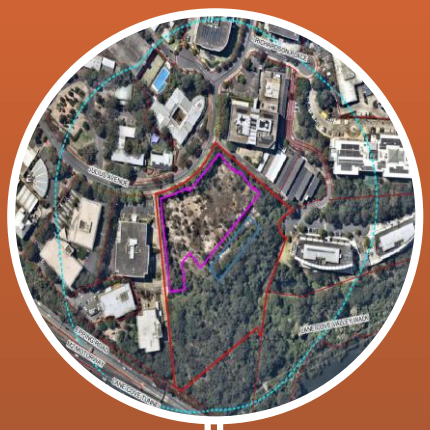
Bushfire Assessment Report

Proposed:
Julius Avenue Data Centre

At:
6-8 Julius Avenue, North Ryde

Reference Number: 250413B



5 December 2025

Prepared By:
Building Code & Bushfire Hazard Solutions Pty Limited

Tel: (02) 9457 6530

PO Box 124
Berowra NSW 2081
ABN 19 057 337 774

www.bushfirehazardsolutions.com.au

SILVER MEMBER
Fire Protection Association Australia

Contents

Legal status:

This report has been prepared as a submission document in support of a State Significant Development 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.

The onus is on the applicant to cross reference this document with any conditions of consent issued 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 development approval 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	Author	Reviewed by	Details
1	16/04/2025	Andrew Muirhead	Stuart McMonnies	Draft Report
2	7/05/2024	Andrew Muirhead	Stuart McMonnies	Final Report
3	16/05/2025	Andrew Muirhead		Project Description Update
4	21/05/2025	Andrew Muirhead		Updated Recommendation
5	28/11/2025	Andrew Muirhead	Stuart McMonnies	Updated Design
6	5/12/2025	Andrew Muirhead		Minor Ammendments

List of Abbreviations:

APZ	Asset Protection Zone
AS3959	Australian Standard 3959 'Construction of buildings in bushfire-prone areas' – 2018
BAL	Bushfire Attack Level
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Ryde City Council
ELVIS	Elevation and Depth Foundation Spatial Data
EP&A Act	*Environmental Planning and Assessment Act* - 1979
FRNSW	Fire and Rescue NSW
IPA	Inner Protection Area
MW	Megawatt
NASH	National Association of Steel-framed Housing
NCC	National Construction Code
NP	National Park
NSP	Neighbourhood Safer Place
OPA	Outer Protection Area
PBP	*Planning for Bush Fire Protection* – 2019
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
SSD	State Significant Development
SWS	Static Water Supply

Executive Summary:

This Bush Fire Assessment Report has been prepared by Building Code and Bushfire Hazard Solution P/L. It accompanies an Environmental Impact Statement (**EIS**) in support of a State Significant Development Application for Data Centre at 6-8 Julius Avenue, North Ryde (**the site**).

Through the State Significant Development Application (**SSDA**) process, the applicant is seeking to:

> The Proposal involves the construction and operation of a data centre and associated infrastructure and amenities, identified as the Julius Avenue Data Centre, comprising the following scope of works:
>
> - Site preparation works, including tree removal;
> - Earthworks and additional site retaining;
> - Infrastructure comprising civil works and utilities servicing;
> - Construction of a data centre including the following:
>   - Ground level loading dock, services plantrooms and car parking for 38 cars, including 2 accessible;
>   - 8 data halls across four (4) storeys with an IT load of 76 MW and a maximum power consumption of 120 MW, plus rooftop plant;
>   - Three (3) storey office/front of house building;
>   - Five (5) storey enclosed generator gantry to rear of data centre.
> - New Ausgrid 132 kilovolt (KV) Sub-Transmission Switching Station (STSS);
> - A new pedestrian through-site link from Julius Avenue to Richardson Place; and
> - Complementary landscaping and offset planting.

There is a more detailed project description within the EIS.

The Minister for Planning, or their delegate, is the consent authority for the SSDA and this application has been lodged with the NSW Department of Planning, Housing and Infrastructure (**NSW DPHI**) for assessment.

In this instance the site is depicted on Ryde City Council's Bushfire Prone Land Map (**BPLM**) as containing designated Category 1 Vegetation and Vegetation Buffer. The site is therefore considered 'bushfire prone'.

In relation to this application one of the key issues identified in the Secretary's Environmental Assessment Requirements (**SEARs**), dated 20 February 2025, is an assessment of potential hazards and risks, which lists bushfire as a consideration. Therefore, this assessment details proposed bush fire protection measures and demonstrates compliance with *Planning for Bush Fire Protection* 2019 (**PBP**).

The vegetation identified as posing a hazard was found to be located to the south and east of the proposed data centre within the subject property and neighbouring allotments.

For the purpose of the Planning for Bush Fire Protection the vegetation posing a hazard to the south has been determined to be Forest and the vegetation to the east has been determined to be Remnant and in accordance with A1.11.1 of PBP Rainforest fuel loads applied.

The application of PBP requires satisfactory demonstration of the aim and objectives and the specific objectives and Bushfire Protection Measures detailed in Chapter 8 'Other Development' of PBP.

While Data Centres are not specifically addressed in PBP we have addressed section 8.3.10 'Commercial and industrial development' of PBP to establish specific considerations and Bushfire Protection Measures for the proposal.

In accordance with section 8.3.10 of PBP the measures, including Asset Protection Zones (**APZs**), for Infill Residential Development (Chapter 7) should be used as a base for the development of a package of measures for commercial and industrial development.

The Acceptable Solution under Table 7.4a of PBP requires APZs be provided in accordance with Table A1.12.2 or bushfire design modelling demonstrating the maximum radiant heat will not exceed 29kW/m^2, consistent with that for residential subdivisions.

Due to the presence of significant vegetation within the subject property the proposal is not able to provide the minimum APZs for residential development.

The proposed data centre will have an APZ of 10 metres to the south and 69 metres to the east. Compliance with the Performance Criteria is therefore necessary. The corresponding Performance Criteria being;

- *APZs are provided commensurate with the construction of the building; and*
- *A defendable space is provided.*

Section 7.1 of PBP recognises the expectation of building in pre-existing subdivisions even though the ability to provide for APZs or access requirements now required for residential development may not be possible.

It is proposed that at the commencement of construction and in perpetuity all grounds within the subject site from the proposed building to the northern, eastern and western property boundary and a minimum distance of 10 metres to the south will be maintained as an Asset Protection Zone as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 4 of *Planning for Bush Fire Protection* 2019.

This will result in the provision of a defendable space for attending fire service and in conjunction with the application of the recommended construction provisions will provide APZs commensurate with the construction, noting the non-residential use.

In consideration of the attributes of the hazard and surrounding landscape the available APZs are considered to provide an adequate defendable space. It is acknowledged while the Ausgrid SSTS is not a part of this application that site has the ability to provide a defendable space

All APZs within the subject site will be maintained in accordance with an Inner Protection Area as detailed in Appendix 4 of *Planning for Bush Fire Protection* 2019 and the NSW Rural Fire Service publication 'Standards for Asset Protection Zones'.

The proposed buildings will have a 2 hour fire rating. Ember protection has also been recommended the proposed data centre shall satisfy the objectives of section 8.3.1 'Buildings of Class 5 to 8 under the NCC' of PBP.

The proposed access road provides a minimum 6-metre-wide carriageway along the western boundary of the site, with sufficient turning at the rear of the building and along with the existing fire trial provide access to all parts of the building. The proposed access arrangements significantly exceed the property access requirements within section 7.4 of PBP.

There are existing in-ground hydrants available along surrounding streets for the replenishment of attending fire services.

The proposal includes an extension of the hydrant network throughout the subject site. The proposed hydrant sizing, spacing and pressures are to comply with AS2419.1-2021.

It is our opinion the proposal can satisfy all relevant specifications and requirements of *Planning for Bush Fire Protection 2019*.

1.0 Introduction

This Bush Fire Assessment Report has been prepared by Building Code and Bushfire Hazard Solution P/L. It accompanies an Environmental Impact Statement (EIS) in support of a State Significant Development Application for Data Centre at 6-8 Julius Avenue, North Ryde (the site).

Through the State Significant Development Application (SSDA) process, the applicant is seeking to:

> The Proposal involves the construction and operation of a data centre and associated infrastructure and amenities, identified as the Julius Avenue Data Centre, comprising the following scope of works:
>
> - Site preparation works, including tree removal;
> - Earthworks and additional site retaining;
> - Infrastructure comprising civil works and utilities servicing;
> - Construction of a data centre including the following:
>   - Ground level loading dock, services plantrooms and car parking for 38 cars, including 2 accessible;
>   - 8 data halls across four (4) storeys with an IT load of 76 MW and a maximum power consumption of 120 MW, plus rooftop plant;
>   - Three (3) storey office/front of house building;
>   - Five (5) storey enclosed generator gantry to rear of data centre.
> - New Ausgrid 132 kilovolt (KV) Sub-Transmission Switching Station (STSS);
> - A new pedestrian through-site link from Julius Avenue to Richardson Place; and
> - Complementary landscaping and offset planting.

There is a more detailed project description within the Environmental Impact Statement.

In this instance the subject site is depicted on Council's Bushfire Prone Land Map as containing Category 1 Vegetation and the Vegetation Buffer. The subject site is therefore considered 'bushfire prone land'.

In relation to this application one of the key issues identified in the Secretary's Environmental Assessment Requirements (SEARs) is an assessment of potential hazards and risks, which lists bushfire as a consideration. Therefore, this assessment details proposed bush fire protection measures and demonstrates compliance with *Planning for Bush Fire Protection* 2019 (PBP).

As the development is on bushfire prone land this report has been prepared to address the relevant specifications and requirements as detailed in PBP.

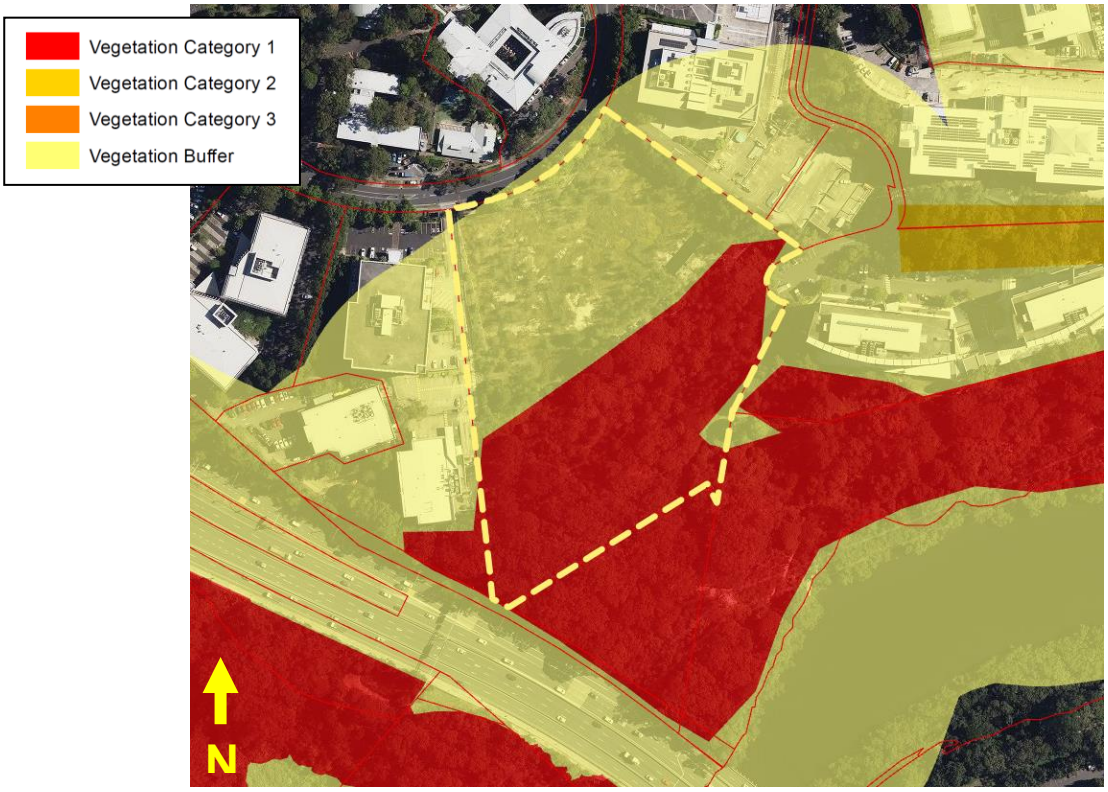


Figure 01: Excerpt from Council's Bushfire Prone Land Map

2.0 Legislative Requirements

The site is subject to the following legislative provisions as it relates to bushfire planning and protection:

- *Environmental Planning & Assessment Act* 1979
- *Planning for Bush Fire Protection*

2.1 *Environmental Planning & Assessment Act* 1979

Section 10.3 requires councils, where a Bush Fire Risk Management Plan applies, to record a bush fire prone land map after consulting with the Commissioner of the NSW Rural Fire Service (NSW RFS). The Commissioner will designate lands to be bush fire prone within an area and, when satisfied that the lands have been recorded on a map, certify the map as the Bush Fire Prone Land map.

The subject site is designated as Bushfire Prone Land (Figure 01).

As the proposal is subject to Part 5 of the Act section 100B of the *Rural Fires Act 1997* does not apply in accordance with s5.23. This means that the proposed development does not require authorization in respect of bush fire safety.

In relation to this application one of the key issues identified in the Secretary's Environmental Assessment Requirements (SEARs) is an assessment of potential hazards and risks, which lists bushfire as a consideration. Therefore, this assessment details proposed bush fire protection measures and demonstrates compliance with *Planning for Bush Fire Protection* 2019 (PBP).

2.2 *Planning for Bush Fire Protection*

As the subject site is identified as being bushfire prone and the proposed development involves construction of a Class 5 and 8 building the proposal is subject to the application of the relevant specifications and requirements of Planning for Bush Fire Protection.

The proposal is required to demonstrate that it achieves compliance with the following Chapters of PBP:

- Chapter 1 - Aim and Objectives
- Chapter 8 – Other Development

2.0 Purpose of Report

The purpose of this Bushfire Assessment Report is to provide an independent bushfire assessment of the subject site and surrounding area and to determine if the State Significant Development will comply with the relevant specifications and requirements of Planning for Bush Fire Protection 2019.

This report specifically addresses the Bush Fire Risk as identified in the issued Secretary's Environmental Assessment Requirements (SEARs) dated 20 February 2025.

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 & Masterplan

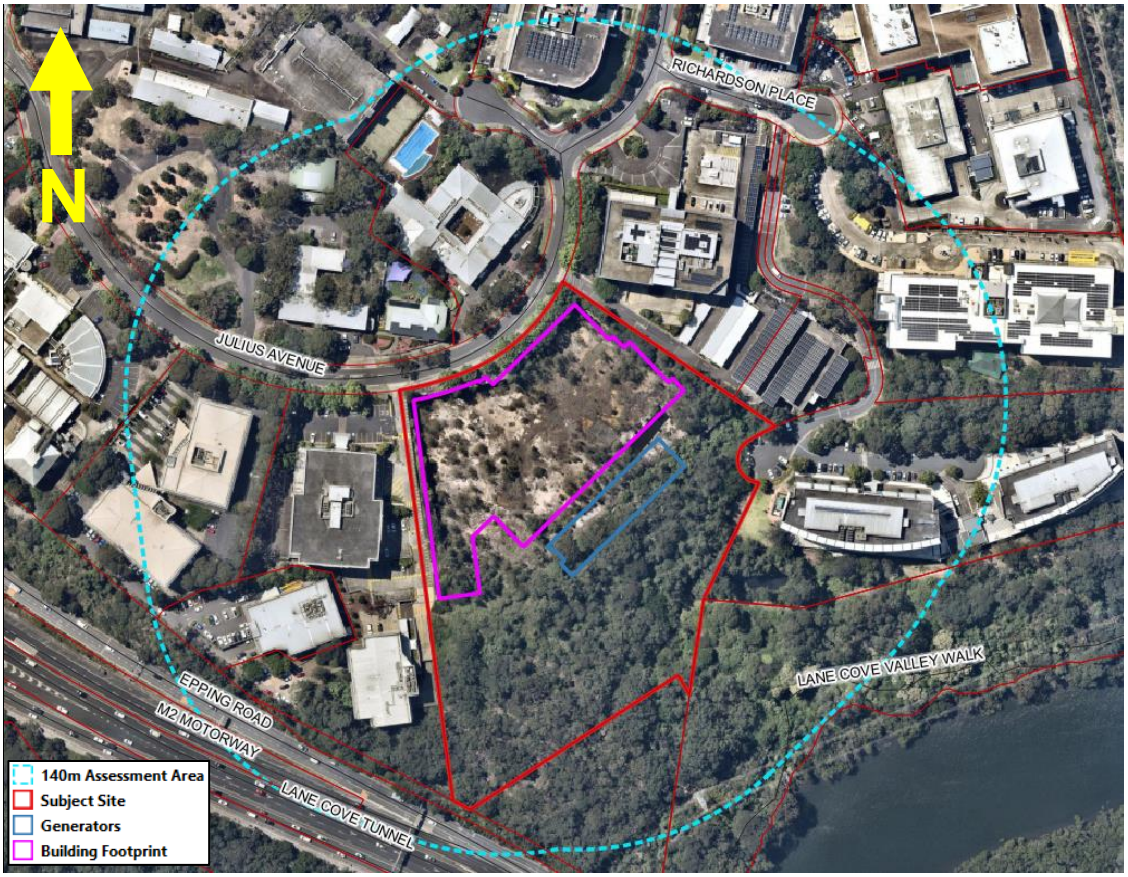


Figure 02: Aerial view of the subject site

Courtesy Nearmaps

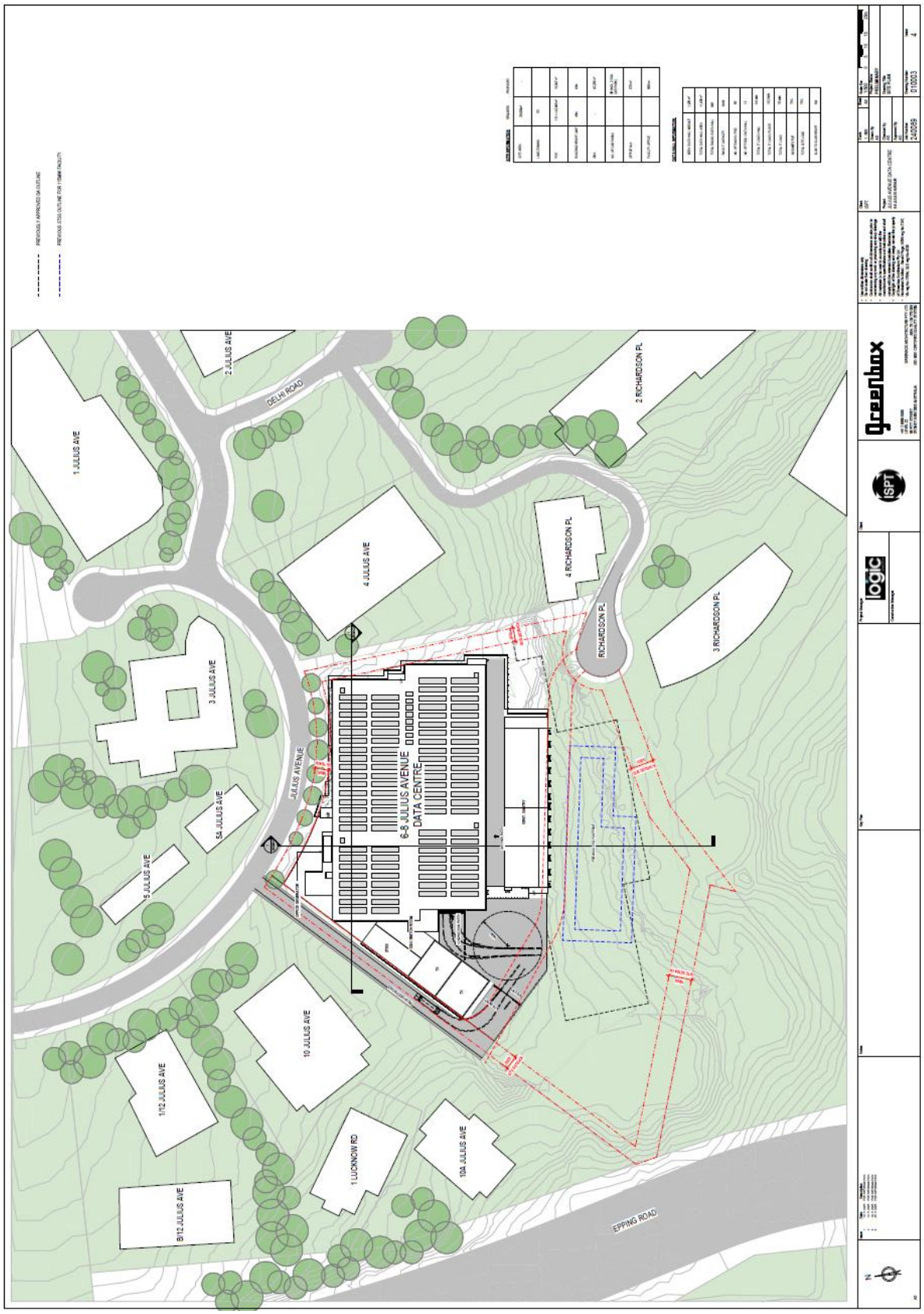


Figure 03: Extract of the proposed Masterplan

5.0 Site Assessment

A detailed site inspection has been undertaken of the subject site by a representative of Building Code and Bushfire Hazard Solutions PL. In addition to the collected site data this assessment has relied on:

- Aerial imagery of the subject area (NSW Spatial Services & Nearmap);
- 1 metre contour mapping of the subject area (Elevation and Depth Foundation Spatial Data – Geoscience Australia)
- NSW Planning Portal Spatial Viewer
- Vegetation Mapping (Vegetation NSW)
- Site Plan prepared by Greenbox Architecture Pty Ltd, Job No 240089, Drawing no 010003, Issue 4, dated 25.11.2025

5.01 Location

The subject site comprises of one (1) existing allotment known as 6-8 Julius Avenue, North Ryde (refer to Figure 02) and legally identified as Lot 89 DP 1082131.

The subject site is industrial zoned land (E3: Productivity Support) and is approximately 2.8 hectares in size.

The site has street frontage to Julius Avenue to the north and abuts neighbouring commercial allotments to the northeast, east and west and a vegetated allotment to the south.

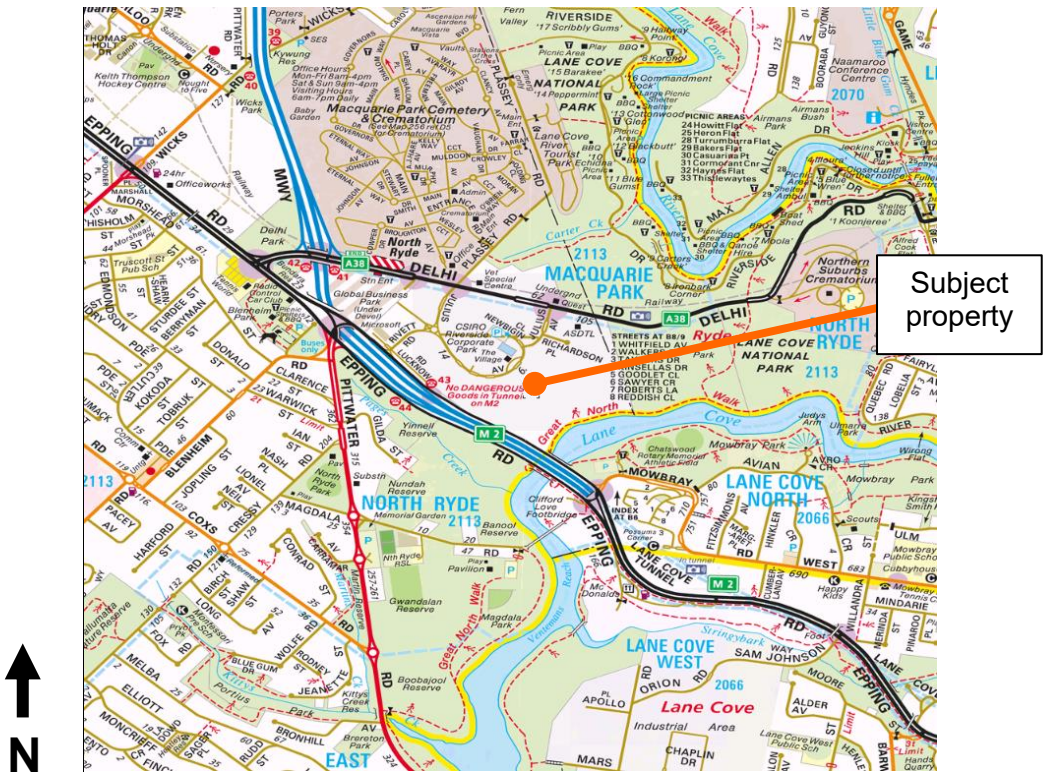


Figure 04: Extract from street-directory.com.au

5.02 Vegetation

The vegetation structure, connectivity and attributes are fundamental contributors to bushfire behaviour and its movement through the landscape.

As part of this assessment we have considered the potential bushfire runs that currently exist into the site, as well as the potential fire behaviour and impacts from the retained vegetation within the site.

The vegetation within the subject site was found to comprise of two distinct groups, being either highly modified (slashed pastures) or natural bushland. A vegetated buffer of a variable width will be retained along the southern boundaries. All other land within the subject site will be managed to the standard of an Asset Protection Zone.

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

The vegetation identified as posing a hazard was found to be located to the south and east of the proposed data centre within the subject property and neighbouring allotments.

The vegetation identified as posing a hazard was found to be located to the south and east of the development site.

The vegetation posing a hazard was found to be mapped as 'Sydney Coastal Enriched Sandstone Forest' (PCT: 3592) (Vegetation NSW), which is a Forest formation.

The vegetation within the neighbouring allotment to the east is less than 1 hectare in size.

Therefore, for the purpose of the Planning for Bush Fire Protection the vegetation posing a hazard to the south has been determined to be Forest and the vegetation to the east has been determined to be Remnant and in accordance with A1.11.1 of PBP Rainforest fuel loads applied.

Photograph 01: View into vegetation to the south

Photograph 02: View of the vegetation to the south.

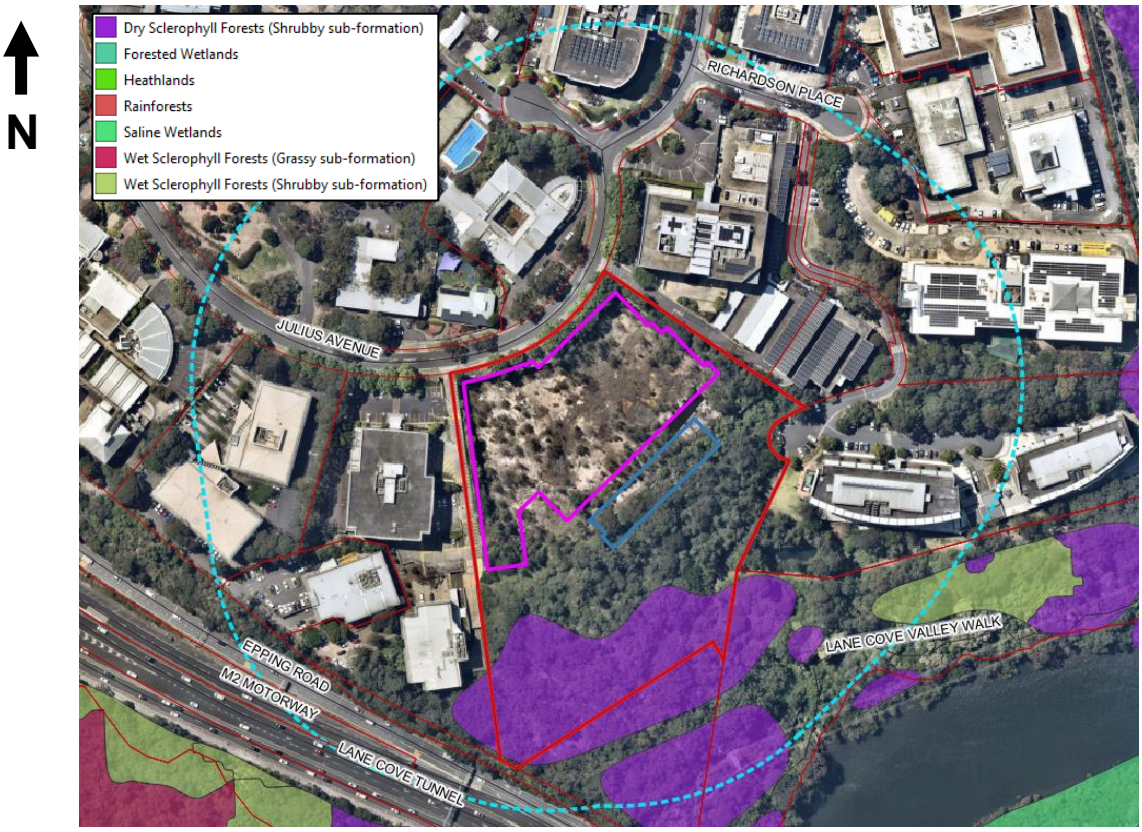


Figure 05: Aerial view of the subject area overlayed with Vegetation NSW mapping

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. It is acknowledged that there is a presence of cliffs and escarpments within the vegetation to the south which alter the effective slope.

The slope that would **most significantly** influence bushfire impact was determined onsite using an inclinometer and verified from topographic imagery to be:

- 0 degrees and up slope within the hazard to the east
- 15 - 20 degrees down slope within the hazard to the south

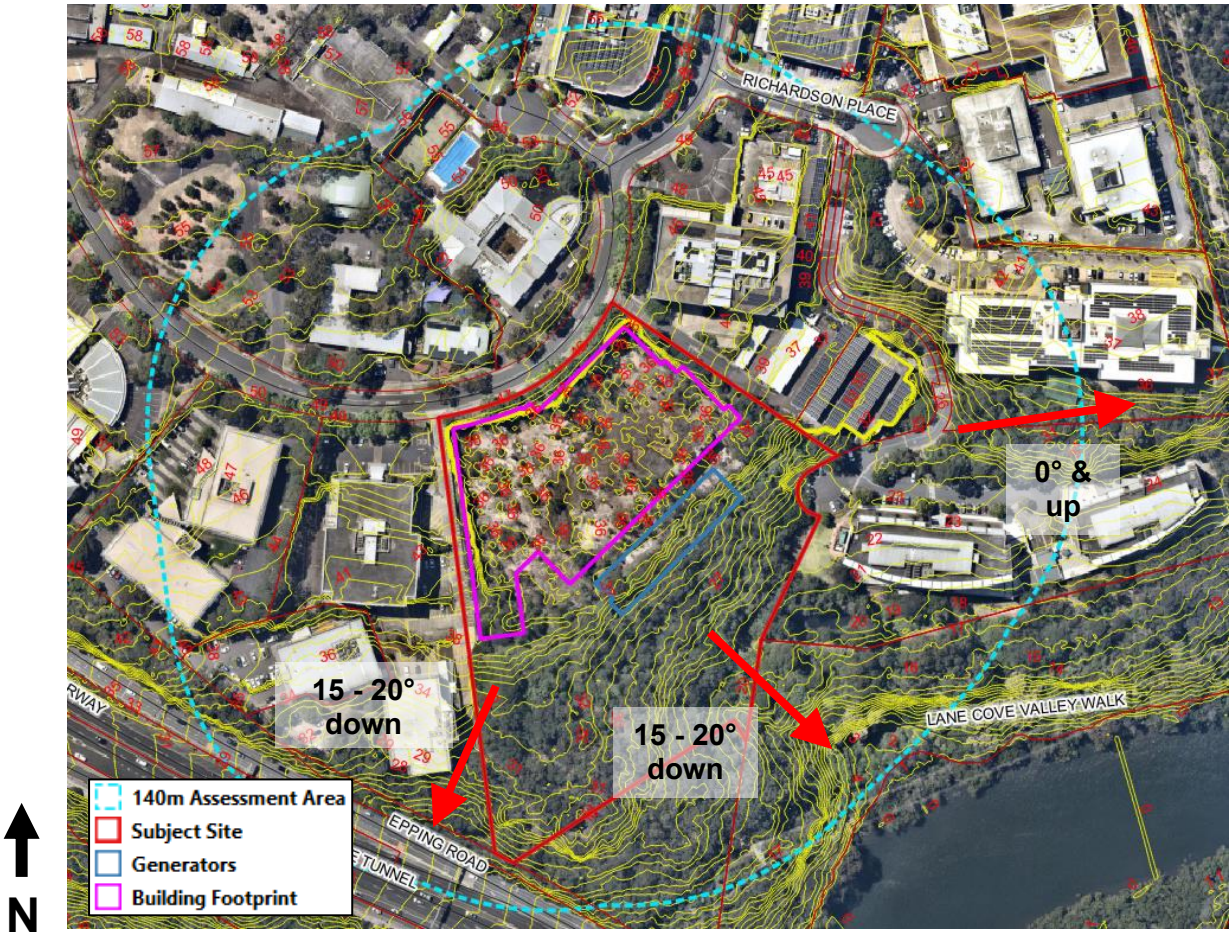


Figure 06: 1 metre LiDar contours of the subject area

5.04 Fire Weather

All development which attracts an Asset Protection Zone under PBP requires the identification of the relevant Fire Danger Index (FDI). The FDI required to be used for development assessment purposes is based on the local government boundaries, being Ryde City Council in this instance.

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

5.05 Fire History

There are areas within NSW which 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.

In this instance the closest recorded wildfire was found to be located >127 metres to the east of the subject site (source NPWS Fire History dataset). This fire occurred in the 1993/94 fire season.

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

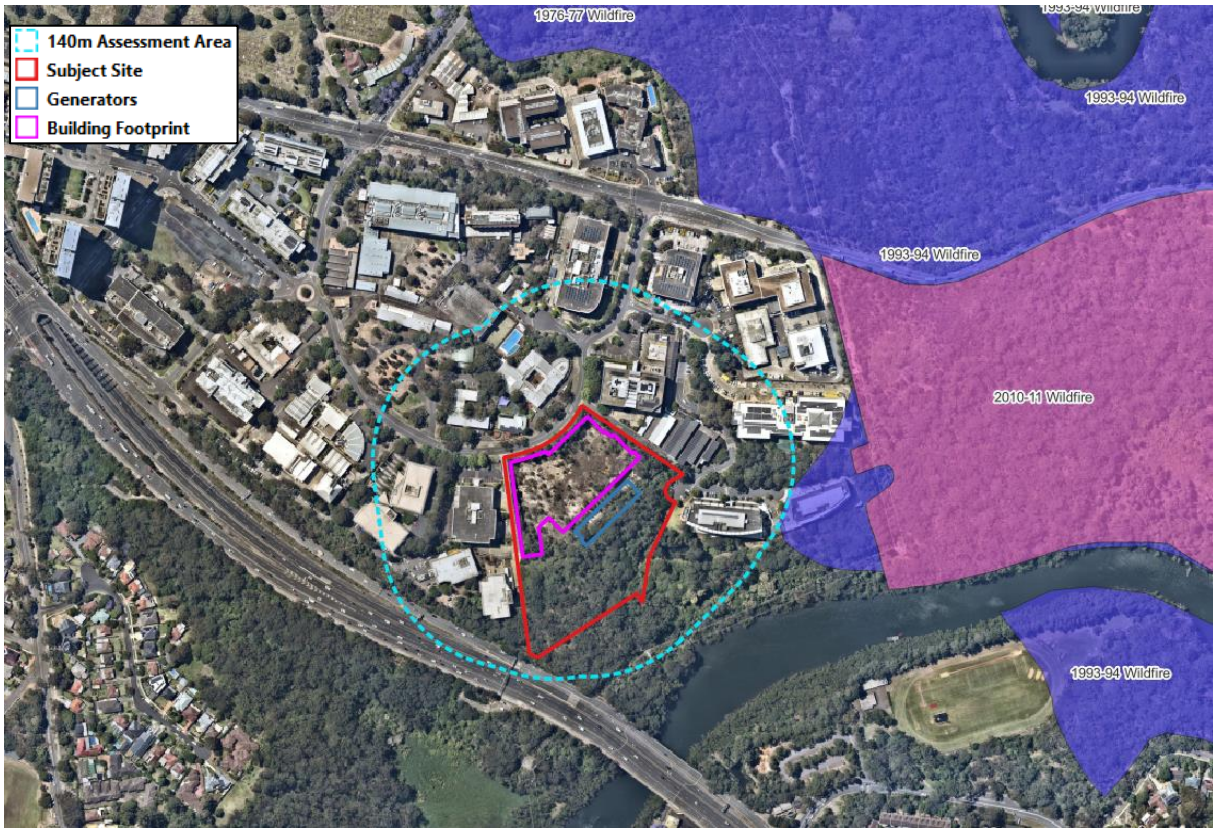


Figure 07: Bushfire History curtesy of NPWS

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 Ryde City Council's Bushfire Prone Land Map (BPLM) as containing designated Category 1 Vegetation and Vegetation Buffer. The subject site is therefore considered 'bushfire prone'.

In relation to this application of the issued Secretary's Environmental Assessment Requirements (SEARs) requires a bush fire assessment that details proposed bush fire protection measures and demonstrates compliance with Planning for Bush Fire Protection 2019 (PBP).

The proposal has therefore been assessed against the aim and objectives detailed in Chapter 1 'Introduction' and the specific objectives and bushfire protection measures detailed in Chapter 8 'Other Development' of PBP.

6.02 Bushfire Protection Measures

While Data Centres are not specifically addressed in PBP we have addressed section 8.3.10 'Commercial and industrial development' of PBP as it is the most appropriate section and outlines the specific Bushfire Protection Measures (BPMs), including APZs, Access, Services & Emergency Management Plan.

Consideration has also been given to section 8.3.1 'Buildings of Class 5 to 8 under the NCC' of PBP.

The following section addresses each BMP and the proposals compliance or otherwise.

Asset Protection Zones

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

The width of the APZ is determined by the vegetation structure of the identified hazard, Forest Fire Danger Index, effective slope and the type of development (residential development or Special Fire Protection Purpose).

In accordance with section 8.3.10 of PBP the measures, including Asset Protection Zones, for Infill Residential Development (Chapter 7) should be used as a base for the development of a package of measures for Commercial development.

The Acceptable Solution under Table 7.4a of PBP requires APZs be provided in accordance with Table A1.12.2 or bushfire design modelling demonstrating the maximum radiant heat will not exceed 29kW/m^2, consistent with that for residential subdivisions.

Due to the presence of significant vegetation within the subject property the proposal is not able to provide the minimum APZs.

The proposed buildings will have an APZ of 10 metres to the south and 69 metres to the east. Compliance with the Performance Criteria is therefore necessary. The corresponding Performance Criteria being;

- *APZs are provided commensurate with the construction of the building; and*
- *A defendable space is provided.*

Section 7.1 of PBP recognises the expectation of building in pre-existing subdivisions even though the ability to provide for APZs or access requirements now required for residential development may not be possible.

It is proposed that at the commencement of construction and in perpetuity all grounds within the subject site from the proposed building to the northern, eastern and western property boundary and a minimum distance of 10 metres to the south will be maintained as an Asset Protection Zone as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 4 of *Planning for Bush Fire Protection* 2019.

This will result in the provision of a defendable space for attending fire service and in conjunction with the application of the recommended construction provisions will provide APZs commensurate with the construction.

In consideration of the attributes of the hazard and surrounding landscape the available APZs are considered to provide an adequate defendable space. It is acknowledged while the Ausgrid SSTS is not a part of this application the proposed site has the ability to provide a defendable space.

Construction

Australian Standard 3959 – 2018 'Construction of buildings in bushfire-prone areas' (AS3959) specifies construction standards for buildings within various Bushfire Attack Levels as determined by Planning for Bush Fire Protection – 2019.

AS3959 provides for six (6) levels of building construction these being BAL - Low, BAL - 12.5, BAL - 19, BAL - 29, BAL - 40 and BAL - FZ.

Bushfire Attack Level	Maximum radiant heat impact (kW/m^2)	Level of construction under AS3959-2018
Low		No special construction requirements
12.5	≤12.5	BAL - 12.5
19	12.6 to 19.0	BAL - 19
29	19.1 to 29.0	BAL - 29
40	29.1 to 40.0	BAL - 40
Flame Zone	>40.0	BAL FZ No deemed to satisfy provisions

Table 01: Correlation between bushfire impact and AS3959

The highest Bushfire Attack Level to the proposed buildings was determined from Table A1.12.5 of PBP to be BAL FZ.

The National Construction Code does not provide for any bush fire specific performance requirements for Class 5 to 8 structures and as such Australian Standard 3959 'Construction of buildings in bushfire-prone areas' 2018 does not apply as a set of 'deemed to satisfy' provisions.

Section 8.3.1 of PBP states:

> *Whilst bush fire is not captured in the NCC for Class 5-8 buildings, the following objectives will be applied in relation to access, water and services, and emergency and evacuation planning:*
>
> - *to provide safe access to/from the public road system for firefighters providing property protection during a bush fire and for occupant egress for evacuation;*
> - *to provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development;*
> - *to provide adequate services of water for the protection of buildings during and after the passage of bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building; and*
> - *provide for the storage of hazardous materials away from the hazard wherever possible.*
>
> *The general fire safety construction provisions (of the NCC) are taken as acceptable solutions however construction requirements for bush fire protection will need to be considered on a case-by-case basis.*

The proposed data buildings will have a minimum 2-hour fire rating with the building structure having a 4-hour FRL.

The proposed buildings are understood to comprise of the following construction:

Structure and Cladding:

- Base building structure is concrete slabs
- External walls are non-combustible and precast panels and the building will have a minimum 2-hour FRL.
- Doors are all steel framed, solid core with weather seals.

External doors should be sealed such that there are no gaps exceeding 3mm when in the closed position.

Ember protection is recommended for the data centre to satisfy the objectives of section 8.3.1 'Buildings of Class 5 to 8 under the NCC' of PBP.

Any mechanical ventilation which result in entry into the building, should provide screens over air intake vents and ensure that exhaust vents are either screened or fitted with dampers that close when positive outward air pressure is lost.

We are satisfied that in combination with the recommendations contained within this assessment that the proposal will satisfy the above objectives.

Access

The subject property has street frontage to Julius Avenue to the northwest.

The proposed access road provides a minimum 6-metre-wide carriageway along the western boundary and provides adequate turning within the rear of the buildings. In addition to the proposed access road attending fire services will have access to the buildings and hazard to the south from Richardson Place and the existing fire trail within the south of the site. The proposed access arrangements significantly exceed the property access requirements within section 7.4 of PBP.

Fire services can access the hazard via the proposed road network for hazard reduction or fire suppression activities.

Access and opportunities for occupant evacuation are considered adequate for this property.

Services – Water, electricity & gas

There are in-ground hydrants are available along surrounding streets for the replenishment of attending fire services.

The proposal will include an extension of the hydrant network throughout the subject site. The proposed hydrant sizing, spacing and pressures are to comply with AS2419.1-2021.

The proposed building will have a new connection to the existing electrical network.

There is no gas connections proposed.

The proposed water supply is adequate for this development.

Bushfire Emergency management arrangements

Evacuation is possible by utilising existing road infrastructure.

This assessment includes a recommendation that a Bushfire Emergency Management and Evacuation Plan is created for the site.

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
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.	With the inclusion of the recommendations made herein it is of our opinion that the aim of PBP has been satisfied.

Aim / Objective	Comment
(i) afford buildings and their occupants protection from exposure to a bush fire;	The proposed buildings construction type in conjunction with the available APZs and additional measures included herein will protect occupants from exposures to a bushfire.
(ii) provide for a defendable space to be located around buildings;	There are defendable spaces available to the identified hazards, being the managed land and proposed roads within the subject property.
(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;	The APZs, in conjunction with construction measures will prevent the likely fire spread to the buildings.
(iv) ensure that appropriate operational access and egress for emergency service personnel and occupants is available;	The proposed access and existing road network provide appropriate operational access and egress for emergency services.
(v) provide for ongoing management and maintenance of bush fire protection measures, (BPMs); and	All grounds within the site to the northern, eastern and western boundaries and for a minimum distance of 10 metres to the south of the Data Centre will be maintained in accordance with an Asset Protection Zone / Inner Protection Area as detailed in Appendix 4 of Planning for Bush Fire Protection 2019 and the NSW Rural Fire Service publication 'Standards for Asset Protection Zones'.
(vi) ensure that utility services are adequate to meet the needs of firefighters.	The proposed water supply is 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.

Asset Protection Zones

1. At the commencement of construction works and in perpetuity all areas within the subject property to the northern, eastern and western boundaries and for a minimum distance of 10 metres to the south of the Data Centre shall be maintained as an Asset Protection Zone (Inner Protection Area) as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 4 of *Planning for Bush Fire Protection* 2019.

   Note: The APZ is shown in Attachment 01.

Construction

2. That all gaps >3mm or more on proposed buildings be either screened within aluminium, steel or bronze metal mesh having an aperture size of ≤2mm or be sealed / closed.

3. That all operable windows be screened internally or externally with aluminium, steel or bronze metal mesh having an aperture size of ≤2mm in such a way that the entire opening is screened when in the open position.

4. That the external side-hung doors on proposed buildings be tight fitting and fitted with a draft excluder. This may require draft excluders on the stiles, head, sill or threshold and rebated or planted jambs & centre stiles.

5. That the external roller doors on proposed buildings have tight fitting guide tracks / seals (not providing a gap >3mm when in the closed position).

6. That any mechanical ducted ventilation on proposed buildings provides screens over air intake vents and ensuring that exhaust vents are either screened or fitted with dampers that close when positive outward air pressure is lost to ensure the maintain ember protection to the inside of the buildings.

7. External walls are non-combustible and the building structure is to have a minimum 2 hour fire rating.

Landscaping

8. That any new landscaping within the Asset Protection Zones is to comply with Table 7.4a of *Planning for Bush Fire Protection* 2019.

Gas (where applicable)

9. That any new gas services are to comply with Table 7.4a of Planning for Bush Fire Protection 2019 as follows:

   - reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used;
   - all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;
   - connections to and from gas cylinders are metal;
   - polymer-sheathed flexible gas supply lines are not used; and
   - above-ground gas service pipes are metal, including and up to any outlets.

Emergency Management

10. That the bushfire emergency management plan to be prepared and is to be consistent with the NSW Rural Fire Service Guidelines for the *Preparation of Emergency / Evacuation Plan*.

Water

11. That the new hydrant system is to comply with the requirements detailed in Table 5.3c of *Planning for Bush Fire Protection* 2019, specifically:

    - fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2021;
    - hydrants are not located within any road carriageway;
    - fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2021.
    - all above-ground water service pipes external to the building are metal, including and up to any taps.
    - fire hose reels are constructed in accordance with AS/NZS 1221:1997 Fire hose reels, and installed in accordance with the relevant clauses of AS 2441:2005 Installation of fire hose reels.

Access

12. That any new access roads comply with the following requirements for Property Access as detailed in section 7.4 of Planning for Bush Fire Protection 2019:

- property access roads are two-wheel drive, all-weather roads;
- a minimum vertical clearance of 4m to any overhanging obstructions, 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 roads; and
- property access must provide a suitable turning area in accordance with Appendix 3

8.0 Conclusion

The development is located at 6-8 Julius Avenue, North Ryde (the site) and through the State Significant Development Application (SSDA) process, the applicant is seeking to:

The Proposal involves the construction and operation of a data centre and associated infrastructure and amenities, identified as the Julius Avenue Data Centre, comprising the following scope of works:

- Site preparation works, including tree removal;
- Earthworks and additional site retaining;
- Infrastructure comprising civil works and utilities servicing;
- Construction a data centre, with the following:
  - Basement car parking for 54 cars, including 2 accessible;
  - 12 data halls across six (6) storeys with an IT load of 115.2 MW and a maximum power consumption of 169 MW, with upper-level mechanical equipment and rooftop plant;
  - Five (5) storey office/front of house building;
  - Six (6) storey enclosed generator gantry to rear of data centre.
- Two (2) new pedestrian through-site link from Julius Avenue to Richardson Place; and
- Complimentary landscaping and offset planting.

In this instance the site is depicted on Ryde City Council's Bushfire Prone Land Map (BPLM) as containing designated Category 1 Vegetation and Vegetation Buffer. The site is therefore considered 'bushfire prone land'.

In relation to this application of the issued Secretary's Environmental Assessment Requirements (SEARs) requires a bush fire assessment that details proposed bush fire protection measures and demonstrates compliance with Planning for Bush Fire Protection 2019 (PBP).

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.

It is of our opinion that the proposal satisfies all relevant specifications and requirements of PBP.

We are therefore in support of the development.

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

Prepared by
Building Code & Bushfire Hazard Solutions

Andrew Muirhead
Senior Bushfire Consultant
Graduate Diploma in Bushfire Protection WSU
Bachelor of Engineering Technology Major in Civil UniSQ
FPA Australia BPAD Level 3 Accredited Practitioner
BPAD Accreditation No. BPAD46966

Reviewed by
Building Code & Bushfire Hazard Solutions P/L

Stuart McMonnies
Director / Manager Bushfire Section
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 (2022). *National Construction Code Volume One - Building Code of Australia*. ABCB

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

Greenbox Architecture (2025). *Site Plan* (Job Number 240089, Drawing Number 010003, Issue 4, Date 25.11.2025)

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

NSW Department of Planning, Housing and Infrastructure (2019). *Planning Portal*. Accessed at: https://www.planningportal.nsw.gov.au/

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

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

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

Standards Australia (2014). *AS/NZS 1596 The storage and handling of LP Gas*

Acknowledgements to:

Geoscience Australia
Street-directory.com.au
Nearmap

Attachments

Attachment 01: APZ Overlay

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

SILVER MEMBER Fire Protection Association Australia

Legend

Building Footprint
Subject Site
Minimum APZ
Generators

APZ Overlay

BCBHS Ref: 250413
Drawn by: AM
Dated: 28/11/2025
Issue: 4
Client: Logic Projects.co
Address: 6-8 Julius Avenue, North Ryde