

BUSHFIRE PROTECTION ASSESSMENT

FOR THE PROPOSED  
STAGE 1C RESIDENTIAL SUBDIVISION

OF

SEASCAPE GROVE,  
LOT 124 in DP 1097510,  
BELLE O' CONNOR STREET,  
SOUTH WEST ROCKS

FOR

WALDEL PARK PTY LTD.



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<b>Assessment Number</b>	<b>Document</b>	<b>Preparation Date</b>	<b>Issue Date</b>	<b>Directors Approval</b>
B07574 - 1	Final	3.11.2007	10.11.2007	<i>G.L.Swain</i>

## EXECUTIVE SUMMARY

*Australian Bushfire Protection Planners Pty Limited*, at the request of *Waldel Park Pty Ltd*, has undertaken the bushfire consultancy to inform the project planning process, under Part 3A [Major Projects under State Environmental Planning Policy] of the *Environmental Planning & Assessment Act 1979*, on the bushfire protection measures required for the residential subdivision of land within Stage 1C of the Seascape Grove Estate on Lot 124 in DP 1097510, Belle O'Connor Street, South West Rocks.

The proposal is a Project Approval for the development under the provisions of Section 75P (c) of the *Environmental Planning & Assessment Act 1979*.

Project Approval has been issued for the construction of Stage 1 and Precinct A, B, C & D of the Estate with construction continuing to complete the approved road network and lots.

The land over which the proposal is being undertaken is land within Stage 1C of the estate and includes the residue land not approved under the previous consent and seeks approval to undertake civil works for the proposed Integrated Housing Development on Lot 700 [which is located between the extension of Belle O'Connor Street and the water quality control/drainage reserve located in the northeast of the estate] and the subdivision of the residential zoned land between Burrawong Drive and the western boundary of the estate [Lots 601 – 605 & 623 – 654] and also the residential zoned land to the southwest of Burrawong Drive, extending to the 7(d) Zoning Boundary [Lots 606 – 622].

The development also proposes the creation of a residue lot [Lot 800] within the southern portion of the Estate that comprises the land zoned 7(d). This land is proposed as a low density ecotourism resort. The details of this proposed landuse will be the subject of a future detailed application. Therefore, it does not form part of this report.

*[Refer to Attachment A – Project Approval Layout Plan and Attachment C – Subdivision Plan].*

Seascape Grove Estate occupies land that is located to the east of the existing residential development constructed to the east of Gregory Street, the main arterial road access to South West Rocks. The land within the Seascape Grove Estate contains of open grassland vegetation within the approved development precincts with scattered patches of remnant forest located on the ridge-slope that rises to the southwest corner of the property.

The highest part of the land contains Open Forest vegetation that shields two large water tanks that supply the reticulated water mains in the local area.

The land to the north of the estate, starting from the western end, contains a Golf Club, a small rural residential land holding and a large lot that contains a number of buildings and unmanaged Coastal Heath vegetation. This vegetation is mapped as Category 1 Bushfire Prone Vegetation. The land to the east of the approved lots in the Seascope Grove Estate is a rural property that contains managed grassland vegetation, beneath a remnant tree canopy, and open grasslands. The land to the south of the property contains existing rural residential dwellings with a managed curtilage set amongst areas of remnant forest vegetation.


The unmanaged Forest vegetation is Category 1 Bushfire Prone Vegetation.

The proposed lots within the north-western corner of the estate [Lots 601 – 604 & 623 - 654 in Stage 1C] adjoin the Golf Club to the north, existing residential development to the west and new residential lots to the east. The land to the southwest of Lots 605 – 613 in Stage 1C consists of 7(d) zoned land which has been cleared and is grazed up to the tree line on the steeper slopes of the ridge, therefore providing an Asset Protection Zone to the rear of these lots.

The land to the southwest of Lots 614 – 617 in Stage 1C also consists of 7(d) zoned land that rises to the southwest and has been cleared and is grazed up to the tree line on the steeper slopes of the ridge, therefore providing an Asset Protection Zone to the rear of these lots. Lots 618 – 622 in Stage 1C are located adjacent to 7(d) zone land that rises to the southern boundary and contains unmanaged Forest vegetation. These lots require the maintenance of an Asset Protection Zone within the rear of each lot.

The Director Generals Environmental Assessment Requirements includes, under subheading “*Hazard Management and Mitigation*” the advice that the Environmental Assessment must address the requirements of *Planning for Bushfire Protection 2006 (RFS)*.

This report undertakes an assessment to determine the deemed-to-satisfy requirements of *Planning for Bushfire Protection 2006* and provides recommendations on the provision of Asset Protection Zones to the buildings; emergency access/egress; fire-fighting access and water supplies; construction standards of the buildings and the management of the Asset Protection Zones and residual vegetation so as to address the aim and objectives of *Planning for Bushfire Protection 2006* and therefore the “Key Issues” item “Bushfire” on Page 4 of the Directors Generals Requirements [DGRs issued on the 2<sup>nd</sup> May 2006].



Graham Swain,  
Director,  
**Australian Bushfire Protection Planners Pty Limited.**

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## SECTION 1

### INTRODUCTION

#### **1.1 Development Proposal.**

*Australian Bushfire Protection Planners Pty Limited*, at the request of *Walde Park Pty Ltd*, has undertaken the bushfire consultancy to inform the project planning process, under Part 3A [Major Projects under State Environmental Planning Policy] of the *Environmental Planning & Assessment Act 1979*, on the bushfire protection measures required for the residential subdivision of land within Stage 1C of the Seascope Grove Estate on Lot 124 in DP 1097510, Belle O'Connor Street, South West Rocks.

The proposal is a Project Approval for the development under the provisions of Section 75P (c) of the *Environmental Planning & Assessment Act 1979*.

Project Approval has been issued for the construction of Stage 1 and Precinct A, B, C & D of the estate with construction continuing to complete the approved road network and lots.

The land over which the proposal is being undertaken is land within Stage 1C of the estate and includes the residue land not approved under the previous consent and seeks approval to undertake civil works for the proposed Integrated Housing Development on Lot 700 [which is located between the extension of Belle O'Connor Street and the water quality control/drainage reserve located in the northeast of the estate] and the subdivision of the residential zoned land between Burrawong Drive and the western boundary of the estate [Lots 601 – 605 & 623 – 654] and also the residential zoned land to the southwest of Burrawong Drive, extending to the 7(d) Zoning Boundary [Lots 606 – 622].

The development also proposes the creation of a residue lot [Lot 800] within the southern portion of the Estate that comprises the land zoned 7(d). This land is proposed as a low density ecotourism resort. The details of this proposed landuse will be the subject of a future detailed application, therefore it does not form part of this report.

*[Refer to Attachment A – Project Approval Layout Plan and Attachment C – Subdivision Plan].*

## **1.2 Aim of this Assessment.**

The aim of this assessment is to address the Director General's Environmental Assessment Requirements, which under subheading "Key Issues" item "Bushfire" on Page 4 of the Director General's Requirements [DGRs issued on the 2<sup>nd</sup> May 2006] requires compliance with the requirements of *Planning for Bushfire Protection 2001 (RFS)*. [Revised to PBP 2006]

This report examines the requirements of *Planning for Bushfire Protection 2006* and provides advice on the bushfire protection measures deemed necessary to address the potential bushfire threat to the development.

## **1.3 Statutory Requirements.**

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

### **1.3.1 Legislation.**

#### **1.3.1 Legislation.**

##### **(a) *Environmental Planning and Assessment Act - 1979 (EPA Act)***

Planning and development within NSW is regulated by the *Environmental Planning & Assessment Act, 1979* (EPA Act). Part 3A [Major Projects] of the Act commenced on the 1<sup>st</sup> August 2005 and consolidated the assessment and approval regime for all major projects previously addressed under Part 4 [Development Assessment] or Part 5 [Environmental Assessment] of the Act.

##### **(b) *Rural Fires Act 1997***

The objectives of the *Rural Fires Act* are to provide:

- The prevention, mitigation and suppression of fires;
- Coordination of bushfire fighting and prevention
- Protection of people and property from fires; and
- Protection of the environment.

In relation to the management of bushfire fuels on public and private lands within NSW, the following section of the Act applies:

- Sections 63(1) and 63(2) require public authorities and owners / occupiers of land to take all practicable steps to prevent the occurrence of bushfires on, and to minimize the danger of the spread of bushfires.



**(c) Rural Fires Regulation 2002.**

The *Rural Fires Regulation 2002*, August 2002, repeals the *Rural Fires Regulation 1997* and restates with some modifications the provisions of the old Regulation and contains new provisions relating to bushfire prone land and bushfire hazard reduction.

**(d) Threatened Species Conservation Act 1995 (TSC Act).**

The TSC Act aims to protect and encourage the recovery of threatened species, populations and communities as listed under the Act.

The TSC Act is integrated with the EP&A Act and requires consideration of whether a development or an activity (such as the implementation of hazard reduction and asset protection) is likely to significantly affect threatened species, populations and ecological communities or their habitat.

**(e) Native Vegetation Act 2003 (NV Act).**

The *Native Vegetation Act* states indigenous vegetation within 20 metres of the bed or bank of a river or lake, or on slopes over 18 degrees, requires clearing consent under the *NV Act*, unless during an emergency fire event as authorized under the *Rural Fires Act 1997*.

**1.3.2 Planning Policies.**

**(a) 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 rural residential and residential subdivision, “*Special Fire Protection*” and Class 5 – 8 and 10 buildings in bushfire prone areas.

The document provides deemed-to-satisfy specifications on the provision of Asset Protection Zones to residential and “*Special Fire Protection*” developments; defensible space requirements to other developments and access/water supply provisions for developments in bushfire prone areas. Provision for the assessment of construction standards to buildings and management /maintenance of the Asset Protection Zones/defensible space to buildings is also provided in the document.

**1.3 Documentation reviewed in this Assessment.**

The following documents were reviewed in the preparation of this report:

- Project Approval Layout Plan [Revision D] prepared by King & Campbell Pty Ltd, Project No. 14777, dated 16.4.2007. [Refer to Attachment A];
- Plan of Bushfire Protection Measures & Asset Protection Zones for Stage 1 of the Estate, prepared by King & Campbell Pty Ltd, Project No. 14777, Drawing No. 18, Rev. A, dated June 2006. [Refer to Attachment B];

- Subdivision Plan prepared by King & Campbell Pty Ltd, Project No. 14777, Drawing 1, Rev. B, dated 6.11.2007. *[Refer to Attachment C]* ;
- Tree Retention Plan prepared by King & Campbell Pty Ltd, Project No. 14777P, dated September 2007
- Kempsey Council Bushfire Prone Land Map;
- *Planning for Bushfire Protection 2006* prepared by the NSW Rural Fire Service;
- Australian Standard AS3959 *Construction of Buildings in Bushfire Prone Areas*;
- *Rural Fires Regulation 2002*.

#### **1.4 Site Inspection.**

Graham Swain of *Australian Bushfire Protection Planners Pty Limited* inspected the site and surrounding areas on the 25<sup>th</sup> September 2007 to assess the topography, slopes and vegetation classification within and adjoining the development property and to validate the future subdivision's compliance with the requisite deemed-to-satisfy Asset Protection Zones and access provisions. Adjoining properties were also inspected to determine the surrounding land use / vegetation communities land management.

#### **1.5 Authority Consultation.**

In accordance with the Director Generals Requirements, consultation with the NSW Rural Fire Service was held on the 13.11.2007.

This consultation occurred between Mr Copeland, Development Control Officer with the NSW Rural Fire Service and Graham Swain, Director of *Australian Bushfire Protection Planners Pty Limited*.

There were no issues raised by Mr Copland that warrants modification to the development layout or the contents of this report and the recommendations in respect to the provision of fire protection measures and compliance with the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006*.

## SECTION 2

### PROPERTY DESCRIPTION

#### **2.1 Location.**

Seascope Grove residential estate is located on Lot 124 in DP 1097510, Belle O'Connor Street, South West Rocks.

Seascope Grove Estate occupies land that is located to the east of the existing residential development constructed to the east of Gregory Street, the main arterial road access to South West Rocks.

The land to the north of the estate, starting from the western end, contains a Golf Club [Lot 11 in DP 1003894, a small rural residential land holding on Lot 51 in DP 831284 and a large lot [Lot 52 in DP 831284] that contains a number of buildings and unmanaged Coastal Heath vegetation. This vegetation is mapped as Category 1 Bushfire Prone Vegetation.

The land to the east of the approved lots in the Seascope Grove Estate, within Lot 22 in DP 1071657, is a rural property with managed grassland vegetation, beneath a remnant tree canopy, and open grasslands. The land to the south of the property contains existing rural residential dwellings with a managed curtilage set amongst areas of remnant forest vegetation.

#### **2.2 Existing Land Use.**

The land within the western portion of Stage 1C contains an existing dwelling, garage and sheds which will be demolished as part of the subdivision. The remaining land is vacant grazing land extending to vegetated vacant land on the ridge top in the south-western corner of the estate.

The proposed subdivision will occur over the residential zoned land not included in the original Project Approval with a residue lot [Lot 800] created over the 7(d) zoned land along the southern portion of the Estate.

#### **2.3 Surrounding Land Use.**

##### **(a) North**

The land adjoining the northern aspect of Stage 1C consists of the formed width of Belle O'Connor Street beyond which is an operational Golf Course.

##### **(b) East & Northeast**

The land to the east and northeast of Stage 1C consists of lots within the approved Stage 1 of the Seascope Grove Estate.

**(c) Southwest**

The land adjoining the south-western aspect of the proposed Lots 605 – 622 in Stage 1C consists of vacant grazing land within the 7(d) zoned portion of the estate. This land will form a residual lot in the proposed subdivision and will be managed to provide Asset Protection Zones to the proposed residential lots.

**(d) West**

The adjoining land to the west of Lots 604, 605, 623, 636 & 644 - 650 in Stage 1C consists of the managed, unmade Crown Road reserve thence existing residential development.

**Site Locality Plan**



**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.

**2.4.1 Within Stage 1C.**

The significant topographical feature within Stage 1C is the ridgeline that rises to the southwest and forming the platform for the water supply reservoirs. The land within the western portion of the stage rises from Belle O'Connor Street to form a low spur that extends north from the ridge top located in the south-western corner of the estate.

The land to the southwest of Lots 605 – 617 in Stage 1C rises to the southwest at 5 – 14 degrees whilst the land to the south of Lots 618 – 622 forms the northern end of a low spur that falls to the north at > 15 degrees.

#### **2.4.2 Beyond Stage 1C**

**(a) North.**

The topography of the land to the north of Lots 623 – 628 and Belle O'Connor Street, within the adjacent Golf Course, is level. The land within Lots 51 & 52 in DP 831284, to the north of the proposed Integrated Development site on Lot 700, is also level.

**(b) East & Northeast.**

The topography of the land within the approved subdivision, to the east & northeast of the proposed lots in Stage 1C, falls to the north at 4 – 5 degrees whilst the land to the east and northeast of the proposed Integrated Development site on Lot 700 is level.

**(c) South of Lot 622.**

The topography of the land to the south of the southern boundary of the estate rises to the southeast along the eastern aspect of the low spur line.

**(d) West of Lots 604, 605, 623, 636, 644 - 650**

The topography of the land to the west of the proposed lots in Stage 1C, falls at 8 degrees downslope across the unmade Crown Road reserve and across the adjoining residential development.

#### **2.3 Vegetation within Stage 1C.**

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.*



The vegetation within Stage 1C of the Seascope Grove Estate consists of managed landscaped gardens within the curtilage to the existing dwelling and managed grassland within the proposed Integrated Development site [Lot 700] and the proposed Lots 605 – 622. Some remnant canopy species exist within these latter lots however this vegetation has a managed [grazed/slashed understorey].

*[Refer to Site Photographs Appendix C].*

## **2.6 Vegetation within 140 metres of Stage 1C Development Precinct.**

### **(a) North**

The predominant vegetation to the north of the residential allotments in Stage 1C consists of a landscaped road verge on Belle O'Connor Street with managed lawns on the Golf Course. The vegetation to the north of the proposed Integrated Development site [Lot 700] consists of Coastal Heath with managed vegetation within the drainage reserve in the north-eastern corner of the estate.

### **(b) East & Northeast**

The predominant bushfire prone vegetation to the northeast of the estate consists of Coastal Heath within the property to the northeast of the proposed Integrated Development site [Lot 52 in DP 831284]. The vegetation to the northeast of the residential lots in Stage 1C consists of managed landscaped gardens within the approved subdivision whilst the vegetation to the east of the Integrated Development site on Lot 700 consists of managed grassland on the adjoining property, beyond the drainage reserve.

### **(c) West of Lots 604, 605, 623, 636, 644 - 650**

The predominant vegetation to the west of Lots 604, 605, 623, 636, 644 - 650 of Stage 1C consists of managed landscaped gardens in the adjoining residential development. A narrow corridor of remnant "Forest" vegetation is found in the Crown Road reserve, however it is not deemed to be bushfire prone due to its narrow width and sparse undergrowth.

### **(d) Southwest of Lots 605 – 617**

The predominant vegetation to the southwest of Lots 605 – 617 consists of Open Forest on the north-eastern face of the ridgeline that rises to the southwest. A wide corridor of managed open grassland separates the proposed lots from this forest vegetation. The width of the corridor ranges from > 30 - > 50 metres.

**(e) Southwest of Lots 618 – 622 & South of Lot 622.**

The predominant vegetation to the southwest of Lots 618 – 622 consists of unmanaged Open Forest on the steep up-slopes of the toe of the spur line that rises to the south.

**2.7 Significant Environmental Features within Stage 1C.**

The property does not contain areas of SEPP 14 Wetland; SEPP 44 Koala Habitat; land of geological interest; land slip areas or National Parks Estate.

Development Stage 1C does contain small sections of Steep Lands [>18 degrees] within the higher slopes to the ridgeline in the south-western corner of the estate.

**2.8 Known Threatened Species, Population or Ecological Community within Stage 1C.**

There are no known threatened species, populations or ecological communities within Stage 1C of the Seascope Grove estate.

**2.9 Details and location of Aboriginal relics or Aboriginal place.**

There are no known Aboriginal relic or heritage sites within Stage 1 C of the Seascope Grove estate.

## SECTION 3

### FIRE MANAGEMENT RESPONSIBILITIES

Fire management within the development site is the responsibility of:

#### **3.1 Kempsey Council.**

The Kempsey 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 the LGA to carry out bushfire hazard reduction works on that land. Section 100E of the *Rural Fires Act* requires Council 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.

#### **3.3 New South Wales Fire Brigade.**

The NSW Fire Brigade has the responsibility for undertaking fire suppression activities, and other functions relative to emergency management, within its area of operation and through Mutual Aid Agreements, provide assistance to the NSW Rural Fire Service, particularly for structural fire operations within the NSW Rural Fire Brigade Districts. Hazmat management within New South Wales is the responsibility of the NSW Fire Brigade.

#### **3.4 Kempsey Bush Fire Management Committee.**

The Kempsey Bushfire Management Committee has the responsibility for planning for co-ordinated 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 50** of the Act requires the Bush Fire Co-ordinating Committee to constitute a Bush Fire Management Committee for the whole of the area of any local Council area for which a rural fire district is constituted.
- **Section 51 (1A)** requires a Bush Fire Management Committee to report to the Bush Fire Co-ordinating Committee on the implementation of the requirements of the Bushfire Risk Management Plan.



- **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 Private Land Owners / Occupiers.

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

- **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 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).

## SECTION 4

### PRECINCT LEVEL ASSESSMENT

#### 4.1 Precinct Level Assessment of Bushfire Prone Vegetation.

*Planning for Bushfire Protection 2006* provides the following procedure for assessing a development at a defined precinct level in order to determine whether the development is bushfire prone and if so, be the need to provide appropriate setbacks [Asset Protection Zones]:

(a) *Determine vegetation distance, type and class as follows:*

Identify all vegetation in each direction from the site for a distance of at least 140 metres, and then consult Table A2.1 to determine the vegetation formation which predominates;

(b) *Determine the average slope of the land between the predominant vegetation class and the development.*

Table 1 summarises the information provided in Section 2 of this report, to undertake a precinct level assessment to determine those aspects of the development precinct that require provision of Asset Protection Zones.

**Table 1. Precinct Level Assessment.**

Aspect	Existing Land Use	Predominant Vegetation within 140 m of Development	Predominant vegetation class [Table A2.1 BfBFP]	Effective Slope of land for 100m.	Comments
North of Lots 623 – 628; North & north east of Integrated Development Site [Lot 700]	Golf Course; Rural Residential development + Vacant Land [Lot 52 in DP 831284]	Managed Curtilage to Golf Course and Rural Residential Development – Coastal Heath to vacant land on Lot 52	Tall Heath on Lot 52 in DP 831284 to the north of the eastern portion of the Estate	Level	The vegetation to the north & N.E. of the Integrated Development site [Lot 700] is Coastal Heath which is bushfire prone.
North east of residential lots in Stage 1C	Residential land in new Estate	Landscaped gardens	Nil	< 5 degrees down slope	The adjoining vegetation is not bushfire prone.
East of Integrated Development [Lot 700]	Vacant grazing land	Drainage reserve; grazed/managed grassland	Nil	Level	The grazed land to the east of the estate is not bushfire prone
Southwest of residential lots in Stage 1C	Vacant grazing land	Grazed grassland for 30 – 50m + Open Forest on the ridgeline	Forest	< 15 degrees upslope	The adjoining Forest vegetation is bushfire prone.
South of Lots 618 - 622	Vacant land	Unmanaged Open Forest	Forest	> 15 degrees upslope	The adjoining vegetation is bushfire prone.
West of residential lots in Stage 1C	Unmade Crown Road reserve + residential estate	Narrow corridor [< 5m] of remnant Open Forest + landscaped gardens	Nil	8 degrees down slope to the west.	The vegetation on the Crown Road is not deemed to constitute a bushfire hazard

## SECTION 5

### BUSHFIRE PROTECTION ASSESSMENT

#### 5.1 Introduction.

The Director General issued DGRs for the Environmental Assessment under Part 3A of the *Environmental Planning & Assessment Act* on the 2<sup>nd</sup> May 2006 and requires, under “Key Issues” – Bushfire, that the development demonstrate compliance with the requirements of *Planning for Bushfire Protection 2001*. [Now Updated to *Planning for Bushfire Protection 2006*].

*Planning for Bushfire Protection 2006* provides a methodology to determine the Asset Protection Zones and Bushfire Attack / Construction Standards required for habitable buildings in development for residential purposes that are designated as bushfire prone.

Sections 5.2 and 5.3 of this report use the methodology provided by *Planning for Bushfire Protection 2006* to determine the deemed-to-satisfy Asset Protection Zones and construction standards required for the construction of the residential development on the site.

*Planning for Bushfire Protection 2006* also provides deemed-to-satisfy specifications on the provision of access and water supplies for firefighting operations and emergency access/egress and the management protocols for Asset Protection Zones and landscaping. These matters are examined in Sections 5.4 – 5.8 of this report.

#### 5.2 Determination of Asset Protection Zones.

Appendix 2 of *Planning for Bushfire Protection 2006* provides the following procedure for determining setback distances (Asset Protection Zones):

- (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 A2.5 and determine the appropriate setback [Asset Protection Zone] for the assessed land use, vegetation formation and slope range.

Table 2 provides a summary of this assessment and the resultant widths of the Asset Protection Zones for the construction of residential development within the proposed Integrated Development site forming part of Stage 1C of the estate. Fire Danger Index – 80:

**Table 2. Determination of Asset Protection Zones to the Integrated Development Site. Fire Danger Index [FDI] – 80**

Aspect	Vegetation within 140m of development	Predominant Vegetation Formation Table A2.1)	Effective Slope of Land	Width of Asset Protection Zone [Table A2.5 of Pf BFP]	Width of Asset Protection Zone Provided	Compliance with Table A2.5.
North of Lot 700	Coastal Heath on Lot 52 in DP 831284	Tall Heath	Level	15 metres for Level 3 construction to the future buildings	35 metres separation to Bushfire Prone vegetation provided by APZ	Yes [Refer to Note 1]
North east & East	Stormwater Detention Ponds – managed grassland	Nil	Level	Nil	> 100 metres provided by stormwater detention pond + managed grassland	Yes
South west	Managed Curtilage in new residential lots	Nil	< 5 degrees upslope	Nil	> 100 metres provided by APZ within lots	Yes
West	Managed Curtilage in new residential lots	Nil	< 5 degrees upslope	Nil	> 100 metres provided by APZ within lots	Yes

**Assessment Results:**

The widths of the Asset Protection Zones provided by the setback to the north of the proposed Integrated Development on Lot 700 exceeds the minimum Asset Protection Zone required for a Level 3 building constructed adjacent to Coastal Heath vegetation.

**Note 1:**

*The Bushfire Protection Measures & Asset Protection Zones plan approved for Stage 1 provides for a 35 metre wide Asset Protection Zone along the northern boundary, reducing to 20 metres adjacent to the Golf Course.*

Table 3 provides a summary of this assessment and the resultant widths of the Asset Protection Zones for the construction of dwellings on the residential lots in Stage 1C of the Seascapes Grove Estate. Fire Danger Index – 80:

**Table 3. Determination of Asset Protection Zones to the Dwellings in Stage 1C of the Estate. Fire Danger Index [FDI] – 80**

Aspect	Vegetation within 140m of development	Predominant Vegetation Formation Table A2.1)	Effective Slope of Land	Width of Asset Protection Zone [By calculation]	Width of Asset Protection Zone Provided	Compliance with Table A2.5.
North of Lots 623 - 628	Managed curtilage on Golf Course [Lot 11 in DP 1003894]	Nil	Level	N.A.	> 100 metres provided by road + Golf Course	Yes [Refer to Note 1]
North east	Managed curtilage on new residential lots	Nil	< 5 degrees down slope	Nil	> 100 metres provided by managed curtilage	Yes
South west of Lots 605 - 617	Managed grass in grazing paddock; Open Forest on ridge slope	Nil to grazed grassland – Forest to unmanaged vegetation	14 degrees upslope	9 metres as calculated for Level 3 construction	> 30 - 50 metres provided by grazed paddock within residual lot [Lot 800]	Yes
South west of Lots 618 - 622	Open Forest	Forest	> 15 degrees upslope	8 metres as calculated for Level 3 construction	8 metres provided by APZ within lots	Yes
South of Lot 622	Open Forest	Forest	> 6 degrees upslope	12 metres	15 metres provided by APZ in Lot 622	Yes

### **Assessment Results:**

The widths of the Asset Protection Zones calculated to the southwest of Lots 618 – 622 and to the south of Lot 622 have been calculated using the NSW Rural Fire Service Bushfire Attack Assessor for a minimum construction standard of Level 3. The width of the Asset Protection Zone is provided as a setback in the rear of these lots.

### **Note 1:**

The approved Master Plan for Stage 1 of the Estate provides for a 20 metre wide Asset Protection Zone to the north of Lots 623 – 628 in Stage 1C. Due to the managed lands within the Golf Course to the north, within Lot 11 in DP 1003894, NO Asset Protection Zone is required to the north of these lots in Stage 1C. Never-the-less, the road reserve width to the extension of Belle O'Connor Street provides a 20 metre wide setback to the new dwellings on Lots 623 – 628.

### 5.3 Assessment of Bushfire Attack (Construction Standards).

Part 2.3.4 of the Building Code of Australia states that a Class 1 building that is constructed in a *designated bushfire prone area* must be designed and constructed to reduce the risk of ignition from a bushfire while the fire front passes. Part GF5.1 states that a Class 2 or 3 building constructed in a *designated bushfire prone area* is to provide a resistance to bushfires in order to reduce the danger to life and minimize the risk of the loss of the building.

Australian Standard A.S. 3959 -1999 is the enabling standard that addresses the performance requirements of both Parts 2.3.4 and Part GF5.1 of the Building Code of Australia. Therefore, the construction of the Class 1, 2 and Class 3 buildings within the development shall be constructed to comply with the specifications of this Standard.

Appendix A3.6 of *Planning for Bushfire Protection 2006* provides the following procedure for determining bushfire attack at construction stage for a building within a designated bushfire prone area:

- (a) *Determine vegetation formation types and sub-formation types around the building;*
- (b) *Determine the separation distance between each vegetation formation and the building;*
- (c) *Determine the effective slope of the ground for each vegetation formation;*
- (d) *Determine the relevant FDI for the Council Area;*
- (e) *Match the relevant FDI, appropriate vegetation formation, separation distance and effective slope to determine the category of bushfire attack.*

Five categories of Bushfire Attack are determined. They are:

**- Low:**

Insignificant ember attack, radiation heat or is greater than 100 metres from all woody vegetation.

**- Medium: (Level 1 Construction AS3959-1999).**

Significant ember attack with radiation heat no greater than 12.5 KWm<sup>2</sup>,

**- High: (Level 2 Construction AS3959-1999).**

Significant ember attack and possible flame contact, radiation heat greater than 12.5 KWm<sup>2</sup> and no greater than 19 KWm<sup>2</sup>

**- Extreme: (Level 3 Construction AS3959-1999).**

Significant ember attack and possible flame contact, radiation heat greater than 19 KWm<sup>2</sup> and no greater than 29 KWm<sup>2</sup>

### - Flame Zone:

Within the Flame Zone and / or greater than 29 KWm<sup>2</sup> (Construction outside scope of AS3959-1999).

Table 4 provides a summary of the level of Bushfire Attack Assessment for the future Integrated Development within Stage 1C of the Seascapes Grove Estate and provides recommendations on the resultant construction standards for a Fire Danger Index [FDI] of 80.

**Table 4 Bushfire Attack Assessment – Determination of Construction Standards to Future Dwellings within the Integrated Development Site [Lot 700] – Stage 1C**

Aspect	Predominant Vegetation Class [Table A2.1 Planning for Bushfire Protection 2006]	Effective Slope of Land	Minimum width of Asset Protection Zone [Table A2.5 PFBFP 2006]	Level of Bushfire Attack [Table A3.3 of PFBFP 2006]	Construction Standard in accordance with A.S.3959
North	Coastal Heath [Tall Heath] within Lot 52 in DP 831284	Level	35 metres separation to Bushfire Prone Vegetation.	Medium	Level 1 construction standards required.
North east	Coastal Heath beyond stormwater detention ponds	Level	30 – 110 metres	Medium to Nil	Level 1 construction standards required.
East	Managed stormwater detention pond + managed grassland	Level	> 100 metres	Low	Nil construction standards required.
South west	Managed Curtilage within new residential lots	< 5 degrees upslope	> 100 metres	Low	Nil construction standards required.

### Assessment Results:

It is recommended that the minimum construction to the future dwellings on the Integrated Development site [Lot 700] in Stage 1C shall be Level 1 in accordance with the specifications of Australian Standard A.S 3959 -1999 “Construction of Buildings in Bushfire Prone Areas.

Table 5 provides a summary of the level of Bushfire Attack Assessment for the future dwellings on the residential lots within Stage 1C of the Seascapes Grove Estate and provides recommendations on the resultant construction standards for a Fire Danger Index [FDI] of 80.



**Table 5 Bushfire Attack Assessment – Determination of Construction Standards to Future Dwellings on the residential lots in Stage 1C – Fire Danger Index [FDI] 80**

Aspect	Predominant Vegetation Class [Table A2.1 Planning for Bushfire Protection 2006]	Effective Slope of Land	Minimum width of Asset Protection Zone [Table A2.5 PfBFP 2006]	Level of Bushfire Attack [Table A3.3 of PfBFP 2006]	Construction Standard in accordance with A.S.3959
North of Lots 623 - 628	Managed Golf Club [Lot 11 in DP 1003894]	Level	> 100 metres separation to Bushfire Prone Vegetation.	Low	Nil construction standards required.
North east of Stage 1C	Managed curtilage on new residential lots	< 5 degrees downslope	> 100 metres	Low	Nil construction standards required.
West of Lots 604, 605, 623, 636, 644 – 650	Managed curtilage to the existing residential development	8 degrees downslope	> 100 metres	Low	Nil construction standards required.
South west of Lots 605 – 617	Forest on the higher slopes of the ridgeline within residue Lot 800	14 degrees upslope	> 30 metres	Medium [determined using Bushfire Attack Assessor	Level 1 construction standards required.
South west of Lots 618 – 622	Forest on the toe of the spur within residue Lot 800	> 15 degrees upslope	8 metres as determined using APZ calculator	Extreme	Level 3 construction required to the south- western elevation
South of Lot 622	Forest on the side of the spur within the adjoining land	> 5 degrees upslope	15 metres provided by APZ along the southern boundary	Extreme	Level 3 construction required to the southern elevation

**Assessment Results:**

It is recommended that the minimum construction of the future dwellings on Lot 605 – 617 shall comply with Level 1 specifications as defined by the specifications of Australian Standard A.S 3959 -1999 “Construction of Buildings in Bushfire Prone Areas.

The construction of the future dwelling on Lots 618 – 622 shall be such that the elevations exposed to the bushfire hazard shall be constructed to comply with Level 3 construction in accordance with A.S 3959 – 1999. The elevations not exposed to the bushfire hazard shall be constructed to comply with Level 1 specifications as defined by A.S 3959 – 1999.



### **5.3 Water Supplies for Firefighting Operations.**

The future residential subdivision of the land will have a reticulated water supply extended from the existing water supply mains. The dwellings in the future subdivision of the land will be connected to this reticulated water supply.

The reticulated water supply in the subdivision of Stage 1C shall include the provision of a water supply main with Hydrants installed in accordance with the specifications of Australian Standard A.S 2419.2 and have a minimum flow rate of 10 litres / second.

Fire hydrants shall be accessible and located such that a tanker can park within a maximum distance of 20 metres from the hydrant and the habitable building must be located such that a fire at the furthest extremity can be attacked by fire-fighters using two 30 metre hose lines and a 10 metre water jet. A clear unobstructed path between the hydrant and the most distant point of the building cannot exceed 90 metres.

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

Due to the low potential bushfire risk to the development in Stage 1C of the Seascope Grove Estate, no supplementary water supplies will be required for fire fighting operations

### **5.4 Access for Fire Fighting Operations.**

#### **5.4.1 Public Roads:**

The public roads within the approved subdivision have been constructed to comply with the specifications for public roads as defined by Section 4.1.3 of *Planning for Bushfire Protection 2006* and provide a looped road network that extends off Belle O'Connor Street. The proposed Integrated Development on Lot 700 will have access directly onto the extension of Belle O'Connor Street [and a secondary access provided along the interface with the Drainage Reserve/stormwater detention ponds.

Proposed Lots 601, 602, 641 - 643 and Lots 608 – 622 will have access directly off the completed Burrawong Drive which is constructed to a formed width of 8.0 metres, therefore complying with the recommended width of a public [perimeter] road. Proposed Lots 603 – 608, 629 – 640 & Lots 644 – 650 will access directly off a new loop road constructed with a formed width of 7.5 metres.

Proposed Lots 623 – 628 will access directly onto the completed Belle O'Connor Street.

- **Specifications for Public Roads.**

Section 4.1.3 [Access] of *Planning for Bushfire Protection 2006* provides advice on the design and construction of Public Roads providing access to and internal roads within a development which is deemed to be bushfire prone.

The specifications for public roads are:

- *Roads shall be designed for two-wheel drive all weather access;*
- *Perimeter roads shall be two-way with a minimum carriageway width of 8.0 metres, kerb to kerb, with shoulders on each side to allow traffic to pass in opposite directions;*
- *Roads shall be through roads. Dead ends shall not be more than 200 metres in length and incorporate a 12m outer radius turning circle;*
- *The capacity of road surfaces/bridges in a subdivision with reticulated water supply shall be 15 tonnes;*
- *Curves of roads shall have a minimum inner radius of 6 metres and a minimum outer radius of 12 metres;*
- *Vertical clearance above the road surface shall be 4.0 metres;*
- *All public roads eight metres wide shall locate services outside parking reserves to ensure accessibility to the reticulated water supply;*
- *All public roads between 6.5 & 8 metres in width shall be No Parking on one side with services (hydrants) located opposite the parking side;*
- *Public Roads less than 6.5 metres in width shall provide parking bays clear of the road formation and locate services outside the parking bays;*
- *Single lane one-way roads shall be no less than 3.5 metres in width with parking bays provided clear of the road formation;*
- *Parking Bays shall be 2.6 metres wide from kerb to the edge of the road formation;*
- *All access roads directly interfacing the bushfire hazard shall provide roll top kerbing to the hazard side of the road.*

#### **5.4.2 Fire Trail Access.**

The subdivision layout provided for an access handle and “T” turning head to be constructed between Lots 617 & 618 so as to provide fire fighting access to the rear of Lots 618 – 620. A similar access handle is provided through Lot 622, adjacent to the southern boundary, to complete the access provisions to Lots 621 & 622.

- **Specifications for Fire Trails.**

The specifications for the proposed fire trails within a development are:

- *A minimum carriageway width of 4.0 metres with an additional 1.0 metre clearance provided to each side which is kept clear of grasses and shrubs;*
- *The carrying capacity of the fire trail surface shall be 15 tonnes for reticulated areas;*
- *Maximum grades shall be 15 degrees (10 degrees preferred);*
- *A minimum vertical distance of 4.0 metres shall be provided clear of overhanging branches, trees and shrubs.*

#### **5.4.3 Emergency Response Access / Egress.**

The subdivision layout provides emergency response access/egress in the form of a looped road network within the approved subdivision and a new looped road within Stage 1C of the estate, providing direct emergency service access to each lot in the estate. *[Note: The approved Master Plan for the Estate provides for a secondary access link from the Estate road network to Arakoon Road, in the south-eastern corner of the Estate].*

Fire operational access in the form of access handles have been provided to the rear of Lots 618 – 622 and a vehicular access road is provided through the Asset Protection Zone to the rear of Lots 605 – 617 with the western end connecting to the service road within the Crown Road reserve running along the western aspect to Stage 1C of the estate.

#### **5.5 Adequacy of Bushfire Maintenance Plans and Fire Emergency procedures.**

The Kempsey Bushfire Risk Management and Operational Plans adequately address the bushfire maintenance and fire emergency procedures for the management of the bushfire vegetation and the operational procedures during fire events in the local area. A fuel management plan will be prepared for the maintenance of the Asset Protection Zones to the rear of Lots 605 – 617, within the residual lot created by the subdivision of Stage 1C [Lot 800].

## **5.6 Emergency Management for Fire Protection / Evacuation.**

The proposed residential development will not be subject to bushfire events which will cause the need for evacuation of the residents. Therefore there will be no requirement for the preparation of an Estate Evacuation Plan however, residents should maintain their properties to prevent ignition of landscapes gardens and structures.

## **5.7 Bushfire Hazard Management.**

The intention of bushfire 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 residents and fire-fighters.

Careful attention shall be given to species selection of landscaping within the lots, their location relative to their flammability, avoidance of continuity of vegetation [separation horizontally and vertically] and ongoing maintenance to remove flammable fuels. Methods of bushfire hazard management include mowing of lawns and manual removal of combustible material, particularly within the landscaped areas.

It is recommended that a Section 88B Instrument, under the provisions of the Conveyancing Act of 1919, shall be created on the title of Lots 618 – 622 and within the Integrated Development on Lot 700 to ensure ongoing management of the nominated Asset Protection Zone and the combustible fuels within the landscaped gardens.

### **5.7.1 Fuel Management:**

A diligent approach to the management of bushfire fuel levels is required to the land within the future development. Management of the vegetation within the development precinct shall comply with the recommendations of Appendix A5.4 & Appendix A5.5 of *Planning for Bushfire Protection 2006* and the Rural Fire Service “*Standards for Asset Protection Zones*”.

Management of the landscaped gardens shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the buildings;
- Keep areas under fences, fence posts, gates & trees raked and clear of combustible fuels;
- Utilise non-combustible fencing and retaining wall structures;
- Separate the tree canopy and shrub connectivity with defined landscaped garden beds;
- Maintain tree canopies and shrubs so that they are clear of the building by at least five metres;

- Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to buildings;
- Maintain minimal fine fuel loading at ground level within the Inner Protection Area and landscaped area (nominally 3 tonnes / hectare);
- Trees and shrubs are acceptable provided that they are spread out and do not form a continuous canopy, are not species that retain dead material and are located away from the buildings to minimize radiant heat and direct flame attack.
- Landscape species selection shall be drawn from those that are considered to be species which are “*fire retardant*” and do not promulgate the spread of fire.

#### **5.8 Adequacy of Sprinkler Systems & other Fire Protection Measures.**

There are no sprinkler systems required or recommended.

## SECTION 6

### RECOMMENDATIONS

#### Recommendation 1:

Asset Protection Zones shall be provided to the widths as nominated in Table 6. (Refer to Attachment D – “*Plan of Bushfire Protection Measures*”).

**Table 6. Asset Protection Zones.**

Aspect	Predominant Vegetation Formation Table A2.1)	Effective Slope of Land	Width of Asset Protection Zone [Table A2.5 of Pf BFP]	Width of Asset Protection Zone Provided	Compliance with Table A2.4.
North & N.E. of Integrated Development on Lot 700	Tall Coastal Heath	Level	15 metres	35 metres of managed land; Asset Protection Zone	Yes
Southwest of Lots 605 - 617	Forest	14 degrees upslope	12 metres by calculation	< 30 - > 50 metres provided by managed grassland on residue lot [Lot 800]	Yes
Southwest of Lots 618 - 622	Forest	< 15 degrees upslope	8 metres by calculation	8 metres Inner Protection Area in rear of lots	Yes
South of Lot 622	Forest	6 degrees upslope	12 metres by calculation	> 15 metres provided by access trail & APZ along southern boundary of Lot 622	Yes

#### Recommendation 2:

The Asset Protection Zones and the landscape gardens within each lot shall be maintained as an Inner Protection Area in accordance with Appendix 5 of *Planning for Bushfire Protection 2006* and the NSW Rural Fire Service’s “*Specifications for Asset Protection Zones*”.

Management of the landscaped gardens shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the buildings;
- Keep areas under fences, fence posts, gates & trees raked and clear of combustible fuels;
- Utilise non-combustible fencing and retaining wall structures;
- Separate the tree canopy and shrub connectivity with defined landscaped garden beds;
- Maintain tree canopies and shrubs so that they are clear of the building by at least two metres;
- Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to buildings;

- Maintain minimal fine fuel loading at ground level within the Inner Protection Area and landscaped area (nominally 3 tonnes / hectare);
- Trees and shrubs are acceptable provided that they are spread out and do not form a continuous canopy, are not species that retain dead material and are located away from the buildings to minimize radiant heat and direct flame attack.
- Landscape species selection shall be drawn from those that are considered to be species which are “*fire retardant*” and do not promulgate the spread of fire.

### **Recommendation 3:**

An 88B Covenant, in accordance with the provisions of the Conveyancing Act of 1919, shall be created on the title of the future Integrated Development lot [Lot 700], Lots 618 – 622 and the residual Lot 800 formed by the subdivision of Stage 1C to ensure the ongoing management of the landscaped gardens/residual vegetation within the development in accordance with the prescriptions of an Inner Asset Protection Zone.

### **Recommendation 4:**

The minimum construction standard to the future dwellings on the Integrated Development site [Lot 700] in Stage 1C shall be Level 1 construction standard, in accordance with the specifications of Australian Standard A.S 3959 - Second Edition 1999 and Amendment 1, 2000, “*Construction of Buildings in Bushfire Prone Areas*”.

### **Recommendation 5:**

The minimum construction standard to the future dwelling on Lots 605 – 617 the shall comply with Level 1 construction standards, in accordance with the specifications of Australian Standard A.S 3959 - Second Edition 1999 and Amendment 1, 2000, “*Construction of Buildings in Bushfire Prone Areas*”.

### **Recommendation 6:**

The minimum construction standard to the future dwelling on Lots 618 – 622 shall be such that the elevations exposed to the bushfire hazard shall be constructed to comply with Level 3 construction standards, in accordance with the specifications of Australian Standard A.S 3959. The elevations not exposed directly to the bushfire hazard shall be constructed to comply with Level 1 specifications as defined by A.S. 3959 – 1999 - Second Edition 1999 and Amendment 1, 2000, “*Construction of Buildings in Bushfire Prone Areas*”.

**Recommendation 7:**

Future public access roads shall be constructed to comply with the deemed-to-satisfy provisions of Section 4.1.3 of *Planning for Bushfire Protection 2006*.

**Recommendation 8:**

Fire operational access in the form of access handles shall be provided to the rear of Lots 618 – 622 and a vehicular access road shall be provided through the Asset Protection Zone to the rear of Lots 605 – 617, with the western end connecting to the service road within the Crown Road reserve along the western aspect to Stage 1C of the Estate.

The fore access trail between Lots 617 & 618 and within Lot 622 shall be constructed to comply with the deemed-to-satisfy provisions of Section 4.1.3 of *Planning for Bushfire Protection 2006*. The formed width shall be 4.0 metres with an additional metre provided to both sides and kept clear of grasses and shrubs. A “T” turning head shall be provided suitable for a Category One Rural Fire Service Tanker [11.0m long measured from the centre of the “T”].

**Recommendation 9:**

The existing water supply mains shall be extended, to service the future residential development, in accordance with the specifications of Australian Standard A.S 2419.2. Hydrants shall have a flow rate of 10 litres / second with blue pavement marks provided to locate hydrant positions.

Fire hydrants shall be accessible and located such that a tanker can park within a maximum distance of 20 metres from the hydrant and the habitable building must be located such that a fire at the furthest extremity can be attacked by fire-fighters using two 30 metre hose lines and a 10 metre water jet. A clear unobstructed path between the hydrant and the most distant point of the building cannot exceed 90 metres.

Blue hydrant markers shall be provided to locate the positions of the hydrants. The markers shall be positioned on the hydrant side of the centreline of the road pavement.

**Recommendation 10:**

The roof gutters/valley of the future buildings on Lots 614 – 622 shall be fitted with a protection device that minimises the accumulation of combustible materials in the gutters/valleys. The protection device shall have a flammability index of less than 5 as measured under Australian Standard A.S.1530.2 – 1993 *“Methods for fire tests on building materials, components and structures – Test for flammability of materials”*;



## SECTION 7

### CONCLUSION

A Project Plan approval is being sought, under Part 3A [Major Projects] of the *Environmental Planning & Assessment Act 1979* for the subdivision of the residential zoned land in Stage 1C of the Seascope Grove Estate on Lot 124 in DP 1097510, Belle O'Connor Street, South West Rocks.

The Project Plan for Stage 1C of the Estate also seeks approval for the civil works within the Integrated Development within Lot 700.

The Estate occupies the land to the east of the existing residential development on Belle O'Connor Street and contains open grassland with scattered trees extending to Forest vegetation on the ridgeline within the 7(d) zoned land which is located in the south-western corner of the property.

This vegetation and the Coastal Heath vegetation on the land to the north of the Estate [on Lot 52 in DP 832184], is deemed to be Bushfire Prone Vegetation as determined under the provisions of Section 146 of the *Environmental Planning & Assessment Act 1979*.

Therefore, the Director Generals Environmental Assessment Requirements for the subdivision of the land, dated 2<sup>nd</sup> May 2006, required that the proposed development comply with the requirements of *Planning for Bushfire Protection 2001*. [This planning document was updated in March 2006 and is therefore the document upon which this report has been written].

This report has therefore reviewed the development against the requirements of *Planning for Bushfire Protection 2006* and the recommendations contained in Section 6 address the deemed-to-comply provisions for the provision of Asset Protection Zones to the future dwelling on Lots 605 – 622; access and water supplies for fire fighting operations; construction of the future dwellings and the management of the landscape/Asset Protection Zones.

The report also re-examines the Asset Protection Zone requirements to the northern aspect of the future Integrated Development on Lot 700.

The following table summarises the extent to which the Concept Plan conforms to the deemed-to-satisfy specifications of *Planning for Bushfire Protection 2006*.

**Table 7. 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> .
(I) Asset Protection Zone setbacks	YES
(II) The siting and adequacy of water supplies for fire fighting	YES
(III) Capacity of public roads to handle increased volumes of traffic in the event of a bushfire emergency	YES
(IV) Public roads that link with the fire trail network have two - way access	YES
(V) Adequacy of emergency response access and egress	YES
(VI) Adequacy of bushfire maintenance plans and fire emergency procedures	YES
(VII) Building construction standards	YES
(VIII) Adequacy of sprinkler systems and other fire protection measures to be incorporated into the development	Not applicable

The proposed development, as represented by the Project Plan layout prepared by King & Campbell Pty Ltd, complies with the “Deemed-to-Satisfy” specifications set out in Chapter 4 (Performance Based Control) and the aim and objectives of *Planning for Bushfire Protection 2006*.

#### REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2006*;
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- *Rural Fires and Environmental Assessment Legislation Amendment Act 2002*;
- *Rural Fires Regulation 2002*;
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2002*;
- *Threatened Species Conservation Act 1995*;
- *Native Vegetation Act*;
- *Bushfire Environmental Assessment Code 2003*;
- Building Code of Australia;
- Australian Standard A.S 3959-1999 “*Construction of Buildings in Bushfire Prone Areas*”.
- *Kempsey Bushfire Prone Land Map*