

Bush Fire Assessment Report

Proposed Events

**Sydney International
Equestrian Centre,
Horsley Park NSW**

Reference Number: 210602

Prepared For:
Creative Planning Solutions

22nd December 2020



Prepared By:
**Building Code & Bushfire
Hazard Solutions Pty Limited**

Tel: (02) 9457 6530
Fax: (02) 9457 6532

PO Box 124
Berowra NSW 2081
ABN 19 057 337 774

www.bushfirehazardsolutions.com.au



**SILVER
MEMBER**
Fire Protection
Association Australia



Contents

	<u>Page No.</u>
Copyright and Disclosure	2
List of Abbreviations	3
Executive Summary	4 - 5
1.0 Introduction	6
2.0 Purpose of Report	7
3.0 Scope of Report	7
4.0 Aerial view of the subject allotment	7
5.0 Site Assessment	8 - 12
6.0 Bushfire Assessment	13 - 19
7.0 Recommendations	20
8.0 Conclusion	21
9.0 Annexure	22
- List of referenced documents and attachments	
- Attachments	

Copyright:

Where agreed to by Building Code and Bushfire Hazard Solutions Pty. Ltd, this report may only be copied, distributed or forwarded to other parties in its original format. No part of this document including any wording, images, or graphics can be modified, changed or altered in any way without the express permission of Building Code and Bushfire Hazard Solutions Pty. Ltd. (Copyright Act 1968).

Where this document is found to have been used or altered in any way without the express permission of Building Code and Bushfire Hazard Solutions Pty. Ltd. including any wording, images, or graphics, Building Code and Bushfire Hazard Solutions Pty. Ltd. will not be held liable for any incidental or consequential loss or damages, financial or otherwise resulting from the use of the modified document. Building Code & Bushfire Hazard Solutions Pty. Ltd. will if it considers it necessary, seek to advise third parties including authorities of such illegal use or modifications.

Legal status:

This report has been prepared as a submission document in support of a development application to Council and in instances may rely upon information provided by a number of external sources including Councils, State Government Agencies and it is assumed that the information provided was accurate at the time. This report cannot be relied upon for commencement of works or construction until such time as it has been endorsed or otherwise included within the consent conditions issued by Council as part of the DA determination.

S4.14 applications (under the Environmental Planning and Assessment Act 1979) and all infill development applications may be referred by Council to the NSW Rural Fire Service for review and concurrence during the DA process. S100B applications under the Rural Fires Act 1997 (subdivisions and Special Fire Protection Purpose Developments), Flame Zone determinations and Alternate Solutions must be referred by Council to the NSW Rural Fire Service for review and receipt of a Bushfire Safety Authority (BSA) or other such recommended conditions from the NSW Rural Fire Service before the consent can be granted.

The onus is on the applicant to cross reference this document with any conditions of consent issued by Council or any requirements supplied by the NSW Rural Fire Service following development approval. BCBHS can review and cross reference these documents however the onus is on the applicant to provide them to us and request this review – Building Code and Bushfire Hazard Solutions Pty. Ltd. is not in a position to track every DA through Council and we rely upon the applicant to undertake this role as project co-ordinator.

Where any discrepancy between this document and the development approval or the NSW Rural Fire Service requirements is found, the conditions of consent always take precedence until such time as an application to review, amend or vary these conditions is approved.

Disclaimer:

This report has been prepared with due care and diligence by Building Code and Bushfire Hazard Solutions Pty. Ltd and the statements and opinions contained in this report are given in good faith and in the belief on reasonable grounds that such statements and opinions are correct and not misleading bearing in mind the necessary limitations noted in previous paragraphs.

Further, no responsibility is accepted by Building Code and Bushfire Hazard Solutions Pty. Ltd. or any of its officers or employees for any errors, including errors in data which is supplied by a third party, or which Building Code and Bushfire Hazard Solutions Pty. Ltd. is required to estimate, or omissions howsoever arising in the preparation of this report, provided that this will not absolve Building Code and Bushfire Hazard Solutions Pty. Ltd. from liability arising from an opinion expressed recklessly or in bad faith.

Any representation, statement of opinion, or advice expressed or implied in this document is made in good faith on the basis that Building Code and Bushfire Hazard Solutions Pty. Ltd. employees and / or agents are not liable (whether by reason of negligence, lack of care or any other reason) to any person, company or their agents 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 referred to above.

Version Control			
Version	Date	Reviewed by	Details
1	22/12/2020	Stuart McMonnies BPAD Accreditation No. 9400	Final Report

List of Abbreviations:

APZ	Asset Protection Zone
AS3959	Australian Standard 3959 – 2018 as amended
BAL	Bushfire Attack Level
BCA	Building Code of Australia
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Fairfield City Council
DA	Development Application
ELVIS	Elevation and Depth Foundation Spatial Data
EP&A Act	<i>Environmental Planning and Assessment Act - 1979</i>
ESD	Ecologically Sustainable Development
FRNSW	Fire and Rescue NSW
IPA	Inner Protection Area
NCC	National Construction Code
NP	National Park
NSP	Neighbourhood Safer Places
OPA	Outer Protection Area
PBP	<i>Planning for Bush Fire Protection – 2019</i>
ROW	Right of Way
RF Act	<i>Rural Fires Act - 1997</i>
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SWS	Static Water Supply

Executive Summary

Building Code and Bushfire Hazard Solutions P/L (BCBHS) has been commissioned by Creative Planning Solutions P/L to prepare an independent Bushfire Assessment Report for the proposed development at Sydney International Equestrian Centre.

The application is seeking development consent for ongoing non-equestrian events at Sydney International Equestrian Centre.

The subject site has development consent (application number S38/5/97) pursuant to the then section 91 (1) of the Environmental Planning and Assessment Act 1979 (the Act) by the then Minister for Urban Affairs and Planning for:

- i) Bulk earthworks; site works; services; buildings; structures; landscaping; parking areas; access points and roads; and associated works and infrastructure.
- ii) Use of the facility for equestrian activities and associated compatible community, cultural, sporting, recreational activities.
- iii) Use of the facility for equestrian events during the Olympic and Paralympic Games.
- iv) Provision of infrastructure required by Sydney Organising Committee for the Olympic Games.

During the Olympics, the site hosted events accommodating in excess of 20,000 people. Council has also issued previous development consents for events accommodating up to 8,000 people.

The existing consent does not allow for the proposed development to take place on the land as it is not an equestrian activity or an associated compatible activity. This application seeks consent for non-equestrian events accommodating up to 10,000 people

The facilities required to host events remain on site today. No works are proposed as part of this development consent, and should temporary structures be required for any particular event, it would be expected that they would be erected in accordance with Division 3 of Part 2 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*, or otherwise require an additional development consent.

In this instance the subject site is depicted on Fairfield City Council's Bushfire Prone Land Map (BPLM) as containing Category 1 and 2 Vegetation and their associated buffer zones. The subject site is therefore considered 'bushfire prone'.

As the subject site is identified as being bushfire prone the application is captured under section 4.14 of the *Environmental Planning and Assessment Act 1979*.

The NSW Office of Sport is a public authority and is prescribed by the *Environmental Planning and Assessment Regulation 2000* to be the Crown for the purposes of Division 4.6 of Part 4 of the EPAA Act. The subject DA is being made by the NSW Office of Sport and it is therefore a Crown Development Application.

Fairfield City Council cannot issue consent for the proposal unless it is satisfied that the development conforms to the relevant specifications and requirements of *Planning for Bush Fire Protection (PBP)* or has been provided 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.

The proposal is required to satisfy the aim and objectives detailed in Chapter 1 and address the specific considerations detailed in section 8.3.8 'Outdoor events in bush fire prone areas' of PBP. This report addresses the relevant specification and requirements of PBP and is accompanied by a certificate by a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment.

The future events have the capacity to satisfy all relevant specifications and requirements of *Planning for Bush Fire Protection 2019*.

1.0 Introduction

Building Code and Bushfire Hazard Solutions P/L (BCBHS) has been commissioned by Creative Planning Solutions P/L to prepare an independent Bushfire Assessment Report for the proposed development at Sydney International Equestrian Centre.

The application is seeking development consent for ongoing non-equestrian events at Sydney International Equestrian Centre.

The subject site is depicted on Fairfield City Council's Bushfire Prone Land Map as containing Category 1 and 2 Vegetation and their associated buffer zones. The subject site is therefore considered 'bushfire prone'.

As the subject site is identified as being bushfire prone the application is captured under section 4.14 of the *Environmental Planning and Assessment Act 1979*.

Fairfield City Council cannot issue consent for the proposal unless it is satisfied that the development conforms to the relevant specifications and requirements of *Planning for Bush Fire Protection* (PBP) or has been provided 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.

The proposal is required to satisfy the aim and objectives detailed in Chapter 1 and address the specific considerations detailed in section 8.3.8 'Outdoor events in bush fire prone areas' of PBP.

Category

- Vegetation Category 1
- Vegetation Category 2
- Vegetation Category 3
- Vegetation Buffer

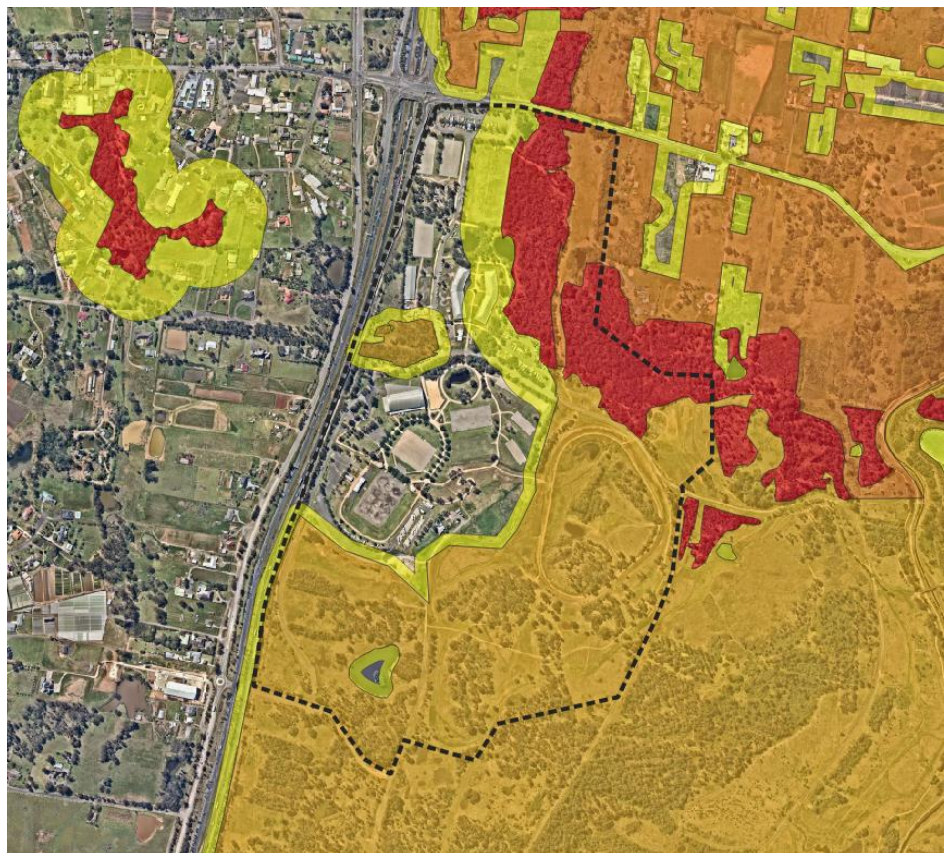


Figure 01: Extract from Fairfield City Council's Bushfire Prone Land Map
(subject site black dotted outline)

2.0 Purpose of Report

The purpose of this Bushfire Assessment Report is to provide Creative Planning Solutions P/L, NSW Office of Sport, the NSW Rural Fire Service and Fairfield City Council with an independent bushfire assessment together with appropriate recommendations for the proposed event venue.

The recommendations contained within this report may assist in forming the basis of any specific conditions and/or bushfire mitigation measures issued for the subject Development Application.

3.0 Scope of this Report

The scope of this report is limited to providing a bushfire assessment and recommendations for the subject property. Where reference has been made to the surrounding lands, this report does not purport to directly assess those lands; rather it may discuss bushfire impact and/or progression through those lands and possible bushfire impact to the subject property.

4.0 Aerial view of the subject allotment

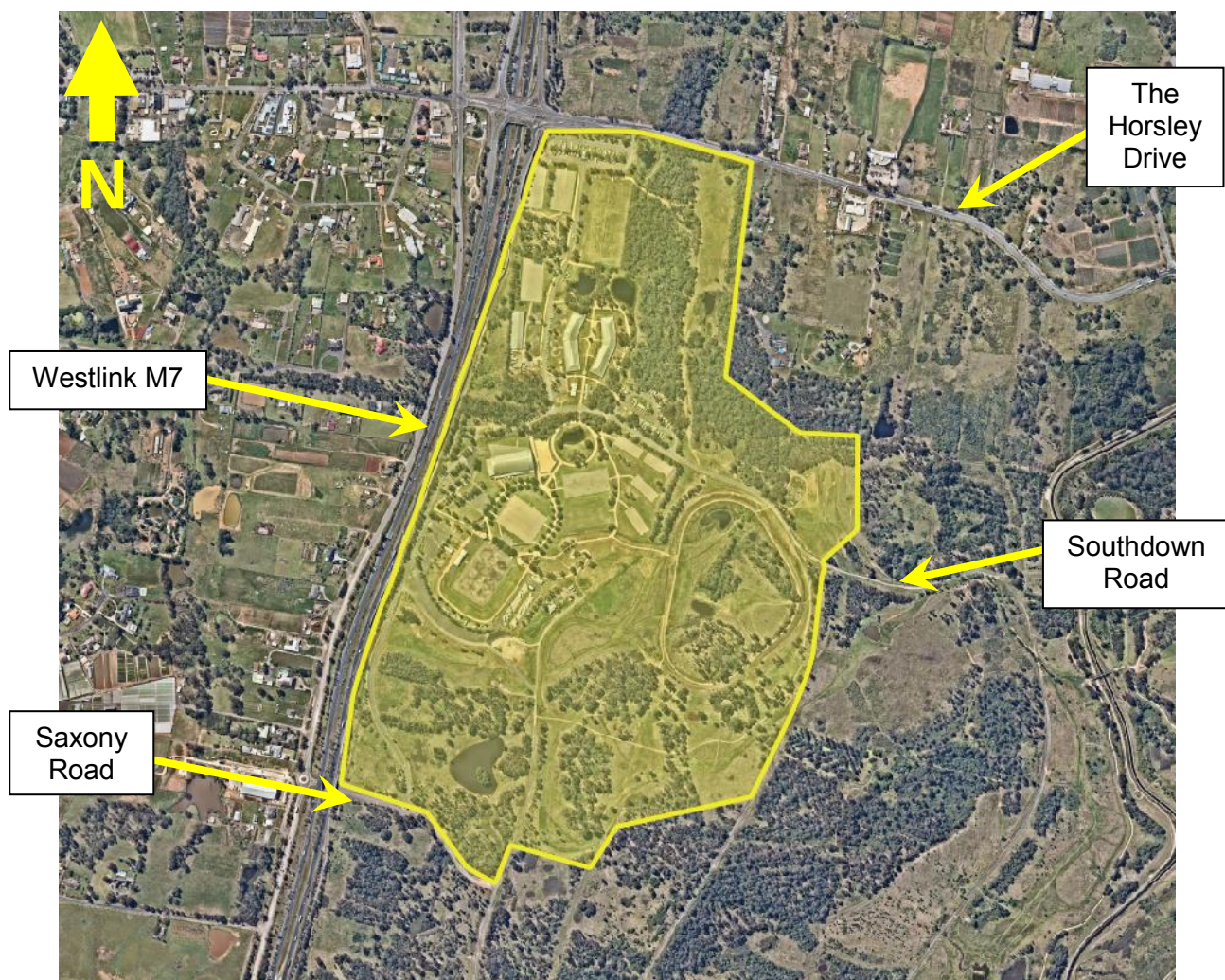


Figure 02: Aerial view of the subject area courtesy Nearmap
(subject site shaded yellow)

5.0 Site Assessment

5.01 Location

The subject property is known as the Sydney International Equestrian Centre and is located within Western Sydney Parklands, Horsley Park. The proposed development site comprises of the following allotments:

Deposited Plan	Section	Lots
1021839	Null	8, 9, 10, 11, 12, 15, 16, 17
13905	Null	92
388681	Null	95D
1022008	Null	11, 12, 13, 14, 15, 16, 17
234284	Null	6, 7, 8, 9, 10, 11, 12, 13, 16
847794	Null	42
825571	Null	3, 4, 5, 6, 7, 8, 9, 10, 11, 12
235949	Null	39

The subject site has street frontage to The Horsley Drive to the north, Saxony Road to the south and the Westlink M7 to the west.

The site is within Fairfield City Council's local government area.

The vegetation identified as being the bushfire hazard is within the subject site, Western Sydney Regional Park and neighbouring private allotments.

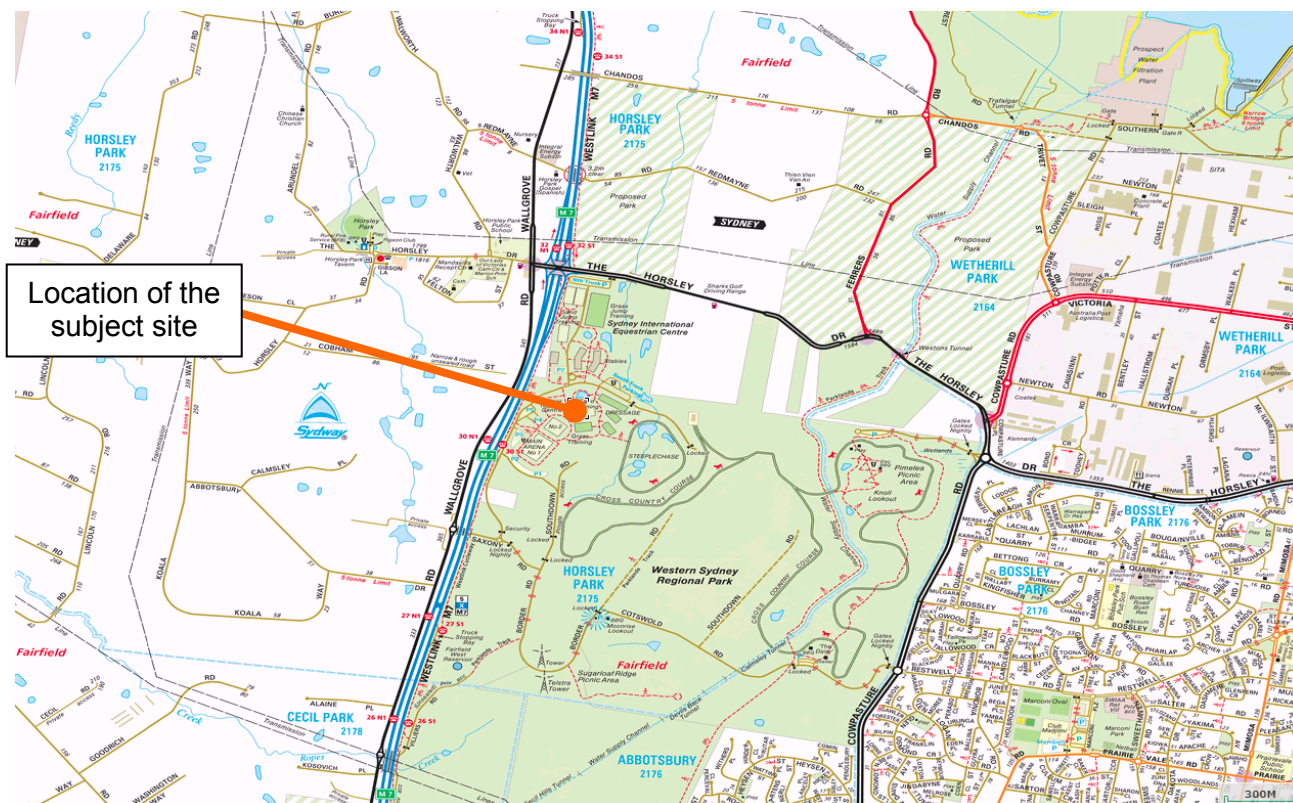


Figure 03: Extract from street-directory.com.au

5.02 Vegetation

In accordance with Appendix 1 'Site Assessment Methodology' of PBP we have undertaken an assessment of all vegetation formations within 140 metres of the subject site for each aspect as per Keith (2004).

The vegetation surrounding the existing established facilities onsite were found to comprise of maintained lawns and gardens.

The vegetation identified as being the bushfire hazard is within the subject site, Western Sydney Regional Park and neighbouring private allotments.

The subject site and adjacent Western Sydney Regional Park and neighbouring private allotments are identified as containing Cumberland Plain Woodland in the Sydney Basin Bioregion, Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (source Map of Critically Endangered Ecological Communities NSW v6). These communities are listed as Critically Endangered under the *Biodiversity Conservation Act 2016* and *Environment Protection and Biodiversity Conservation Act 1999*.

Figure 05 depicts the extent of bushfire hazards within the subject site, Western Sydney Regional Park and neighbouring private allotments. All grounds within the subject site not identified as posing a bushfire hazard are subject to periodic management. No additional vegetation impact is proposed as part of this application.

While the areas shaded red in Figure 05 are eligible for assessment as remnant hazards (A1.11.1 of PBP) for the purpose of this assessment and as an additional margin of safety a Cumberland Dry Sclerophyll Forest classification has been applied to all identified bushfire hazards.

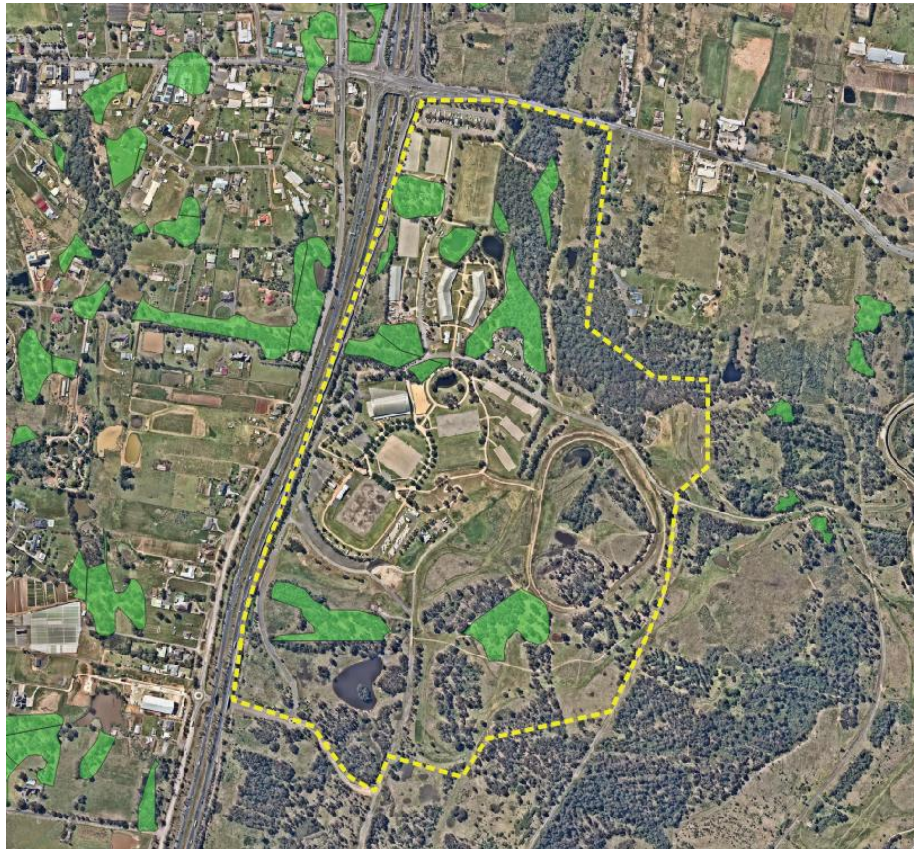


Figure 05: Aerial view of the subject area overlaid with Map of Critically Endangered Ecological Communities NSW v6 (green shade CEEC)

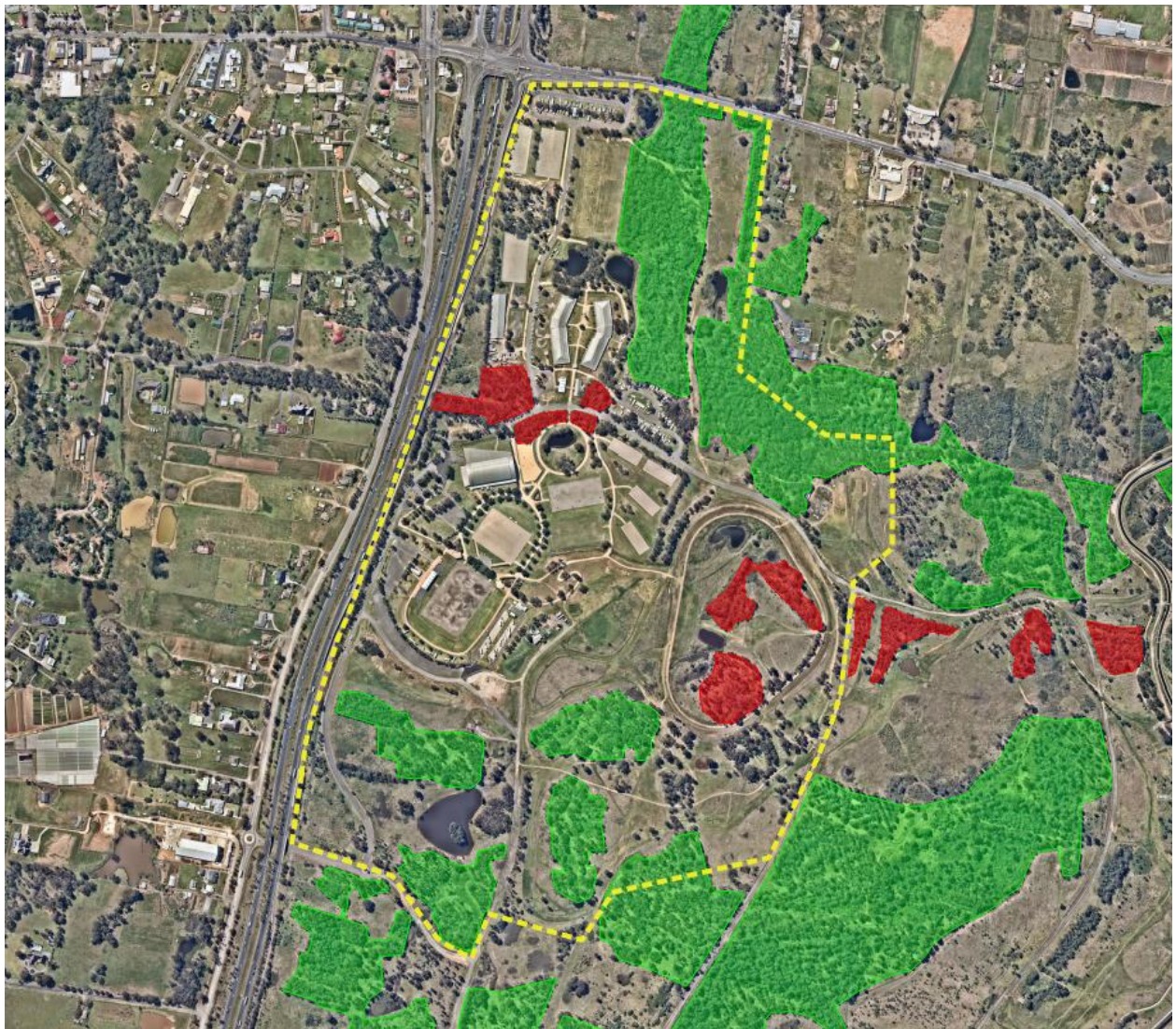


Figure 05: Aerial view of the subject area overlaid with Forest / Woodland hazards (green shade) and Remnant hazards (red shade)

5.03 Slope and Topography

The slope of the land under the classified vegetation has a direct influence on the forward rate of spread, fire intensity and radiant heat exposure. The effective slope is considered to be the slope under the classified vegetation which will most significantly influence bushfire behaviour toward the development site.

In accordance with A1.4 'Determine slope' of PBP the slope assessment is to be derived from the most detailed contour data available.

The most significant bushfire impact from the west is expected to be a possible bushfire travelling across slope toward the subject site.

The slope that would **most significantly** influence bushfire behaviour was determined from topographic imagery (1 metre contours sourced from ELVIS - Geoscience Australia) in conjunction with site observations.



Figure 06: Extract from ELVIS – Geoscience Australia 1m contours
(subject site red outline)

5.04 Fire Weather

The Forest Fire Danger Index (FFDI) required to be used for development assessment purposes is based on the local government boundaries, being Fairfield City Council in this instance.

In accordance with the NSW Rural Fire Service publication 'NSW Local Government Areas FDI' (2017) Fairfield City Council forms part of the Greater Hunter Region Fire Weather District and attracts an FFDI of 100.

5.05 Fire History

There are areas within NSW that have significant fire history and are recognised as known fire paths. While the fire history is more commonly considered as part of strategic planning (to ensure future development is not exposed to an unacceptable risk), it is useful to consider at a Development Application phase to ensure the land is suitable for development in the context of bushfire risk.

There were no visual indicators (charring of bark) of previous fire activity within the site. A review of fire history data found there are no recorded wildfires located within the site.

Various small wildfires have been recorded within the immediate Western Sydney Parklands (2002, 2004 and 2014).

The subject site is therefore not considered to be within a known fire path.

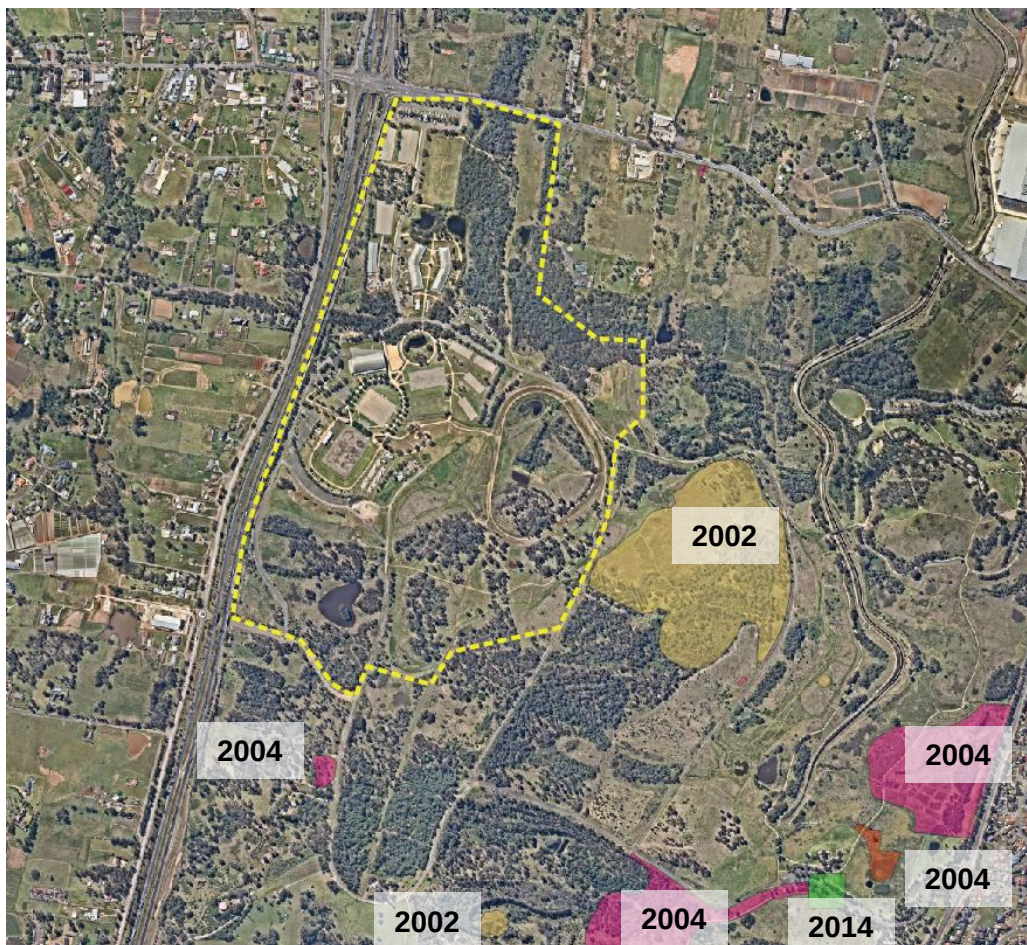


Figure 07: Aerial view of the subject area with previous wildfire history layer (source NPWS Fire History)

6.0 Bushfire Assessment

6.01 Planning for Bush Fire Protection - 2019

Properties considered to be affected by possible bushfire impact are determined from the local Bushfire Prone Land Map as prepared by Council and or the Rural Fire Service.

In this instance the subject site is depicted on Fairfield City Council's Bushfire Prone Land Map (BPLM) as containing Category 1 and 2 Vegetation and their associated buffer zones. The subject site is therefore considered 'bushfire prone'.

As the subject site is identified as being bushfire prone the application is captured under section 4.14 of the *Environmental Planning and Assessment Act 1979*.

Fairfield City Council cannot issue consent for the proposal unless it is satisfied that the development conforms to the specifications and requirements of *Planning for Bush Fire Protection* (PBP) or has been provided 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.

The proposal is required to satisfy the aim and objectives detailed in Chapter 1 and address the specific considerations detailed in section 8.3.8 'Outdoor events in bush fire prone areas' of PBP.

6.02 Bushfire Assessment

Asset Protection Zones & Landscaping

An Asset Protection Zone (APZ) is an area between an asset and identified bushfire hazard where the fuels are maintained to a minimum to prevent the spread of fire between a hazard and asset.

The width of the APZs is determined by the vegetation structure of the identified bushfire hazard, FFDI, effective slope and the type of development (residential development or Special Fire Protection Purpose).

The proposal utilises the existing Sydney International Equestrian Centre site. There are no buildings / structures (permanent or temporary) proposed as part of this application and therefore Asset Protection Zones (APZs) cannot be established at this time.

It is of our opinion that future events have the capacity to provide a suitable defensible space to the identified bushfire hazards.

Construction

The application is seeking development consent for ongoing non-equestrian events at Sydney International Equestrian Centre.

The facilities required to host events remain on site today. No works are proposed as part of this development consent, and should temporary structures be required for any particular event, it would be expected that they would be erected in accordance with Division 3 of Part 2 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*, or otherwise require an additional development consent.

Access

The Centre is accessed from Saxony Drive to the west. A private main access road then services the greater proportion of the Centre. Southdown Road serves part of the Centre and P1 car park via locked gates at the Saxony Road intersection. These access roads consist of two lane bitumen sealed all weather roadway suitable for heavy vehicles.

An emergency break out gate is also provided to the north opening onto The Horsley Drive.

All roads are capable of accepting Category 1 fire fighting vehicles however caution should be employed where vehicles attempt to go off road on earth trails due to the loose or clay soils particularly at the south eastern and southern portions of the Centre.

Attending fire crews can access the hazards via the existing public and internal roads and internal trails for hazard reduction or fire suppression activities.

Generally access for fire services and opportunities for occupant evacuation are considered adequate for this property by utilising existing public and internal roads and pedestrian links.

Bushfire Emergency Management Plan

The intent of the Bushfire Emergency Management Plan measure is to provide suitable emergency and evacuation arrangements for occupants during a bushfire emergency.

We recommended that a Bush Fire Emergency Management and Evacuation Plan be prepared and is to comply with relevant requirements detailed in section 6.8.4 of Planning for Bush Fire Protection 2019.

This Plan will include provisions to close / cancel events on days of declared Extreme and Catastrophic fire danger rating or when directed by fire authorities (NSW Rural Fire Service or NSW Fire & Rescue). Fire authorities can give direction for an event can continue regardless of the fire danger rating.

6.03 Specific Considerations

Planning for Bush Fire Protection 2019 acknowledges that outdoor events often cater for large numbers of people in isolated locations and include music festivals, cultural festivals, sporting events, and regional shows.

In this regard it is appropriate to address the considerations and protection measures listed in PBP for outdoor events considered to be relevant for this proposal.

The following table lists the specific considerations for outdoor events in accordance with section 8.3.8 of PBP and our comments on relevance and capacity to comply where applicable.

Consideration / Protection Measures	Comment
<i>holding events outside the gazetted bush fire danger period for the area;</i>	In consideration of the location and relative low risk of the site the exclusion of events during the gazetted bushfire danger period is not considered necessary. It has been recommended that a Bushfire Emergency Management Plan be prepared and that this plan excludes events on days of declared Extreme and Catastrophic fire danger or when directed by fire authorities (NSW Rural Fire Service or NSW Fire & Rescue). Fire authorities can give direction for an event can continue regardless of the fire danger rating.
<i>areas of accommodation should be strategically located to ensure maximum time to warn and evacuate people who may be sleeping and slow to respond. This also ensures that highly flammable and combustible materials, such as tent fabric, vehicle fuels and gas cookers are in areas that will not facilitate the spread of fire;</i>	No additional accommodation / camping proposed as part of this application.
<i>a Bush Fire Emergency Management and Evacuation Plan must be prepared that is acceptable to relevant stakeholders, including crowd management and security. It should be consistent with the NSW RFS document: A guide to developing a bush fire emergency management and evacuation plan;</i>	A Bush Fire Emergency Management Plan has been recommended as part of this assessment. The Bush Fire Emergency Management Plan is to address crowd management and security in this instance.
<i>access and egress routes for emergency services and patrons in the event that evacuation is required;</i>	Generally access for fire services and opportunities for occupant evacuation are considered adequate for this property by utilising existing public and internal roads and pedestrian links.

Consideration / Protection Measures	Comment
<i>a refuge building of suitable capacity to contain all participants and staff that complies with the NSW RFS Neighbourhood Safer Place Guidelines (see www.rfs.nsw.gov.au);</i>	Not considered necessary in this instance.
an open air bush fire emergency assembly area capable of accommodating all participants and staff that complies with the NSW RFS Neighbourhood Safer Place Guidelines (see www.rfs.nsw.gov.au);	Refer to attached overlay showing area within site complying with the open air bushfire assembly area. This was determined from bushfire design modelling consistent with the NSW RFS Neighbourhood Safer Place Guidelines (bushfire design modelling attached). The NSP compliant area total >12 hectares in size and is therefore considered ample space to accommodate the maximum capacity of 10,000 persons.
a suitable method of staging evacuation, ensuring that evacuation flow is directed through different stages/areas of the site, moving from areas of higher risk to lower risk;	To be addressed in the Bush Fire Emergency Management Plan. It would be expected that initial staging will occur within the NSP compliant areas, before shifting offsite.
expected evacuation timeframes;	To be addressed in the Bush Fire Emergency Management Plan. It should be noted that the existing approval permits equestrian events which have included upto 20,000 persons. The proposed application seeks approval for a maximum of 10,000 persons for non-equestrian related events.
on severe or higher fire danger rating days the event will not proceed;	It has been recommended that a Bushfire Emergency Management Plan be prepared and that this plan excludes events on days of declared Extreme and Catastrophic fire danger or when directed by fire authorities (NSW Rural Fire Service or NSW Fire & Rescue). Fire authorities can give direction for an event can continue regardless of the fire danger rating.
advance warning to patrons identifying that the event is located on BFPL and giving advice on any fire restrictions;	To be addressed in the Bush Fire Emergency Management Plan. This could be managed on event website's.

Consideration / Protection Measures	Comment
ability to cease and override P.A. and audio systems throughout the site to announce emergency warnings, alerts or safety information, which can be clearly heard from all areas of the site; and	To be addressed in the Bush Fire Emergency Management Plan.
a prescribed ratio of trained fire wardens to participants.	To be addressed in the Bush Fire Emergency Management Plan.
bulk water supplies on site that are specifically allocated to firefighting purposes;	In consideration of the location of the subject site, including available towns supply and static water supplies (dams), additional bulk water supplies are not considered necessary.
unobstructed APZs of suitable width surrounding the site along the boundaries adjacent to the bush fire threat. Slashing of grassed areas needs to occur in the lead-up to the event and maintained throughout its duration;	All grounds within the subject site not identified as posing a bushfire hazard on Figure 05 are subject to periodic management. The subject site is subject to a comprehensive management plan to ensure ongoing management of the park grounds and facilities. The existing APZs in conjunction with existing management practices of Sydney International Equestrian Centre is considered adequate.
emergency management planning during the event organisation stage to be undertaken in consultation with the NSW RFS and all other relevant stakeholders; and	To be addressed in the Bush Fire Emergency Management Plan.
fires for cooking and heating in approved fire places only and addressed by a Fire Management Plan.	No open fireplaces or campfires proposed as part of this application.

6.04 Aim & Objectives

The following table details the aim and objectives of *Planning for Bush Fire Protection 2019* and the proposals ability to comply.

Aim / Objective	Comment
<i>The aim of PBP is to provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment.</i>	With the inclusion of the recommendations made herein it is of our opinion that the aim of PBP has been satisfied.
<i>(i) afford buildings and their occupants protection from exposure to a bush fire;</i>	There are no new buildings proposed as part of this application.
<i>(ii) provide for a defendable space to be located around buildings;</i>	There are no buildings / structures (permanent or temporary) proposed as part of this application and therefore Asset Protection Zones (APZs) cannot be established at this time. It is of our opinion that there are suitable defendable spaces provided around the existing buildings onsite.
<i>(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;</i>	The subject site is subject to a comprehensive management plan to ensure ongoing management of the park grounds and facilities. The existing APZs in conjunction with existing management practices of Sydney International Equestrian Centre are considered adequate to prevent the likely fire spread to buildings.
<i>(iv) ensure that appropriate operational access and egress for emergency service personnel and occupants is available;</i>	Attending fire crews can access the hazards via the existing public and internal roads and internal trails for hazard reduction or fire suppression activities. Generally access for fire services and opportunities for occupant evacuation are considered adequate for this property by utilising existing public and internal roads and pedestrian links.
<i>(v) provide for ongoing management and maintenance of bush fire protection measures, (BPMs); and</i>	To be addressed in the Bush Fire Emergency Management Plan.

Aim / Objective	Comment
<i>(vi) ensure that utility services are adequate to meet the needs of firefighters.</i>	Hydrants are available along surrounding public roads and through the subject site. In addition fire hose reels and several dams are also available through throughout the subject site. The existing water supply is considered adequate for the replenishment of attending fire services.

It is of our opinion that the proposal can satisfactorily comply with the aim and objectives of *Planning for Bush Fire Protection 2019*.

7.0 Recommendations

The following recommendations are provided as the minimum necessary for compliance with *Planning for Bush Fire Protection* 2019. Additional recommendations are provided to supplement these minimum requirements where considered necessary.

Emergency management

1. That a Bushfire Emergency Management Plan is prepared prior to the first non-equestrian event occurring and is to comply with relevant requirements detailed in section 6.8.4 of *Planning for Bush Fire Protection* 2019 and reviewed every 5 years or following a bushfire event. This plan is to address the specific considerations within 8.3.8 of PBP as outlined herein.

8.0 Conclusion

The application is seeking development consent for non-equestrian events at Sydney International Equestrian Centre.

In this instance the subject site is depicted on Fairfield City Council's Bushfire Prone Land Map (BPLM) as marginally containing the 100 metre buffer zone from designated Category 1 Vegetation. The subject site is therefore considered 'bushfire prone'.

As the subject site is identified as being bushfire prone the application captured under section 4.14 of the *Environmental Planning and Assessment Act 1979*.

Fairfield City Council cannot issued consent for the proposal unless it is satisfied that the development conforms to the specifications and requirements of *Planning for Bush Fire Protection* (PBP) or has been provided 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.

The proposal is required to satisfy the aim and objectives detailed in Chapter 1 and address the specific issues detailed in section 8.3.8 'Outdoor events in bush fire prone areas' of PBP.

This report has addressed the relevant specification and requirements of PBP and is accompanied by a certificate by a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment.

In accordance with the bushfire safety measures contained in this report, and consideration of the site specific bushfire risk assessment it is our opinion that when combined, they will provide a reasonable and satisfactory level of bushfire protection to the subject development.

We are therefore in support of the development application.

Should you have any enquiries regarding this project please contact me at our office.

Prepared by
Building Code & Bushfire Hazard Solutions P/L



Stuart McMonnies

G. D. Design in Bushfire Prone Areas.
Certificate IV Fire Technology
FPA Australia BPAD Level 3 Accredited Practitioner
BPAD Accreditation No. BPAD9400



9.0 Annexure 01

List of Referenced Documents

Australian Building Codes Board (2019). *National Construction Code Volume Two - Building Code of Australia*. ABCB

Australian Building Codes Board (2019). *National Construction Code Volume One - Building Code of Australia*. ABCB

Biodiversity Conservation Act 2016

ELVIS -Elevation -Foundation Spatial Data. Elevation.fsdf.org.au. Available at: <http://elevation.fsdf.org.au/>

Environmental Planning and Assessment Act 1979

Environment Protection and Biodiversity Conservation Act 1999

Keith, D. (2004). "Ocean Shores to Desert Dunes" Department of Environment and Conservation, Sydney

NSW Department of Planning and Environment (2019). *Planning Portal*. Accessed at: <https://www.planningportal.nsw.gov.au/>

NSW Department of Planning, Industry and Environment (2020). Map of Critically Endangered Ecological Communities NSW version 6

NSW Rural Fire Service (2019). *Planning for Bushfire Protection. A Guide for Councils, Planners, Fire Authorities and Developers*.

Rural Fires Regulations 2013

Rural Fire Service NSW (2005). *Standards for Asset Protection Zones*

Rural Fire Service NSW (2017). *NSW Local Government Areas FDI*

Rural Fire Service NSW (undated). *Neighbourhood Safer Places – Guidelines for the Identification and Inspection of Neighbourhood Safer Places in NSW*.

Standards Australia (2018). *AS3959 Construction of buildings in bushfire-prone areas*.

Acknowledgements to:

Geoscience Australia
Fairfield City Council's Bushfire Prone Land Map
Nearmap
NSW Gov. ePlanning Spatial Viewer
Street-directory.com.au

Attachments

Attachment 01: Section 4.14 Compliance Certificate

Attachment 02: Bushfire Constraints Overlay

Attachment 03: Bushfire Design Modelling



Building Code & Bushfire Hazard Solutions

(Pty. Limited) ABN 19 057 337 774
PO Box 124, Berowra NSW 2081
Telephone: (02) 9457 6530
www.bushfirehazardsolutions.com.au



BUSHFIRE RISK ASSESSMENT CERTIFICATE UNDER PART 4 DIVISION 4.3 SECTION 4.14 OF THE EP&A ACT 1979 NO 203

PROPERTY ADDRESS:	Sydney International Equestrian Centre, Horsley Park
DESCRIPTION OF PROPOSAL:	Non-equestrian Events
PLAN REFERENCE: (relied upon in report preparation)	NIL
BAL RATING:	BAL N/A (If the BAL rating is FZ the application is to be referred to NSW RFS for assessment)
DOES THE PROPOSAL RELY ON ALTERNATE SOLUTIONS:	YES NO (Circle the relevant response) (If YES the application is to be referred to NSW RFS for assessment)
BUSHFIRE ASSESSMENT REPORT REFERENCE:	210602
REPORT DATE:	22nd December 2020
CERTIFICATION NO/ACCREDITED SCHEME	BPAD9400

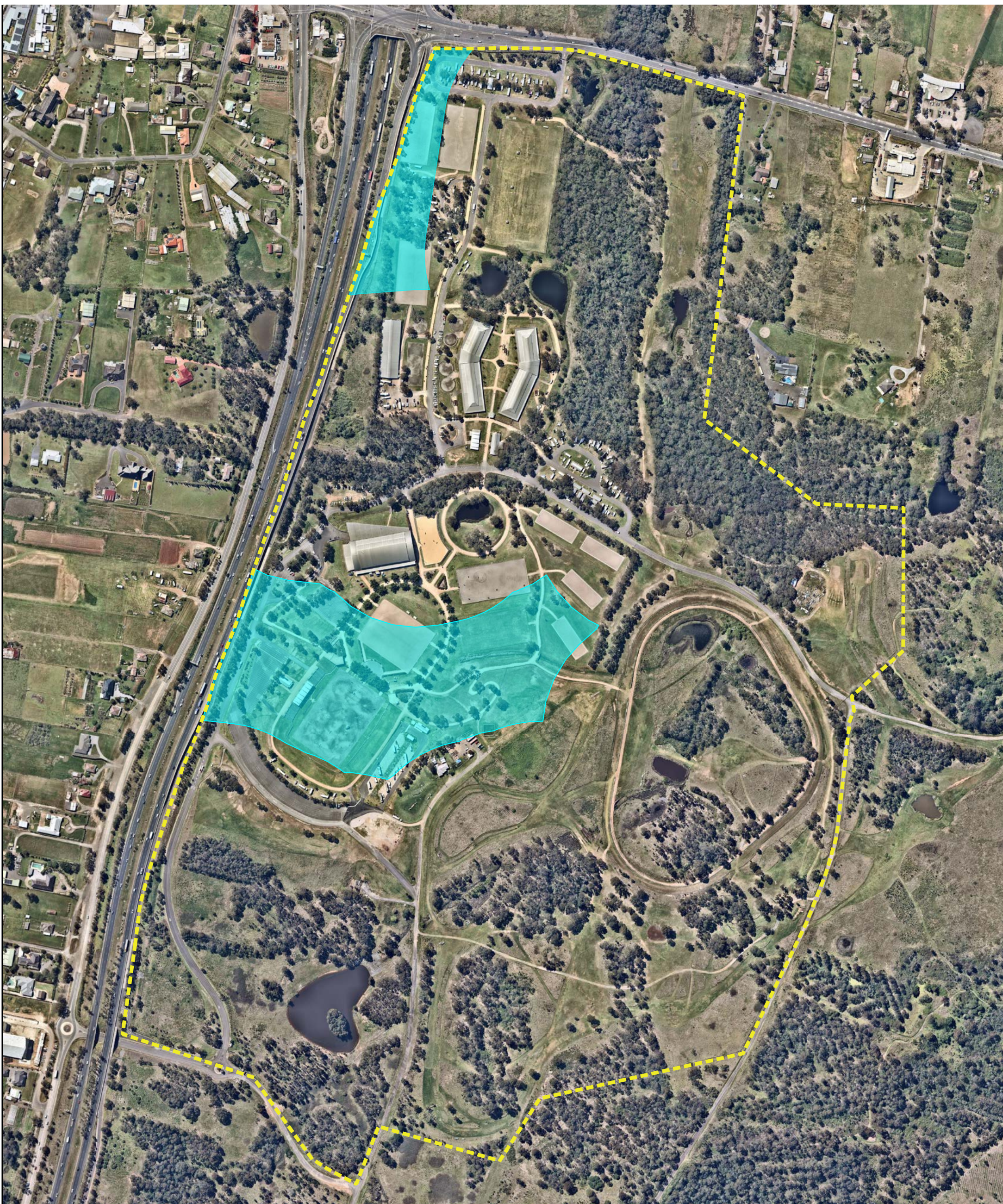
I Stuart McMonnies of Building Code and Bushfire Hazard Solutions Pty Ltd hereby certify, in accordance with Part 4 Division 4.3 Section 4.14 of the *Environmental Planning and Assessment Act 1979 No 203*:

- That I am a person recognised by the *NSW Rural Fire Service* as a qualified consultant in bushfire risk assessment; and
- That subject to the recommendations contained in the Bushfire Risk Assessment Report the proposed development conforms specifications and requirements of the documents 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 Part 4 Division 4.3 Section 4.14 of the *Environmental Planning and Assessment Act 1979 No 203*.

I am aware that the Bushfire Assessment Report, prepared for the above mentioned site is to be submitted in support of a development application for this site and 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 *Planning for Bushfire Protection 2019*.

Signature:  Date: 22nd December 2020





Legend

 Boundary  NSP Area South  NSP Area North

BCBHS Ref: 210602
Drawn by: SM
Dated: 22/12/2020
Issue: 1 Scale: NTS
Client: Creative Planning Solutions
Address: Sydney International Equestrian Centre



**Building Code &
Bushfire Hazard Solutions**
(Pty. Limited) ABN 19 057 337 774
PO Box 124, Berowra NSW 2081
Telephone: (02) 9457 6530
www.bushfirehazardsolutions.com.au



Neighbourhood Safer Place Overlay



NBC Bushfire Attack Assessment Report V4.1

AS3959 (2018) Appendix B - Detailed Method 2

Print Date: 21/12/2020

Assessment Date: 21/12/2020

Site Street Address: Sydney International Equestrian Centre, Horsley Park

Assessor: Please Enter Your Name; Please Enter Company Name

Local Government Area: Fairfield

Alpine Area: No

Equations Used

Transmissivity: Fuss and Hammins, 2002

Flame Length: RFS PBP, 2001/Vesta/Catchpole

Rate of Fire Spread: Noble et al., 1980

Radiant Heat: Drysdale, 1985; Sullivan et al., 2003; Tan et al., 2005

Peak Elevation of Receiver: Tan et al., 2005

Peak Flame Angle: Tan et al., 2005

Run Description: North

Vegetation Information

Vegetation Type: Cumberland DSF

Vegetation Group: Dry Sclerophyll Forests (Shrub/Grass)

Vegetation Slope: 2 Degrees

Vegetation Slope Type: Upslope

Surface Fuel Load(t/ha): 14

Overall Fuel Load(t/ha): 24.97

Vegetation Height(m): 0.9

Only Applicable to Shrub/Scrub and Vesta

Site Information

Site Slope: 0 Degrees

Site Slope Type: Level

Elevation of Receiver(m): Default

APZ/Separation(m): 160

Fire Inputs

Veg./Flame Width(m): 100

Flame Temp(K): 1200

Calculation Parameters

Flame Emissivity: 100

Relative Humidity(%): 25

Heat of Combustion(kJ/kg) 18600

Ambient Temp(K): 308

Moisture Factor: 5

FDI: 120

Program Outputs

Level of Construction: BAL LOW

Peak Elevation of Receiver(m): 7.19

Radiant Heat(kW/m2): 2

Flame Angle (degrees): 85

Flame Length(m): 14.44

Maximum View Factor: 0.017

Rate Of Spread (km/h): 1.76

Inner Protection Area(m): 0

Transmissivity: 1

Outer Protection Area(m): 0

Fire Intensity(kW/m): 22656

Run Description:		Northwest	
<u>Vegetation Information</u>			
Vegetation Type:		Cumberland DSF	
Vegetation Group:		Dry Sclerophyll Forests (Shrub/Grass)	
Vegetation Slope:		1 Degrees	Vegetation Slope Type: Downslope
Surface Fuel Load(t/ha):		14	Overall Fuel Load(t/ha): 24.97
Vegetation Height(m):		0.9	Only Applicable to Shrub/Scrub and Vesta
<u>Site Information</u>			
Site Slope:		0 Degrees	Site Slope Type: Level
Elevation of Receiver(m):		Default	APZ/Separation(m): 174
<u>Fire Inputs</u>			
Veg./Flame Width(m):		100	Flame Temp(K): 1200
<u>Calculation Parameters</u>			
Flame Emissivity:		100	Relative Humidity(%): 25
Heat of Combustion(kJ/kg		18600	Ambient Temp(K): 308
Moisture Factor:		5	FDI: 120
<u>Program Outputs</u>			
Level of Construction:		BAL LOW	Peak Elevation of Receiver(m): 8.49
Radiant Heat(kW/m2):		2	Flame Angle (degrees): 85
Flame Length(m):		17.04	Maximum View Factor: 0.017
Rate Of Spread (km/h):		2.16	Inner Protection Area(m): 126
Transmissivity:		1	Outer Protection Area(m): 19
Fire Intensity(kW/m):		27867	

Run Description:		South and East	
<u>Vegetation Information</u>			
Vegetation Type:		Cumberland DSF	
Vegetation Group:		Dry Sclerophyll Forests (Shrub/Grass)	
Vegetation Slope:		0 Degrees	Vegetation Slope Type: Level
Surface Fuel Load(t/ha):		14	Overall Fuel Load(t/ha): 24.97
Vegetation Height(m):		0.9	Only Applicable to Shrub/Scrub and Vesta
<u>Site Information</u>			
Site Slope:		0 Degrees	Site Slope Type: Level
Elevation of Receiver(m):		Default	APZ/Separation(m): 169
<u>Fire Inputs</u>			
Veg./Flame Width(m):		100	Flame Temp(K): 1200
<u>Calculation Parameters</u>			
Flame Emissivity:		100	Relative Humidity(%): 25
Heat of Combustion(kJ/kg		18600	Ambient Temp(K): 308
Moisture Factor:		5	FDI: 120
<u>Program Outputs</u>			
Level of Construction:		BAL LOW	Peak Elevation of Receiver(m): 8.03
Radiant Heat(kW/m2):		2	Flame Angle (degrees): 85
Flame Length(m):		16.13	Maximum View Factor: 0.017
Rate Of Spread (km/h):		2.02	Inner Protection Area(m): 122
Transmissivity:		1	Outer Protection Area(m): 19
Fire Intensity(kW/m):		26009	

Run Description:	South Hazard - North NSP		
<u>Vegetation Information</u>			
Vegetation Type:	Cumberland DSF		
Vegetation Group:	Dry Sclerophyll Forests (Shrub/Grass)		
Vegetation Slope:	2 Degrees	Vegetation Slope Type:	Downslope
Surface Fuel Load(t/ha):	14	Overall Fuel Load(t/ha):	24.97
Vegetation Height(m):	0.9	Only Applicable to Shrub/Scrub and Vesta	
<u>Site Information</u>			
Site Slope:	0 Degrees	Site Slope Type:	Level
Elevation of Receiver(m):	Default	APZ/Separation(m):	179
<u>Fire Inputs</u>			
Veg./Flame Width(m):	100	Flame Temp(K):	1200
<u>Calculation Parameters</u>			
Flame Emissivity:	100	Relative Humidity(%):	25
Heat of Combustion(kJ/kg	18600	Ambient Temp(K):	308
Moisture Factor:	5	FDI:	120
<u>Program Outputs</u>			
Level of Construction:	BAL LOW	Peak Elevation of Receiver(m):	8.97
Radiant Heat(kW/m2):	2	Flame Angle (degrees):	85
Flame Length(m):	18.01	Maximum View Factor:	0.017
Rate Of Spread (km/h):	2.31	Inner Protection Area(m):	0
Transmissivity:	1	Outer Protection Area(m):	0
Fire Intensity(kW/m):	29857		