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PO Box 363 Balgowlah NSW 2093

Bush Fire Assessment Report

In relation to proposed development at:

No 4 Harvey Road, Ingleside, NSW

This assessment has been prepared and certified by: Matthew Toghil BPAD accredited practitioner FPAA Accreditation No: BPAD31642 Report No: 4Har-01 Date: 12/04/2022	
Plans supplied by:	JJ Drafting Job No: 916/21 Dated: 02/09/2021 (Rev A)

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Introduction

The purpose of this report is to provide a bushfire risk assessment for the proposed use of the site as a landscape supply yard and to certify that the plans and specifications provided are in accordance with the requirements of *Planning for Bushfire Protection 2019* and AS 3959-2018.

The site had been identified as 'bush fire prone land' for the purpose of Section 146 of the *Environmental Planning and Assessment Act 1979* and the Legislative requirements for building on bush fire prone lands are applicable.



Figure 1: Bushfire prone land map showing location of subject site.

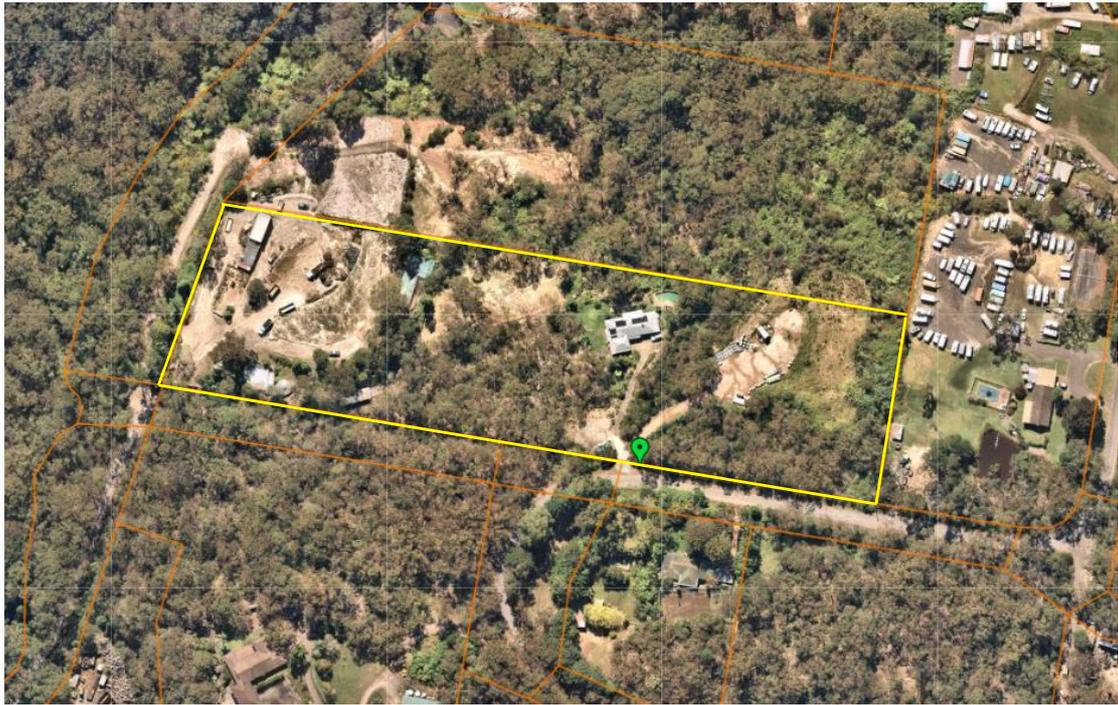


Figure 2: Aerial photo (Source: Nearmap 5th April 2022)

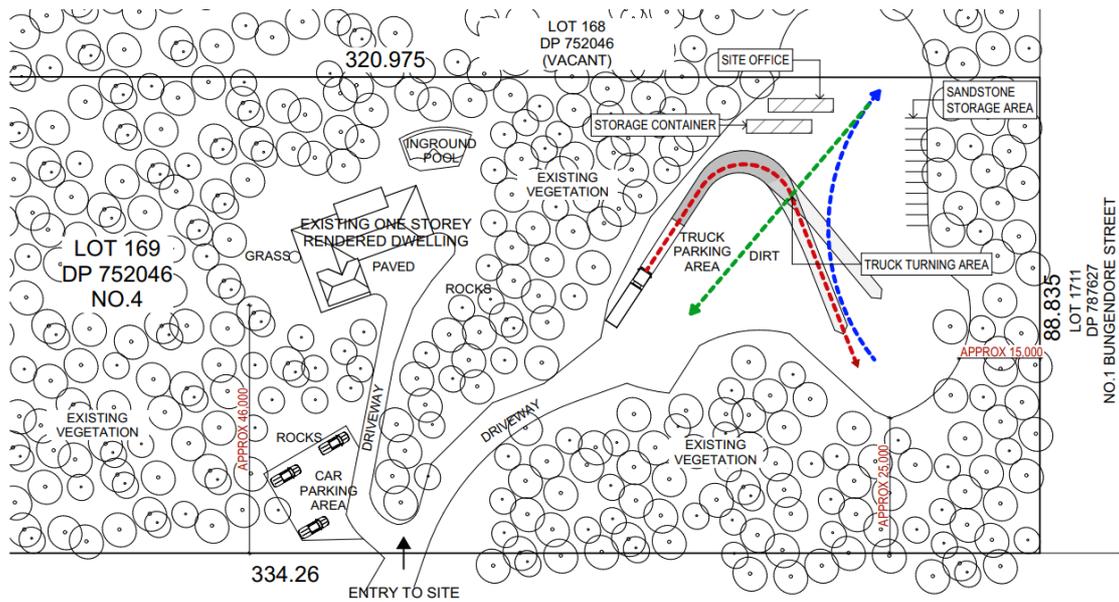


Figure 3: Proposed site plan.

1. Development Proposal

The development proposal is for the use of the site as a landscape supply business. The applicable legislation for building on bushfire prone land does not relate to the proposed new use.

2. Construction requirements

There are no new buildings or structures that form part of this application.

3. Access Roads

The site has direct access to Harvey Road. All new access roads should comply with the requirements of Table 7.4a of Planning for Bush Fire Protection 2019 as specified below.

- Property access roads are two-wheel drive, all-weather roads.
- The capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded fire fighting vehicles (up to 23 tonnes). Bridges and causeways are to clearly indicate load ratings.
- Property access to private dwellings have passing bays every 200m that are 20m long by 3m wide, making a trafficable width of 6m at the passing bay.
- Minimum carriageway width of four metres.
- A minimum vertical clearance of four metres to any overhanging obstruction, including tree branches.
- Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress.
- The minimum distance between inner and outer curves is 6m.
- The crossfall is not more than 10 degrees.
- Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed.
- Note: Some short constrictions in the access may be accepted where they are not less than the minimum (3.5m), extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed.
- Property access must provide a suitable turning area in accordance with Appendix 3 PBP 2019.

4. Water supply

A minimum of 20,000L water tank must be available for Firefighting in accordance with Table 5.3d of PBP.

- A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structures; a 65mm Stortz outlet with a ball valve is fitted to the outlet;
- Ball valves and pipes are adequate for water flow and are metal;
- Supply pipes from tank to ball valve have the same bore size to ensure flow volume;
- Underground tanks have a access hole of 200mm to allow tankers to refill direct from the tank;
- A hardened ground surface for truck access is supplied within 4m;
- Above ground tanks are manufactures of concrete or metal;
- Raised tanks have their stands constructed from non-combustible material or bushfire resisting timber (see Appendix F AS3959 2018)
- Unobstructed access can be provided at all times;
- Underground tanks are clearly marked;
- Tanks on the hazard side of the building are provided with adequate shielding for the protection of firefighters;
- All exposed water pipes external to the building are metal, including any fittings;
- Where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel-powered pump, and are shielded against bushfire attack. Any hose and reel for firefighting connected to the pump shall be 19mm internal diameter;
- Fire hose reels are constructed in accordance with AS.NZS 1221:1997 and installed in accordance with the relevant clauses of AS 2441:2005.

5. Asset Protection Zones (APZ)

There is no requirement to establish any new APZ's.

6. Emergency management

A Bush Fire Emergency Management and Evacuation Plan should be prepared consistent with the NSW RFS publication *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan* and the AS 3745:2010.

7. Summary

This report consists of a bushfire risk assessment for the proposed use of the site as a landscape supply business. The report concludes that the proposed development is on designated bushfire prone land and the legislative requirements for development of bushfire prone areas are applicable. This report has considered all of the elements of bushfire attack and provided the proposed development the can meet recommendations made within report, the development will satisfy the Aims and Objectives of *Planning for Bush Fire Protection 2019*.

Note: Notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small always remains, and although the standard is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand a bushfire attack on every occasion.

*This report is a Bushfire Hazard Assessment that provides the required information to assist Local Councils and the Rural Fire Service in determining compliance in accordance with *Planning for Bushfire Protection 2019* and *AS3959, 2018*. The local Council is the final consenting authority and the construction of the building must comply with the recommendations included in the council's conditions of consent.*



Matthew Toghil- Bushfire Consultant
Accreditation No. BPAD31642
Grad Cert Bushfire Protection, UWS 2012
Certificate IV Building & Construction
Certificate III in Public Safety (Firefighting and Emergency Operations)



Appendix 1: Property access

ACCESS

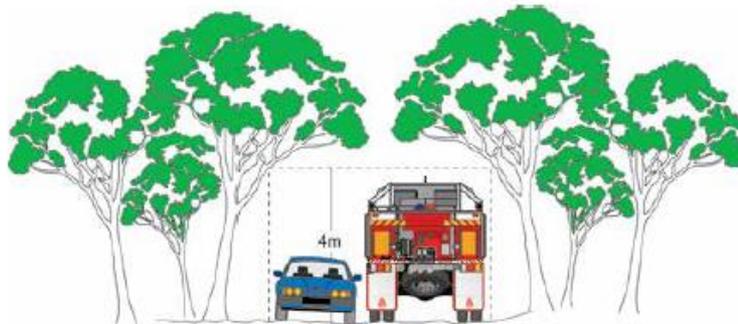
This appendix provides design principles for emergency service vehicle access.

A3.1 Vertical clearance

An unobstructed clearance height of 4 metres should be maintained above all access ways including clearance from building construction, archways, gateways and overhanging structures (e.g. ducts, pipes, sprinklers, walkways, signs and beams). This also applies to vegetation overhanging roads.

Figure A3.1

Vertical clearance.



A3.2 Vehicle turning requirements

Curved carriageways should be constructed using the minimum swept path as outlined in Table A3.2.

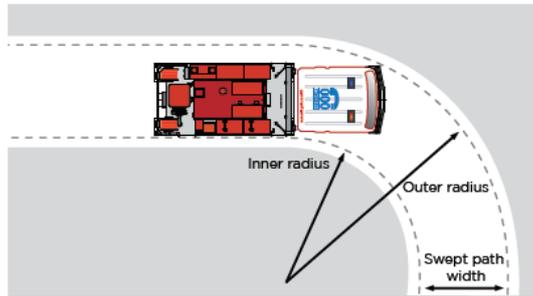
Table A3.2

Minimum curve radius for turning vehicles.

Curve radius (inside edge in metres)	Swept path (metres width)
< 40	4.0
40 - 69	3.0
70 - 100	2.7
> 100	2.5

Figure A3.2a

Swept path width for turning vehicles.



The radius dimensions given are for wall to wall clearance where body overhangs travel a wider arc than the wheel tracks (vehicle swept path). The swept path shall include an additional 500mm clearance either side of the vehicle.

Figure A3.2b

Roundabout swept path.



Example of a swept path as applied to a roundabout. The distance between inner and outer turning arcs allows for expected vehicle body swing of front and rear overhanging sections (the swept path).

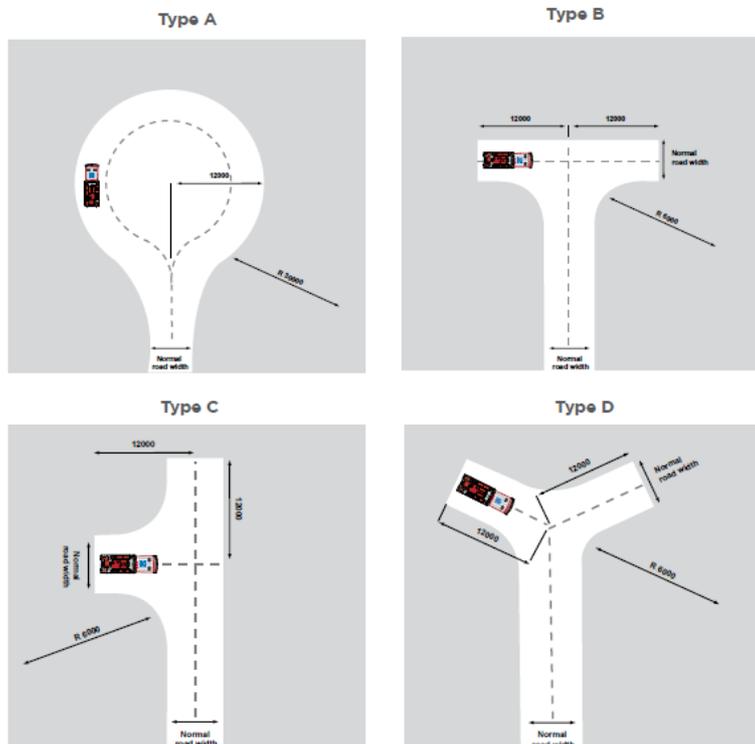
A3.3 Vehicle turning head requirements

Dead ends that are longer than 200m must be provided with a turning head area that avoids multipoint turns. "No parking" signs are to be erected within the turning head.

The minimum turning radius shall be in accordance with Table A3.2. Where multipoint turning is proposed the NSW RFS will consider the following options:

Figure A3.3

Multipoint turning options.



A3.4 Passing bays

The construction of passing bays, where required, shall be 20m in length and provide a minimum trafficable width at the passing point of 6m.

Figure A3.4

Passing bays can provide advantages when designed correctly. Poor design can and does severely impede access.



A3.5 Parking

Parking can create a pinch point in required access. The location of parking should be carefully considered to ensure fire appliance access is unimpeded. Hydrants shall be located outside of access ways and any parking areas to ensure that access is available at all times.

Figure A3.5

Hydrants and parking bays.

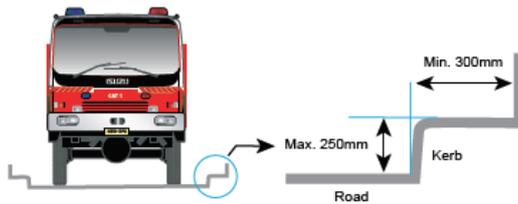


A3.6 Kerb dimensions

All kerbs constructed around access roads should be no higher than 250mm and free of vertical obstructions at least 300mm back from the kerb face to allow clearance for front and rear body overhang.

Figure A3.6

Carriageway kerb clearance dimensions.



A3.7 Services

Hydrant services should be located outside the carriageway and parking bays to permit traffic flow and access. Setup of standpipes within the carriageway may stop traffic flow. Hydrant services shall be located on the side of the road away from the bush fire threat where possible.

A3.8 Local Area Traffic Management (LATM)

The objective of LATM is to regulate traffic an acceptable level of speed and traffic volume within a local area.

Traffic engineers and planners should consider LATM devices when planning for local traffic control and their likely impact on emergency services. LATM devices by their nature are designed to restrict and impede the movement of traffic, especially large vehicles.

Where LATM devices are provided they are to be designed so that they do not impede fire vehicle access.

A3.9 Road types

A3.9.1 Perimeter Roads

Perimeter roads are to be provided with a minimum clear width of 8m. Parking and hydrants are to be provided outside of carriageways. Hydrants are to be located outside of carriageways and parking areas.

Figure A3.9a

Perimeter road widths.



A3.9.2 Non-perimeter Roads

Non-perimeter roads shall be provided with a minimum clear width of 5.5m. Parking is to be provided outside of the carriageway and hydrants are not to be located in carriageways or parking areas.

Figure A3.9b

Non-perimeter road widths.



A3.9.3 Property access

Property access roads are to be a minimum of 4m wide.

Figure A3.9c

Property access road widths.



Appendix 2- Asset Protection Zones

A4.1.1 Inner Protection Areas (IPAs)

The IPA is the area closest to the building and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defensible space. Vegetation within the IPA should be kept to a minimum level. Litter fuels within the IPA should be kept below 1cm in height and be discontinuous.

In practical terms the IPA is typically the curtilage around the building, consisting of a mown lawn and well maintained gardens.

When establishing and maintaining an IPA the following requirements apply:

Trees

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m; and
- preference should be given to smooth barked and evergreen trees.

Shrubs

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover; and
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

Grass

- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

A4.1.2 Outer Protection Areas (OPAs)

An OPA is located between the IPA and the unmanaged vegetation. It is an area where there is maintenance of the understorey and some separation in the canopy. The reduction of fuel in this area aims to decrease the intensity of an approaching fire and restricts the potential for fire spread from crowns; reducing the level of direct flame, radiant heat and ember attack on the IPA.

Because of the nature of an OPA, they are only applicable in forest vegetation.

When establishing and maintaining an OPA the following requirements apply:

Trees

- tree canopy cover should be less than 30%; and
- canopies should be separated by 2 to 5m.

Shrubs

- shrubs should not form a continuous canopy; and
- shrubs should form no more than 20% of ground cover.

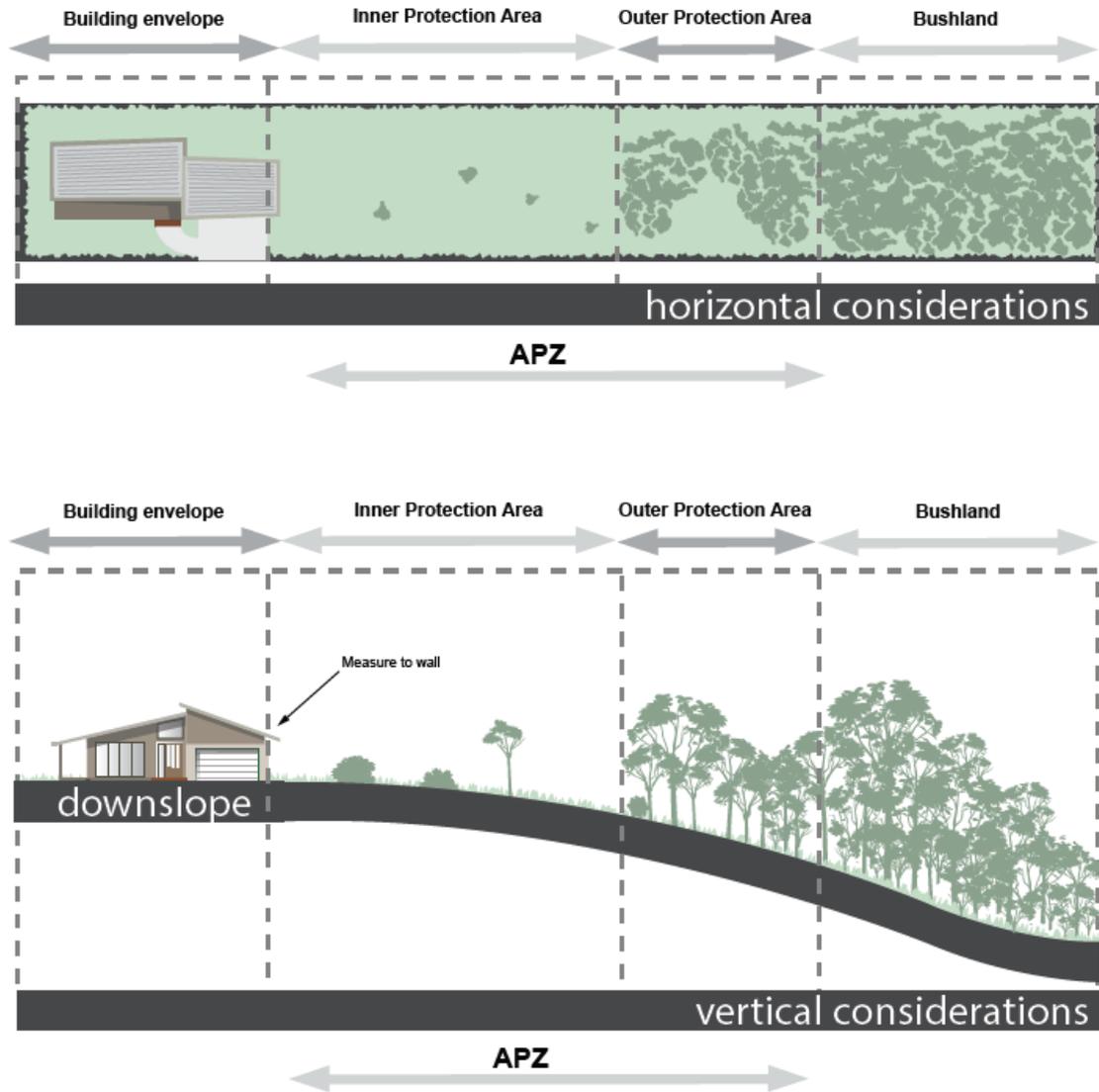
Grass

- grass should be kept mown to a height of less than 100mm; and
- leaf and other debris should be removed.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bush fires. Maintenance of the IPA and OPA as described above should be undertaken regularly, particularly in advance of the bush fire season.

Figure A4.1

Typical Inner and Outer Protection Areas.



Appendix 3: Northern Beaches Council bushfire certificate

BUSHFIRE RISK ASSESSMENT CERTIFICATE

THIS FORM IS TO BE COMPLETED BY A RECOGNISED CONSULTANT IN BUSHFIRE RISK ASSESSMENT IN ACCORDANCE WITH SECTION 4.14 1(b) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 NO 203

PROPERTY ADDRESS:	4 Harvey Rd Ingheside
DESCRIPTION OF PROPOSAL:	The use of the site as a landscape supply business
PLAN REFERENCE: (relied upon in report preparation)	JS Drafting Job No: 916/21 Dated: 02.09.2021 (RevA)
BAL RATING:	N/A <small>(If the BAL rating is FZ the application is to be referred to NSW RFS for assessment.)</small>
DOES THE PROPOSAL RELY ON ALTERNATE SOLUTIONS:	YES <input checked="" type="radio"/> NO <small>(Circle the relevant response)</small> <small>(If YES the application is to be referred to NSW RFS for assessment.)</small>

I, Matthew Toghill of Bushfire Australia Pty Ltd.
(Print Name) (Trading or Company Name)

have carried out a bushfire risk assessment on the above mentioned proposal and property. A detailed Bushfire Assessment Report is attached which includes the submission requirements set out in Appendix 2 of Planning for Bushfire Protection 2019 together with recommendations as to how the relevant specifications and requirements are to be achieved.

REPORT REFERENCE:	4Har-01
REPORT DATE:	12.07.2022
CERTIFICATION No/ACCREDITED SCHEME:	BPAD31642

I hereby certify, in accordance with 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 attached Bushfire Risk Assessment Report the proposed development conforms to the relevant specifications and requirements

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 Northern Beaches 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: 12.07.2022

Note: this certificate must be completed and signed by a person recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment in accordance with Section 4.14 of the EP&A Act 1979 No 203.

This form has been prepared by Northern Beaches Council for attachment to the Bushfire Assessment Report.

