

A stylized topographic map with grey contour lines is positioned on the left side of the page, extending from the top to the bottom. The lines represent elevation changes, with some forming circular peaks and others following a more irregular, wavy path.

Bushfire Protection Assessment

Subdivision

WSU Milperra Campus

Mirvac Homes

DOCUMENT TRACKING

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Template 2.8.1

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Abbreviations

Abbreviation	Description
APZ	Asset protection zone
BAL	Bushfire attack level
CDC	Complying development certification
DA	Development application
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
FDI	Fire danger index
IPA	Inner protection area
OPA	Outer protection area
PBP	Planning for Bush fire Protection 2019
RF Act	<i>Rural Fires Act 1997</i>
RF Reg	<i>Rural Fires Regulation 2013</i>
RFS	NSW Rural Fire Service
WSU	Western Sydney University

1. Property and proposal

The table below (**Table 1**) identifies the subject property and outlines the type of development proposed.

Table 1: Subject site and development proposal summary

Street address:	Western Sydney University Milperra Campus – 2 Bullecourt Avenue, Milperra
Postcode:	2214
Lot/DP no:	Lot 103 DP 874035
Local Government Area:	Canterbury-Bankstown Council
Fire Danger Index (FDI)	100
Current land zoning:	SP2 Infrastructure
Type of development proposed:	Residential subdivision

1.1 Description of proposal

Western Sydney University (WSU) is embarking on a large scale, transformative initiative, seeking evolution of the University's current 'suburban' campus network into a hybrid campus model which includes both suburban and consolidated city centre vertical campuses, acknowledging the ability of both campuses to service certain aspects of course delivery and research. This Strategy was endorsed by the University Board of Trustees in June 2017, and signifies a new direction for the University's delivery and provision of education and research. The relocation of the Milperra Campus to Bankstown CBD supports this model, as well as supporting a long standing strategic action and direction. Existing courses and offerings at the Milperra Campus will be relocated to the Bankstown city centre campus, or in some instances to Liverpool. Furthermore, the proposal will ensure that the University is in a more accessible location to the broader student catchment, with the new city centre campus providing Metro, Train and Bus accessibility with the services and amenities of Bankstown city centre readily available for students. An agreement between WSU and the City of Canterbury Bankstown has been signed which will see the relocation of the campus.

As such, it is proposed that the site be repurposed to allow for reinvestment into WSU's new campuses and its education and research offerings, consistent with the University's objects and functions under the *Western Sydney University Act 1997*.

The WSU Milperra Campus is currently used as one of eleven WSU Campuses throughout metropolitan Sydney. The site has an area of 19.62 ha and is bounded by Bullecourt Avenue to the north, Horsley Road to the east, M5 Motorway to the south, and Ashford Avenue to the west. Two non-campus uses are located within this bounded area, including the council owned and operated hockey field to the north-west corner of the site, and Mt. St. Joseph's Catholic School, occupying a third of the street frontage to Horsley Road to the east. In addition protected, remnant Cumberland Plain woodland (classified as a critically endangered ecological community) is positioned in the north east corner of the site.

The campus is currently used for the purpose of tertiary education, student accommodation, administrative functions, student parking and includes an existing childcare facility. As of 2016, the campus supported approximately 8,166 students, 195 academic staff and 128 professional staff.

A Master Plan has been prepared for the WSU Milperra campus in support of the University's transformative initiative, driven by improving the amenity of the local area for existing and future residents. Centred on creating a great place to live, the Master Plan provides open space for passive and active recreation, a walkable and cycle friendly neighbourhood with shops, services, and a diverse range of dwelling types to support affordability, and respond to the changing household and age profile in the district. The Master Plan is accompanied by a Planning Proposal that seeks to amend the land use, height of buildings, FSR, biodiversity, minimum lot size and special provisions controls under the *Bankstown Local Environmental Plan 2015*.

This Bushfire Protection Assessment prepared by Eco Logical Australia Pty Ltd (ELA) has assessed the impacts of the Planning Proposal and found that it is supportable from a bushfire perspective.

1.2 Assessment process

The subject land is not identified as bush fire prone land and therefore is not subject to referral as integrated development to the NSW Rural Fire Service (RFS) for a Bush Fire Safety Authority under section 100B of the *Rural Fires Act 1997*. However, there is an obligation upon consultants, developers and the consent authority to investigate and mitigate all 'hazards' relevant to the development proposal, in accordance with section the *Environmental Planning & Assessment Act 1979*. The proposed rezoning and redevelopment requires consent under the Bankstown Local Environmental Plan 2015 (LEP) and is to be assessed under Part 4 of the EP&A Act.

To provide an appropriate investigation and analysis of the potential bushfire hazards within or impacting the site, the proposal was assessed in accord with Section 100B of the Rural Fires Act 1997 and *Planning for Bush Fire Protection* (RFS 2019), herein referred to as PBP.

This assessment is based on the following information sources:

- Background documentation provided by Mirvac Residential (NSW) Development;
- Information contained within the masterplan from Mirvac Residential (NSW) Development (**Figure 1**);
- GIS analysis including online spatial resources (i.e. Google Earth, SIX Maps, Near Maps and the NSW Government Planning Portal);
- Site inspection undertaken on 24 and 30 August 2017; and
- Tree surveys undertaken by ELA August 2022.

Table 2 identifies the bushfire protection measures assessed and whether an acceptable or performance solution is being proposed by the proponent.

Table 2: Summary of bushfire protection measures assessed

Bushfire Protection Measure	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.1
Landscaping	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.2
Construction standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.3
Access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.4
Water supply	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.5
Electrical services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.6
Gas services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.7

1.3 Significant environmental features

An assessment of significant environmental features, threatened species, populations or ecological communities under the *Biodiversity Conservation Act 2016* that may potentially be affected by the proposed bushfire protection measures has been undertaken as part of this development proposal and addressed in a separate report (ELA 2022).

The impact footprint of the bushfire protection measures (e.g. Asset Protection Zone (APZ)) is clearly identified within this report and therefore capable of being assessed by suitably qualified persons as required. Canterbury-Bankstown Council is the determining authority for this development; they will assess more thoroughly any potential environmental issues.

1.4 Aboriginal cultural heritage

An assessment of any Aboriginal cultural heritage objects (within the meaning of the *National Parks and Wildlife Act 1974*) that may potentially be affected by the proposed bushfire protection measures has not been undertaken in this report as it is covered by other parts of the Development Application (DA) process.

The impact footprint of the bushfire protection measures (e.g. APZ) is clearly identified within this report and therefore capable of being assessed by suitably qualified persons as required. Canterbury-Bankstown Council is the determining authority for this development; they will assess more thoroughly any potential Aboriginal cultural heritage issues.



Figure 1: Subdivision layout

2. Bushfire hazard assessment

2.1 Process

The site assessment methodology set out in Appendix 1 of PBP has been utilised in this assessment to determine the required APZ and Construction requirements.

Figure 2 and **Table 3** show the effective slope and predominant vegetation representing the highest bushfire threat potentially posed to the subdivision from various directions.

2.2 Vegetation assessment

In accordance with PBP, the predominant vegetation formation has been assessed for a distance of at least 140 m from the subject land in all directions.

The predominant vegetation has been determined from previous assessment works (ELA 2019) and reaffirmed from more recent site assessment (ELA 2022).

2.3 Slope assessment

In accordance with PBP, the slope that would most significantly influence fire behaviour was determined over a distance of 100 m from the boundary of the proposed development under the classified vegetation.

The effective slope has been determined from 2 m contour data.

2.4 Summary of assessment

The only bushfire prone vegetation affecting the proposed development is a patch of remnant Cumberland Plain Woodland to be retained within the development site to the north-east which is classified as 'grassy woodland' under PBP. The effective slope under the vegetation falls into the slope category of '>0-5 degrees downslope'.

In all other directions, there are managed lands in the form of land existing residential and industrial development and road reserves.

Table 3: Bushfire hazard assessment, APZ requirements and BALs

Transect #	Slope	Vegetation Formation	PBP required APZ	Available APZ	Existing SFPP APZ	Bushfire Attack Level (BAL)	Comments
1	>0° to 5° downslope	Grassy woodland	16 m	≥16 m	N/A	BAL-29: 16 to 23 m BAL-19: 23 to 32 m BAL-12.5: 32 to 100 m BAL-LOW: >100 m	APZ provided by proposed public road infrastructure.
2	>0° to 5° downslope	Grassy woodland	N/A	N/A	40 m	BAL-12.5	Existing APZ provided within childcare site (DA-752/2011)

Transect #	Slope	Vegetation Formation	PBP required APZ	Available APZ	Existing SFPP APZ	Bushfire Attack Level (BAL)	Comments
3	>0° to 5° downslope	Grassy woodland	16 m	≥16 m	N/A	BAL-29: 16 to 23 m BAL-19: 23 to 32 m BAL-12.5: 32 to 100 m BAL-LOW: >100 m	APZ provided by proposed public road infrastructure.
all other directions				Managed Land			



Figure 2: Bushfire hazard assessment

3. Bushfire protection measures

3.1 Asset Protection Zones

Table 3 shows the dimensions of the required APZ and where relevant, information on how the APZ is to be provided is included. The footprint of the APZ is also shown on **Figure 2**.

Under this application there are no proposed alterations to the existing childcare centre on the site (**Figure 2**) which provides an existing 40 m APZ approved under DA-752-2011. Any future additions to the child care centre will be assessed during the DA phase.

The compliance of the proposed APZ with regards to Section 5.3.1 of PBP, is detailed in **Table 4**.

Table 4: APZ requirements and compliance (adapted from Table 5.3a of PBP)

Performance Criteria	Acceptable Solutions	Compliance Notes
The intent may be achieved where:		
Potential building footprints will not be exposed to radiant heat levels exceeding 29 kW/m ² on each proposed lot.	APZs are provided in accordance with tables A1.12.2 and A1.12.3 based on the FDI.	Complies APZ provided in accordance with Table A1.12.2 as shown in Table 3 and Figure 2 .
APZs are managed and maintained to prevent the spread of a fire towards the building.	APZs are managed in accordance with the requirements of Appendix 4 of PBP.	To comply APZ to be managed to Inner Protection Area (IPA) specifications in accordance with PBP. Fuel management specifications provided in Appendix A .
The APZ is provided in perpetuity.	APZs are wholly within the boundaries of the development site.	Complies APZ located wholly within in the development site Figure 2 .
APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	APZs are located on lands with a slope less than 18 degrees.	Complies APZ is not located on slopes greater than 18°.

3.2 Landscaping

The compliance of the proposed landscaping with regards to Section 5.3.1 of PBP is detailed in **Table 5**.

Table 5: Landscaping requirements and compliance (adopted from Table 5.3a of PBP)

Performance Criteria	Acceptable Solutions	Compliance Notes
The intent may be achieved where:		
Landscaping is managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.	Landscaping is in accordance with Appendix 4 of PBP; and Fencing is constructed in accordance with Section 7.6 of PBP.	To comply APZ / Landscaping is to be managed in accordance with PBP. Landscaping specifications provided in Appendix A .

Performance Criteria	Acceptable Solutions	Compliance Notes
		Fencing to be constructed in accordance with Section 7.6 of PBP.

3.3 Construction standards

The Bushfire Attack Level (BAL) for future dwellings within the proposed subdivision will be determined during the individual dwelling Complying Development Certificate (CDC) or DA process, however, a maximum of BAL-29 is provided by the subdivision design.

A preliminary BAL map is provided in **Figure 3** demonstrating the potential exposure of the proposal to differing BALs.

3.3.1 Fences and gates

To comply with Section 7.6 of PBP, all fencing and gates in bush fire prone areas are to be constructed of hardwood or non-combustible material. Where fencing is within 6 m of a building or in areas of BAL-29 or greater, they should be made of non-combustible material only.

Where lots are not impacted by a BAL there would be no requirement to comply with Section 7.6 of PBP

3.3.2 Class 10a buildings (sheds etc.)

To comply with section 8.3.2 of PBP, proposed Class 10a structures within 6 m of any proposed dwelling in bush fire prone areas must be constructed in accordance with the National Construction Code.

No bushfire requirements apply where;

- the structure is greater than 6 m from any proposed dwelling;
- lots are not impacted by a BAL.

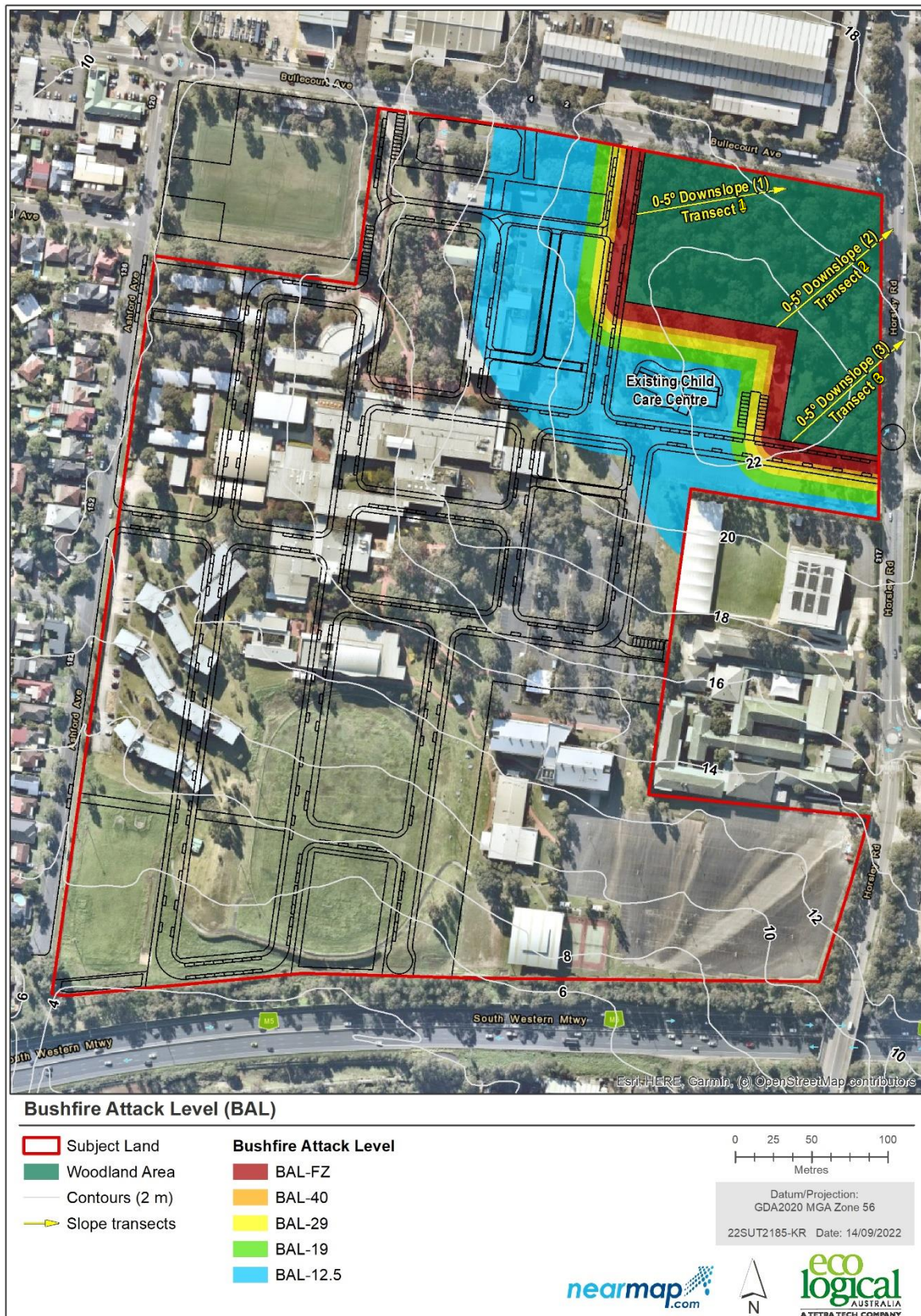


Figure 3: Preliminary Bushfire Attack Level (BAL) mapping

3.4 Access

Public road access to the subdivision is via Horsley Road to the east, the M5 motorway to the south, Ashford Avenue to the west and Bullecourt Avenue to the north.

Figure 1 and **Figure 2** show the internal and perimeter access within the subdivision. The performance criteria and acceptable solutions for each of these access types are shown in (**Appendix B**), along with comment on the subdivision design compliance or otherwise.

A summary of the compliance approach can be found in **Table 6** below.

Table 6: Access summary of compliance

Access type	Compliance approach	Further details
General	Can comply with all acceptable solutions	Table 12
Perimeter road	Can comply with all acceptable solutions	Table 13
Non-perimeter road	Can comply with all acceptable solutions	Table 14
Property Access	Not applicable	N/A

3.5 Water supplies

The compliance of the proposed water supply with regards to Section 5.3.3 of PBP is detailed in **Table 7**.

Table 7: Water supply requirements (adapted from table 5.3c of PBP)

Performance Criteria	Acceptable Solution	Compliance Notes
Adequate water supplies is provided for firefighting purposes.	Reticulated water is to be provided to the development where available; A static water supply and hydrant supply is provided for non-reticulated developments or where reticulated water supply cannot be guaranteed; and Static water supplies shall comply with Table 5.3d of PBP.	Complies Proposal serviced by a reticulated water.
Water supplies are located at regular intervals; and The water supply is accessible and reliable for firefighting operations.	Fire hydrant, spacing, design and sizing complies with the relevant clauses of Australian Standard AS 2419.1 (SA 2005); Hydrants are not located within any road carriageway; and Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.	Can comply The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards and table 5.3c and table 5.3d of PBP.
Flows and pressure are appropriate.	Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1 (SA 2005).	
The integrity of the water supply is maintained.	All above-ground water service pipes are metal, including and up to any taps; and Above-ground water storage tanks shall be of concrete or metal.	

3.6 Electricity services

The compliance of the proposed supply of electricity services with regards to Section 5.3.4 of PBP is detailed in **Table 8**.

Table 8: Requirements for the supply of Electricity services (adapted from table 5.3c of PBP)

Performance Criteria	Acceptable Solution	Compliance Notes
Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	Where practicable, electrical transmission lines are underground;	Complies Electricity services to the subject site are located underground.
	Where overhead, electrical transmission lines are proposed as follows: Lines are installed with short pole spacing (30 m), unless crossing gullies, gorges or riparian areas; and No part of a tree is closer to a power line than the distance set out in ISSC3 Guide for the Management of Vegetation in the Vicinity of Electricity Assets (ISSC3 2016).	N/A

3.7 Gas services

The compliance of the proposed supply of gas services (reticulated or bottle gas) with regards to Section 5.3.4 of PBP is detailed in **Table 9**.

Table 9: Requirements for the supply of gas services (adapted from table 5.3c of PBP)

Performance Criteria	Acceptable Solution	Compliance Notes
Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 – The Storage and handling of LP gas, 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 10 m 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.	Can comply The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards and table 5.3c of PBP.

3.8 Staged development

The planning proposal phase is for rezoning only.

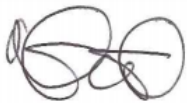
The proposed development is likely to be constructed in a staged manner however this will be addressed at the DA stage and it is the responsibility of the proponent to implement the identified bushfire protection measures to each stage as identified in this assessment. Implementation of these measures may be temporary in nature (i.e. APZ, fire trails, turning areas) until future stages are developed.

4. Conclusion

The planning proposal for future residential subdivision complies with the specifications and requirements of ‘*Planning for Bush Fire Protection 2019*’, as outlined in **Table 10** below.

Table 10: Development Bushfire Protection Solutions and Recommendations

Bushfire Protection Measures	Recommendations	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones	APZ dimensions are detailed in Table 3 and shown in Figure 2 . Identified APZ to be maintained in perpetuity to the specifications detailed in Appendix A .	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.1
Landscaping	Any future landscaping meets the requirements of PBP listed in Appendix A .	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.2
Construction standard	BAL for dwellings to be determined at individual CDC/DA stage however, a maximum of BAL-29 is achievable as shown in Figure 3 .	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.3
Access	Access to meet standards summarised in Table 6 to the specifications detailed in Appendix B .	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.4
Water supply	Reticulated water supply to meet PBP acceptable solution specifications for a subdivision.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.5
Electricity service	Electricity supply located underground.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.6
Gas service	Gas services are to be installed and maintained in accordance with AS/NZS 1596:2014.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.7



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5. References

Eco Logical Australia (ELA). 2022. Western Sydney University Milperra Campus Redevelopment Ecological Assessment Prepared for MIRVAC. August 2022.

Industry Safety Steering Committee 3 (ISSC3). 2016. ISSC3 Guide for the Management of Vegetation in the Vicinity of Electricity Assets. November 2016. NSW.

NSW Rural Fire Service (RFS). 2019. Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Homeowners - issued December 2019. Australian Government Publishing Service, Canberra.

Standards Australia (SA). 2005. *Fire hydrant installations - System design, installation and commissioning*, AS 2419.1:2005, SAI Global, Sydney.

Standards Australia (SA). 2014. *The storage and handling of LP Gas*, AS/NZS 1596:2014. SAI Global, Sydney.

Appendix A - Asset protection zone and landscaping standards

The APZ identified in Table 3 and shown in Figure 2 are to be managed to Inner Protection Area (IPA) specifications as per **Table 11** . These management specifications should be considered for any landscaping and ongoing management within the subject land.

The APZs identified in **Table 3** are to be maintained in perpetuity and management undertaken on an annual basis (as a minimum) and prior to the commencement of the fire season.

Further details on APZ implementation and management can be found on the NSW RFS website (<https://www.rfs.nsw.gov.au/resources/publications>).

Table 11: APZ management specifications

Vegetation Strata	Inner Protection Area (IPA)
Trees	<ul style="list-style-type: none"> • 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 2 m above ground; • Canopies should be separated by 2 to 5 m; and • Preference should be given to smooth barked and evergreen trees.
Shrubs	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Should be kept mown (as a guide grass should be kept to no more than 100 mm in height); and • Leaves and vegetation debris should be removed.

Appendix B - Access Standards

Table 12: General access requirements (adapted from Table 5.3b of PBP)

Performance Criteria	Acceptable Solutions	Compliance notes
The intent may be achieved where:		
Firefighting vehicles are provided with safe, all-weather access to structures.	Property access roads are two-wheel drive, all-weather roads;	Complies
	Perimeter roads are provided for residential subdivisions of three or more allotments;	Complies Perimeter road provided between retained vegetation and future development.
	Subdivisions of three or more allotments have more than one access in and out of the development;	Complies Multiple access/egress provided.
	Traffic management devices are constructed to not prohibit access by emergency services vehicles;	To comply
	Maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient;	To comply
	All roads are through roads;	Not compliant – refer below.
	Dead end roads are not recommended, but if unavoidable, dead ends are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;	To comply 3 dead end roads are all less than 200 m in length. <u>12 m outer radius turning circle to be provided.</u>
	Where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road;	To comply Level of detail required to determine compliance not available at this stage.
	Where access/egress can only be achieved through forest, woodland or heath vegetation, secondary access shall be provided to an alternate point on the existing public road system;	Complies Egress to east will traverse woodland, secondary egress provided in the west.
The capacity of access roads is adequate for firefighting vehicles.	One way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.	Not applicable
	The capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/causeways are to clearly indicate load rating.	To comply

Performance Criteria	Acceptable Solutions	Compliance notes
There is appropriate access to water supply.	Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression;	To comply Level of detail required to determine compliance not available at this stage.
	Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2017 – Fire hydrant installations system design, installation and commissioning; and	To comply
	There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.	Not applicable

Table 13: Perimeter road requirements (adapted from Table 5.3b of PBP)

Performance Criteria	Acceptable Solutions	Compliance Notes
The intent may be achieved where:		
Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.	Are two-way sealed roads;	Complies
	Minimum 8m carriageway width kerb to kerb;	To comply Level of detail required to determine compliance not available at this stage.
	Parking provided outside of the carriageway width;	To comply Level of detail required to determine compliance not available at this stage.
	Hydrants are located clear of parking areas;	To comply Level of detail required to determine compliance not available at this stage.
	There are through roads, and these are linked to the internal road system at an interval of no greater than 500m;	Complies Dead end roads to comply with 'general access requirements' and are linked to internal road system at <500 m intervals.
	Curves of roads have a minimum inner radius of 6m;	To comply
	The maximum grade road is 15 degrees and average grade is 10 degrees;	The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards and table 5.3b of PBP.
	The road crossfall does not exceed 3 degrees;	
	A minimum vertical cleared of 4m to any overhanging obstructions, including tree branches, is provided.	

Table 14: Non-perimeter road requirements (adapted from Table 5.3b of PBP)

Performance Criteria	Acceptable Solutions	Compliance notes
The intent may be achieved where:		
Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating.	Minimum 5.5m width kerb to kerb;	To comply
	Parking is provided outside of the carriageway width;	To comply
	Hydrants are located clear of parking areas;	To comply
	Roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m;	Complies Dead end roads to comply with 'general access requirements' and are linked to internal road system at <500 m intervals.
	Curves of roads have a minimum inner radius of 6m	To comply
	The road crossfall does not exceed 3 degrees;	The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards and table 5.3b of PBP.
	A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.	

