



AUSTRALIAN BUSHFIRE CONSULTING SERVICES



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**BRONZE
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Bush Fire Assessment Report



Proposed change of use
(Gymstars cheerleading gym / dance studio)

2/130 Old Pittwater Road

Brookvale NSW 2100

7th September 2018
Reference 18-216 R1

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Abbreviations:

ABCS	Australian Bushfire Consulting Services Pty Ltd
APZ	Asset Protection Zone
AS3959	Australian Standard 3959 – 2009 including amendments 1-3
BAL	Bushfire Attack Level
BCA	Building Code of Australia
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
BSA	Bushfire Safety Authority
Council	Northern Beaches Council
DA	Development Application
EP&A Act	Environmental Planning and Assessment Act - 1979
ESD	Ecologically Sustainable Development
FR NSW	Fire & Rescue NSW
IPA	Inner Protection Area
LGA	Local Government Area
NCC	National Construction Codes
NP	National Park
NSP	Neighbourhood Safer Place
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection – 2006
ROW	Right of Way
RF Act	Rural Fires Act - 1997
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SWS	Static Water Supply

1.0 Introduction.

The development seeks approval for the change of use of an industrial unit to a cheerleading / dance studio within an existing building at 2/130 Old Pittwater Road Brookvale. The current use within the unit is a gym physio studio and this unit is adjacent to the existing Gymstars business currently operating within the unit occupying the building to the north and east of the subject unit. The current units are divided by an internal party wall which will be removed and Gymstars occupation expanded to encompass the subject unit. There is no new building additions / external construction or external renovation works proposed as part of the development application.

The subject site is mapped as bushfire prone land and therefore the application of Planning for Bush Fire Protection 2006 (PBP 2006) is relevant to the development proposal. The aims of PBP 2006 are to *provide for the protection of human life (including firefighters) and to minimise impacts on property from the threat of bush fire, while having due regard to development potential, on-site amenity and protection of the environment*. This is achieved by determining and applying the required asset protection zones, where applicable applying the relevant construction requirements, ensuring satisfactory access and egress has been incorporated into the design and providing safe service supply and adequate water provisions for occupants and attending emergency services.

2.0 Property details.

Address: 2/130 Old Pittwater Road Brookvale NSW 2100
 Lot/DP: Lot A DP 402556
 Zoned: Split Zoned - IN1 General Industrial / RE1 Public Recreation
 LGA: Northern Beaches Council local government area

The site fronts Old Pittwater Road to the east and is surrounded by industrial and warehouse style development to the north, south and east, and residential development to the west. A reserve (zoned RE1) is located within the western end of the subject site that separates the industrial area from residential development. I undertook an inspection of the property on 28/8/2018, at that time free access was available within the subject site and views into the vegetated RE1 portion were available.

3.0 Legislative context.

The development is classified as infill development and assessed under Section 4.14 of the Environmental Planning and Assessment Act 1979. Under this Act Council can determine a development application on bushfire prone land providing;

Council is satisfied that the development conforms to the specifications and requirements of *Planning for Bush Fire Protection* that are relevant to the development or

Council has been provided with a certificate by a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment stating that the development conforms to the relevant specifications and requirements *Planning for Bush Fire Protection*.

If the Council is satisfied that the development does not conform to the relevant specifications and requirements of *Planning for Bush Fire Protection* Council may grant consent but only if it has consulted with the Commissioner of the NSW Rural Fire Service concerning measures to be taken with respect to the development to protect persons, property and the environment from danger that may arise from a bush fire.

The highest bushfire attack level (BAL) to the building has been determined to be BAL 12.5. NSW RFS advice on best practice is that the building (Unit 2) should consider upgraded for protection against smoke and ember ingress. Advice has been included herein to ensure the applicant is aware of best practice (non-binding advice) published within the NSW RFS document *Upgrading of Existing Buildings – Working towards a safer community*. This document is attached to this report.

I am a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment and I have attached a certificate to this report satisfying the requirements of s4.14. As such Council can approve the application without referral to the NSW Rural Fire Service.

4.0 Referenced documents and people.

The following documents have been referenced in the preparation of this report;

- Warringah Council Local Environmental Plan 2011,
- Warringah Council Development Control Plan 2011 amended May 2016,
- Northern Beaches Council Bushfire Prone Land Map May 2016,
- AS3959 – 2009 Construction of buildings in bushfire prone areas,
- Planning for Bush Fire Protection 2006,
- Rural Fires Act 1997
- Rural Fires Regulation 2013
- 10/50 Vegetation Clearing Code of Practice,
- NSW RFS Guide for bush fire prone land mapping Vibe Nov 2015,
- NSW RFS document *Upgrading of Existing Buildings – Working towards a safer community*
- Ocean Shores to Desert Dunes – David Andrew Keith 2004,

The Site Plan & Parking Layout by R. A. Carey dated 20.08.2018 attached has been reviewed and relied upon in preparation of this report.

5.0 Copyright, scope and disclaimer.

This assessment of possible bushfire impact (including smoke, ember, radiant heat and flame contact) and compliance with matters such as Asset Protection Zones, access and service supply is pertinent to the subject site only. Where reference has been made to the surrounding lands, this report does not assess impact to those lands rather it is an assessment of possible bushfire progression and impact on or from those lands towards the subject site.

Apart from any use permitted under the Copyright Act 1968 no part of this document, including any wording, images, or graphics, can be modified, changed or altered in any way without written permission from Australian Bushfire Consulting Services Pty Ltd. This report may only be referenced, distributed or forwarded to other parties in its original format.

This report has been prepared as a submission document in support of a development application to Council and cannot be relied upon for commencement of works or construction until it has been included within the consent conditions issued by Council as part of the DA determination. **The onus is on the applicant to cross reference this document with any conditions of consent issued by Council or any comments provided by the NSW Rural Fire Service.** I can review and cross reference these documents however the onus is on the applicant / client to provide them to me and request this review.

Where any difference between this document and the development consent (or the NSW Rural Fire Service comments) is found, the conditions of consent always take precedence until an application to review, amend or vary those conditions is approved.

The statements and opinions contained in this report are given in good faith and in the belief that such statements and opinions are correct and not misleading. AS3959 – 2009 states that “...*there can be no guarantee that a building will survive a bushfire event of every occasion. This is substantially due to the unpredictable nature and behaviour of fire and extreme weather conditions*”. The NSW RFS state “*Homes are not designed to withstand fires in catastrophic conditions*”. Correspondingly any representation, statement of opinion, or advice expressed or implied in this document is made on the basis that Australian Bushfire Consulting Services Pty Ltd is not liable to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement or advice made by Australian Bushfire Consulting Services Pty Ltd.

6.0 Assessment summary table.

Aspect	North	West	South	East
Vegetation Structure	Maintained land	Forest	Maintained land	Maintained land
Hazard slope	N/A	0° & upslope	N/A	N/A
Asset Protection Zone	N/A	>75 metres	N/A	N/A
Features that may mitigate the impact bush fire on the proposed development.	The separation from the hazard interface includes maintained land within the subject site. There is no vegetation within the asset protection zone / separation reported herein and this area is occupied by an existing industrial unit building with hardstand areas surrounding it.			
Noteworthy landform & environmental features.	Industrial development.	Recreation reserve (RE1) / Allenby Park Parade / residential development	Industrial development.	Old Pittwater Road / Industrial development.
Threatened Species	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Aboriginal Relics	APZ Existing	APZ Existing	APZ Existing	APZ Existing
Bushfire Attack Level	N/A	BAL 12.5	N/A	N/A
Required Construction Level	There is no new building additions / external construction or external renovation works proposed as part of the development application and therefore compliance with BAL 12.5 under AS3959 – 2009 Construction of buildings in bushfire prone areas is irrelevant. The proposal does not create an increased level of bushfire risk than existing uses. NSW RFS Quote: <i>Upgrading of existing elements of the building to Planning for Bush Fire Protection is not mandatory. However, in the interests of achieving a better bush fire outcome, the RFS strongly recommends improvement of existing elements including upgrade of buildings.</i> NSW RFS advice on best practice is that the building (Unit 2) should consider upgrades for protection against smoke and ember ingress. This can be achieved by enclosing all openings or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm. Where applicable, this includes any openable windows, vents, weepholes and eaves. External doors are to be fitted with draft excluders. Specific detail on options available to the applicant will be included within this report.			

Guideline Ref.	Proposed Development Determinations
Property Access	The existing site layout and access arrangements are restrained by the existing approved development pattern. Access compliant with section 4.1.3 (2) is available along the southern side of the building to the rear parking area of Unit 2 and is considered suitable for a Category 1 Fire Appliance. The turning arc on the exit side is slightly impeded however a fire appliance could undertake a three-point turn in the parking area and return to Old Pittwater Road via the same access drive. Further access is available to the rear of the site.
Service Supply	The subject site is connected to reticulated water mains. Hydrants are located along Old Pittwater Road available for the replenishment of fire fighting appliances. Existing water supply is considered satisfactory for this development. Existing overhead electrical supply is available to the site.
Evacuation	Gymstars should be encouraged to complete a Bush Fire Safety Plan addressing "Prepare, Act, Survive" as advocated by the NSW RFS http://www.rfs.nsw.gov.au/ under publications / bushfire safety.

7.0 Images and maps.



Image 01: Aerial image from Nearmap database

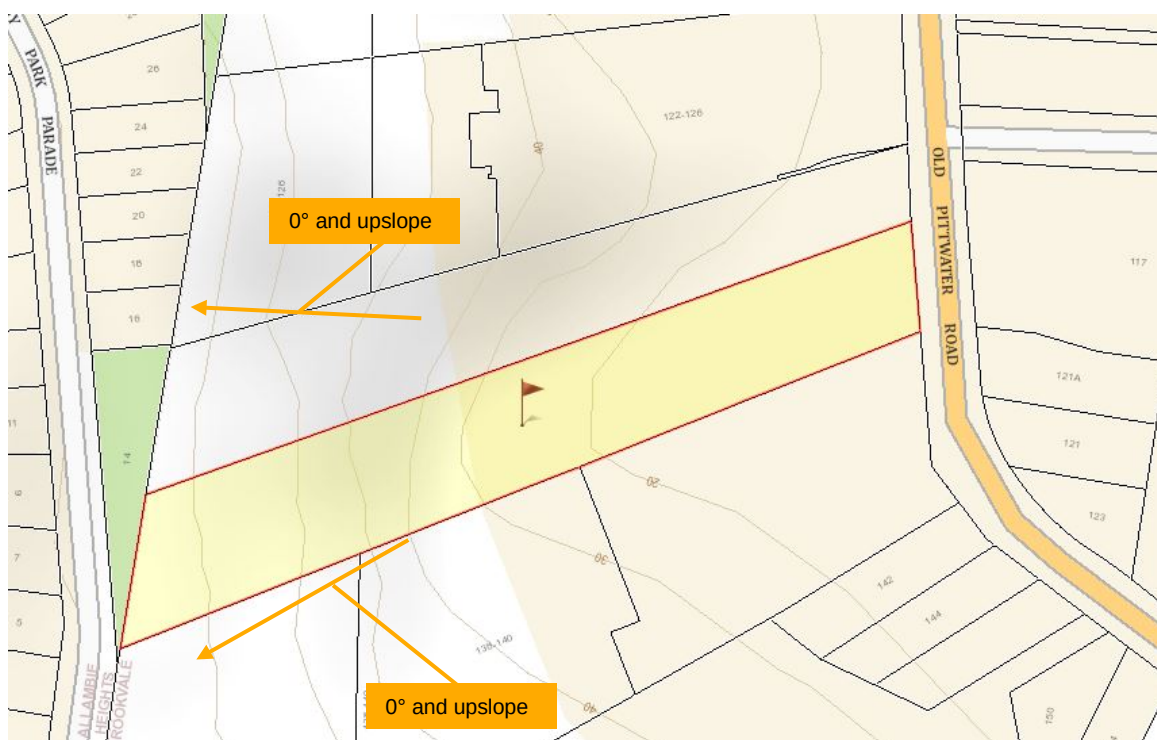


Image 02: Topographic map from NSW Gov. SIX Maps dataset

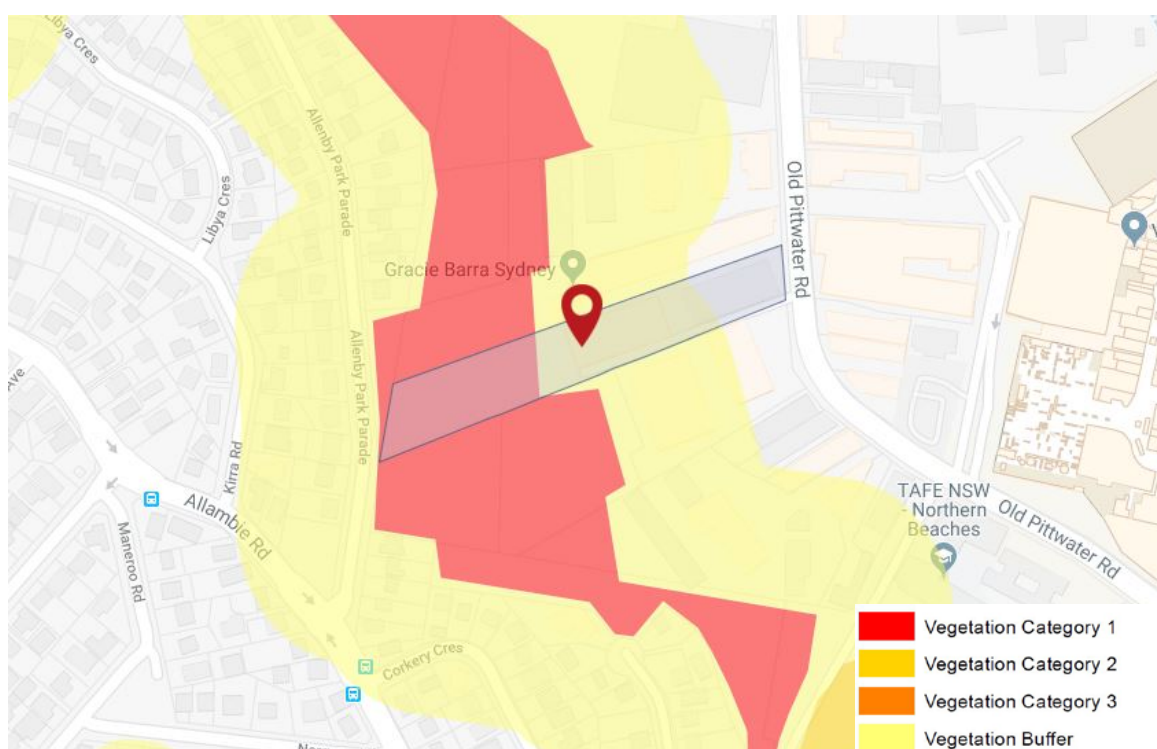


Image 03: Extract from Northern Beaches Council's Bushfire Prone Land Map

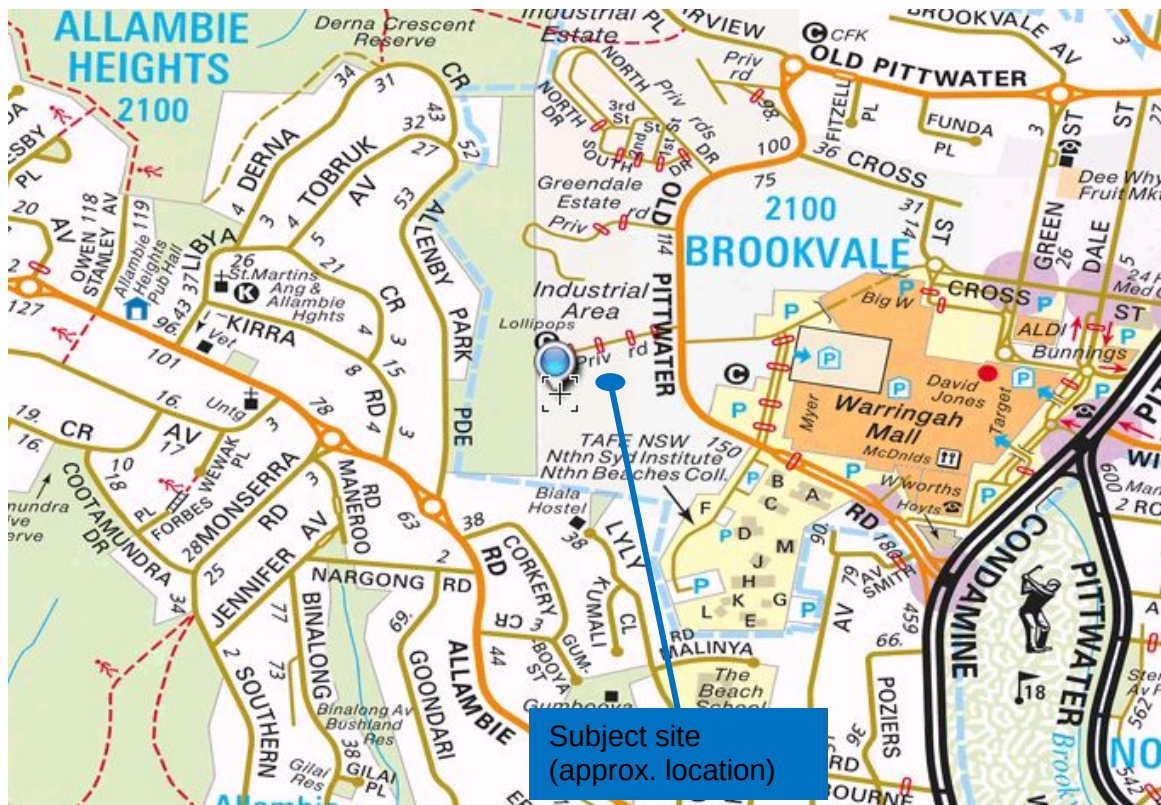


Image 04: Extract from street-directory.com.au

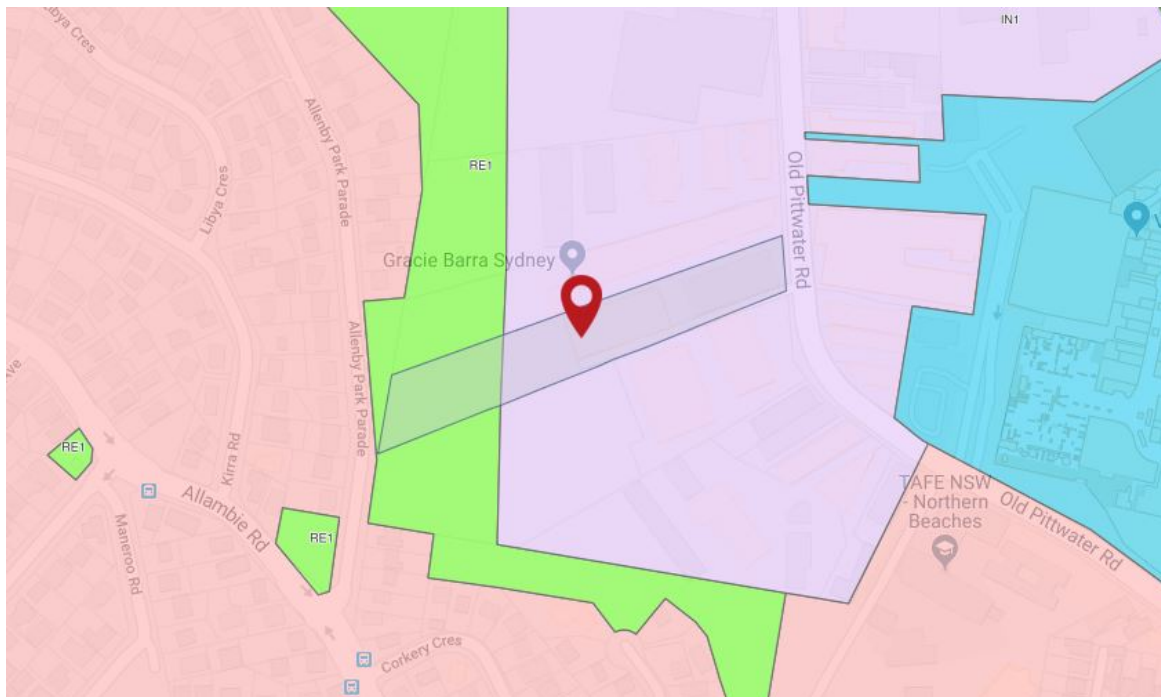


Image 05: Extract from Warringah Council LEP 2011 Zoning Maps

8.0 Bushfire hazard assessment

Properties considered to be bushfire prone land are identified on Councils Bushfire Prone Land Map as being:

- *within or within 100 m of Category 1 (high) hazards or,*
- *within or within 30 m of Category 2 (low) hazards or,*
- *within or within 30 m of Category 3 (medium) hazards.*

The NSW RFS document PBP – 2006 is applicable to all development on bushfire prone land, this includes an assessment of the proposals adequacy in providing an appropriate combination of bushfire protection measures in terms of asset protection zones, landscaping, access and service supply. This document also provides a means of determining the necessary level of building construction under AS3959 - 2009. All infill development on bushfire prone land must be accompanied with a bushfire hazard assessment that includes;

- *a statement that the site is bush fire prone land, where applicable,*
- *the location, extent and vegetation formation of any bushland on or within 100 metres of the site,*
- *the slope and aspect of the site and of any bush fire prone land within 100 metres of the site, which may determine the likely path of any bush fires,*
- *any features on or adjoining the site that may mitigate the impact of a high intensity bush fire on the proposed development, and*
- *a statement assessing the likely environmental impact of any proposed Bush Fire Protection Measures.*
- *whether any building is capable of complying with AS 3959-2009 in relation to the construction level for bush fire protection.*

By incorporating bush fire protection measures into a development, the six objectives of PBP 2006 are addressed:

1. *afford occupants of any building adequate protection from exposure to a bush fire*
2. *provide for a defendable space to be located around buildings*
3. *provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition*
4. *ensure that safe operational access and egress for emergency service personnel and residents is available*
5. *provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ)*
6. *ensure that utility services are adequate to meet the needs of fire fighters (and others assisting in bush fire fighting).*

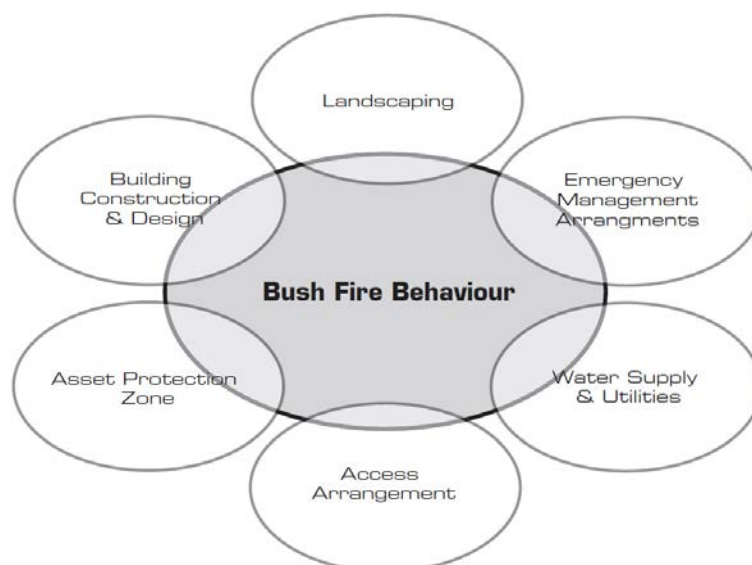


Image 06: Extract from PBP 2006 illustrating bush fire protection measures in combination.

8.1 Site

The development proposal involves extending the space occupied by an existing company, Gymstars, which currently occupies the unit adjacent to the subject unit, to uptake the additional floorspace of unit 2. Gymstars is self-described on their website as;

Gymstars is an American "Bring It On" style cheerleading gym on Sydney's Northern Beaches, established in March 2006 by Nicole Holmes.

Gymstars has grown to become one of the premier cheerleading clubs in Australia, winning 35 national titles in the past 9 years! Now entering our 13th competitive season.

Gymstars has over 250 cheerleaders who compete in regional, state, national and international events! The squads we offer range in age as well as difficulty level. Gymstars also offers High school teams for students who attend Stella Maris and Mackellar High Schools.

As well as team Cheerleading, Gymstars has classes for competitive group and partner stunt, specialised tumbling classes, recreational cheerleading classes and Cheerleading parties.

The site fronts Old Pittwater Road to the east and is surrounded by industrial and warehouse style development to the north, south and east, and residential development to the west. The vegetation that poses a bushfire threat to the subject building is within a reserve (zoned RE1) located within the western end of the subject site. This reserve separates the industrial area from the residential development further west.

Councils Bushfire Prone Land Map identifies this property as containing Category 1 Vegetation and the 100 metre buffer zone from Category 1 Vegetation and therefore it is appropriate to apply PBP 2006. The Bushfire Prone Land Map is just a trigger for a detailed site assessment and bushfire hazard analysis to be undertaken, and it was found onsite that a large swath of the bushfire hazard is actively being removed for neighbouring development.



Photograph 01: View west from Old Pittwater Road towards the subject site

8.2 Vegetation

The vegetation must be assessed for a distance of 140 metres from the proposed development. Where a mix of vegetation types exist, the type providing the greater hazard is said to predominate.

The vegetation identified as the bushfire threat to the subject building is located within the western portion of the subject site itself. The bushfire hazard was found to consist of trees 10-20 metres in height having approx. 65 % canopy foliage cover and an understorey of smaller trees, shrubs and grasses. For the purposes of assessment under Appendix 2 Table A2.4 the vegetation has been assessed as Keith Classification Dry Sclerophyll Forest. The closes point of the vegetation was located on a manmade sandstone embankment which limited vegetation growth.



Photograph 02: View south taken approx. 85 metres west of the subject building



Photograph 03: View northwest into the western portion of the subject site

8.3 Topography

The slope must be assessed over a distance of at least 100 m from the existing property boundary (or proposed building footprint) towards the various vegetation communities constituting the hazard. In assessing the slope, it may be found that there are a variety of slopes covering different distances. The gradient within the hazard (vegetation) which will most significantly influence the fire behaviour must be determined.

The most significant bushfire impact from the hazard to the west has been assessed as a bushfire travelling on a downslope toward the subject building. The slope was determined onsite using an inclinometer and verified by contour topographic mapping to be;

- 0° and upslope to the west

8.4 Asset Protection Zones

There are no minimum APZ required for infill development and the existing APZ is large enough to establish that the development is in an area determined to be BAL 12.5. BAL-12.5 is primarily concerned with protection from ember attack and radiant heat up to and including 12.5 kW/m² where the site is less than 100 m from the source of bushfire attack. The existing APZ was measured to be greater than 75 metres to the west. The APZ is existing and there is no tree removal, or any vegetation modification required and therefore there is no environmental impact of the proposed bushfire protection measures.

The APZ consists entirely of hard surfaced or built upon areas and there are no recommendations necessary for the ongoing maintenance of this area.



Photograph 04: View west from the subject building towards the western end of the subject site

8.5 Access & egress

The existing site layout and access arrangements are restrained by the existing approved development pattern. Access compliant with section 4.1.3 (2) is available along the southern side of the building to the rear parking area of Unit 2 and is considered suitable for a Category 1 Fire Appliance. The turning arc on the exit side is slightly impeded however a fire appliance could undertake a three-point turn in the parking area and return to Old Pittwater Road via the same access drive. Further access is available to the rear of the site.

Fire services have free pedestrian access around the existing building footprints. The existing access is considered acceptable and is not been impeded or obstructed as part of this development.

8.6 Services

Existing overhead electrical supply is available. An online internet check also indicates that there is natural gas available in this street. There appears to be no new electrical or gas supplies included as part of this proposal.

The subject site is connected to reticulated water mains. Hydrants are located along Old Pittwater Road available for the replenishment of fire fighting appliances. Existing water supply is considered satisfactory for this development. Existing overhead electrical supply is available to the site.

8.7 Construction

Australian Standard 3959 – 2009 'Construction of buildings in bushfire-prone areas' provides for six (6) levels of building construction these being BAL - Low, BAL - 12.5, BAL - 19, BAL - 29, BAL - 40 and BAL - FZ. The Australian Standard 3959 specifies construction standards for buildings within various Bushfire Attack Levels as determined by the Planning for Bushfire Protection – 2006 document. The NSW Rural Fire Service will not accept deemed to satisfy provisions for BAL Flame Zone and therefore have a NSW variation to the listed standard provisions of BAL FZ under AS3959 - 2009.

There is no new building additions / external construction or external renovation works proposed as part of the development application and therefore compliance with BAL 12.5 under AS3959 – 2009 Construction of buildings in bushfire prone areas is irrelevant. The proposal does not create an increased level of bushfire risk than existing uses. Indeed the existing uses are approved onsite and this DA only involves that company up taking additional floorspace in the adjacent unit.

NSW RFS Quote: *Upgrading of existing elements of the building to Planning for Bush Fire Protection is not mandatory. However, in the interests of achieving a better bush fire outcome, the RFS strongly recommends improvement of existing elements including upgrade of buildings.*

NSW RFS advice on best practice is that the building (Unit 2) should consider upgrades for protection against smoke and ember ingress. This can be achieved by enclosing all openings or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm. Where applicable, this includes any openable windows, vents, weepholes and eaves. External doors are to be fitted with draft excluders.

Specific detail on options available to the applicant includes;

Install steel bronze or aluminium mesh screens having a maximum aperture of 2mm in openable windows in such a way that the window remains screened when in the open position.	
Replace plastic wall vents with non-combustible vents that are fitted with steel bronze or aluminium mesh screens having a maximum aperture of 2mm. Ensure screens cover entire opening.	

Install seals / brush seals / steel bronze or aluminium mesh having a maximum aperture of 2mm, or make good as necessary, to ensure there are no gaps greater than 3mm at the head, sides and bottom of roller door openings.



Install seals or draught excluders at the base of side hung entry doors to ensure there are no gaps greater than 3mm at the base of the doors.



8.8 Risk

The level of risk is determined using the combination of likelihood and consequences. The purpose of analysing risk is to establish an understanding of the level of bushfire threat and will help to evaluate the appropriateness of bushfire protection measures recommended for a development application.

This section of the report is a predictive risk evaluation only and assumes development consent includes any recommendations contained within this report. It has been based on an abridged version of the assessment process detailed within the Bush Fire Risk Management Planning Guidelines for Bushfire Risk Management Committees. This evaluation does not reflect the Bushfire Attack Level determined under PBP 2006 or AS3959 - 2009.

The likelihood of a bush fire occurring can be determined using fire history data or local knowledge. The likelihood must be considered in the context of long term planning and not simply if a bush fire is likely to occur during the next five years. The consequences of a bush fire event can be determined by considering the vulnerability of the asset. Vulnerability is related to the capacity of an asset to cope with or recover from the impacts of a bush fire.

Likelihood Rating	Description and indicative probability
Almost certain	Expected to occur, many recorded incidents, strong anecdotal evidence, high opportunity, reason or means to occur; may occur or be exceeded once in every 5 years.
Likely	Will probably occur; consistent record of incidents and good anecdotal evidence; considerable opportunity, reason or means to occur; may occur or be exceeded once in every 10 years.
Possible	Might occur; a few recorded incidents in each locality and some anecdotal evidence; some opportunity, reason or means to occur; may occur or be exceeded once in every 20 years.
Unlikely	Is not expected to occur; isolated recorded incidents in this community, anecdotal evidence in other communities; little opportunity, reason or means to occur;

Consequence Rating	Description and indicative result
Minor	Inconsequential or no damage. Little or no disruption to occupation. Little or no financial loss.
Moderate	Localised damage that is rectified by routine arrangements. Normal functioning with some inconvenience. Localised displacement of people who return within 24 hours. Personal support satisfied through local arrangements.
Major	Significant damage that requires external resources. Displacement for more than 24 hours duration. Extensive resources required for personal support.
Catastrophic	Extensive damage. Extensive personal support. General and widespread displacement for extended durations.

Consequence Likelihood	Minor	Moderate	Major	Catastrophic
Almost certain	Medium	High	Extreme	Extreme
Likely	Low	Medium	High	Extreme
Possible	Insignificant	Low	Medium	High
Unlikely	Insignificant	Insignificant	Low	Medium

The bushfire risk to this development is determined to be low.

9.0 Recommendations

9.1 Asset Protection Zones / landscaping

The APZ consists entirely of hard surfaced or built upon areas and there are no recommendations necessary for the ongoing maintenance of this area.

9.2 Construction

There are no new external building works proposed as part of this development and therefore compliance with both AS3959 – 2009 is not pertinent.

NSW RFS Quote from their document *Upgrading of Existing Buildings – Working towards a safer community*:

Upgrading of existing elements of the building to Planning for Bush Fire Protection is not mandatory. However, in the interests of achieving a better bush fire outcome, the RFS strongly recommends improvement of existing elements including upgrade of buildings.

NSW RFS advice on best practice is that the building (Unit 2) should consider upgrades for protection against smoke and ember ingress. Advice has been included herein to ensure the applicant is aware of best practice (non-binding advice) published by the NSW RFS.

10.0 Conclusion

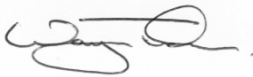
The National Construction Code 2016 (NCC) Volume 2 requires that a Class 1 building or a Class 10a building or deck associated with a Class 1 building that is constructed in a designated bushfire prone area must, to the degree necessary, be designed and constructed to reduce the risk of ignition from a bushfire, appropriate to the potential for ignition caused by burning embers, radiant heat or flame generated by a bushfire; and intensity of the bushfire attack on the building.

The subject property is determined to be bushfire prone land and the proposal must achieve compliance with the NCC by meeting the aims and objectives of PBP 2006. This is achieved by providing construction measures to mitigate against the impacts from bush fire including smoke, embers, radiant heat and flame contact, and including suitable access, services supply and a means of maintaining the bushfire protection measures for the life of the development.

This bushfire hazard and determination has been made on a site-specific basis which includes an assessment of the local bushland area and its possible impact to the subject property.

The proposal meets the aims and objectives of PBP 2006 and AS3959-2009 by means of compliance with the deemed to satisfy provisions of these documents. In consideration of the bushfire risk posed to the proposed development I am in support of the development application.

Australian Bushfire Consulting Services Pty Ltd



Wayne Tucker

Managing Director
G. D. Design in Bushfire Prone Areas.
Certificate IV Fire Technology
Ass Dip Applied Science
FPA Australia BPAD Level 3 Accredited Practitioner
BPAD Accreditation No. BPAD9399



List of attachments

- Attachment 01: s4.14 Certificate
- Attachment 02: Site Plan & Parking Layout by R. A. Carey dated 20.08.2018
- Attachment 03: NSW RFS document *Upgrading of Existing Buildings – Working towards a safer community*.



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BUSH FIRE RISK ASSESSMENT CERTIFICATE

Issued in accordance with Section 4.14 of the Environmental Planning Act 1979 No.203

PROPERTY DETAILS	Unit 2 130 Old Pittwater Road Brookvale NSW 2100 Lot A DP 402556		
DEVELOPMENT TYPE	Expansion of existing Gymstars unit space to occupy whole unit. (non-residential infill development).		
PLAN REFERENCE	Site Plan & Parking Layout by R. A. Carey dated 20.08.2018		
BAL RATING	BAL 12.5	NOTE - If BAL FZ the application is to be referred to the NSW RFS.	
ARE ALTERNATE SOLUTIONS REQUIRED	No	NOTE - If YES the application is to be referred to the NSW RFS.	
IS REFERRAL TO NSW RFS REQUIRED	No	ABCS REF.	18-216 R1

I *Wayne Tucker*, of Australian Bushfire Consulting Services Pty. Ltd., hereby certify in accordance with Section 4.14 of the Environmental Planning Act 1979 No.203 that –

1. I am a person recognized by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment and
2. Subject to the recommendations contained in the Bush Fire Assessment Report, the proposed development conforms to specifications and requirements of the document entitled *Planning for Bush Fire Protection* (prepared by the NSW Rural Fire Service in co-operation with the Department of Planning) and any other documents as prescribed by Section 4.14 of the Environmental Planning and Assessment Act 1979 No.203.

Further, I am aware that the Bush Fire Assessment Report prepared for the abovementioned site is to be submitted in support of a Development Application for this site. This report will be relied upon by Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with the document entitled *Planning for Bush Fire Protection 2006*.

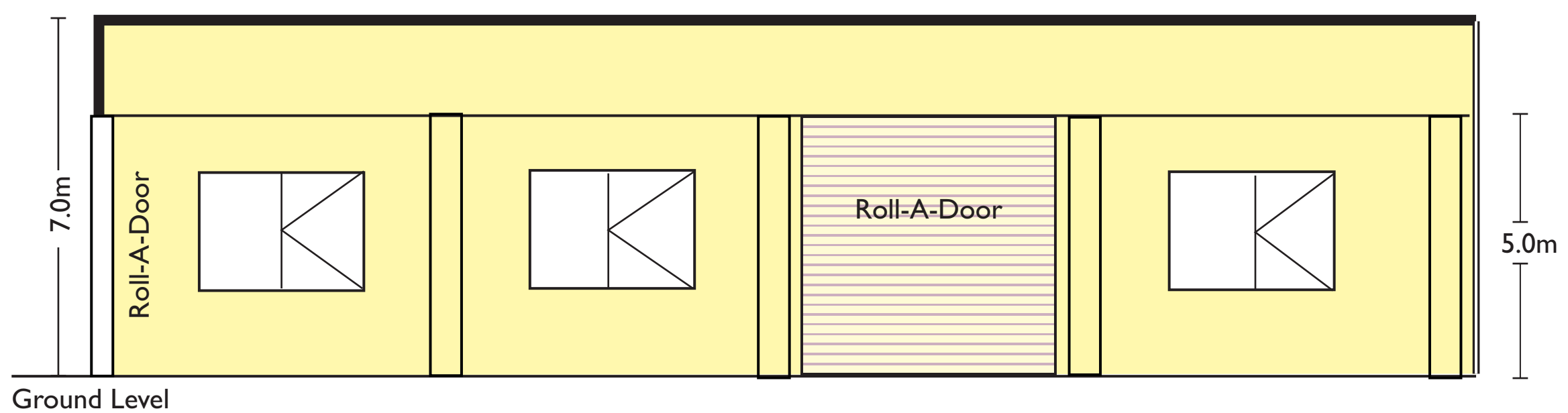
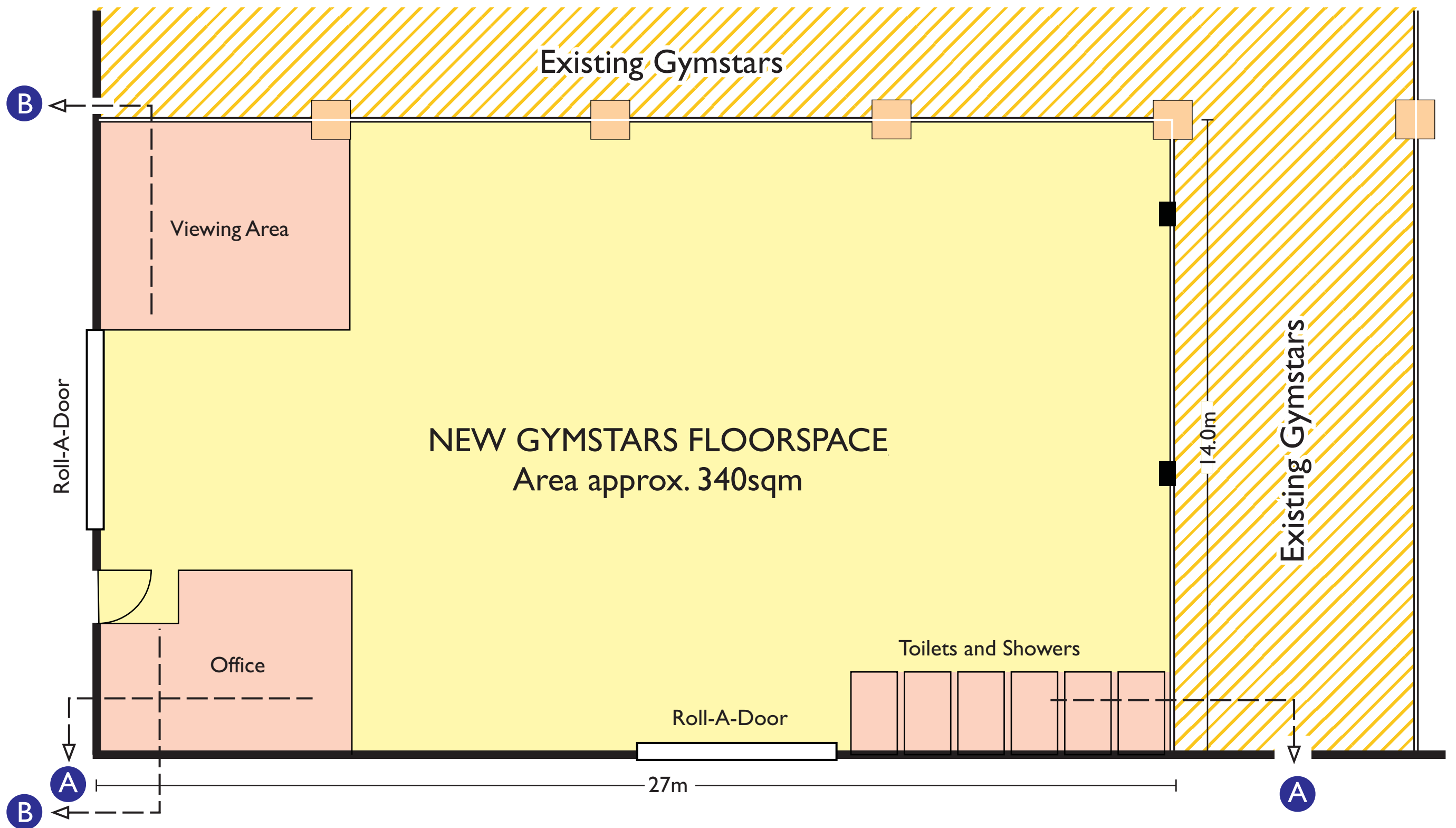
Issue date: 7/9/18

Australian Bushfire Consulting Services:



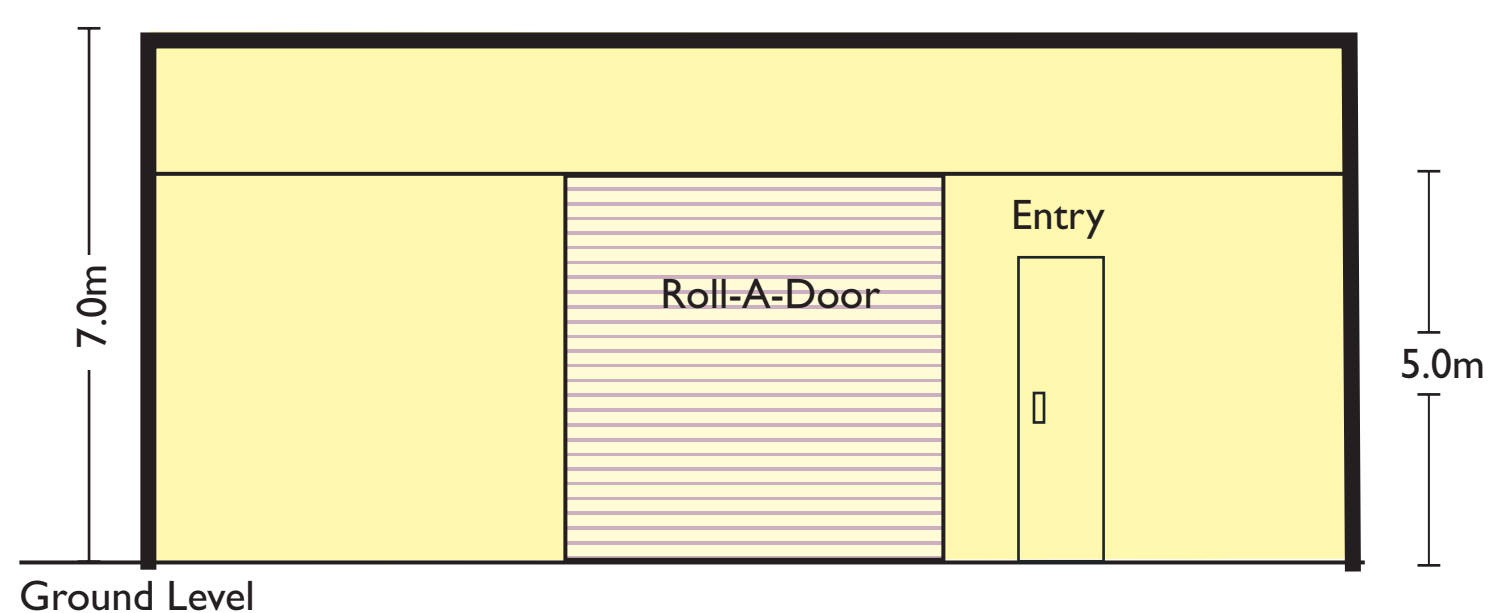
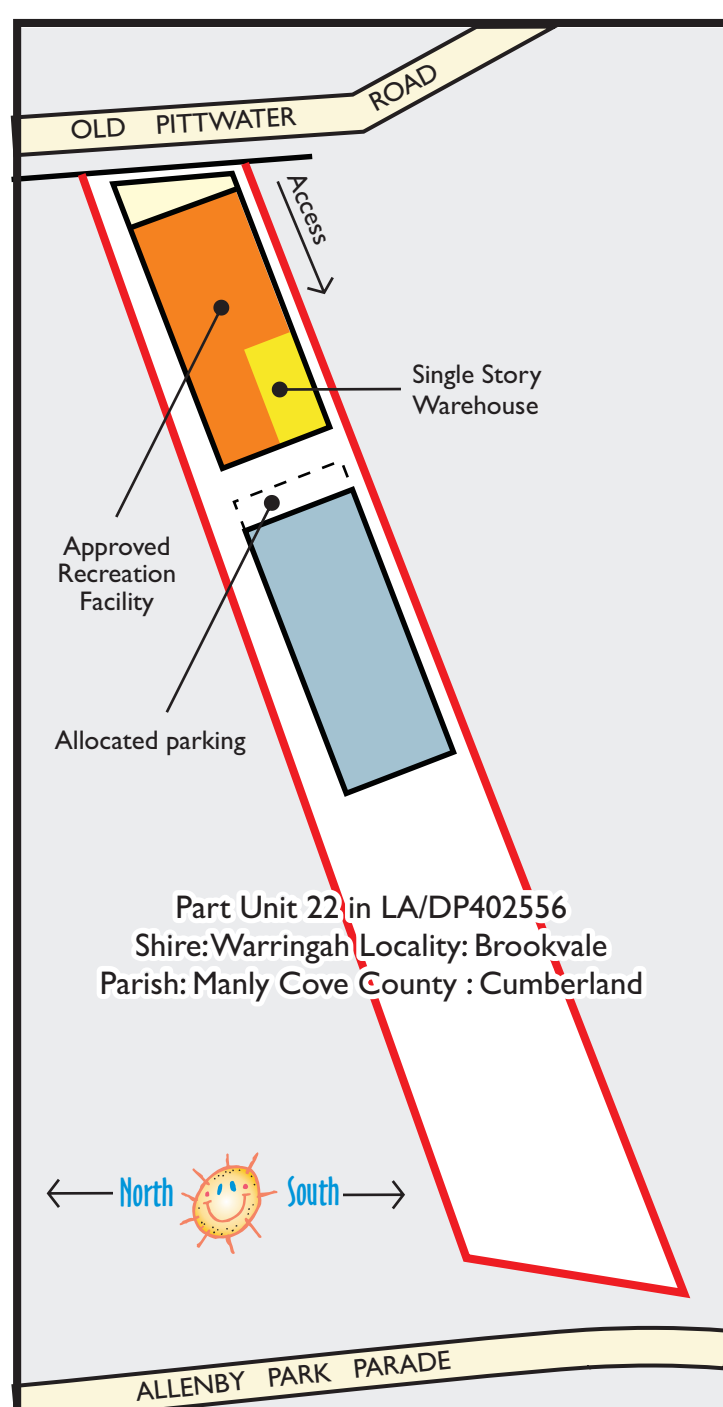
Wayne Tucker

Managing Director.
G. D. Design in Bushfire Prone Areas.
Certificate IV Fire Technology
Ass Dip Applied Science
FPA Australia BPAD Level 3 Accredited Practitioner
BPAD Accreditation No. BPAD9399



Elevation - Section A - A

LOCALITY MAP (not to scale)



Elevation - Section B - B

Note: Deposited Plan was unavailable, measurement by hand and are approximate only

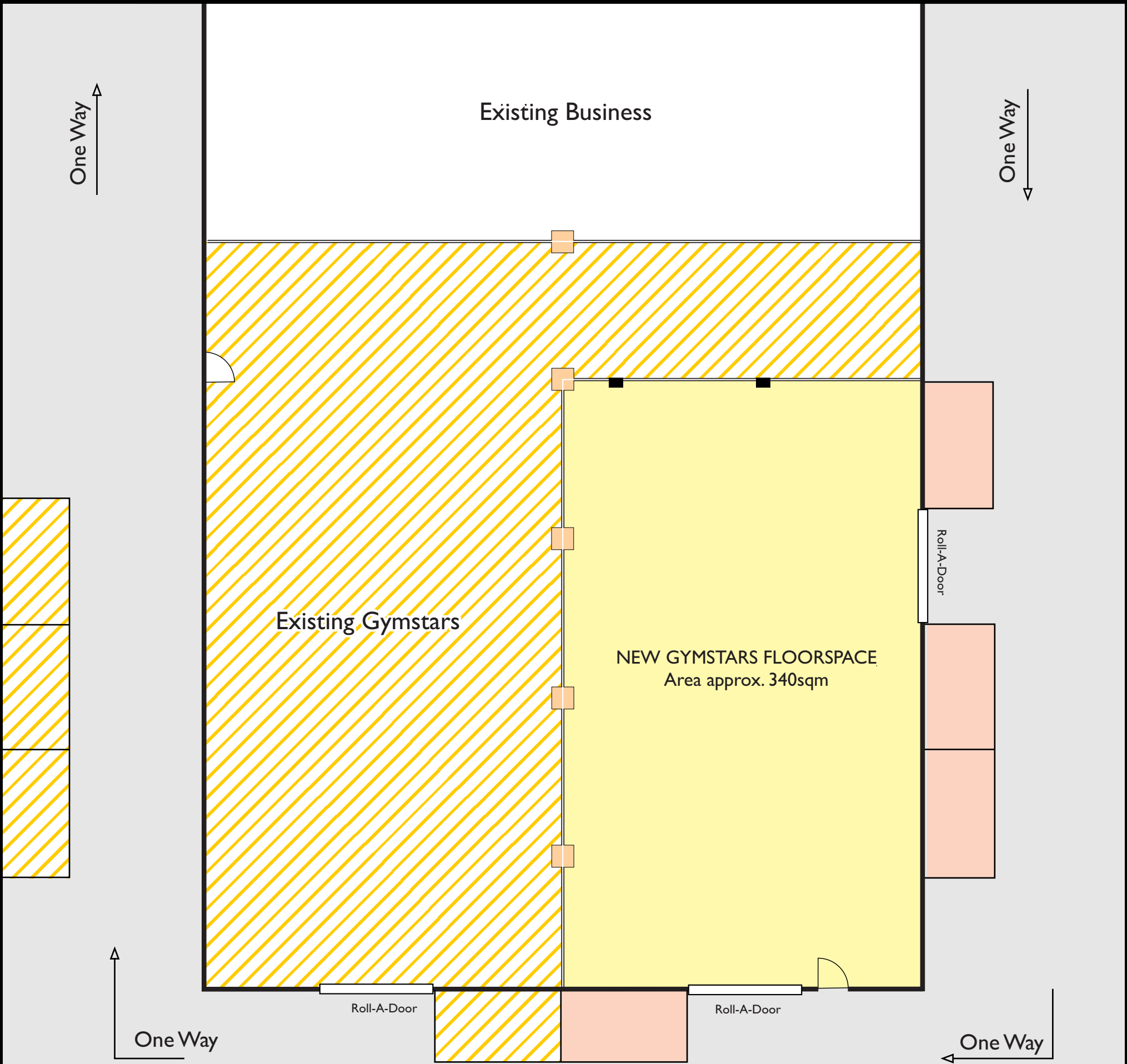
**PROPOSED RECREATION FACILITY (INDOOR)
Change Of Use Of Existing Warehouse**

MRS. N. HOLMES
22/130 OLD PITTWATER ROAD BROOKVALE 2100

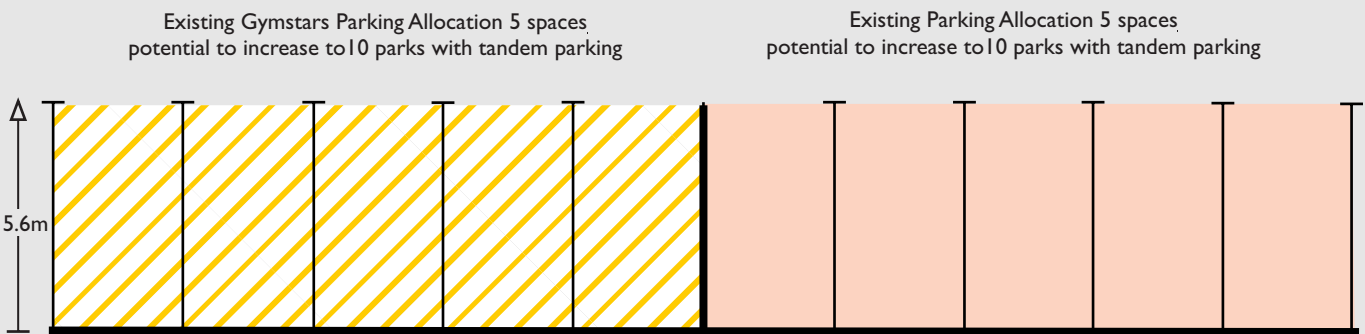
SCALE: 1 : 100 and 1 : 200

DATE: 20.08.2018

Drawn by: R. A. Carey
1 Jenna Close Allambie NSW 2100 - Mobile 0425293061



PARKING LAYOUT



Note: Deposited Plan was unavailable, measurement by hand and are approximate only

PROPOSED RECREATION FACILITY (INDOOR) PARKING LAYOUT	
MRS. N. HOLMES 22/130 OLD PITTWATER ROAD BROOKVALE 2100	
SCALE: 1 : 100 and 1 : 200	DATE: 20.08.2018
Drawn by: R. A. Carey 1 Jenna Close Allambie NSW 2100 - Mobile 0425293061	



DEVELOPMENT ASSESSMENT & PLANNING

Upgrading of Existing Buildings

WORKING TOWARDS A SAFER COMMUNITY



INTRODUCTION

Bush fire is a major challenge for the community. It has been a natural part of our landscape for thousands of years and remains an ever-present threat.

Due to historic settlement patterns and the need to provide housing for people, development has occurred in areas that are bush fire prone placing lives and property at risk.

The NSW Rural Fire Service (NSW RFS) has a statutory obligation to protect life, property and the environment through fire suppression and fire prevention. Improved land use planning and construction of buildings in bush fire prone areas are intrinsic to the fire management strategies of the NSW RFS.

Through a working relationship with local Councils and the NSW Department of Planning, the NSW RFS has been able to refine and implement bush fire protection for new developments through the NSW

planning system. Since the introduction of these planning and building regulations in August 2002, all new development on bush fire prone land in NSW must comply with the requirements of *Planning for Bush Fire Protection 2006* and Australian Standard 3959-2009 – *Construction of buildings in bushfire-prone areas* (AS3959).

This means that people who are building or renovating have a clear direction on how to design and build their homes to be better protected from the impacts of bush fires. The types of protection measures include asset protection zones (vegetation management), access, landscaping, water supply, building design and construction. These measures assist building survival during a bush fire. They also contribute to the safety of fire-fighters and members of the community occupying buildings during the passage of a bush fire front.

Unfortunately, the majority of buildings in bush fire prone areas pre-date these regulations, meaning that most existing houses are at an increased risk of damage or loss from a bush fire.

With this in mind, the NSW RFS has developed a practical guide for those living in bush fire prone areas who may wish to take the opportunity to upgrade their existing building to increase its resilience from bush fire attack.

The guide provides a range of options that homeowners may wish to consider in determining the level of protection appropriate for their circumstances and risk. These include minimal protection measures such as basic ember proofing, establishment of Asset Protection Zones (APZs) to higher level protection measures such as re-building or upgrading construction elements of the building.

While this guide identifies protection methods, it is vital that such building enhancements are considered in conjunction with any upgrade works undertaken, consideration of other bush fire protection measures such as maintenance of Asset Protection Zones, services and landscaping.

The guide is not intended to be a comprehensive bush fire assessment of the risk to your property or an indication of compliance with *Planning for Bush Fire Protection 2006* and AS3959-2009. In this regard, home owners are advised to seek professional advice with regards to further upgrades or reconstruction to improve their resistance to bush fire attack.

For further assistance, details regarding suitably qualified consultants can be found on the NSW RFS website www.rfs.nsw.gov.au

IS UPGRADING MANDATORY?

Upgrading of existing elements of the building to Planning for Bush Fire Protection is not mandatory. However, in the interests of achieving a better bush fire outcome, the NSW RFS strongly recommends improvement of existing elements including upgrade of buildings.

Anyone whose land is bush fire prone should have regard to this document for practical guidance in protecting your property against bush fire attack. For all new developments on bush fire prone land, following the Development Application process or the Exempt and Complying Development process, the advice in this document should be applied as a minimum standard to the existing situation. This is in addition to any other bush fire protection measures that may be required by the development consent or complying development certificate.

These upgrading measures will contribute to making your home safer against the impact of the different elements of attack in the event of a bush fire; however, they form only part of the solution. Undertaking routine property maintenance and preparing a Bush Fire Survival Plan are other important parts to your bush fire protection and survival.

UPGRADE PROVISIONS

85% of houses are lost from ember attack. The following provisions are designed to give existing buildings improved protection from ember attack during a bush fire event. Ember attack can occur over distances greater than 100 metres from the bush fire front. Any gaps, cracks or areas where embers and fuel can lodge (leaves, twigs, debris) significantly reduces a building's resistance to bush fire attack.

To mitigate against ember attack you should consider the minimal upgrades as detailed in the table below. Additional protection measures may also be considered and this will be dependent on the individual circumstances of the building commensurate with the level of threat from bush fire attack. The potential level of threat to the property from bush fire attack should also be taken in to account when deciding what level of protection should be used. Factors to be taken in to consideration include the isolation of the development and how easily you can react in the event of a bush fire.

Owners are cautioned that existing buildings may contain materials made from asbestos or have painted surfaces that contain lead. These materials should be handled in accordance with appropriate guidelines.



BUILDING ELEMENT	MINIMAL PROTECTION MEASURES	ADDITIONAL PROTECTION MEASURES
GENERAL	Seal all gaps (>3mm) around the house (excluding subfloor) with: • appropriate joining strips; • flexible silicon based sealant; or • mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze or aluminium.	• Install a bush fire sprayer system. (Please contact a bush fire consultant or relevant industry expert to discuss options) Seal all gaps (>3mm) around the house (excluding subfloor) with: • appropriate joining strips • flexible silicon based sealant; or mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze or aluminium.
WALLS	Install sarking with a flammability index of not more than 5 behind weatherboards or other external cladding when they are being replaced for maintenance or other reasons.	• Replace wall materials with non-combustible materials • Install sarking with a flammability index of not more than 5 behind weatherboards or other external cladding.
SUBFLOOR	Removal of combustible materials and keeping areas clear and accessible.	• Enclose subfloor with non-combustible material.
DOORS	Install weather strips, draught excluders or draught seals at the base of side-hung doors.	• Replace external doors with non-combustible or solid timber doors with minimum thickness of 35mm. • Replace or over-clad parts of door frames less than 400mm above the ground, decks and similar elements or fittings with non-combustible material. • Install weather strips, draught excluders or draught seals at the base of side-hung doors.
VENTS & WEEPHOLES	Seal vents and weepholes in external walls with mesh (with an aperture size of 2 mm) of corrosion resistant steel, bronze or aluminium.	• Seal vents and weepholes in external walls with mesh (with an aperture size of 2 mm) of corrosion resistant steel, bronze or aluminium.
ROOFS	Seal around roofing and roof penetrations with a non-combustible material. Install sarking with a flammability index of not more than 5 beneath existing roofing when it is being replaced for maintenance or other reasons. If installed, gutter and valley leaf guards shall be non-combustible.	• Replace fascia and roof materials with non-combustible materials. • Seal around roofing and roof penetrations with a non-combustible material. • Install sarking with a flammability index of not more than 5 beneath existing roofing. • If installed, gutter and valley leaf guards shall be non-combustible.
WINDOWS	Install mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze or aluminium to all external doors and openable windows	• Installing appropriately tested shutters to doors and windows • Install mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze or aluminium to all external doors and windows • Replacing glass with toughened or laminated safety glass • Replace overhead glazing with 'grade a' safety glass
EXTERNAL STRUCTURES		• External structures to be located >10 metres from the main dwelling.
DECKING		• Replace decking with non-combustible material

OTHER REQUIREMENTS

ASSET PROTECTION ZONES

Development on bush fire prone land requires suitable separation from the bush fire hazard. This separation is referred to as an asset protection zone (APZ) and should be located wholly within the development property.

The APZ separates the building from the hazard. It is designed to minimize the presence of fuels, which could burn in a fire. Therefore, the impact of direct flame contact, radiant heat and ember attack on the development is reduced.

In order to ensure appropriate levels of safety, the NSW RFS recommends that an APZ is always provided. Where a building has been newly developed or alterations and additions have been undertaken, recommended levels of construction are reliant upon the ongoing maintenance of the APZ. In this regard, the suitability of the design and construction of the building will be significantly compromised should the APZ not be maintained or implemented as intended.

APZ should be managed in accordance with 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*.

SERVICES

During major bush fire events, the preparedness of the dwelling and its occupants may be seriously jeopardised with the loss of basic services, particularly water and electricity.

Adequate water supply is critical for any firefighting operation, particularly where property protection is envisaged. A reticulated water supply should be provided which is easily accessible and located at regular intervals. Where no reticulated water supply is available, a water supply of 5,000L reserve (i.e. water tank or dam) dedicated to firefighting purposes should be installed and maintained.

Electricity services should be located so that the possibility of ignition of the surrounding bushland or fabric of the buildings is limited. Regular inspection of the electricity lines should be undertaken to ensure they are not impacted by branches.

The location of gas services should vent facing away and not lead to the ignition of surrounding bushland or the fabric of the buildings.

LANDSCAPING

Vegetation can burn during a bush fire. With this in mind, careful attention must be paid to species selection, their location relative to their flammability, avoidance of continuity of vegetation (horizontally and vertically), and ongoing maintenance to readily remove flammable fuels (leaf litter, twigs and debris).

Homeowners are advised to contact their local Council before undertaking any work that involves modifying or removing existing trees.

The following additional information relating to landscaping is available at www.rfs.nsw.gov.au:

1. Standards for Asset Protection Zones
2. Appendix 5 of *Planning for Bush Fire Protection 2006*.



For more information please visit www.rfs.nsw.gov.au
or contact Development Assessment & Planning on **8741 5175**
or email development.assessment@rfs.nsw.gov.au.