



BUSHFIRE CONSTRAINTS ASSESSMENT

FOR THE

REZONING OF LAND WITHIN

LOT 100 in DP 1063277

&

LOT 1 in DP 781781

WYALLA ROAD,

JAMBEROO

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Assessment Number	Document	Preparation Date	Issue Date	Directors Approval
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EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited, on behalf of *Huntingdale Developments Pty Ltd* and *Colleen Camarda*, has prepared a Bushfire Constraints Assessment Report for the proposed rezoning of the land within Lot 100 in DP 1063277 [No. 22] Wyalla Road and Lot 1 in DP 781781 [No. 31] Wyalla Road, Jamberoo.

The land within the rezoning proposal is not identified on the Kiama Council Bushfire Prone Land Map 2008 as containing bushfire prone vegetation.

Therefore, pursuant to Ministerial Direction No. 4.4 – ‘*Planning for Bushfire Protection*’ [under Section 117 of the *Environmental Planning & Assessment Act – 1979*], Kiama Council is not required, prior to the preparation of a planning proposal that effects, or is in proximity to land mapped as bushfire prone land, to consult with the NSW Rural Fire Service [amongst other things], under Section 56 of that Act and take into account any comments so made.

However, the rezoning proposal is likely to create the need for the riparian corridor to Hyams Creek, which forms part of the western boundary of the rezoning precinct, to be rehabilitated.

This rehabilitation will in turn establish a corridor of vegetation which may present a bushfire hazard, in the future, to the proposed residential development on the lots created in the subdivision of the land zoned for this landuse.

This Bushfire Constraints Assessment undertakes an assessment of the bushfire protection measures likely to be required to address the potential bushfire risk to the future residential development, consistent with the Residential Development specifications of *Planning for Bushfire Protection 2006*.



Graham Swain
Managing Director
Australian Bushfire Protection Planners Pty Limited.

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SECTION 1

INTRODUCTION

1.1 Rezoning Proposal.

Huntingdale Developments Pty Ltd, the owner and applicant for Lot 100, in DP 781781 [No. 22] Wyalla Road seeks to rezone the site to allow for the development of a mixed seniors and residential development.

The Planning Proposal seeks to rezone part of the site, currently zoned RU2 Rural Landscape, to R2 Low Density Residential and subsequently amend the Kiama LEP 2011. This proposal also seeks to maintain the watercourse on the perimeter of the site as E3 Environmental Management zone.

The future use and form of the site is to be controlled by a DCP that is included as part of the Planning Proposal. The principle intent is to control the use of the proposed R2 zoned portion of the site for senior's development.

A concept plan for the redevelopment has been prepared by Urbis – refer to Figure 1 below. This concept plan also includes the adjoining property at Lot 1 in DP 781781 [No. 31] Wyalla Road which is subject to a separate Planning Proposal by that land owner however this report covers both land parcels.

The proposed rezoning will enable a seniors and residential development on the fringe of Jamberoo village that creates a natural extension to the urban area of Jamberoo.

The site is identified in the Kiama Urban Strategy as a site for which a Planning Proposal should be prepared for future senior's residential development. The site is also identified within the Judith Stubbs and Associates Report 2006 to inform the Kiama LEP review (as Lot 100 Wyalla Road, Jamberoo) as a *“preferable site for a ‘greenfields’ Seniors Living development”*.

The proposed residential development will contribute to meeting the seniors and housing needs of future populations as set out in the Illawarra Regional Strategy through the provision of 30 seniors housing lots and 22 detached residential dwelling lots.

The proposal intends to maintain the environmental value of the Hyams Creek frontage and proposes a buffer zone of 35 - 50 metre to ensure the riparian nature of Hyams Creek is conserved. The proposed development buffer zone will also ensure the ecological values of the creek frontage are maintained and preserved.

1.2 Statutory Requirements.

This assessment has been prepared having regard to the following legislative and planning requirements:

1.2.1 Legislation.

(a) *Environmental Planning and Assessment Act (EPA Act)*

Planning and development within NSW is regulated by the *Environmental Planning & Assessment Act, 1997* (EPA Act).

In relation to the rezoning of land for the construction of residential buildings and the protection against the impacts of bushfires, Ministerial Direction No. 4.4 – *Planning for Bushfire Protection* issued 1st July 2009 [under Section 117(2) of the *Environmental Planning & Assessment Act – 1979*] applies to all Councils that are required to prepare a bushfire prone land map under Section 146 of the *Environmental Planning & Assessment Act*.

Pursuant to Ministerial Direction No. 4.4 – Planning for Bushfire Protection, the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a gateway determination under Section 56 of the Act, and prior to undertaking community consultation in satisfaction of Section 57 of the Act, and take into account any comments so made:

A planning proposal must:

- Have regard to Planning for Bushfire Protection 2006;
- Introduce controls that avoid placing inappropriate developments in hazardous areas, and;
- Ensure that bushfire hazard reduction is not prohibited within the APZ.

A planning proposal must, where development is proposed, comply with the following provisions, as appropriate:

(a) 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.

- (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. If the provisions of the draft LEP permit Special Fire Protection Purposes [as defined under Section 100B of the *Rural Fires Act 199*], the APZ provisions shall be complied with;
- (c) Contain provisions for two-way access roads which link to perimeter roads and/or to fire trail networks;
- (d) Contain provisions for adequate water supply for fire fighting purposes;
- (e) Minimise the perimeter of the area of land interfacing the hazard which may be developed;
- (f) Introduce controls on the placement of combustible materials in the Inner Protection Area, and;

A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director General of Planning [or an officer of the Department nominated by the Director-General] that 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.

1.2.2 Planning Policies.

Planning for Bushfire Protection – 2006. (NSW Rural Fire Service)

This document provides guidance on the planning and development control processes in relation to bushfire protection measures for rural residential, residential subdivision, Special Fire Protection and Industrial Developments in bushfire prone areas.

The Commissioner may determine, under Section 100B of the *Rural Fires Act*, additional measures that are considered necessary to protect the development against the impact of bushfire.

1.3 Documentation reviewed in this assessment.

- *Planning for Bushfire Protection 2006* prepared by the NSW Rural Fire Service/Planning N.S.W;
- Australian Standard AS3959 *Construction of Buildings in Bushfire Prone Areas*;
- *Rural Fires Regulation 2008*;
- Kiama Bushfire Prone Land Map;
- Flora & Fauna Assessment prepared by OMVI Ecological;
- Flood Study prepared by Rudy Van Drie – 28/1/2012;
- Planning Proposal prepared by Urbis – April 2012;
- Proposed Subdivision Concept Plan.

1.4 Site Inspection.

Graham Swain of Australian Bushfire Protection Planners Pty Limited inspected the land within the rezoning precinct on 29th July 2011 to assess the topography, slopes and vegetation classification within and adjoining the development property.

Adjoining properties were also inspected to determine the surrounding land use / land management.

SECTION 2

DESCRIPTION OF THE LAND WITHIN THE REZONING PRECINCT

2.1 Location.

The rezoning precinct occupies a large parcel of land located to the west of Wyalla Road on the western outskirts of the village of Jamberoo.

Figure 2 – Location of the Rezoning Precinct.



2.2 Existing Land Use.

The rezoning precinct contains agricultural land used for grazing with an existing dwelling and associated sheds on No. 31 Wyalla Road. This existing development is proposed to be retained in a smaller lot in the subdivision of the land.

2.3 Surrounding Land Use.

The adjoining land to the east of the rezoning precinct consists of residential development forming the current western extent of the Jamberoo Village.

The land to the south, west and north contains RU2 zoned rural which is grazed. This land is not recorded on the Kiama Bushfire Prone Land Map as containing bushfire prone vegetation.

2.4 Topography.

Appendix 2 of *Planning for Bushfire Protection 2006* states that slopes should be assessed, over a distance of at least 100m from a development site and that the gradient of the land should be determined which will most significantly influence the fire behaviour to the site.

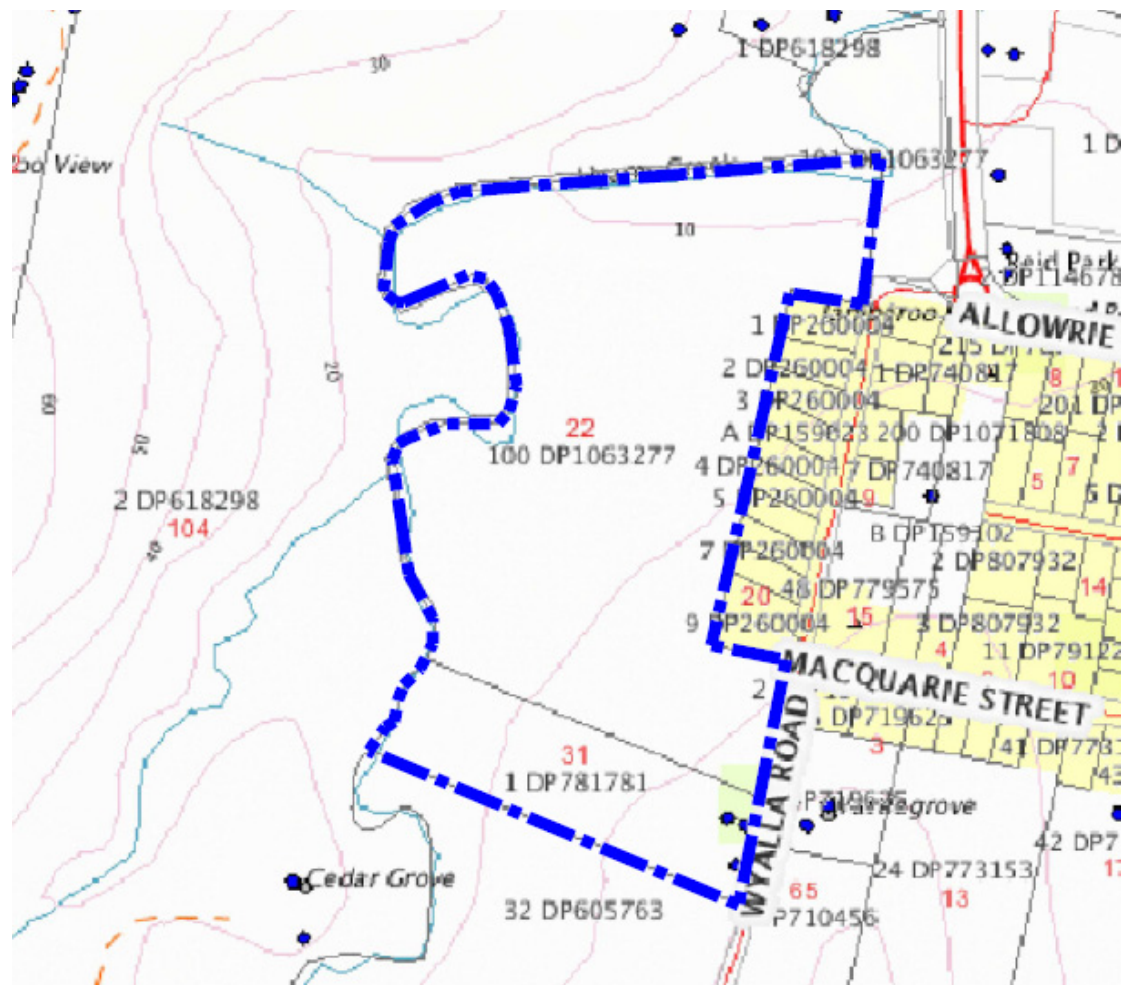
The land within the rezoning precinct lies at an elevation of between approximately 8 m and 30 m Australian Height Datum (AHD) adjacent to Hyams Creek which, is in the catchment of the Minnamurra River. The northern and western site boundary is defined by the Hyams Creek which is a perennial watercourse that feeds Terragong Swamp to the east.

The land within the rezoning precinct is generally flat with gentle up-slopes of 5 – 10 degrees to the south-east towards Wyalla Road, particularly in the southern parts of the precinct.

The RU2 zoned land to the south falls from Wyalla Road to the west toward Hyams Creek at 8 – 10 degrees. The land to the west of Hyams Creek forms the level flood plain to the creek, rising to the west beyond the flood plain with a similar landform to the northwest of the rezoning precinct.

The residential land to the east rises to the east from Wyalla Road – refer to Figure 3 – Cadastre Map showing contour levels on page 12.

Figure 3 – Topographic Map.



2.5 Vegetation.

Appendix A2.3 of *Planning for Bushfire Protection 2006* provides a methodology for determining the predominant bushfire prone vegetation for at least 140 metres in all directions from the future development on the site. Vegetation is classified using Table A2.1 of *Planning for Bushfire Protection 2006*, which classifies vegetation types into the following groups:

- (a) Forests [wet & dry sclerophyll forests];
- (b) Woodlands;
- (c) Plantations – being pine plantations not native plantations;
- (d) Forested Wetlands;
- (e) Tall Heaths;
- (f) Freshwater Heaths;
- (g) Short Heaths;
- (h) Alpine Complex;
- (i) Semi – arid Woodlands;
- (j) Arid Woodlands; and
- (k) Rainforests.

2.5.1 Vegetation within the Rezoning Precinct.

Field surveys were initially conducted across the rezoning precinct for all species, populations and ecological communities in 2005 by Bushfire Environmental Services Pty Ltd.

The BES surveys were conducted on 7 March 2005. The BES surveys and assessments were undertaken in accordance with the *Draft Threatened Species Biodiversity Survey Guidelines for Developments and Activities* (DEC 2004), including the use of survey documentation formats.

To build on the opportunity to identify species the OMVI Ecological surveys were conducted during Spring on 14th September 2011. The OMVI Ecological surveys conducted this year targeted specifically those subject species included as potentially occurring the original BES report, and any other species of conservation significance potentially occurring in the locality.

Most of the precinct has been significantly disturbed through historical clearing for agriculture. This has reduced vegetative structure, complexity, age and hence habitat values over most of the study area.

The vast majority of the rezoning precinct has been cleared of native vegetation and converted to grazing pastures. An approximately 250 m length of Hyams Creek along the northern boundary of the precinct supports a narrow band of heavily disturbed Gallery Subtropical Rainforest. Elsewhere along Hyams Creek there are occasional clumps of Camphor Laurel (*Cinnamomum camphora*) trees with exotic pastures extending up to the creek channel.

The *TSC Act* and *EPBC Act* provide for the listing of endangered ecological communities. The Heavily Disturbed Gallery Subtropical Rainforest along parts of Hyams Creek comprises a depauperate and disturbed component of the endangered ecological community Illawarra Subtropical Rainforest listed on the *TSC Act*.

2.5.2 Vegetation adjoining the Rezoning Precinct.

The vegetation on the RU2 rural zoned land to the north, west and south of the rezoning precinct consists of grazing pastures. This vegetation is not recorded on the Kiama Bushfire Prone Land Map as bushfire prone vegetation.

The residential development to the east contains managed landscaped gardens.

2.6 Site Photographs.

Photograph No. 1 – Taken from the north-western portion of the rezoning precinct looking southeast to the dwelling on No. 31 Wyalla Road and showing the existing residential development along Wyalla Road.



Photograph No. 2 – Taken from the north-western portion of the rezoning precinct looking south along Hyams Creek [western boundary].



Photograph No. 3 – Taken from the north-western portion of the rezoning precinct looking east toward Jamberoo Road with Hyams Creek on the left.



SECTION 3

BUSHFIRE PRONE LAND MAP

The Kiama Council has prepared a Bushfire Prone Land Map pursuant to the requirements of Section 146 of the *Environmental Planning & Assessment Act 1979*. Figure 4 below provides an extract of the Certified Bushfire Prone Land Map for the rezoning precinct and identifies that the land is not identified as being bushfire prone. The adjoining land is also not classified as being bushfire prone.

Figure 4 – Extract from the Kiama Bushfire Prone Land Map.



Legend:

Orange – Category 1 Bushfire Prone Vegetation; Red – Buffer Zone.

SECTION 4

BUSHFIRE CONSTRAINTS ASSESSMENT

4.1 Introduction.

A planning proposal must, where development is proposed on bushfire prone land, comply with the following provisions, as appropriate:

- (a) 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.
- (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. If the provisions of the draft LEP permit Special Fire Protection Purposes [as defined under Section 100B of the *Rural Fires Act 199*], the APZ provisions shall be complied with;
- (c) Contain provisions for two-way access roads which link to perimeter roads and/or to fire trail networks;
- (d) Contain provisions for adequate water supply for fire fighting purposes;
- (e) Minimise the perimeter of the area of land interfacing the hazard which may be developed; and
- (f) Introduce controls on the placement of combustible materials in the Inner Protection Area.

These requirements are not applicable to the rezoning proposal as the land is currently not mapped as containing bushfire prone vegetation or being impacted by the buffer zone to bushfire prone vegetation.

However, it is likely that the rehabilitation of the riparian corridor to Hyams Creek will introduce unmanaged vegetation which has the potential to generate a bushfire hazard to the north and west of the future residential and seniors living development within the rezoning precinct.

The provision of bushfire protection measures required to address this potential hazard are examined in the following sections of this report.

4.2 Asset Protection Zones.

Appendix 2 of *Planning for Bushfire Protection 2006* provides the following procedure for determining setback distances (Asset Protection Zones) for residential and rural residential development which is deemed to be bushfire prone:

- (a) *Determine vegetation formations as follows:*
 - Identify all vegetation in all directions from the site for a distance of 140 metres;
 - Consult Table A2.1 to determine the predominant vegetation type; and
 - Select the predominant vegetation formation as described in Table A2.1.
- (b) *Determine the effective slope of the land under the predominant vegetation Class.*
- (c) *Determine the appropriate fire [weather] area in Table A2.2.*
- (d) *Consult Table A2.4 and determine the appropriate setback [Asset Protection Zone] for the assessed land use, vegetation formation and slope range.*

The rezoning proposal creates an E3 environmental buffer zone to the west and north of the future residential development. The width of this buffer varies between 40 and 50 metres and it is proposed that except for a narrow corridor of Gallery Subtropical Rainforest [approximately 5 - 10 metres wide], the buffer zone will contain managed grassland across the Hyams Creek floodplain.

This grassland vegetation will be managed by Kiama Council, leaving the Gallery Subtropical Rainforest the only potential bushfire hazard. This vegetation will be located on land which slopes to the creek at less than five [5] degrees.

The requisite Asset Protection Zone setback to this vegetation for residential development is 14 metres and 40 metres for '*Special Fire Protection Purpose Development*' such as the proposed seniors living development.

The residential setback width can be accommodated within the 30 – 40 metre managed buffer zone whilst the 40 metre wide Asset Protection Zone to the seniors living development can also be accommodated within the managed buffer zone/perimeter road with additional setback provided by the residential development located on the outer edge of the rezoning precinct/future subdivision.

Except for the corridor of Gallery Subtropical Rainforest along the bank of Hyams Creek, the buffer zone shall be managed as an Asset Protection Zone to the standards of an Inner Protection Area [IPA] as defined by *Planning for Bushfire Protection 2006* and the NSW Rural Fire Service's '*Specifications for Asset Protection Zones*'.

4.3 Access for Firefighting Operations.

Whilst the rezoning proposal is not required to satisfy the access provisions of *Planning for Bushfire Protection 2006* it is recommended that the provision of access for fire-fighting operations shall apply in the form of at a perimeter road to the outer edge of the rezoning precinct and comply internal access roads.

Specifications for perimeter roads are defined by Section 4.1.3(1) of *Planning for Bushfire Protection 2006* and include a two-way road with a minimum pavement width of 8.0 metres, kerb to kerb with 'No Parking' on one side with the services [hydrants] located on this side of the road.

Specifications for internal access roads are defined by Section 4.1.3(1) of *Planning for Bushfire Protection 2006* and include the requirement that internal public roads greater than 6.5 metres shall locate hydrants outside parking reserves and public internal roads between 6.5 – 8.0 metres wide are 'No Parking' on one side with the services [hydrants] located on this side of the road.

Public internal roads up to 6.5 metres wide shall provide parking within parking bays and locate service outside of the parking bays. Parking Bays shall be a minimum 2.6 metres wide from kerb to edge of road pavement.

Cul-de-sac design shall incorporate a turning circle of 24 metres for Category 1 NSW Rural Fire Service Tankers and NSW Fire Brigade Composite Appliances or an appropriately designed 'T' turning head suitable for a medium rigid vehicle with an overall length of 11 metres.

4.4 Water Supplies for Firefighting Operations.

Street Hydrants shall comply with the specifications of Australian Standard A.S 2419.2 and have a flow rate of 10 litres / second.

Hydrant locations shall be delineated by blue markers placed on the hydrant side of the centreline of the road pavement.

4.5 Construction Standards to the future dwellings.

Bushfire construction standards pursuant to A.S. 3959 - 2009 shall be applied to the future buildings constructed on the lots located within 100 metres of the revegetated riparian corridors.

PLAN OF ASSET PROTECTION ZONES



SECTION 6

CONCLUSION

This report examines the extent and type of the vegetation within 140 metres of the rezoning precinct and has determined that the rezoning precinct and the land within 100 metres of the boundaries of the rezoning precinct does not contain vegetation deemed to be bushfire prone.

The Kiama Bushfire Prone Land Map confirms this determination, having been assessed in accordance with the definition so described by the NSW Rural Fire Service's '*Guideline for Bushfire Prone Land Mapping*' and in accordance with the determination of bushfire prone vegetation as defined by *Planning for Bushfire Protection 2006*.

However, the potential exists for the rehabilitation of a narrow corridor of riparian vegetation along Hyams Creek. Should rehabilitation occur this vegetation may create a bushfire hazard and is it therefore likely that future amendments to the Kiama Bushfire Prone Land will record this vegetation as being bushfire prone.

This report therefore adopts a precautionary approach to the examination of bushfire protection measures to the future residential and seniors living development and has found that separation available adequately addresses the requirements of *Planning for Bushfire Protection 2006*.

The provision of access and water supplies for fire-fighting operations shall satisfy the deemed-to-comply provisions of *Planning for Bushfire Protection 2006* and the minimum level of construction of the future buildings within 100 metres of the bushfire hazard interface shall be BAL 12.5 with the final determination of the construction levels being assessed as part of the future development application for the erection of the buildings.

The characteristics of the site, as discussed in this report, together with the fire protection measures recommended, provide that the rezoning and subsequent subdivision of the land is suitable in terms of its intended residential land use.

REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2006*;
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- *Rural Fires Regulation 2008*;
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2006*;
- *Threatened Species Conservation Act 1995*;
- *Native Vegetation Act*;
- *Bushfire Environmental Assessment Code 2006*;
- Building Code of Australia;
- Australian Standard A.S 3959-2009 “*Construction of Buildings in Bushfire Prone Areas*”;
- *Kiama Bushfire Prone Land Map*.