
BUSHFIRE HAZARD ASSESSMENT
AMENDMENT FOR CHANGE IN WIDTH OF
PRIMARY ACCESS ROAD FOR PROPOSED
PLACE OF PUBLIC WORSHIP ON BUSHFIRE
PRONE LAND AT 247 HIGHLANDS WAY,
MARULAN, GOULBURN

FOLIO: LOT 1 DP 548883, LOT 13 DP 700290 & LOT 150 DP
750053

OWNER: AL-MABARRAT BENEVOLENT SOCIETY
LTD

25 August 2015

ASSESSOR & QUALIFICATIONS

Kate Hains

**BPAD CERTIFIED PRACTITIONER,
BPAD-L2-26927**

GRAD DIP BUSH FIRE PROTECTION, UWS
GRAD DIP ENVIRO MANG HERTS, UK
GRAD DIP NAT RES UNE
BSC APP SC, AGRICULTURE HAC



Phone: (02) 4236 0954 Fax: (02) 4236 1410 Mobile: 0425 335 245 ABN: 6156 3609 153

Email: saen@harrisenvironmental.com.au Postal Address: PO Box 13, Wallaby Hill Rd, Jamberoo NSW 2533

TABLE OF CONTENTS

1 DESCRIPTION OF AMENDMENT OF PRIMARY ACCESS ROAD..... 3
2 SECONDARY EMERGENCY ACCESS DESCRIPTION..... 3
3 BUSHFIRE EMERGENCY EVACUATION PLAN 5
4 DEMONSTRATION OF HOW THIS AMENDMENT MEETS THE PBP 2006..... 6
5 SUMMARY 12

FIGURES

Figure 1 Proposed primary access road 8
Figure 2 Proposed car park 9
Figure 3 Aerial Photograph showing proposed road 10
Figure 4 Secondary Emergency Access 11

APPENDICES

Appendix I RFS email from Pre- Lodgement meeting on 23 January 2015..... 13
Appendix II Recommended Conditions from D/13/1834 15

1 DESCRIPTION OF AMENDMENT OF PRIMARY ACCESS ROAD

This report provides the details of the proposed amendment to modify the width of the primary access road. The original proposal involved a 1469m road in length with a 6m wide sealed pavement with 1m wide shoulder on either side.

The amended road proposal involves a narrower width road that will be regularly interspersed with 10 sealed paved passing bays that will be 18m in length and 8m wide. In total, 1049m of the 1469m will be a 4m wide sealed pavement with a 0.5m wide shoulder on either side. There will also be a two extended 8m wide sections for 224m and 116m. These widened parts of the road are located on the bends in the road.

This proposal to modify the width of the road has occurred due to the significance of the vegetation on the site.

The number of potential visitors for a funeral has also been increased from 150 to 300 people.

Figure 1 provides the proposed plan of the amended road. Figure 2 provides the amended car park at the Service Hall. This car park will provide a Nominated Emergency Assembly Area. Figure 3 provides an aerial photograph showing the proposed road and the measured distance between the passing bays.

2 SECONDARY EMERGENCY ACCESS DESCRIPTION

The secondary emergency route is available to provide safe operational access for emergency services personnel while residents and visitors are seeking to relocate, in advance of a bushfire. Previously the applicant submitted DA/0358/1213 for this proposal and the RFS provided recommended conditions. These conditions have been included in Appendix II and have been applied.

The proposal submitted for DA/0358/1213 was different to the current proposal in that the primary access was located though cleared farm land between the proposed Service Hall and the Hume Highway.

In this current proposal the RMS have required that the primary access be relocated to a road between the proposed Service Hall and Highland Way. The RMS have also required that for traffic control purposes, the entrance gate onto the Hume Highway only be used for emergency access and otherwise be locked, once the road to the Highland Way is constructed.

In the RFS pre-lodgment meeting for this proposal (Appendix I), the new location for a primary access route was noted and some comments were made.

The RMS required the Hume Highway exit be excluded from general use once the Highland Way primary road is constructed. The RMS will require the entrance gate off the Hume Highway be locked.

The On-Site Manager will be responsible for unlocking this gate in the event of an incident or emergency, and providing traffic control measures for safe exit onto the highway. A second nominated Emergency Assembly area will be proposed at the emergency exit to the Hume Highway so that traffic control measures can be enforced.

The secondary emergency access is not located in forest, woodland or heath. The vegetation surrounding the entrance gate is managed grassland and not near forest or woodland.

The secondary emergency access will be built to 'Property Access' standards at a minimum.

This includes:

- A minimum carriageway width of four metres;
- A minimum vertical clearance of four metres
- Curves have a minimum inner radius of six metres and are minimal in number to allow for rapid access and egress;
- Minimum distance between inner and outer curves is six metres;
- Crossfall not more than 10 degrees;
- Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads.

3 BUSHFIRE EMERGENCY EVACUATION PLAN

The draft Bushfire Emergency and Evacuation Plan addresses considerations such as training and education of staff and occupants, traffic management and provision for non-occupation on days of catastrophic fire danger. A copy of the final Emergency Evacuation Plan shall be provided to the local RFS.

Directors of the organisation managing the cemetery will form an Emergency Planning Committee who will formally meet on an annual basis, and every time an incident occurs such as a cancellation, evacuation or shelter in place. The chair shall be a representative of one of the senior management from the organisation.

The role of the committee will be to actively participate in the emergency planning process.

The Bushfire Evacuation Plan will provide procedures that provide a process for the Chief Fire Warden (On-Site Manager) to select the emergency access option if a fire is approaching from the direction of Highland Way. Therefore it is unlikely the primary access road to the Highland Way will be used in the event of bushfire.

If the emergency exit to the Highway is selected, the vehicles should be directed to the designated Assembly area at the exit point to the Hume Highway. This assembly area is located in an area over 250m from unmanaged forest. A procedure for the vehicles to exit the property onto the Hume Highway will be developed.

All visitors will be directed to either Goulburn or Sydney.

4 DEMONSTRATION OF HOW THIS AMENDMENT MEETS THE PBP 2006

The PBP 2006 requires internal road widths and designs to enable safe access for emergency services and allow crews to work with equipment around the vehicle.

Table 1 PBP COMPLIANCE

ACCEPTABLE SOLUTION	COMPLIANCE
<i>Internal roads are two wheel drive, sealed all weather road</i>	Will Comply
<i>Internal perimeter roads are provided with at least two traffic lane widths (carriageway 8 metres minimum kerb to kerb) and shoulders on each side, allowing traffic to pass in opposite directions</i>	The proposed primary internal access road will comply with Table 4.1 (Single Lane) and Figure 4.4 which provides minimum widths for public roads that are not perimeter roads for safe access of fire fighting vehicles in urban areas. Visitors will only visit between 9.00 am to 5.00 pm and funerals will be cancelled on Catastrophic and High Alert days. The Evacuation Plan provides triggers and procedures to leave early. In the event of fire, the primary access road will be locked once all visitors have left.
<i>Roads are through roads. Dead-end roads are not more than 100m in length from a through road, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end.</i>	The primary access road with entry and access from Highland Way is connected to the Hume Highway by the secondary emergency.
<i>Traffic Management devices are constructed to facilitate access by emergency services vehicles</i>	The primary road will be regularly interspersed with 10 sealed paved passing bays that will be 18m in length and 8m wide. There will also be a two large widened 8m wide sections for

	224m and 116m. These passing bays are spaced less than 100m from each other where the road traverses through bushfire prone vegetation.
<i>A minimum vertical clearance of four metres to any overhanging obstructions, including tree branches, is provided</i>	Will Comply
<i>Curves have a minimum inner radius of six metres and are minimal in number to allow for rapid access and egress</i>	Will Comply
<i>The minimum distance between inner and outer curves is six metres</i>	Will Comply
<i>Maximum grades do not exceed 15 degrees and average grades are not more than 10 degrees</i>	Will Comply
<i>Crossfall of the pavement is not more than 10 degrees</i>	Will Comply
<i>Roads do not traverse through a wetland or other land potentially subject to periodic inundation (other than flood or storm surge)</i>	Will Comply
<i>Roads are clearly signposted and bridges clearly indicate load ratings.</i>	Will Comply
<i>The internal road surfaces and bridges have a capacity to carry a fully-loaded firefighting vehicles (15 tonnes).</i>	Will Comply

Figure 1 Proposed primary access road

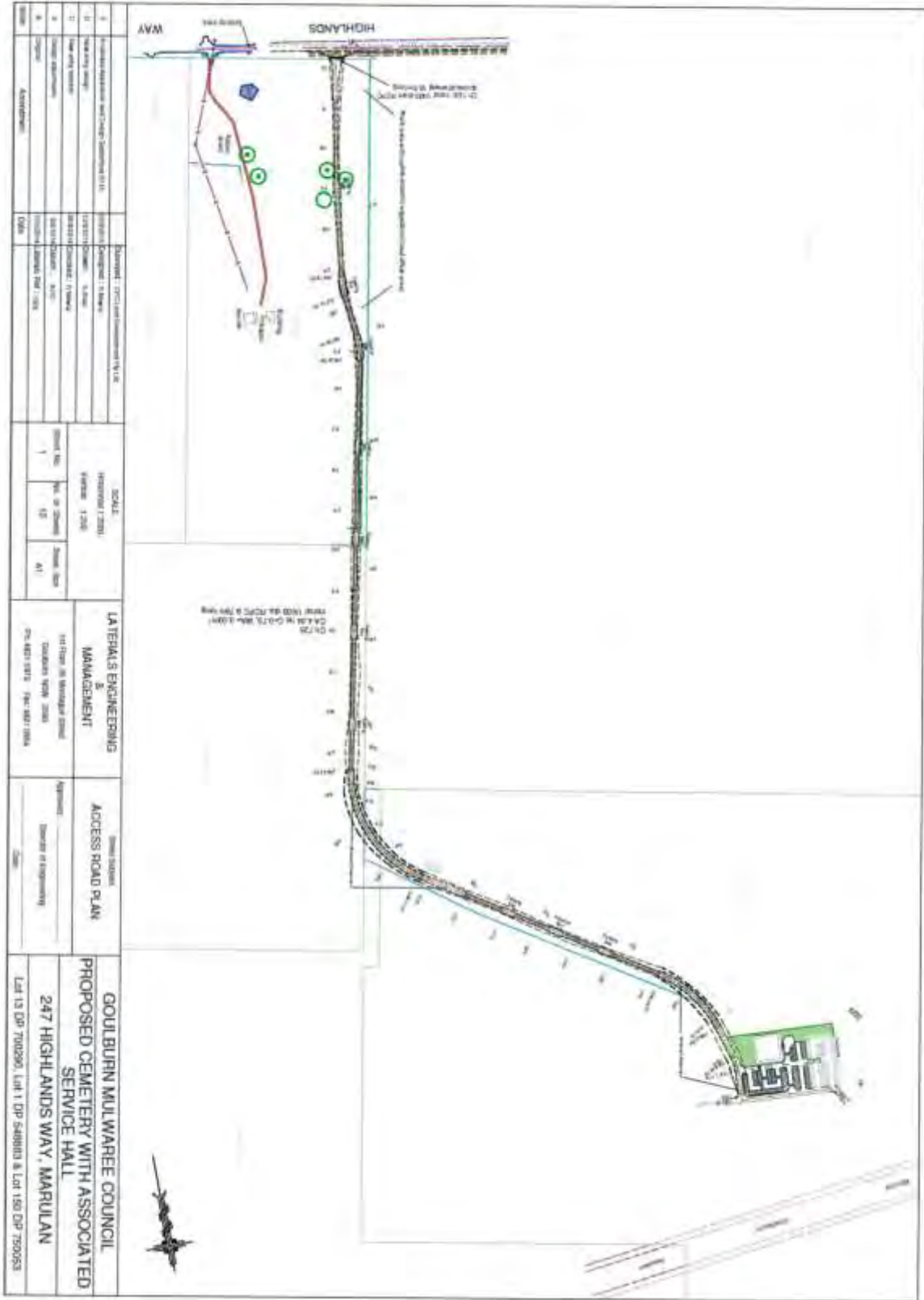
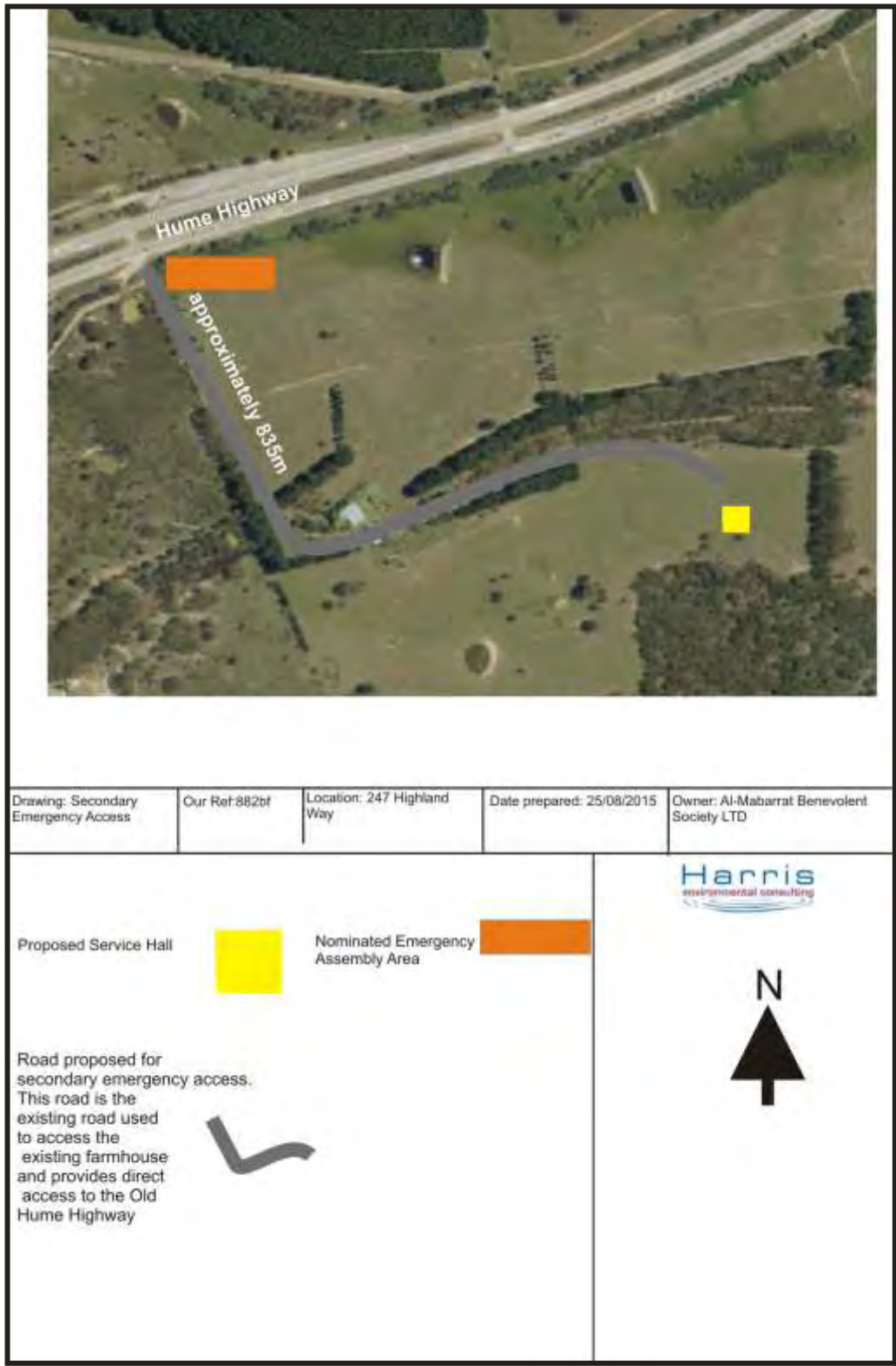


Figure 3 Aerial Photograph showing proposed road



Figure 4 Secondary Emergency Access



5 SUMMARY

In conclusion this amendment proposes that the modified primary access road will provide an acceptable level of protection from bushfires through a combination of strategies which include:

- Primary access road with adequate width for Category 1 tankers;
- The primary road will be regularly interspersed with 10 sealed paved passing bays that will be 18m in length and 8m wide. There will also be a two large widened 8m wide sections for 224m and 116m. These passing bays are spaced less than 100m from each other where the road traverses through bushfire prone vegetation.
- Visitors will only visit between 9.00 am to 5.00 pm and funerals will be cancelled on Catastrophic and High Alert days. The Evacuation Plan provides triggers and procedures to leave early. In the event of fire, the primary access road will be locked once all visitors have left.
- Secondary Access located in land that is not bushfire prone and in the opposite direction to the primary access road.

Appendix I RFS email from Pre- Lodgement meeting on 23 January 2015

Good Morning Kate,

Following our pre-lodgement meeting yesterday regarding the above proposed development and review of your Draft Bush Fire Hazard Assessment dated 23 January 2014, reference 882bf, I can provide the following advice:

General

- The application is for a place of public worship and is considered to be an 'assembly area'. Whilst the proposed development is not considered to be a *Special Fire Protection Purpose (SFPP)* for the purpose of requiring a Bush Fire Safety Authority under 100B of the *Rural Fires Act*, it is required to be assessed under 79BA of the *Environment Planning and Assessment Act 1979*.
- Clause 4.2.6 of *Planning for Bushfire Protection 2006 (PBP)* identifies that these types of developments should be assessed as if they were are an SFPP development. In addition Fact Sheet 2/14 '*Places of Public Worship and Other Public Assembly Buildings on Bush Fire Prone Land*' outlines additional specific considerations for this type of development. Both PBP and the fact sheet should be addressed in submitted information.

Previous Development Applications on the Site

- It is noted that the RFS has previously provided comments under 79BA of the *Environment Planning and Assessment Act 1979* for a similar development on the same site – RFS reference number D13/1834. In our letter dated 30 August 2013 we recommended conditions for Asset Protection Zones, water supply and gas installation, internal road construction, evacuation and emergency planning and construction standards. We provided advice in this letter that the proposed development was assessed as if it was a *Special Fire Protection Purpose (SFPP)*.
- However, it appears that access to the development has now changed, with the proposed primary access being in an opposite direction over adjoining land, at a longer distance and through more heavily forested areas compared with the previous application which has a shorter access across grassland to the highway.
- Fact Sheet 2/14 has been created since comments were issued for the previous application in 2013 which should be taken into consideration in submitted information.

Access

- The proposed primary access route is not ideal considering the long distance required to be travelled over adjoining forested land. The RFS would recommend that the primary access route be the proposed secondary access to the north of the development. This access route is considered to be a safer option, and it is was proposed as part of the previous application.

- However where this cannot be achieved, adequate information should be provided as to why the access route to the north cannot be used as a primary access route, and how a secondary access route can be achieved.
- The Draft bush fire assessment report for the proposed development proposes a primary access route to the south and secondary access route to the north. Generally, the RFS would require that the primary access road be constructed to 'Public Road' standards of *Planning for Bushfire Protection 2006* (PBP), and the secondary access road be constructed to 'Property Access' standards at a minimum.
- The Draft report advised that the secondary access road would be gated and locked. The RFS would recommend that the gate is not locked as this could cause issues for access and egress in the case of an emergency. Where the gate is required to be locked, information should be provided as to why the gate must be locked, and how the gate will be unlocked in the case of an emergency to ensure the safety of occupants and firefighters.

Emergency Planning

- It is considered emergency planning for the development is crucial as there will be vulnerable occupants on the site, and the proposed primary access route is not ideal.
- Information should be provided about how an emergency management plan will address relevant issues on the site. An emergency management plan should also address considerations raised in Fact Sheet 2/14, such as training and education of staff and occupants, traffic management and provision for non occupation on days of extreme or catastrophic fire danger.

If you have any further queries or require clarification of the above information please do not hesitate to contact me.

Best Regards,



Lauren Ellevsen | Development Assessment and Planning Officer | Customer Service and Support - Batemans Bay
NSW RURAL FIRE SERVICE
P 02 44720600 F 02 44720690 E Lauren.Ellevsen@rfs.nsw.gov.au
www.rfs.nsw.gov.au | www.facebook.com/nswrfs | www.twitter.com/nswrfs
PREPARE. ACT. SURVIVE.

RFS Disclaimer:

This email message, and any files/links transmitted with it, is intended only for the addressee(s) and contains information which may be confidential. If you are not the intended recipient, please notify the sender and delete this email and any copies or links to this email completely and immediately from your system. Views expressed in this message are those of the individual sender, and are not necessarily the views of the NSW Rural Fire Service.

Appendix II Recommended Conditions from D/13/1834

All communications to be addressed to:

Headquarters
15 Carter Street
Lidcombe NSW 2141

Telephone: 1300 NSW RFS
e-mail: csc@rfs.nsw.gov.au

Headquarters
Locked Bag 17
Granville NSW 2142

Facsimile: 8741 5433



The General Manager
Goulburn Mulwaree Council
Locked Bag 22
GOULBURN NSW 2580

Your Ref: DA/0358/1213
Our Ref: D13/1834
DA13081988641 LC

ATTENTION: Stephanie Mowle

30 August 2013

Dear Sir / Madam

Land Use Application for 15213 Hume Highway Marulan 2579

I refer to your letter dated 14 August 2013 seeking advice regarding bush fire protection for the above Land Use Application in accordance with Section 79BA of the 'Environmental Planning and Assessment Act 1979'.

The Service provides the following recommended conditions:

Asset Protection Zones

The intent of measures is to provide sufficient space for fire fighters and other emergency services personnel, ensuring radiant heat levels permit operations under critical conditions of radiant heat, smoke and embers, while supporting or evacuating occupants. To achieve this, the following conditions shall apply:

1. At the commencement of building works and in perpetuity the property around the building shall be managed as follows as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones':
 - north for a distance of 85 metres as an asset protection zone;
 - east for a distance of 40 metres as an asset protection zone;
 - south for a distance of 60 metres as an asset protection zone; and
 - west for a distance of 20 metres as an asset protection zone (APZ). (Note: in forested areas a portion of the APZ may be maintained as an outer protection zone as specified in Table A2.7 of 'Planning for Bush Fire Protection 2006'.)

Water and Utilities

The intent of measures is to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting fire fighting activities. To achieve this, the following conditions shall apply:

2. Water, electricity and gas are to comply with the following requirements of section 4.2.7 of 'Planning for Bush Fire Protection 2006'.
 - In recognition that no an unreliable reticulated water supply exists, a 20000 litre water supply shall be provided for fire fighting purposes.
 - Reticulated or bottled gas is to be installed and maintained in accordance with Australian Standard AS/NZS 1596:2008: 'The storage and handling of LP gas' and the requirements of relevant authorities. Metal piping is to be used.

Access

The intent of measures for internal roads is to provide safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing an area. To achieve this, the following conditions shall apply:

3. Internal roads shall comply with following requirements of section 4.2.7 of 'Planning for Bush Fire Protection 2006'.
 - Internal roads are two-wheel drive, sealed, allweather roads.
 - Internal perimeter roads are provided with at least two traffic lane widths (carriageway 8 metres minimum kerb to kerb) and shoulders on each side, allowing traffic to pass in opposite directions.
 - Roads are through roads. Dead end roads are not more than 100 metres in length from a through road, incorporate a minimum 12 metres outer radius turning circle, and are clearly signposted as a dead end.
 - Traffic management devices are constructed to facilitate access by emergency services vehicles.
 - A minimum vertical clearance of 4 metres to any overhanging obstructions, including tree branches, is provided.
 - Curves have a minimum inner radius of 6 metres and are minimal in number to allow for rapid access and egress.
 - The minimum distance between inner and outer curves is six metres. Curves have a minimum inner radius of 6 metres and are minimal in number to allow for rapid access and egress.
 - Maximum grades do not exceed 15 degrees and average grades are not more than 10 degrees.
 - Crossfall of the pavement is not more than 10 degrees.
 - Roads do not traverse through a wetland or other land potentially subject to periodic inundation (other than flood or storm surge).
 - Roads are clearly signposted and bridges clearly indicate load ratings.
 - The internal road surfaces and bridges have a capacity to carry fullyloaded fire fighting vehicles (15 tonnes).

Evacuation and Emergency Management

The intent of measures is to provide suitable emergency and evacuation (and relocation) arrangements for occupants of special fire protection purpose developments. To achieve this, the following conditions shall apply:

4. Arrangements for emergency and evacuation are to comply with section 4.2.7 of 'Planning for Bush Fire Protection 2006'.
 - An Emergency /Evacuation Plan is to be prepared consistent with the NSW Rural Fire Service document 'Guidelines for the Preparation of Emergency/Evacuation plan'.

Design and Construction

The intent of measures is that buildings are designed and constructed to withstand the potential impacts of bush fire attack. To achieve this, the following conditions shall apply:

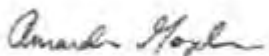
5. New construction shall comply with Sections 3 and 5 (BAL 12.5) Australian Standard AS3959-2009 'Construction of buildings in bush fire-prone areas' and section A3.7 Addendum Appendix 3 of 'Planning for Bush Fire Protection'.

General Advice – consent authority to note

The proposed Prayer Hall has been assessed as if it was a "Special Fire Protection Purpose" in accordance with Clause 4.2.6 of Planning for Bush Fire Protection 2006. The above conditions are recommended for the proposed Prayer Hall as outlined in Clause 4.2.7 of Planning for Bush Fire Protection 2006.

For any queries regarding this correspondence please contact Lauren Cole on 1300 NSW RFS.

Yours sincerely



Amanda Moylan
Team Leader Development Assessment and Planning

The RFS has made getting information easier. For general information on 'Planning for Bush Fire Protection, 2006', visit the RFS web page at www.rfs.nsw.gov.au and search under 'Planning for Bush Fire Protection, 2006'.