

Attachment 4 – Preliminary Bushfire Threat Assessment



**BUSHFIRE PROTECTION
ASSESSMENT**

FOR THE PROPOSED

**BLUE MOUNTAINS VILLAGES MASTER
PLAN**

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PLAN**

Assessment Number	Document	Preparation Date	Issue Date	Directors Approval
B121787	Final	3.9.2012	9.9.2012	G.L.Swain

EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited, at the request of the *Calder Flower Architects Pty Ltd*, on behalf of *Blue Mountains Villages* has undertaken the bushfire consultancy to provide advice on the bushfire protection measures required for the proposed Master Planning Application for the redevelopment of the Blue Mountain Villages Retirement Village complex within Lot 4 in DP 1066824; Pt 7 in DP 626827; Lot 3 in DP 645699; Lot 6 in DP 626827 and Lot 19 in DP 5140, No. 2 – 10 Queens Road, Leura.

The land within the development site is currently zoned 'Living Bushland Conservation' under the Blue Mountains City Council Local Environmental Plan 2005 and contains an area of approximately 1.5 hectares.

Blue Mountains City Council has advised the Applicant that the land use proposed under the Master Plan [Seniors Living Development] is not permissible within a 'Conservation Zone' pursuant to the requirements of Clause 4(6) of the *State Environmental Planning Policy [Housing for Seniors and People with a Disability 2004]* as it is prohibited under Schedule 1 of the SEPP, which includes land that is described as 'Conservation'.

Council therefore advised that a Planning Proposal application should be lodged for the rezoning of the land within the development site from 'Living Bushland Conservation' to 'Living – General Zone' under the Blue Mountains Local Environmental Plan 2005 which would permit the construction of 'Accessible Housing' [Seniors Living] on the site.

The north-western corner of the development site [Lot 9, Section 1 in DP 5140 is shown on the Blue Mountains City Council Bushfire Prone Land Map as containing a small portion of Category 2 Bushfire Prone Vegetation with the 100 metre wide buffer zone to this and other mapped bushfire prone vegetation extending across the remainder of the Retirement Village site.

The Bushfire Prone Land Map triggers the requirements of Section 91 [Integrated Development] of the *Environmental Planning & Assessment Act 1979* as the redevelopment as proposed by the Master Plan is deemed to be a 'Special Fire Protection Purpose' development as defined by Section 100B of the *Rural Fires Act 1997*.

Section 100B of the *Rural Fires Act 1997* also requires that a person must obtain a Bushfire Safety Authority from the Commissioner of the NSW Rural Fire Service for such development. Section 44 of the *Rural Fires Regulation 2008* defines those matters which are required to be addressed for the issue of a Bushfire Safety Authority.

With this in mind a meeting took place on the 20th March 2009 with Officers of the NSW Rural Fire Service, a representative of Blue Mountains Villages and the Architects. A precise of the NSW Rural Fire Service's recommendations is provided below:

1. *Blue Mountains Villages should try to obtain access to the neighbouring site to the north as an Asset Protection Zone. This would require a Section 88B Covenant;*
2. *The RFS aim to achieve a better outcome for the site than currently exists recognising the Blue Mountains Villages has existing use rights;*
3. *The Hazard is from the bushfire prone vegetation to the north;*
4. *Asset Protection Zone from the hazard to the north should be 70 metres, comprising 50 metres as an Inner Protection Area [IPA] and 20 metres as an Outer Protection Area [OPA];*
5. *There are alternate solutions to the provision of Asset Protection Zones to buildings. Certain building types are permitted within the 'Special Fire Protection Purpose' development setback widths – these include administration and recreation functions;*
6. *The RFS will assess the application specifically under A.S. 3959 – 2009.*

A further meeting was held on the 7th August 2012 to examine the preliminary Master Plan proposal.

This meeting resolved the following matters:

1. *Reconstruction of the existing aged care buildings will be assessed under the infill provisions of Planning for Bushfire Protection 2006 and shall not extend closer to the bushfire hazard than the existing buildings;*
2. *All new 'special fire protection purpose' aged care buildings will be required to comply with the Asset Protection Zone setback widths as defined by Table A2.6 of Planning for Bushfire Protection 2006;*
3. *Non - 'special fire protection purpose' aged care buildings [e.g. Administration buildings] can be located within the 'special fire protection purpose' Asset Protection Zone setback and shall comply with the provisions of Section 4.3.6(f) of Planning for Bushfire Protection 2006.*

The report examines the proposed Master Plan for the redevelopment of the site and provides advice on the adequacy of the Asset Protection Zones to the new buildings; reviews the Master Plan layout in context to the infill provisions of *Planning for Bushfire Protection 2006*, including emergency access/egress; fire-fighting access and water supplies; construction standards to the buildings and the management of the existing Asset Protection Zones in order to address the aim and objectives 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 Aim of this Assessment.

The aim of this Bushfire Protection Assessment is to examine the Master Plan for the redevelopment of the Blue Mountains Retirement Village to provide advice on the bushfire protection measures in order to address the provisions of Section 117(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.2 Development Proposal.

The Development Application seeks Blue Mountains City Council's consent to rezone the land within the development site from 'Living Bushland Conservation' to 'Living – General Zone' under the Blue Mountains Local Environmental Plan 2005 which would permit the construction of 'Accessible Housing' [Seniors Living] on the site.

The proposed redevelopment is planned to occur over five [5] stages as listed below:

- **Stage 1** – This stage includes the demolition of existing Units 20 – 24 and a weatherboard residence and construction of a new building containing sixteen [16] units with a new Administration building attached to the northern end of the unit building;
- **Stage 2** - This stage includes the demolition of existing Units 31 – 40 and construction, under the infill development provisions of *Planning for Bushfire Protection 2006*, of ten [10] units;
- **Stage 3** – This stage includes the demolition of existing Units 1 – 4 and 25 – 29 and construction, under the infill development provisions of *Planning for Bushfire Protection 2006*, of twelve [12] units;
- **Stage 4** – This stage includes the demolition of existing Units 5, 6 – 9 and Units 10 - 14 and construction of twenty [20] units; and
- **Stage 5** – This stage includes the demolition of existing Units 15 – 19 and construction of seven [7] units.

Refer to Figures 1 – 8 for graphical representation of Master Plan

Figure 1 – Plan of Blue Mountains Villages site showing existing buildings.

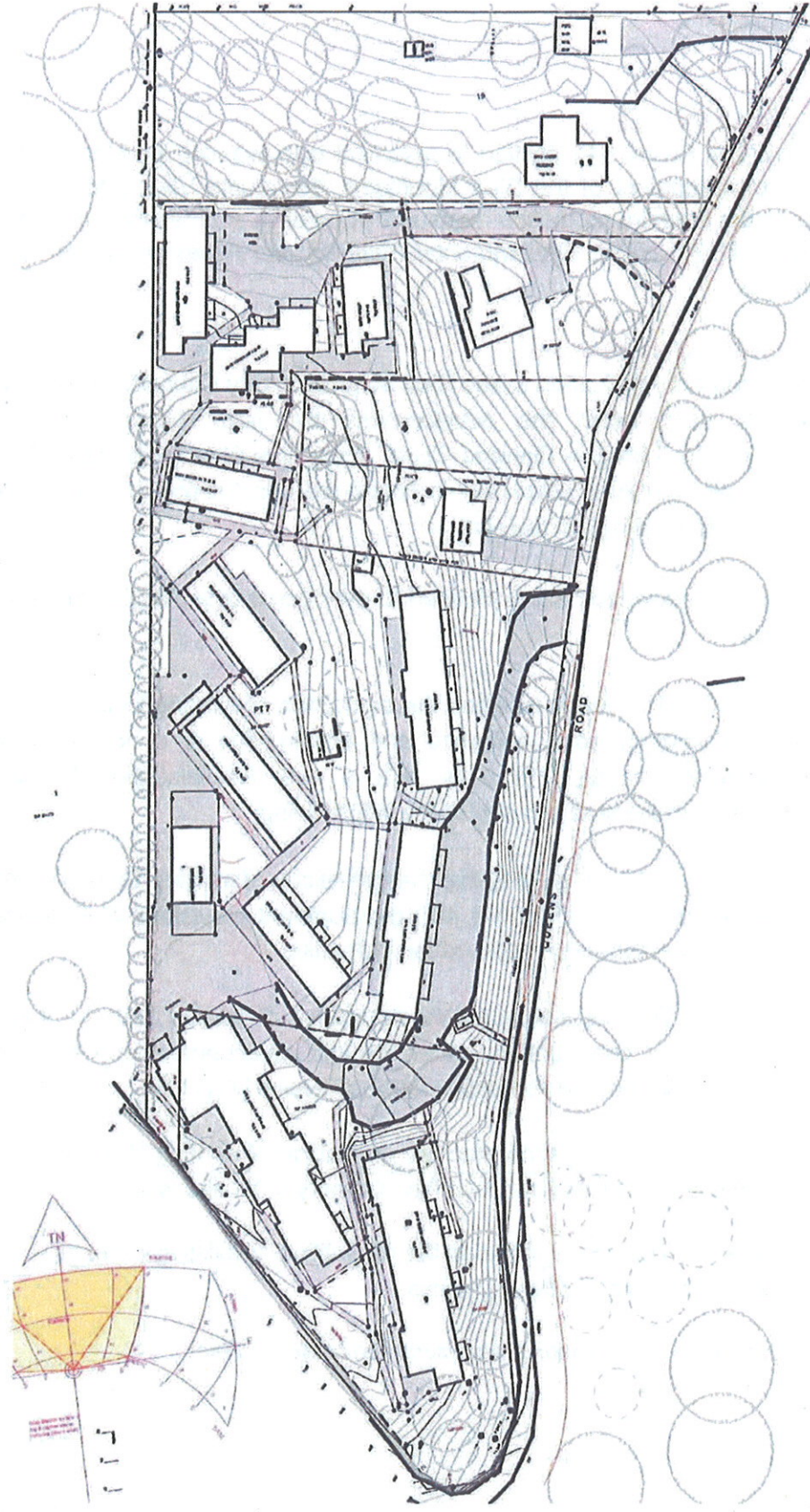


Figure 2 – Aerial Photograph showing existing buildings.



Figure 3 – Proposed Master Plan layout.

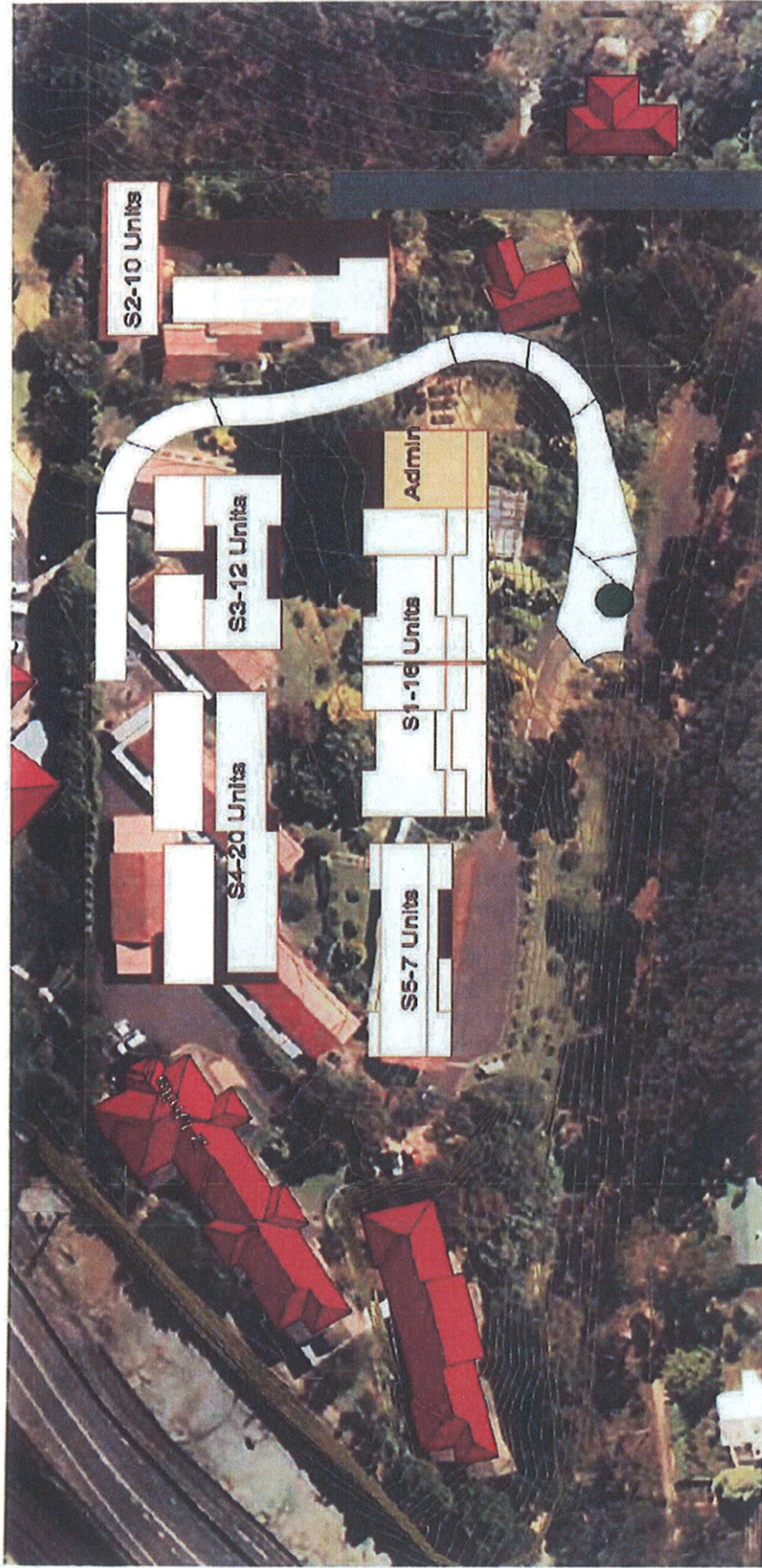


Figure 4 – Stage 1 layout.

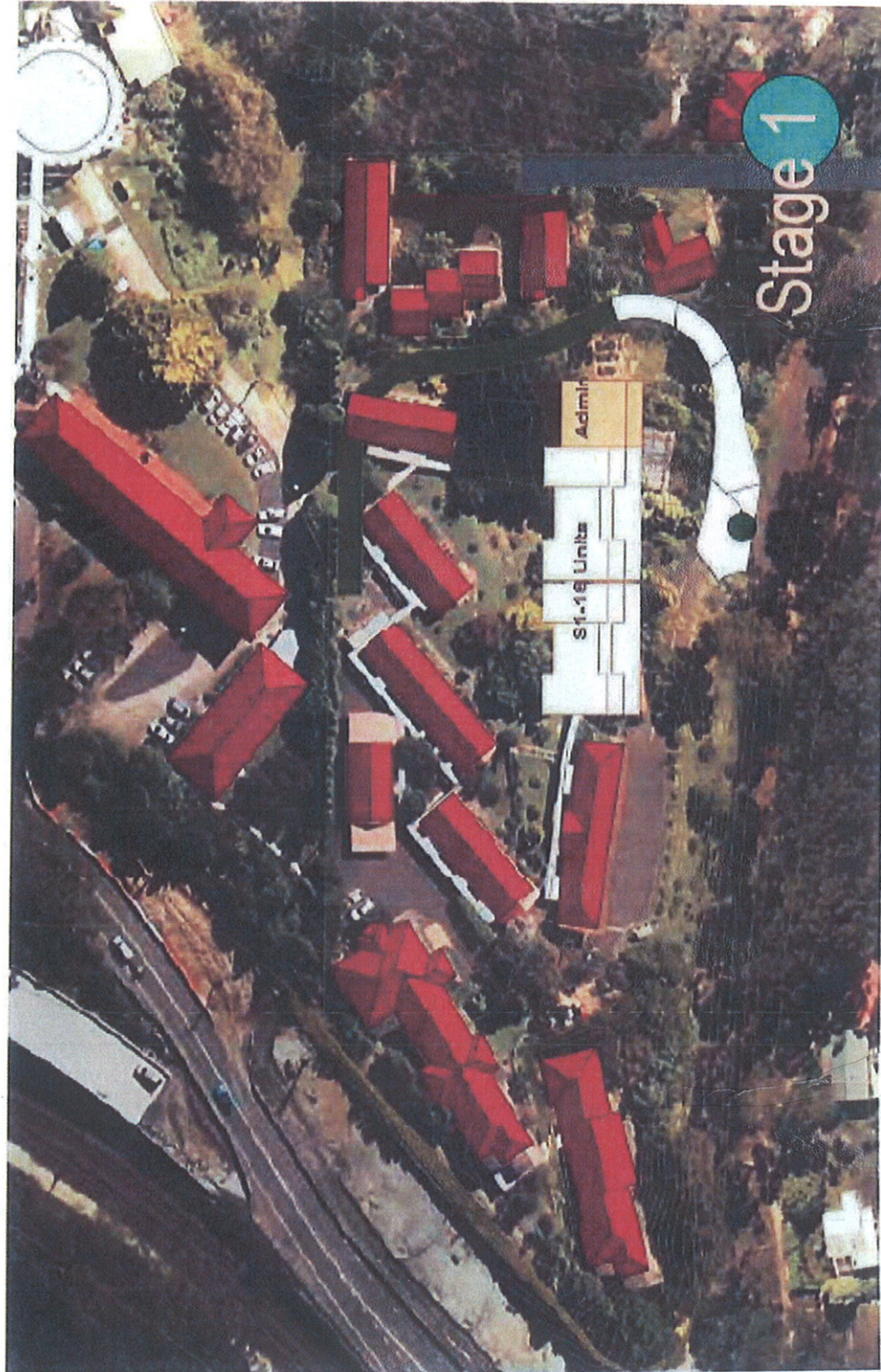


Figure 5 – Stage 2 layout.

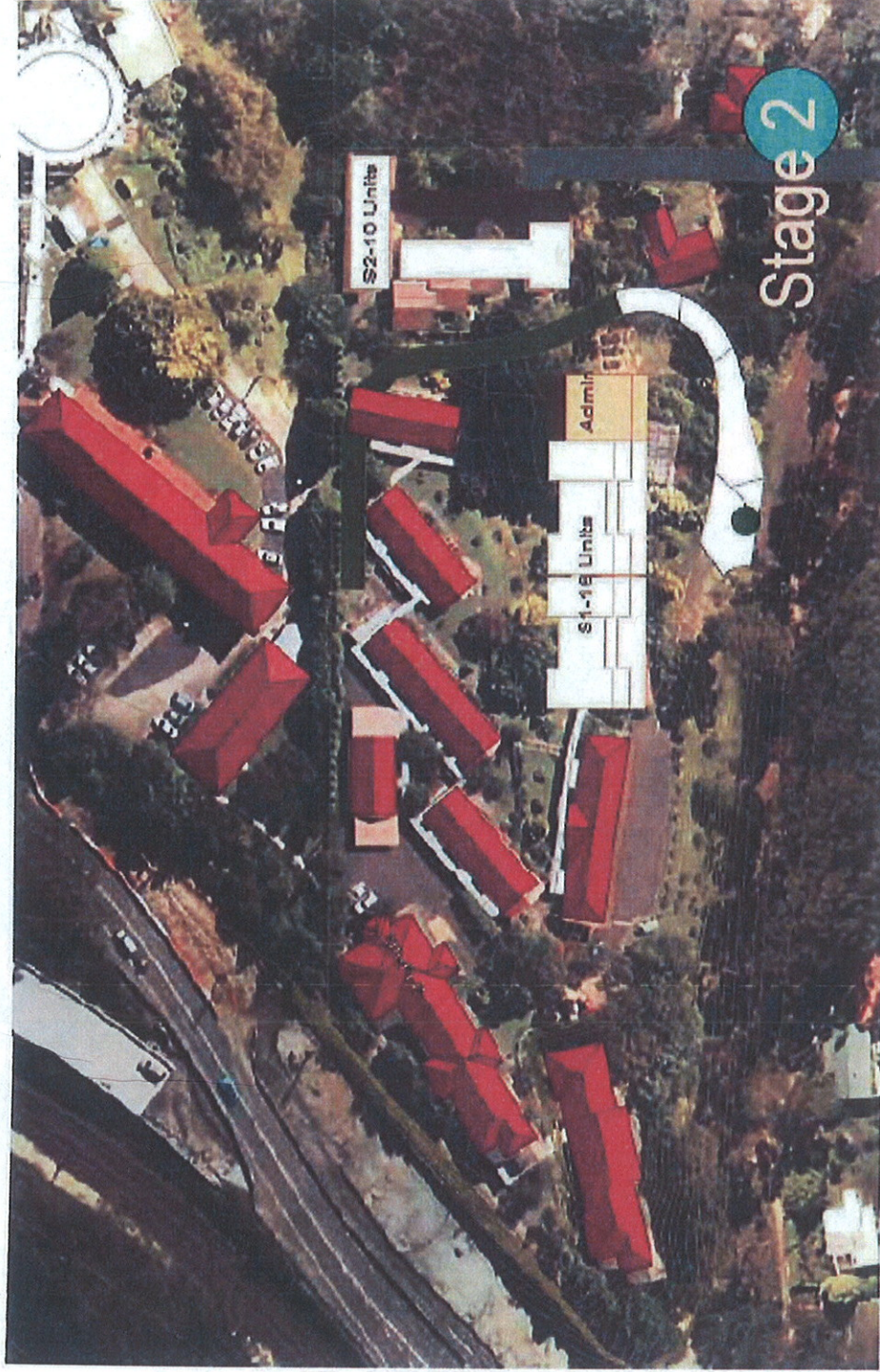


Figure 6 – Stage 3 layout.

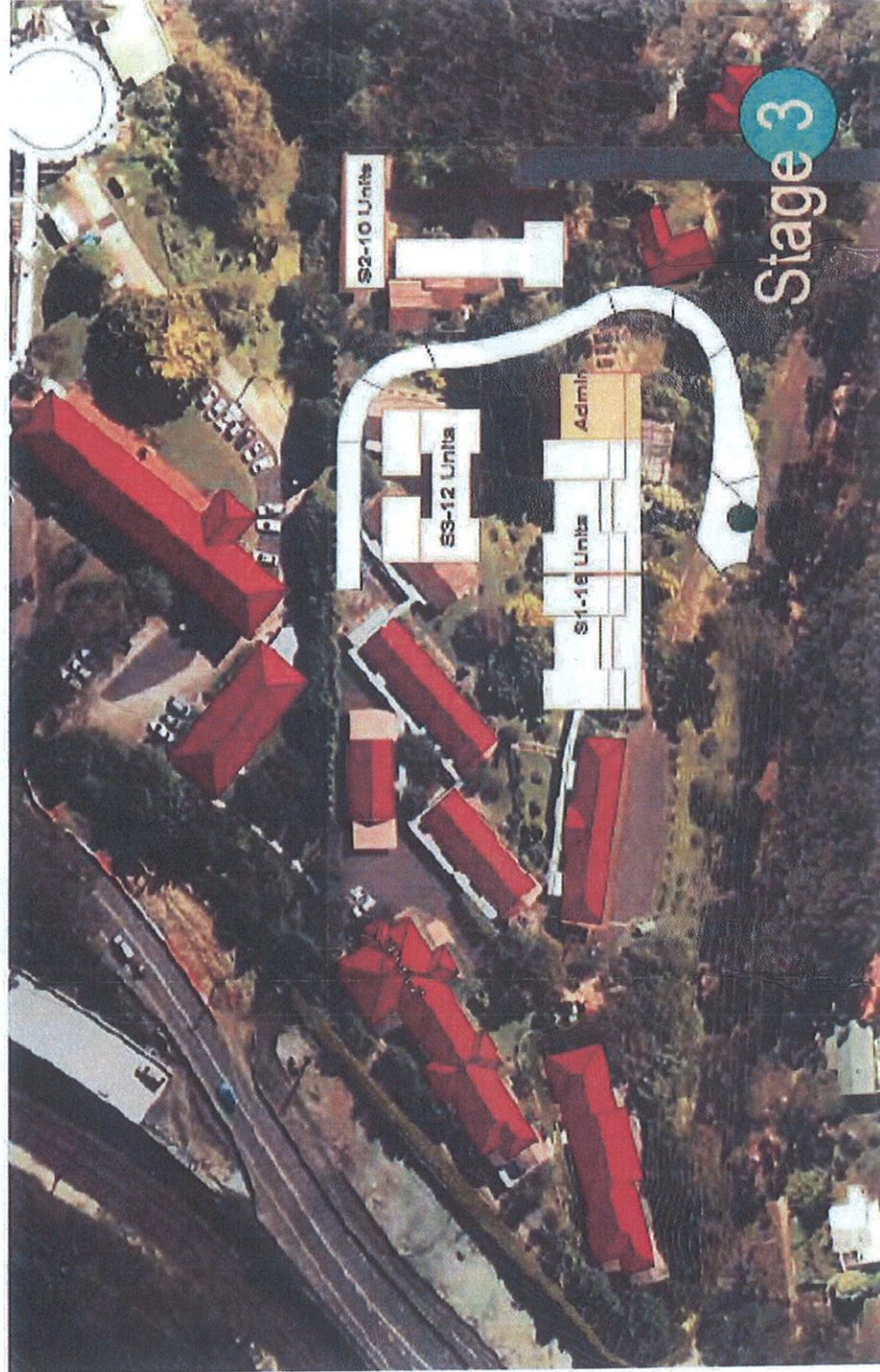


Figure 7 – Stage 4 layout.

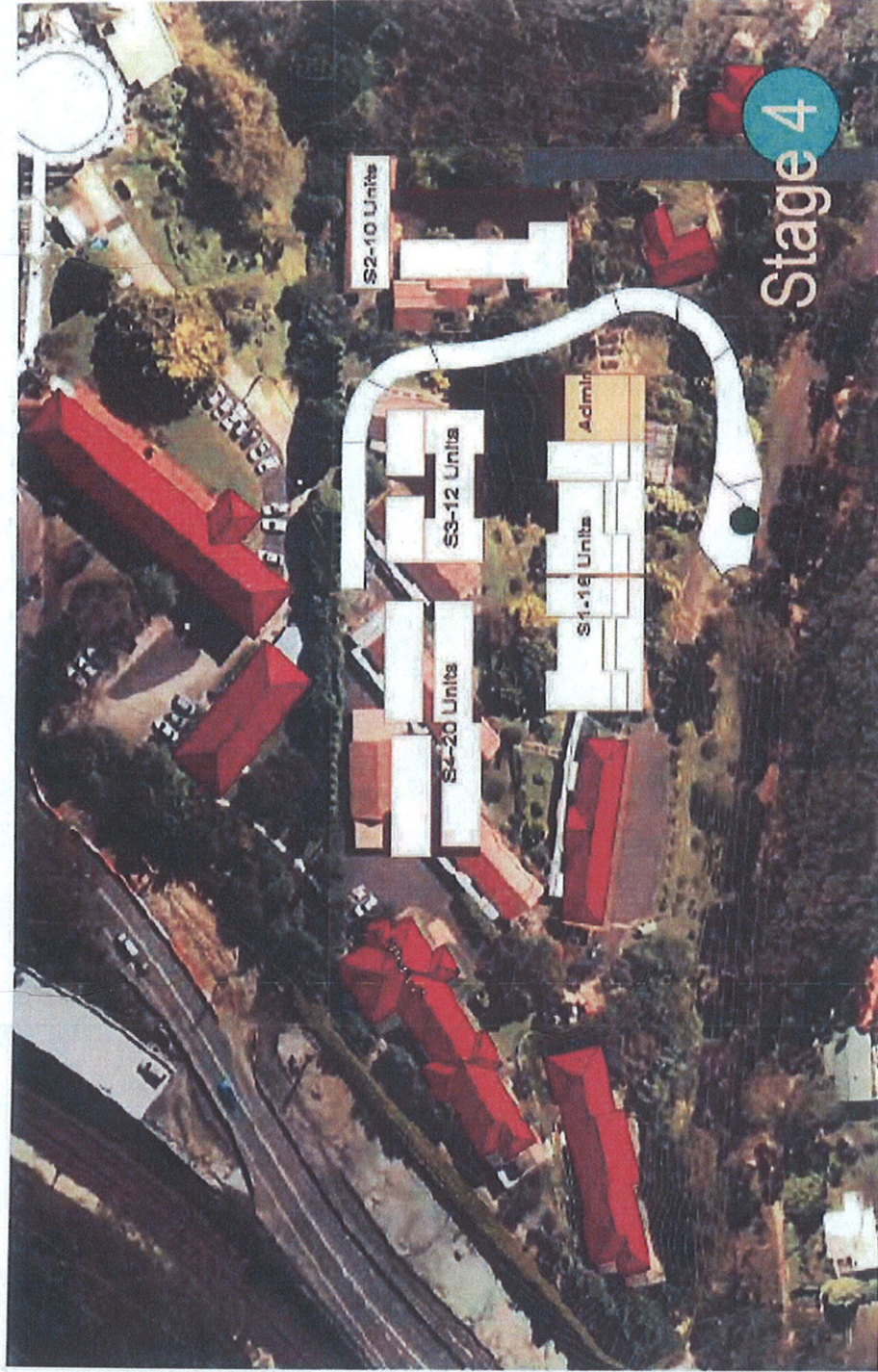
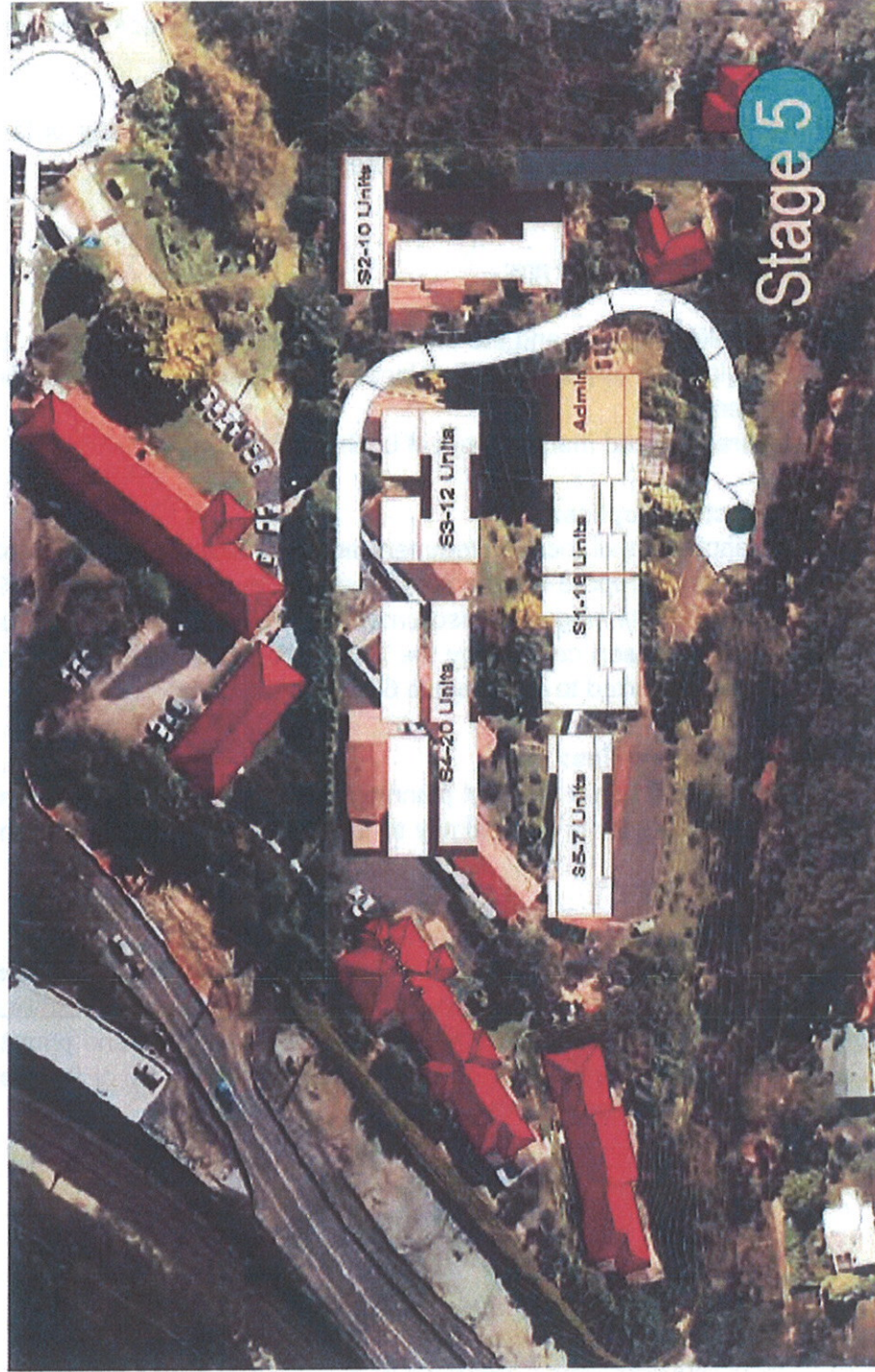


Figure 8 – Stage 5 layout.



1.3 Statutory Requirements.

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

1.3.1 Legislation.

The Minister for Planning, under section 117(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act), issues directions that relevant planning authorities such as local councils must follow when preparing planning proposals for rezoning of land.

Direction 4.4 – Planning for Bushfire Protection applies to rezoning of land which is deemed to be bushfire prone and states:

Objectives:

The objectives of this direction are:

- (a) to protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas, and
- (b) to encourage sound management of bush fire prone areas.

Where this direction applies:

This direction applies to all local government areas in which the responsible Council is required to prepare a bush fire prone land map under section 146 of the *Environmental Planning and Assessment Act 1979* (the EP&A Act), or, until such a map has been certified by the Commissioner of the NSW Rural Fire Service, a map referred to in Schedule 6 of that Act.

When this direction applies:

This direction applies when a relevant planning authority prepares a planning proposal that will affect, or is in proximity to land mapped as bushfire prone land.

What a relevant planning authority must do if this direction applies:

In the preparation of a planning proposal the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a gateway determination under section 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:

- (a) have regard to *Planning for Bushfire Protection 2006*;
- (b) introduce controls that avoid placing inappropriate developments in hazardous areas, and
- (c) introduce controls that avoid placing inappropriate developments in hazardous areas, and
- (d) 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:
 - (i) 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
 - (ii) 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 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,
- (c) Contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,
- (d) Contain provisions for adequate water supply for firefighting 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.

Consistency:

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

1.3.2 Planning Policies.***Planning for Bushfire Protection – 2006 (Rural Fire Service).***

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

In addition to the provisions of the *Planning for Bushfire Protection 2006* document, the Commissioner may determine, under Section 100B of the *Rural Fires Act 1997*, additional measures that are considered necessary to protect the development against the impact of bushfire.

1.4 Documentation reviewed in this Assessment.

To achieve the aim of this report, a review of information relevant to the property and proposed development was undertaken. Information sources reviewed included the following documents:

- Survey Plan of Blue Mountains Retirement Village, prepared by Calder Flower Architects;
- Site Plan showing Asset Protection Zone setback, prepared by Calder Flower Architects;
- Master Plan layout prepared by Calder Flower Architects;
- Staging Plan prepared by Calder Flower Architects;
- Blue Mountains City Council Bushfire Prone Land Map;
- Environmental Planning & Assessment Act 1979;
- *Planning for Bushfire Protection 2006* prepared by the NSW Rural Fire Service;
- Australian Standard AS3959 – 2009 – “Construction of Buildings in Bushfire Prone Areas”;
- *Rural Fires Regulation 2008*.

1.5 Site Inspection.

Graham Swain of *Australian Bushfire Protection Planners Pty Limited* inspected the site and surrounding areas on the 28th July 2010 to determine the vegetation types within and adjoining the development site; adjoining development; slope of the land within and external to the site; existing bushfire mitigation measures; land management techniques and a visual appraisal of the bushfire hazard and potential fire paths were also undertaken.

Vegetation within and external to the site was inspected to determine the accuracy of the Blue Mountains Bushfire Prone Land Map.

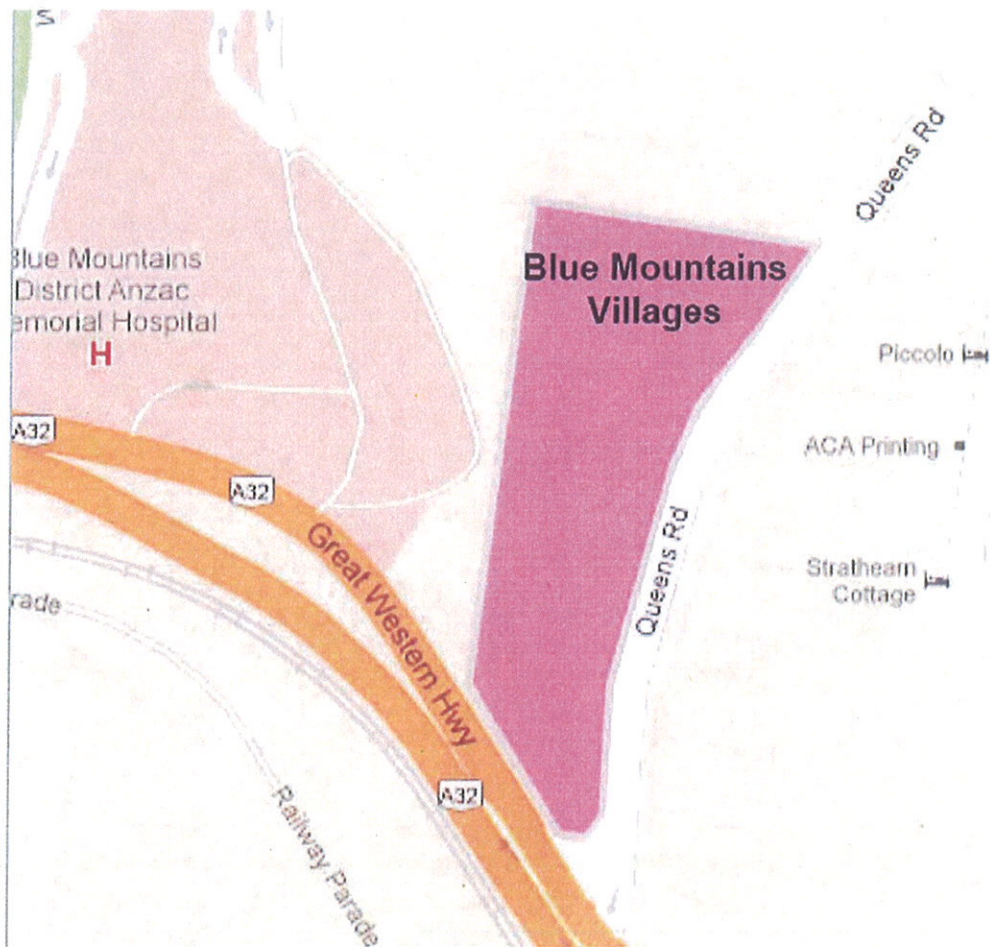
SECTION 2

SITE DESCRIPTION

2.1 Location and Description.

The development site consists of land within Lot 4 in DP 1066824; Pt 7 in DP 626827; Lot 3 in DP 645699; Lot 6 in DP 626827 and Lot 19 in DP 5140, No. 2 – 10 Queens Road, Leura.

Figure 9 – Location of Woodlands UPA Retirement Village.



2.2 Existing Land Use.

The development site contains the Blue Mountains Villages Retirement complex with two existing residential dwellings – one located on Lot 6 in DP 626827, No. 8 Queens Road and the other located on Lot 19, Section 1 in DP 5140, No. 14 Queens Road.

Both of these dwellings will remain and maybe refurbished in the future.

2.3 Land Use within 100 metres of Development Site.

a) **North**

Vacant land extends to the north of the development site.

b) **East**

The land to the east of the Village, beyond Queens Road, comprises private residential development.

c) **South**

The southern boundary of the Village adjoins the Great Western Highway corridor with the Great Western Railway located to the south of the Highway. Residential development extends to the south of the Railway corridor.

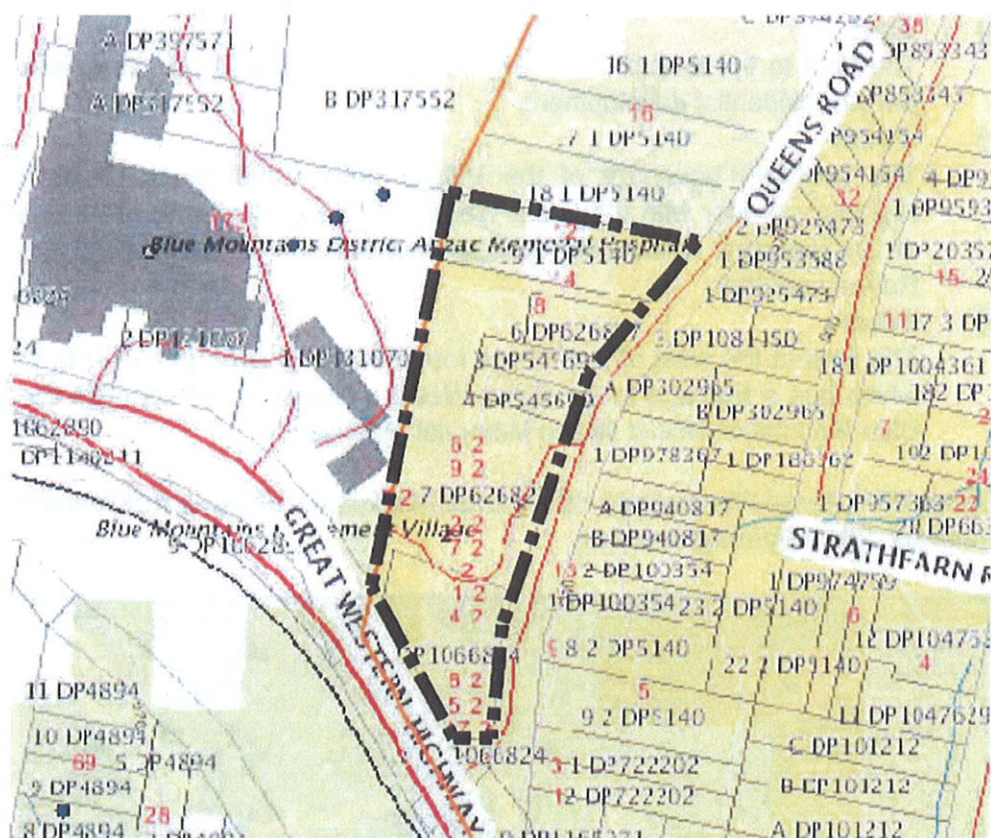
d) **West**

The land to the west of the Village forms part of a large parcel of land which has a frontage to the Great Western Highway and contains the Blue Mountains District Anzac Memorial Hospital.

Figure 10 – Aerial Photograph of the Blue Mountains Villages Retirement complex and adjoining landuse.



Figure 11 – Cadastre Plan of the Blue Mountains Villages Retirement complex and adjoining lots.



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.

a) Within the Development Site.

The land within the development site falls evenly from the western boundary to the east towards Queens Road with the south-eastern corner of the site falling to the southeast and the north-eastern corner falling to the northeast towards Queens Road.

b) Within 100 metres of the Site.

The vacant land to the north and northwest of the site falls to the northwest at less than 10 degrees [determined on site using hand held Clinometer].

The Highway and Railway corridors to the south are benched whilst the land to the south of the Rail corridor falls to the south.

The residential land, to the east of the Queens Road corridor, falls steeply [10 – 18 degrees] into a valley formation which in turn falls to the north.

Figure 12 – BMCC Slope Plan.

Slope (Source: DLEP 2002 Study)

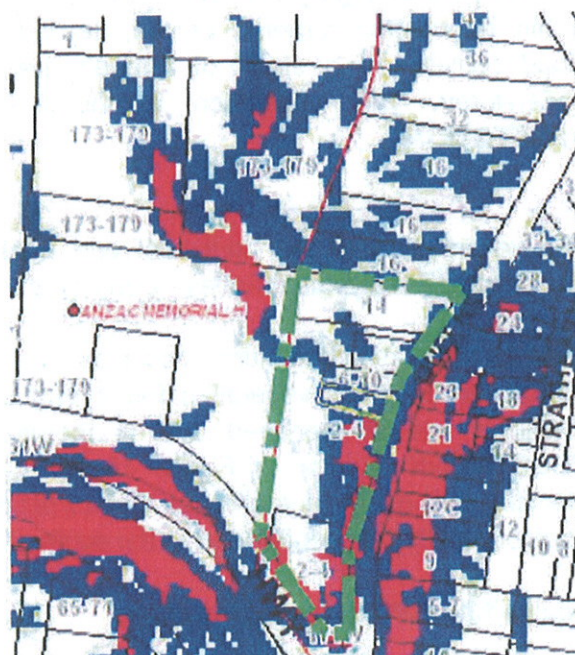
- 0 - 20 %
- 20 - 33 %
- 33+ %

No slope data available

General

LGA Boundary

National Park Boundary



Note – the gradient of the land to the north and northwest of the Blue Mountains Village complex was site assessed as being less than 10 degrees.

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 Development Site.

The development site contains landscaped gardens within the managed curtilages to the existing buildings.

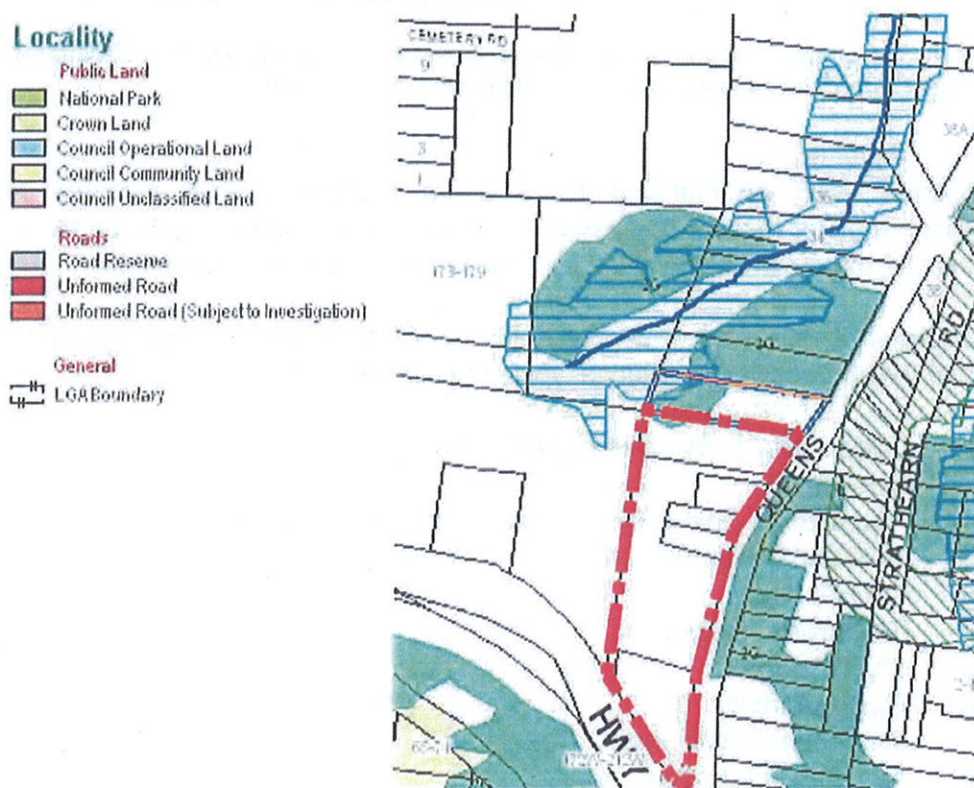
The mapped Category 2 Bushfire Prone Vegetation deemed to be located within the western corner of Lot 19, Section 1 in DP 5140, No. 14 Queens Road consists of a stand of remnant trees which have a mown lawn understorey. This vegetation is therefore **NOT BUSHFIRE PRONE VEGETATION**.

2.5.2 Vegetation within 140 metres of the Development Site.

The vacant land to the northwest and north of the Village site contains unmanaged Eucalyptus oreades Open Forest.

A similar vegetation community occupies the residential land to the east of the Village however this vegetation forms part of the curtilage to the existing dwellings and is managed and is therefore **NOT BUSHFIRE PRONE VEGETATION** – refer to Figure 13 BMCC Vegetation Map which also identifies that Eucalyptus oreades Open Forest also occupies part of the Rail corridor and the residential land to the south of the Rail corridor.

Figure 13 – BMCC Vegetation Map.



2.6 Significant Environmental Features within the Development Site.

The land within the development site does not contain significant environmental features such as SEPP 14 Wetlands, SEPP 44 Koala Habitat, SEPP 26 Littoral Rainforests; land slip areas or National Parks Estate; areas of geological interest or steep lands [>18 degrees] or a riparian corridors.

2.7 Known Threatened Species, population or ecological community within the Development Site.

There are no known threatened species, population or ecological community within the development site.

2.8 Details and location of Aboriginal relics or Aboriginal place.

There are no sites of Aboriginal heritage significance within the proposed development site.

SECTION 3

BUSHFIRE MANAGEMENT RESPONSIBILITIES

Bushfire management within the Blue Mountains Local Government Area [LGA] is the responsibility of:

3.1 Blue Mountains City Council.

The Blue Mountains City Council has responsibility, under Section 66 of the *Rural Fires Act*, to issue a notice in writing requiring an owner / occupier of any land within their LGA to carry out bushfire hazard reduction works on that land. Section 100E of the *Rural Fires Act* requires Councils to issue bushfire hazard reduction certificates for hazard reduction to be undertaken on private lands.

3.2 New South Wales Rural Fire Service.

The NSW Rural Fire Service (RFS) has the responsibility for undertaking fire suppression activities, hazard management activities and other functions relative to emergency management, within its areas of operation. Section 73 of the *Rural Fires Act (1997)* enables the Commissioner to carry out bush fire hazard reduction works on any land as required by a bush fire risk management plan if the work has not been carried out satisfactorily. Incurred costs can be recovered as a debt owed to the Crown. *[Note: The Village is not located within a NSW Rural Fire Service Fire District].*

3.3 Fire & Rescue New South Wales.

Fire & Rescue NSW has the responsibility for undertaking fire suppression activities, hazard management activities and other functions relative to emergency management and bushfire prevention, within the Fire & Rescue NSW District. Hazmat management within New South Wales is the responsibility of the Fire & Rescue NSW.

3.4 Blue Mountains City Bushfire Management Committee.

The Blue Mountains City Bushfire Management Committee has the responsibility for planning for coordinated fire fighting activities / hazard management activities on a local government level. It is not an operational organization, a fire fighting organization or a funding source for fire management activities.

The Bush Fire Management Committee is supported by the following provisions of the *Rural Fires Act 1997*:

- **Section 52** requires each Bush Fire Management Committee to prepare a draft bush fire management plan for their local areas which includes a plan of operations and a bush fire risk management plan.

- **Section 54** of the Act specifies that a draft bush fire risk management plan is to 'set out schemes for the reduction of bush fire hazards in the rural fire district or other part of the State'. A draft bush fire risk management plan may also restrict or prohibit the use of fire or other fire hazard reduction activities in all or specified circumstances or places to which the plan applies.

3.5 Public Authorities & owners/occupiers of land.

The Rural Fires Act, 1997 provides several legislative opportunities to require Public Authorities land owners and occupiers to manage hazardous fuels. These are listed below:

- **Section 63(1)** states that it is the duty of a public authority to take any practicable steps to prevent the occurrence of bushfires on, and to minimise the danger of the spread of a bushfire on or from:
 - (a) any land vested in or under its control or management, or
 - (b) any highway, road, street, land or thoroughfare, the maintenance of which is charged on the authority.
- **Section 63(2)** states that 'it is the duty of the owner or occupier of land to take the notified steps (if any) and any other practicable steps to prevent the occurrence of fires on, and to minimise the danger of the spread of fires on or from that land'.
- **Section 65A** states that the 'Commissioner may nominate a member of the Service as a hazard management officer'.
- **Section 65(2)** states that 'an authorised person may, with the permission of the fire fighting authority or other authority responsible for unoccupied Crown land or managed land or a person nominated by the authority to give such permission, enter the land and carry out bushfire hazard reduction work with the assistance of such other persons as the authorised person considers to be necessary for the purpose'.
- **Section 65(3)** states that 'the authority responsible for unoccupied Crown land or managed land is to be taken to have given the permission under this section to the extent necessary to give effect to a bushfire risk management plan'.
- **Section 65(4)** states that 'if permission under this section is given subject to conditions, the conditions must be complied with'.

- **Section 66(1)** states that 'a hazard management officer may, by notice in writing, require the owner or occupier [not being a public authority] of any land to carry out bushfire hazard reduction work specified in the notice on the land'.
- **Section 66(2)** states that 'a hazard management officer must serve a notice under this section if required to do so by a bushfire risk management plan applicable to the land that is in force'.
- **Section 66(3)** states that 'a hazard management officer must issue a bushfire hazard reduction certificate in respect of any bushfire hazard reduction work required by a notice issued in accordance within section (2)'.
- **Section 66(6)** states that 'the requirements and conditions so specified must include any requirements in a bushfire risk management plan that is applicable to the land and is in force and may include a requirement or condition that the burning of fire breaks or of combustible material;
 - (a) must in fire district constituted under the Fire Brigades Act 1989 be carried out by or under the supervision of the fire brigade or an officer in charge of the fire brigade;
 - (b) must outside a fire district, be carried out by or under the supervision of the rural fire brigade specified in the notice or an appropriate officer of the rural fire brigade or any hazard management officer.
- **Section 66(7)** states that 'a notice requiring the establishment of a firebreak cannot require an occupier or owner to kill or remove any trees that are reasonably necessary for shade, shelter, windbreak or fodder purposes or the protection of threatened species, populations, ecological communities or critical habitats within the meaning of the 'Threatened Species Conservation Act 1995'.
- **Section 66(8)** states that 'an occupier or owner to whom a bushfire hazard reduction notice is given must, despite the fact that a fire permit has not been granted under Division 5, comply with the requirements specified in the notice'.
- **Section 70(2)** states that 'if within the time specified in the relevant notice the owner or occupier to whom it is given fails to comply with any requirement of the notice, the Commissioner may, without prejudice to liability of the owner or occupier, enter on the land and carry out the bushfire hazard reduction work the owner or occupier was required to do under the notice'.

- **Section 70(3)** states that '*any costs incurred by the Commissioner in carrying out such work may be recovered from the owner or occupier of the land as a debt due to the Crown in a court of competent jurisdiction*'.
- **Section 87** allows the removal of hazards in the bush fire danger period by the provision of a permit system. The permits are valid for 21 days, excluding TOBAN days.

Section 10 permits are not required to adhere to *Part V* provisions of the EPA Act 1979 in the assessment of impact, except for public authorities. An owner/occupier of private land must obtain from the NSW Rural Fire Service, a bushfire hazard reduction certificate before undertaking hazard reduction works on that land (Section 100E of the *Rural Fires Act 1997*).

3.6 Bushfire Hazard Management within the development site.
The management of the landscaped gardens within the Village will remain the responsibility of the owners/operators of the Village.

SECTION 4

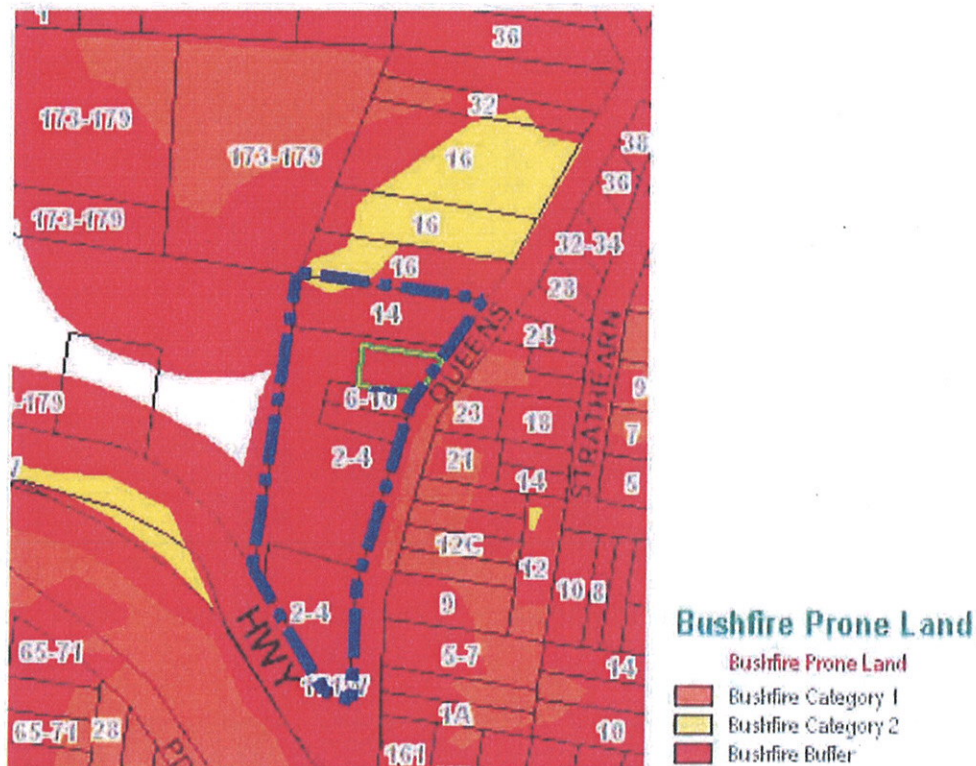
BUSHFIRE PRONE LAND MAP

The Blue Mountains City Council Bushfire Prone Land Map identifies the areas of the LGA which have been determined by Blue Mountains City Council to contain Bushfire Prone Vegetation.

The map also records the extent to which the buffer zone to Bushfire Prone Vegetation extends beyond the line of the vegetation which is deemed to be bushfire prone. The map triggers the necessity for development on a site impacted by bushfire prone vegetation or the buffer zone to comply with the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006*.

Figure 14 below is an extract from the Blue Mountains Bushfire Prone Land Map which shows the vegetation which has been deemed by Council to be bushfire prone.

Figure 14 – Extract from the Blue Mountains Bushfire Prone Land Map showing the extent of Category 1 & 2 Vegetation deemed to be within 100m of the Village.



However, the site investigation undertaken has confirmed that the map record of vegetation which is bushfire prone is NOT accurate as the mapped Category 2 vegetation shown on the northern portion of Lot 19, Section 1 in DP 5140, No. 14 Queens Road consists of a remnant tree canopy with a managed understorey.

Similarly, the mapped Category 1 bushfire prone vegetation on the residential land to the east of Queens Road consists of vegetation which forms the managed curtilages to the existing dwellings and the vegetation shown to be located in the Great Western Railway corridor is also not accurately mapped.

However, the proposed development, being the re- construction of a '*Special Fire Protection Purpose Development*', remains captured by the Bushfire Prone Land Map and the '*Special Fire Protection*' provisions of *Planning for Bushfire Protection 2006* apply. These are examined in Section 5 of this report.

SECTION 5

BUSHFIRE PROTECTION ASSESSMENT

5.1 Introduction.

Under Direction 4.4 – '*Planning for Bushfire Protection*' 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:
 - (i) 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
 - (ii) 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 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,
- (c) Contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,
- (d) Contain provisions for adequate water supply for firefighting 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.

Planning for Bushfire Protection 2006 provides a methodology to determine the Asset Protection Zones required for *Special Fire Protection Purpose* developments located in areas that are designated as bushfire prone.

Section 5.2 of this report uses this methodology to determine the Asset Protection Zones required that address the Asset Protection Zone component of the Ministerial Direction. The remaining items identified by the Ministerial Direction are examined in Sections 5.3 – 5.9 of this report.

5.2 Asset Protection Zones

5.2.1 Determination of Asset Protection Zones – Aged Care New Building within Stage 1:

Section 100B of the *Rural Fires Act 1997* identifies that a retirement living complex is defined as a 'Special Fire Protection Purpose' development which requires the implementation of Asset Protection Zones that achieve a radiant heat load of no greater than 10kW/m^2 on the proposed buildings.

To achieve this level of radiant heat exposure on the buildings within the Blue Mountains Villages complex Asset Protection Zone setbacks [separation distance to unmanaged vegetation] must comply with Table A2.6 of *Planning for Bushfire Protection 2006*.

The Master Plan layout provides that for the 'Special Fire Protection Purpose' component of the Stage 1 building, an Asset Protection Zone of 85 metres is required between the unmanaged Forest vegetation on the vacant land to north of the development site and the new building, for an effective slope of < 10 degrees.

This setback width is achieved.

5.2.2 Determination of Asset Protection Zones – New Administration Building within Stage 1:

Section 100B of the *Rural Fires Act 1997* does not include buildings which function as Administrative components of an aged care facility as a 'Special Fire Protection Purpose' development and the radiant heat load of no greater than 10kW/m^2 does not apply as the Administration building is not deemed to accommodate vulnerable persons and therefore the NSW Rural Fire Service has provided advice that the configuration as presented by the Master Plan will be acceptable.

The *Building Code of Australia* identifies this landuse as a Class 5 building.

Section 4.3.6 of *Planning for Bushfire Protection 2006* states that the Building Code of Australia does not provide for any bushfire specific performance requirements and the general fire safety construction provisions are taken as acceptable solutions, but the aim and objectives of *Planning for Bushfire Protection 2006* apply in relation to access, water and services, emergency planning and landscape/vegetation management.

The proposed Administration building is located approximately 73 metres from the northern boundary of the development site with a resultant level of exposure of 12.5 kW/m^2 on the northern end of the building.

5.2.3 Determination of Asset Protection Zone – Stage 2 Aged Care Facility:

Stage 2 of the Master Plan provides for the demolition of the existing Units 31 – 40, located in the north-western corner of the development site.

The NSW Rural Fire Service has advised that this component of the redevelopment proposal will be considered as '*infill development*' with the requirement that the new building be located no closer to the hazard than the existing building/s.

The Master Plan layout provides a separation distance to the unmanaged Forest vegetation on the vacant land to the north of the development site of approximately 46 metres which results in the northern aspect of the new building being exposed to a radiant heat level of 29kW/m^2 , which is the maximum level of exposure for residential development.

It is recommended that the access to the Stage 2 complex be located on the southern aspect of the building, thus providing shielding and a reduction in the level of radiant heat exposure on residents/visitors and emergency service personnel exiting the building.

5.2.4 Determination of Asset Protection Zone – Stage 3 Aged Care Facility:

Stage 3 of the Master Plan provides for the demolition of the existing Units 1 – 4 and 25 – 29, located adjacent to the western boundary of the development site, opposite the Hospital Buildings.

The NSW Rural Fire Service has advised that this component of the redevelopment proposal will be considered as '*infill development*' with the requirement that the new building be located no closer to the hazard than the existing building/s.

The Master Plan layout provides a separation distance to the unmanaged Forest vegetation on the vacant land to the north of the development site of approximately 80 metres which results in the northern aspect of the new building being exposed to a radiant heat level of 12.5kW/m^2 .

It is recommended that the access to the Stage 3 complex be located more than 85 metres from the bushfire hazard in order to reduce the radiant heat level to less than 10kW/m^2 and therefore address the requirement for safe operational access to the building.

5.2.5 Determination of Asset Protection Zone – Stage 4 Aged Care

Facility:

Stage 4 of the Master Plan provides for the demolition of the existing Unit 5; Units 6 – 9 and Units 10 – 14, located adjacent to the western boundary of the development site, opposite the Hospital Buildings.

This component of the Master Plan is located more than 100 metres from the bushfire hazard to the north of the development site, therefore reducing the radiant heat exposure on the exterior of the building to less than 10kW/m^2 .

However, the southern end of the Stage 4 building falls within 100 metres of the Forest vegetation on the land within the Great Western Railway corridor.

NSW Rural Fire Service has advised that this component of the redevelopment proposal will be considered as '*infill development*' with the requirement that the new building be located no closer to the hazard located to the south than the existing building/s.

The Master Plan layout provides a separation distance to the unmanaged Forest vegetation in the Railway corridor to the south of the development site of approximately 80 metres which results in the southern aspect of the new building being exposed to a radiant heat level of 19kW/m^2 , for an effective slope of less than 15 degrees downslope to the south.

It is recommended that the access to the Stage 4 complex be located more than 100 metres from the bushfire hazard to the south in order to reduce the radiant heat level to less than 10kW/m^2 and therefore address the requirement for safe operational access to the building.

5.2.6 Determination of Asset Protection Zone – Stage 5 Aged Care

Facility:

Stage 5 of the Master Plan provides for the demolition of the existing Unit 5; Units 15 – 19, located adjacent to the eastern, Queens Road boundary of the development site.

This component of the Master Plan is located more than 100 metres from the bushfire hazard to the north of the development site, therefore reducing the radiant heat exposure on the exterior of the building to less than 10kW/m^2 .

However, the southern end of the Stage 5 building falls within 100 metres of the Forest vegetation on the land within the Great Western Railway corridor.

NSW Rural Fire Service has advised that this component of the redevelopment proposal will be considered as '*infill development*' with the requirement that the new building be located no closer to the hazard located to the south than the existing building/s.

The Master Plan layout provides a separation distance to the unmanaged Forest vegetation in the Railway corridor to the south of the development site of approximately 89 metres which results in the southern aspect of the new building being exposed to a radiant heat level of 12.5kW/m^2 , for an effective slope of less than 15 degrees downslope to the south.

It is recommended that the access to the Stage 5 complex be located more than 100 metres from the bushfire hazard to the south in order to reduce the radiant heat level to less than 10kW/m^2 and therefore address the requirement for safe operational access to the building.

5.3 Construction Standards to the proposed buildings.

5.3.1 Stage 1 Aged Care Building.

The proposed aged care component of the Stage 1 redevelopment of the Blue Mountains Villages complex is located more than 85 metres from the bushfire hazard on the land to the north of the development site, therefore complying with the Asset Protection Zone width required by Table A2.6 of *Planning for Bushfire Protection 2006*.

The level of radiant heat exposure on this building is therefore less than 10kW/m^2 however the building shall be constructed to comply with BAL 12.5 in accordance with the specifications pursuant to A.S. 3959 – 2009 – ‘Construction of Buildings in Bushfire Prone Areas’.

5.3.2 Stage 1 Administration Building.

The Administration building attached to the northern end of the Stage 1 aged care building is located approximately 73 metres from the bushfire hazard to the north and therefore this building shall also be constructed to comply with BAL 12.5 in accordance with the specifications pursuant to A.S. 3959 – 2009 – ‘Construction of Buildings in Bushfire Prone Areas’.

5.3.3 Stage 2 Aged Care Building.

The proposed Stage 2 aged care component of the redevelopment of the Blue Mountains Villages complex is located 46 metres from the bushfire hazard on the land to the north of the development site, therefore not complying with the Asset Protection Zone width required by Table A2.6 of *Planning for Bushfire Protection 2006*.

The level of radiant heat exposure on the northern elevation of this building is 29kW/m^2 therefore this elevation shall be constructed to comply with BAL 29 in accordance with the specifications pursuant to A.S. 3959 – 2009 – ‘Construction of Buildings in Bushfire Prone Areas’. The remaining elevations are to be constructed to comply with BAL 19 in accordance with the specifications pursuant to A.S. 3959 – 2009 – ‘Construction of Buildings in Bushfire Prone Areas’.

5.3.4 Stage 3 Aged Care Building.

The proposed Stage 3 aged care component of the redevelopment of the Blue Mountains Villages complex is located 80 metres from the bushfire hazard on the land to the north of the development site.

The level of radiant heat exposure on the northern elevation of this building is 12.5kW/m^2 therefore this elevation and the remaining elevations shall be constructed to comply with BAL 12.5 in accordance with the specifications pursuant to A.S. 3959 – 2009 – '*Construction of Buildings in Bushfire Prone Areas*'.

5.3.5 Stage 4 Aged Care Building.

The proposed Stage 4 aged care component of the redevelopment of the Blue Mountains Villages complex is located more than 100 metres from the bushfire hazard on the land to the north of the development site and approximately 80 metres from the bushfire hazard within the Railway corridor to the south.

The level of radiant heat exposure on the southern elevation of this building is 12.5kW/m^2 therefore this elevation and the remaining elevations shall be constructed to comply with BAL 12.5 in accordance with the specifications pursuant to A.S. 3959 – 2009 – '*Construction of Buildings in Bushfire Prone Areas*'.

5.3.6 Stage 5 Aged Care Building.

The proposed Stage 5 aged care component of the redevelopment of the Blue Mountains Villages complex is located more than 100 metres from the bushfire hazard on the land to the north of the development site and approximately 89 metres from the bushfire hazard within the Railway corridor to the south.

The level of radiant heat exposure on the southern elevation of this building is 12.5kW/m^2 therefore this elevation and the remaining elevations shall be constructed to comply with BAL 12.5 in accordance with the specifications pursuant to A.S. 3959 – 2009 – '*Construction of Buildings in Bushfire Prone Areas*'.

Due to the likelihood that the Village may be exposed to embers given off by a bushfire burning in the vegetation remote to the site it is recommended that ember protection be installed in the form of non-combustible gutter guard fitted to roof gutters.

5.4 Access for Fire Fighting Operations.

5.4.1 Emergency Response Access / Egress.

Existing Fire Service access to the Village is provided off Queens Road. The stage redevelopment of the Village will provide a better emergency access/egress with the provision of a new access road which connects to the existing internal driveway to provide a perimeter access to the new buildings.

The exception to this is the access to Stage 2 which will remain a single access driveway that will be designed to provide complying turning facilities on the western end.

5.4.2 Adequacy of Public Roads.

Emergency service access to the Village is provided off Queens Road to the east. This road is a two lane public road which satisfies the deemed-to-comply provisions of Section 4.1.3(1) 'Public Road Access' of *Planning for Bushfire Protection 2006*.

5.4.3 Fire Trail Access.

There are no fire trails within the property and none are required.

5.5 Fuel Management.

Management of the landscaped gardens within the Retirement Village provides complying Asset Protection Zones across the entire site.

5.6 Emergency Management for Fire Protection / Evacuation.

The proposed redevelopment of the buildings within the site provides a better bushfire protection outcome than currently exists on site and decreases the risk to the occupants.

However, the existing Evacuation Plan shall be updated as each stage is completed in order to address the protocols necessary should the site be impacting directly or indirectly by a bushfire.

The protocols shall include possible relocation within the complex or to a remote safe refuge, off site.

5.7 Water Supplies for Fire Fighting Operations.

A reticulated mains water supply is located in Ocean Road with the potable and fire-fighting water supply to the Village fed from this main.

The redevelopment of the Village shall address the fire-fighting water supply requirements of A.S. 2419.1 – 2005.

5.8 Landscape Management:

The intention of landscape hazard management is to prevent flame contact with a structure, reduce radiant heat to below the ignition thresholds for various elements of a building, to minimize the potential for wind driven embers to cause ignition and to reduce the effects of smoke on occupants and fire-fighters.

The management of the Asset Protection Zones and the site in general, shall comply with the recommendations of Appendix A5.4 & Appendix A5.5 of *Planning for Bushfire Protection 2006* and the Rural Fire Service's document '*Standards for Asset Protection Zones*'.

Management of the Asset Protection Zone setback and site in general shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the buildings; Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to the buildings;
- Keep areas under shrubs and trees raked and clear of combustible fuels;
- Trees and shrubs should be maintained in such a manner that tree canopies are separated by 2 metres and understorey vegetation is not continuous [retained as clumps].

SECTION 6

CONCLUSION

A Planning Proposal to amend the Blue Mountains Local Environmental Plan [LEP] to rezone land on which the Blue Mountains Villages complex is located at Queens Road, Leura, is being proposed in order to permit the redevelopment of the site.

The land within the development site is currently zoned 'Living Bushland Conservation' under the Blue Mountains City Council Local Environmental Plan 2005 and contains an area of approximately 1.5 hectares.

Blue Mountains City Council has advised the Applicant that the land use proposed under the Master Plan [Seniors Living Development] is not permissible within a 'Conservation Zone' pursuant to the requirements of Clause 4(6) of the *State Environmental Planning Policy [Housing for Seniors and People with a Disability 2004]* as it is prohibited under Schedule 1 of the SEPP, which includes land that is described as 'Conservation'.

Council therefore advised that a Planning Proposal application should be lodged for the rezoning of the land within the development site from 'Living Bushland Conservation' to 'Living – General Zone' under the Blue Mountains Local Environmental Plan 2005 which would permit the construction of 'Accessible Housing' [Seniors Living] on the site.

The Blue Mountains Bushfire Prone Land Map records the site as containing a small area of Category 2 bushfire prone vegetation with the remainder of the site impacted by the buffer zone to this and Category 1 vegetation located on adjoining lands. Therefore under the requirements of Section 117(2) of the *Environmental Planning & Assessment Act 1979* the Director General's directive is that the impact of natural hazards be considered.

Under Direction 4.4 – '*Planning for Bushfire Protection*' 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:
 - (iii) 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
 - (iv) 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 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,
- (c) Contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,
- (d) Contain provisions for adequate water supply for firefighting 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.

These matters have been reviewed and recommendations provided on the provision and management of Asset Protection Zones/Defendable Spaces; access and water supplies for fire-fighting operations; construction standards to buildings, management of bushfire hazards and emergency management to the development permitted with consent within a 'Living – General Zone'.

The recommendations provided in this report are derived from the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006* in relation to Section 100B of the *Rural Fires Act 1997* for the construction of a new aged care building and the construction of a Class 5 building, pursuant to the Building Code of Australia, within the Stage 1 component of the redevelopment.

The redevelopment of the buildings within Stages 2 – 5 are defined as being '*infill development*', pursuant to Section 4.2.5 of *Planning for Bushfire Protection 2006*, and achieve a better bushfire protection outcome than presently exists on the site.

The proposed redevelopment therefore complies with the aim and objectives of *Planning for Bushfire Protection 2006* in relation to the proposed land use [Seniors Living Development].

Table 1 summarises the extent to which the proposed redevelopment conforms to the deemed-to-satisfy specifications of *Planning for Bushfire Protection 2006* and the specific advice provided by the NSW Rural Fire Service.

Table 1. Compliance with the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006*.

Bushfire Protection Measure	Compliance with deemed-to-satisfy provisions of <i>Planning for Bushfire Protection 2006</i>.
Asset Protection Zone/defendable space setbacks	YES – The width of Asset Protection Zone to the proposed new aged care building within Stage 1 exceeds the width required by Table A2.6 [Special Fire Protection Purpose Development] of <i>Planning for Bushfire Protection 2006</i>. The Defendable Space to the Administration Building in the Stage 1 development is 70 metres which is beyond the flame zone setback as required by the NSW Rural Fire Service. The redevelopment of the existing buildings in proposed Stage 2, 3, 4 & 5 address the advice provided the NSW Rural Fire Service and are located no closer to the hazard than the existing buildings
The siting and adequacy of water supplies for fire fighting	YES – A hydrant supply is installed for fire-fighting operations, in accordance with AS 2419.1 - 2005. This service will be progressively upgraded as part of each development stage
Design of Public Roads	YES – The existing public road [Queen Road] and internal access roads provide adequate access for fire-fighting appliances. The internal road network will be upgraded to provide a perimeter road access/egress to the site – except for Stage 2 which will include complying access road design including a turning head capable of accommodating a Category 1 RFS Appliance
Design of Fire Trail network	No fire trail network is required.
Adequacy of emergency response access and egress	The upgraded internal road network will provide safe access/egress for emergency service vehicles.
Adequacy of bushfire maintenance plans and fire emergency procedures	There is no requirement for the implementation of a bushfire maintenance plan as the Asset Protection Zone/s Defendable Spaces are located within the development site.
Building construction standards	Maximum bushfire construction standard to the buildings within Stages 1, 3, 4 & 5 is BAL 12.5. Construction of the buildings within the Stage 2 redevelopment shall be BAL 29 to the northern elevation/s and BAL 19 to the remaining elevations.
Adequacy of sprinkler systems and other fire protection measures to be incorporated into the development	Not applicable.
Evacuation Procedures	The existing Evacuation Plan for the Village shall be updated prior to the occupancy of each redevelopment stage so as to address the bushfire management protocols for the site.



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SECTION 7 – Master Plan showing the width of Asset Protection Zones/Defendable Spaces to buildings within Stages 1 – 5 – Blue Mountains Villages.



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*”;
- Blue Mountains Bushfire Prone Land Map.