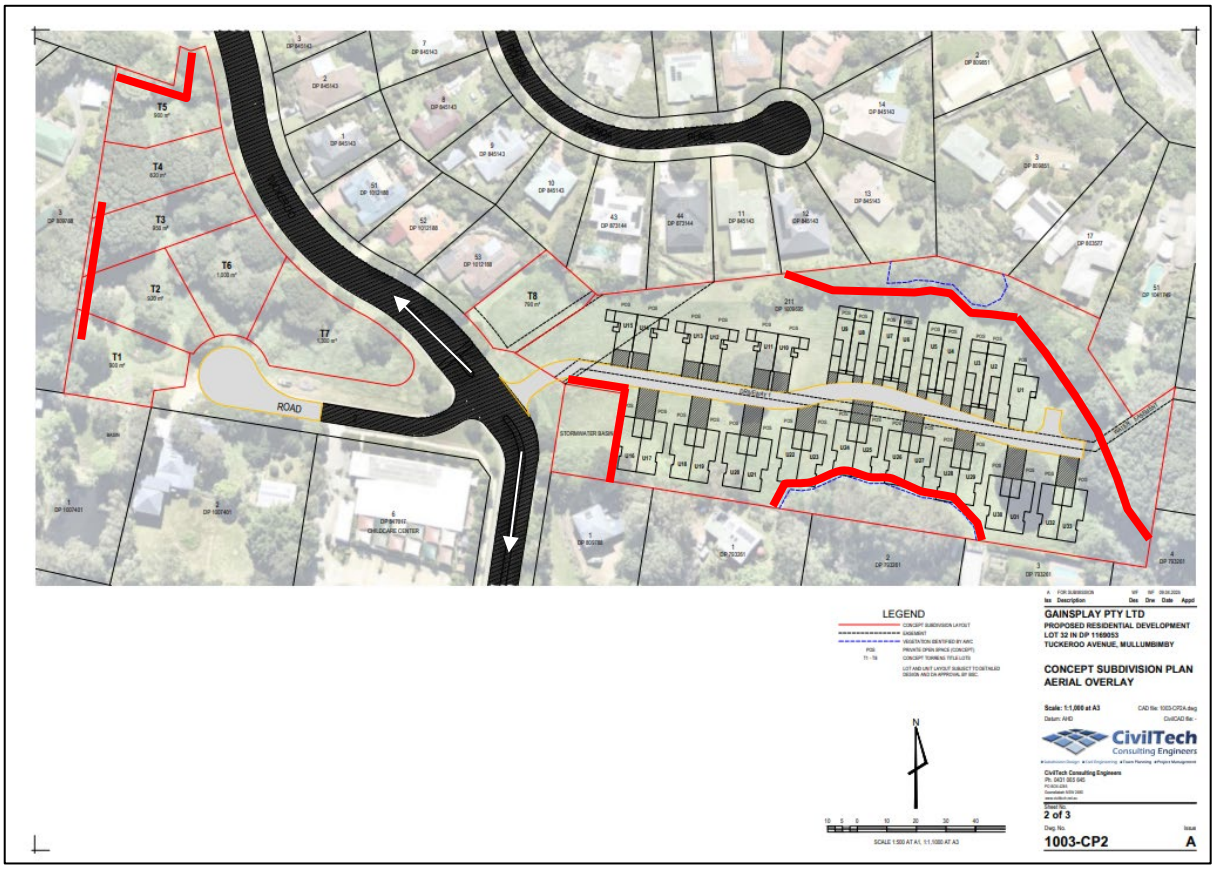


Figure 14: Indicative road network and areas where a perimeter road is not applied (red line)

## 8.0 LANDSCAPING

A future subdivision application is to include a landscape plan to demonstrate all areas to be managed and maintained as low-threat managed land in accordance with Section 5.3.1 and Table 5.3a of Planning for Bushfire Protection.

Recommendations

- Details of on-going management responsibilities to be provided for all landscaped areas with the application for subdivision.
- Landscaping to comply with Table 5.3a and Appendix 4 of PBP2019 and 'Standards for Asset Protection Zones' NSW RFS 2005;
- Fencing constructed as part of subdivision works is to comply with section 7.6 of PBP2019 located within future asset protection zone setback areas/managed low threat land.

## 9.0 CONCLUSION

This report has established the proposed rezoning is appropriate in the bush fire hazard context. Bush fire mitigation and management measures for the future development can be adequately addressed with the proposal having the ability to comply with PBP2019 via a combination of acceptable solutions and performance solutions in consultation with NSW RFS.

The indicative subdivision layout and access/egress routes is considered appropriate to accommodate the APZs within a future subdivision layout subject to detailed design.

This report has been prepared for referral and consultation with the NSW Rural Fire Service as a means of demonstrating constraints and opportunities in relation to EP&A Act 1979 s 9.1, Ministerial Direction 4.3, and Planning for Bushfire Protection 2019 as applicable to the proposed rezoning for residential (non-SFPP) purposes.

**DISCLAIMER**

This bushfire report was prepared for the purposes of supporting a planning proposal for rezoning for residential subdivision. Further reporting and assessment of detailed design plans will be required at subdivision stage.

The report is not to be construed as a complete assessment of civil, hydraulic, ecological or landscape plans, and is to be used as a strategic bushfire study only. BCA Check Pty Ltd accepts no responsibility for any loss or damage suffered howsoever arising to any person or Corporation who may use or rely on this report in contravention of the terms of this clause. The report is not to be used as an assessment tool for individual buildings, or for the purpose of determining bushfire protection measures pursuant to section 4.14 or 4.15 of the *EP&A Act 1979* or for complying development. The report has not assessed any detailed road or hydrant designs and is not to be construed as having done so.

As identified in Planning for Bushfire Protection 2019 and the Building Code of Australia the report provides recommendations to reduce the risk in a bushfire event, however the recommendations do not guarantee the complete protection of life and property in the event of bushfire.

Reporting has been based on the relevant Council and Rural Fire Service Guidelines however recommendations or suggestions given in this report are based on our site investigation at the time of reporting. In some cases site conditions may change dramatically within a few years due to rapid vegetation re-growth and invading weed species.

**REFERENCES**

NSW Rural Fire Service and Planning NSW (2019), Planning for bushfire protection, A guide for councils planners fire authorities developers and homeowners. Rural Fire Service NSW Australia.

NSW Department of Planning, Local Planning Direction - Ministerial Direction 4.3, s9.1 *EP&A Act 1979.*

NSW Rural Fire Service May 2019, Short Fire Run, Methodology for Assessing Bush Fire Risk for Low Risk Vegetation.

**LEGISLATION**

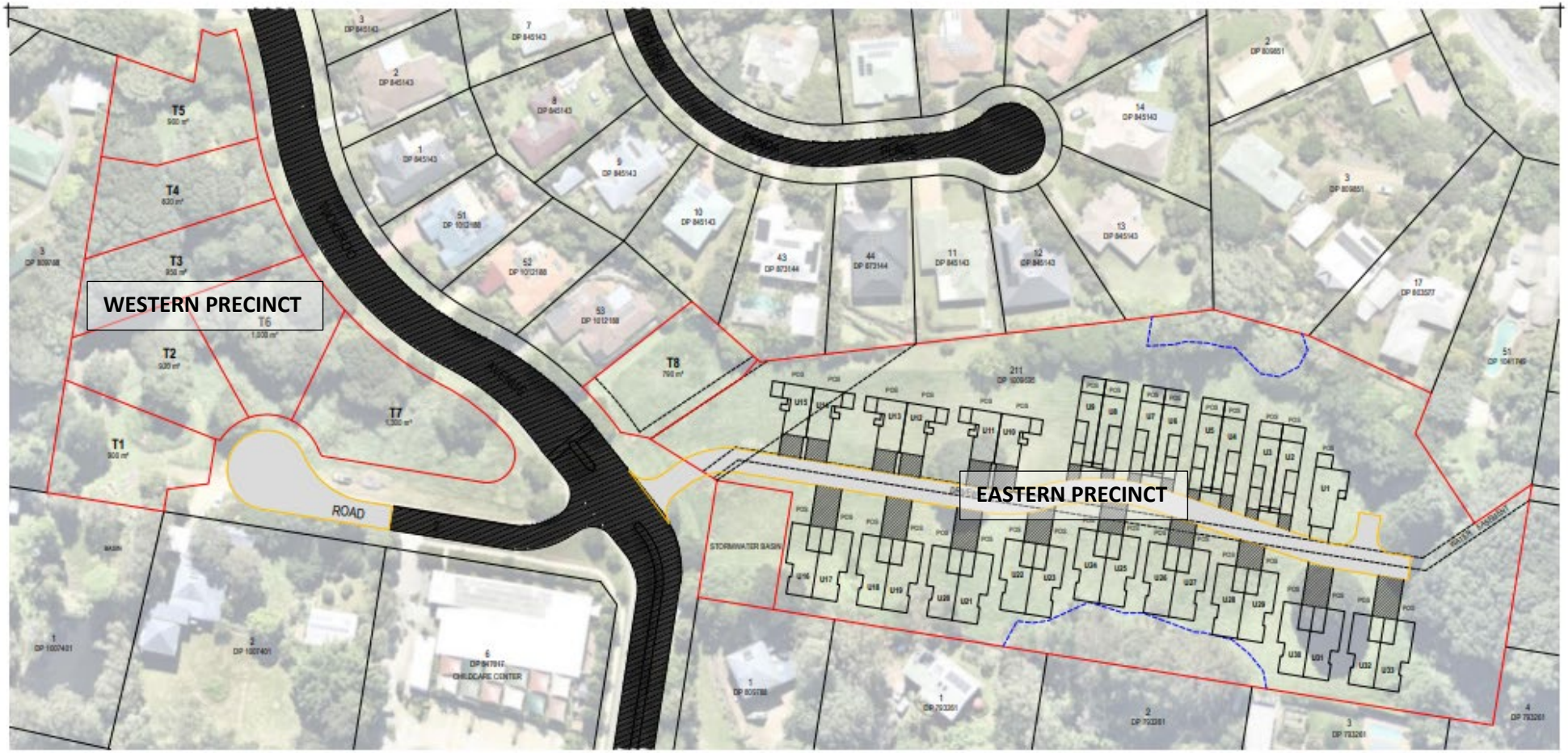
Environmental Planning and Assessment Act 1979 and Regulations 2021. New South Wales. Parliamentary Counsel's Office, NSW Government Information Service.

Rural Fires Act 1997. New South Wales. Parliamentary Counsel's Office, NSW Government Information Service.

Rural Fires Regulation 2022. New South Wales. Parliamentary Counsel's Office, NSW Government Information Service.

## APPENDIX A

Indicative subdivision layout




LEGEND

- CONCEPT SUBDIVISION LAYOUT
- EASEMENT
- VEGETATION IDENTIFIED BY AWC
- POS — PRIVATE OPEN SPACE (CONCEPT)
- T1 - T8 — CONCEPT TORRENS TITLE LOTS
- LOT AND UNIT LAYOUT SUBJECT TO DETAILED DESIGN AND DA APPROVAL BY BSC.

N

10 5 0 10 20 30 40

SCALE 1:500 AT A1, 1:1,000 AT A3

| Iss | Description | Des | Drw | Date | Appd |
|---|---|---|---|---|---|
| A | FOR SUBMISSION | WF | WF | 09.06.2020 | |

**GAINSPLAY PTY LTD**
**PROPOSED RESIDENTIAL DEVELOPMENT**
**LOT 32 IN DP 1169053**
**TUCKEROO AVENUE, MULLUMBIMBY**

**CONCEPT SUBDIVISION PLAN**
**AERIAL OVERLAY**

Scale: 1:1,000 at A3 — CAD file: 1003-CP2A.dwg
Datum: AHD — CivilCAD file: -

CivilTech Consulting Engineers
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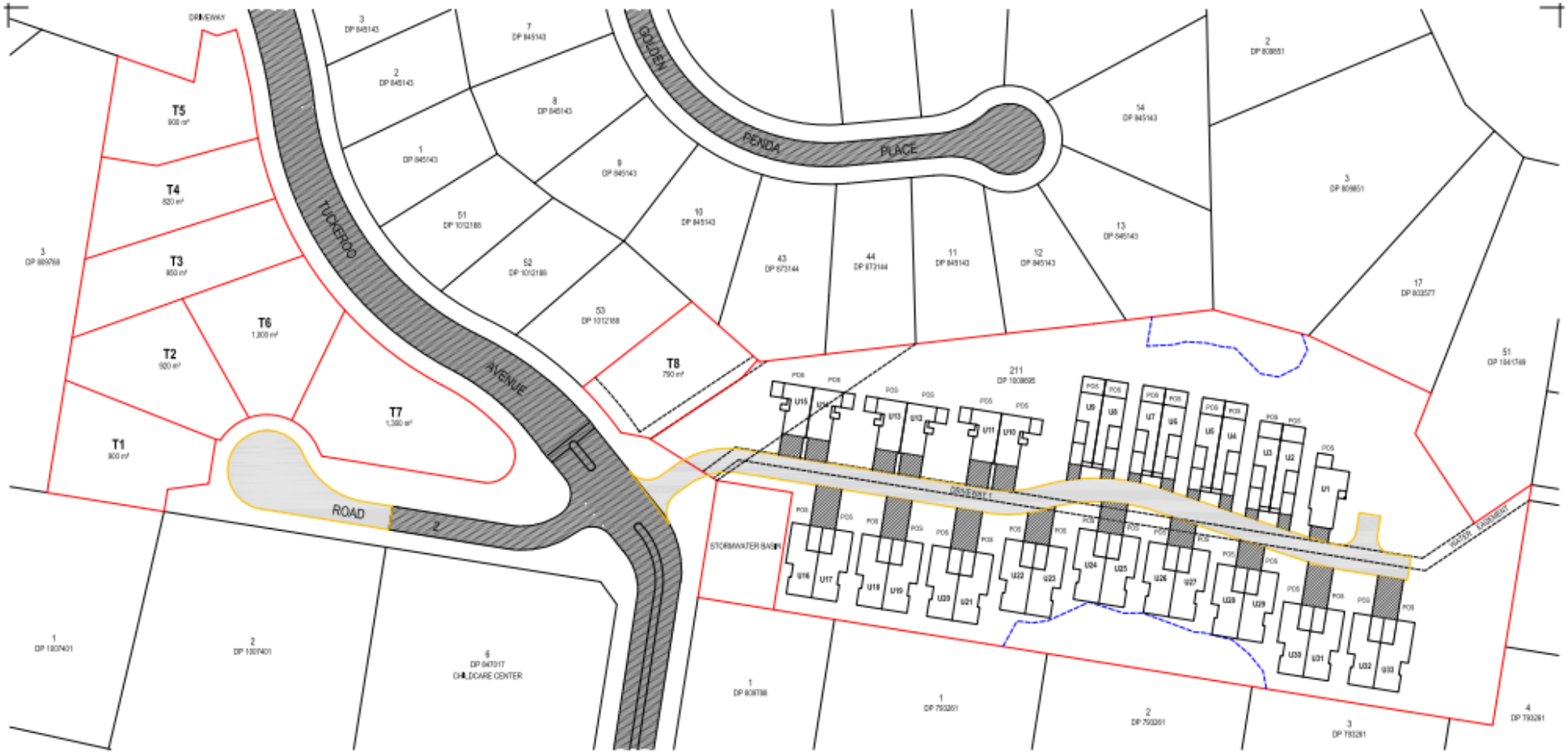
Sheet No.
**2 of 3**

Dwg. No. — Issue
**1003-CP2** — **A**




LEGEND

- CONCEPT SUBDIVISION LAYOUT
- EASEMENT
- VEGETATION IDENTIFIED BY ARC
- POS PRIVATE OPEN SPACE (CONCEPT)
- T1 - T8 CONCEPT TORRENS TITLE LOTS
- LOT AND UNIT LAYOUT SUBJECT TO DETAILED DESIGN AND DA APPROVAL BY BSC.

N

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SCALE 1:500 AT A1, 1:1,000 AT A3

| No. | Description | Des | Drw | Date | Appd |
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| A | FOR SUBMISSION | WF | INF | 05.24.2025 | |

**GAINSPLAY PTY LTD**

**PROPOSED RESIDENTIAL DEVELOPMENT**
**LOT 32 IN DP 1169053**
**TUCKEROO AVENUE, MULLUMBIMBY**

**CONCEPT SUBDIVISION PLAN**

Scale: 1:1,000 at A3 DAD file: 1003-CP1A.dwg
Datum: AHD CHECAD file: -

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1 of 3

Dwg. No. 1003-CP1 Issue A

**APPENDIX B**

Asset Protection Zone Requirements - Appendix 4 PBP 2019

# APPENDIX 4

## ASSET PROTECTION ZONE REQUIREMENTS

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

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

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

### A4.1 Asset Protection Zones

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

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

An APZ provides:

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

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

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

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

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

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

### A4.1.1 Inner Protection Areas (IPAs)

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

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

When establishing and maintaining an IPA the following requirements apply:

**Trees**

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

**Shrubs**

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

**Grass**

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

### A4.1.2 Outer Protection Areas (OPAs)

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

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

When establishing and maintaining an OPA the following requirements apply:

**Trees**

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

**Shrubs**

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

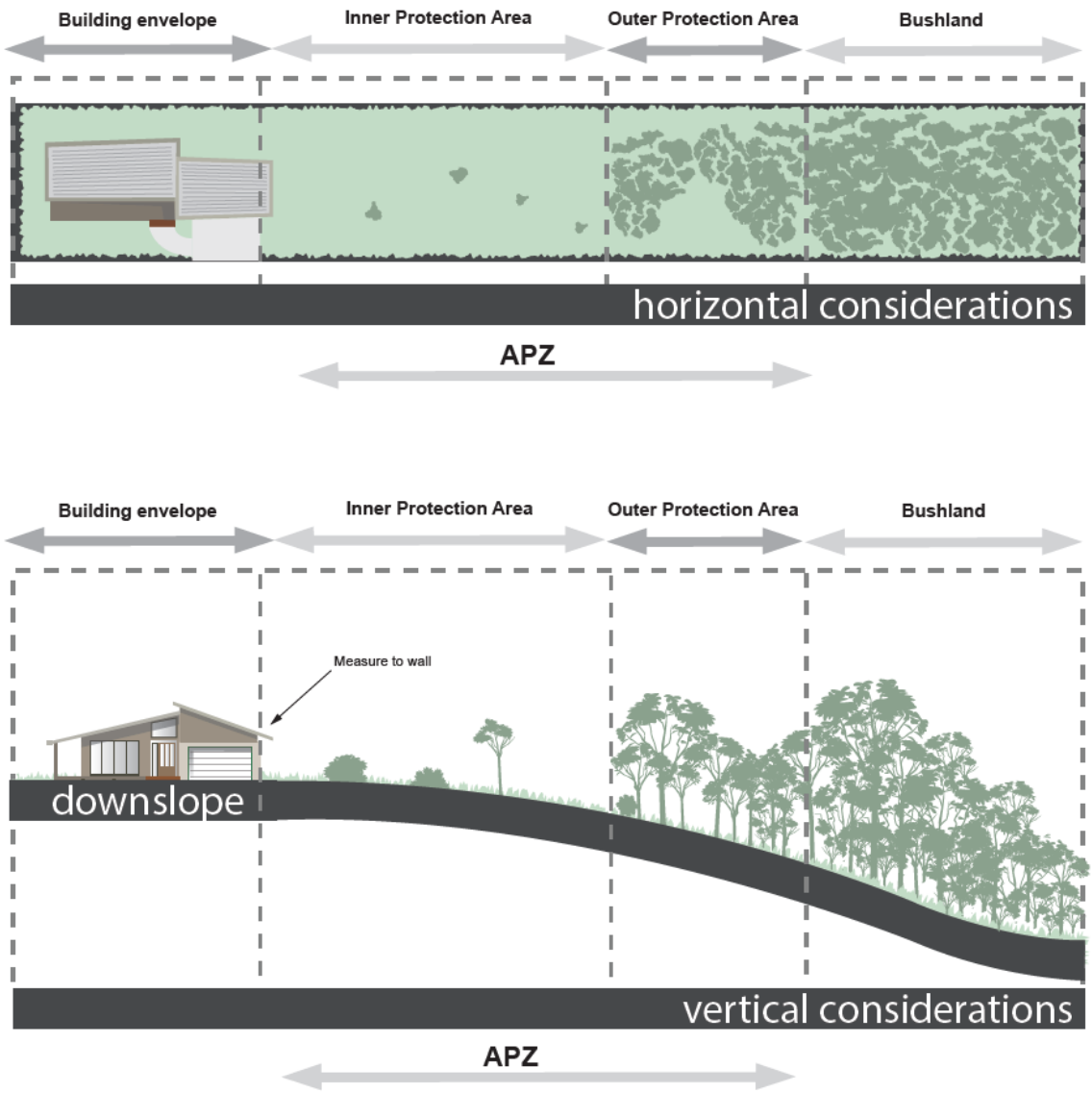
**Grass**

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

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

**Figure A4.1**

Typical Inner and Outer Protection Areas.



**APPENDIX C**

Road widths

Extract from Appendix 3 PBP 2019

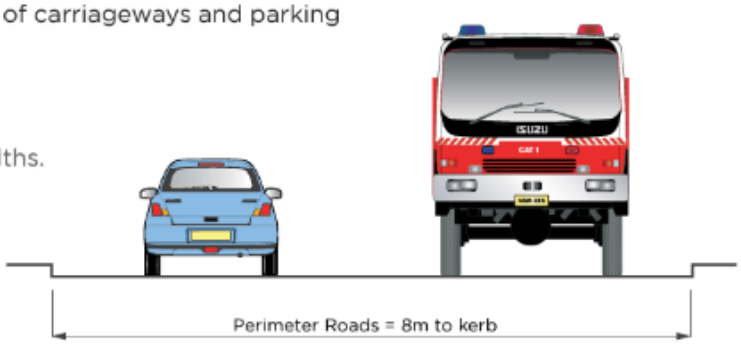
## A3.9 Road types

### A3.9.1 Perimeter Roads

Perimeter roads are to be provided with a minimum clear width of 8m. Parking and hydrants are to be provided outside of carriageways. Hydrants are to be located outside of carriageways and parking areas.

**Figure A3.9a**

Perimeter road widths.

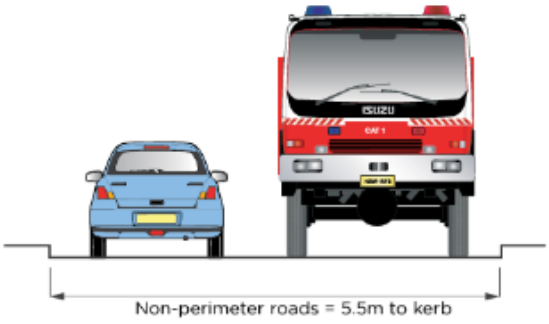



### A3.9.2 Non-perimeter Roads

Non-perimeter roads shall be provided with a minimum clear width of 5.5m. Parking is to be provided outside of the carriageway and hydrants are not to be located in carriageways or parking areas.

**Figure A3.9b**

Non-perimeter road widths.




### A3.9.3 Property access

Property access roads are to be a minimum of 4m wide.

**Figure A3.9c**

Property access road widths.

**APPENDIX D**

Subdivision Requirements – Tables 5.3a, 5.3b and 5.3c PBP2019

# Planning for Bushfire Protection 2019
# Section 5.3.1 and Table 5.3 – Residential Subdivisions

### 5.3.1 APZs

**Intent of measures:** to provide sufficient space and maintain reduced fuel loads to ensure radiant heat levels at the buildings are below critical limits and prevent direct flame contact.

## Table 5.3a

Performance criteria and acceptable solutions for APZs for residential and rural residential subdivisions.

| | PERFORMANCE CRITERIA | ACCEPTABLE SOLUTIONS |
|---|---|---|
| | The intent may be achieved where: | |
| ASSET PROTECTION ZONES | potential building footprints must not be exposed to radiant heat levels exceeding 29 kW/m$^2$ on each proposed lot. | APZs are provided in accordance with Tables A1.12.2 and A1.12.3 based on the FFDI. |
| | APZs are managed and maintained to prevent the spread of a fire towards the building. | APZs are managed in accordance with the requirements of Appendix 4. |
| | the APZs is provided in perpetuity. | APZs are wholly within the boundaries of the development site |
| | APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised. | APZs are located on lands with a slope less than 18 degrees. |
| LANDSCAPING | landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions. | landscaping is in accordance with Appendix 4; and<br>fencing is constructed in accordance with section 7.6. |

### 5.3.2 Access

**Intent of measures:** to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area.

## Table 5.3b

Performance criteria and acceptable solutions for access for residential and rural residential subdivisions.

| | PERFORMANCE CRITERIA | ACCEPTABLE SOLUTIONS |
|---|---|---|
| | The intent may be achieved where: | |
| ACCESS (GENERAL REQUIREMENTS) | › firefighting vehicles are provided with safe, all-weather access to structures. | › property access roads are two-wheel drive, all-weather roads;<br>› perimeter roads are provided for residential subdivisions of three or more allotments;<br>› subdivisions of three or more allotments have more than one access in and out of the development;<br>› traffic management devices are constructed to not prohibit access by emergency services vehicles;<br>› 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;<br>› all roads are through roads;<br>› 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;<br>› where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road;<br>› where access/egress can only be achieved through forest, woodland and heath vegetation, secondary access shall be provided to an alternate point on the existing public road system; and<br>› one way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression. |
| | › the capacity of access roads is adequate for firefighting vehicles. | › the capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/ causeways are to clearly indicate load rating. |
| | › there is appropriate access to water supply. | › hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression;<br>› hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005 - *Fire hydrant installations System design, installation and commissioning*; and<br>› there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available. |

**Table 5.3b** *Continued*

| | PERFORMANCE CRITERIA | ACCEPTABLE SOLUTIONS |
|---|---|---|
| | The intent may be achieved where: | |
| PERIMETER ROADS | › access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface. | › are two-way sealed roads;<br>› minimum 8m carriageway width kerb to kerb;<br>› parking is provided outside of the carriageway width;<br>› hydrants are located clear of parking areas;<br>› are through roads, and these are linked to the internal road system at an interval of no greater than 500m;<br>› curves of roads have a minimum inner radius of 6m;<br>› the maximum grade road is 15 degrees and average grade of not more than 10 degrees;<br>› the road crossfall does not exceed 3 degrees; and<br>› a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided. |
| NON-PERIMETER ROADS | › access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating. | › minimum 5.5m carriageway width kerb to kerb;<br>› parking is provided outside of the carriageway width;<br>› hydrants are located clear of parking areas;<br>› roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m;<br>› curves of roads have a minimum inner radius of 6m;<br>› the road crossfall does not exceed 3 degrees; and<br>› a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided. |

**Table 5.3b** *Continued*

| | PERFORMANCE CRITERIA | ACCEPTABLE SOLUTIONS |
|---|---|---|
| | The intent may be achieved where: | |
| PROPERTY ACCESS | › firefighting vehicles can access the dwelling and exit the property safely. | › There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles.<br>In circumstances where this cannot occur, the following requirements apply:<br>› minimum 4m carriageway width;<br>› in forest, woodland and heath situations, rural property access roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m at the passing bay;<br>› a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;<br>› provide a suitable turning area in accordance with Appendix 3;<br>› curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;<br>› the minimum distance between inner and outer curves is 6m;<br>› the crossfall is not more than 10 degrees;<br>› maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and<br>› a development comprising more than three dwellings has access by dedication of a road and not by right of way.<br>Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above. |

### 5.3.3 Services – Water, electricity and gas

**Intent of measures**: *to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.*

## Table 5.3c

Performance criteria and acceptable solutions for water, electricity and gas services for residential and rural residential subdivisions.

| | PERFORMANCE CRITERIA | ACCEPTABLE SOLUTIONS |
|---|---|---|
| | The intent may be achieved where: | |
| WATER SUPPLIES | adequate water supplies is provided for firefighting purposes. | reticulated water is to be provided to the development where available;<br>a static water and hydrant supply is provided for non-reticulated developments or where reticulated water supply cannot be guaranteed; and<br>static water supplies shall comply with Table 5.3d. |
| WATER SUPPLIES | water supplies are located at regular intervals; and<br>the water supply is accessible and reliable for firefighting operations. | fire hydrant, spacing, design and sizing complies with the relevant clauses of Australian Standard AS 2419.1:2005;<br>hydrants are not located within any road carriageway; and<br>reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads. |
| WATER SUPPLIES | flows and pressure are appropriate. | fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005. |
| WATER SUPPLIES | the integrity of the water supply is maintained. | all above-ground water service pipes are metal, including and up to any taps; and<br>above-ground water storage tanks shall be of concrete or metal. |
| ELECTRICITY SERVICES | location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings. | where practicable, electrical transmission lines are underground;<br>where overhead, electrical transmission lines are proposed as follows:<br>– lines are installed with short pole spacing of 30m, unless crossing gullies, gorges or riparian areas; and<br>– no part of a tree is closer to a power line than the distance set out in ISSC3 *Guideline for Managing Vegetation Near Power Lines*. |
| GAS SERVICES | location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings. | reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 - *The storage and handling of LP Gas*, the requirements of relevant authorities, and metal piping is used;<br>all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;<br>connections to and from gas cylinders are metal;<br>polymer-sheathed flexible gas supply lines are not used; and<br>above-ground gas service pipes are metal, including and up to any outlets. |