

**BUSHFIRE PROTECTION ASSESSMENT
SECTION 96 APPLICATION
FOR AMENDMENTS TO THE APPROVED
MATER MARIE CATHOLIC COLLEGE
LOT 13 in DP 1083731,
FOREST ROAD,
WARRIEWOOD**

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Protection Planners Pty Ltd**
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Bushfire Mitigation Consultants

BUSHFIRE PROTECTION ASSESSMENT

SECTION 96 APPLICATION

FOR

AMENDMENTS TO THE APPROVED

MATER MARIE CATHOLIC COLLEGE

LOT 13 in DP 1083731,

FOREST ROAD,

WARRIEWOOD

| Assessment Number | Document | Preparation Date | Issue Date | Directors Approval |
|------------------------------|-----------------|-----------------------------|-----------------------|---------------------------|
| B162891 | Final | 3.04.2017 | 4.04.2017 | <i>G.L.Swain</i> |

EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited has been commissioned to undertake the Bushfire Consultancy for the proposed Section 96 Application for modification to the Development Consent for the Mater Marie Catholic College sited on Lot 13 in DP 1083731, Forest Road, Warriewood.

The original Development Consent for the redevelopment of Mater Marie Catholic College was issued by Pittwater Council under DA N1038/00 on the 23rd November 2001.

An application to modify the original Development Consent DA N1038/00 was issued by Pittwater Council on the 11th October 2002 and included Consent Conditions D222, 223, 231 and E32(a) – E32(g) – relating to the provision of bushfire protection measures to the proposed development.

Consent Condition E32 (h) refers to compliance with the requirements of the NSW Rural Fire Service dated 28th August 2002. A copy of these requirements is provided below:

All communications to be addressed to:

Warringah Pittwater District
NSW Rural Fire Service
P.O.Box 111
Terrey Hills 2084

Telephone: (02) 9450 3000
e-mail: laurence.mccoy@rfs.nsw.gov

Warringah Pittwater District
NSW Rural Fire Service
Thompson Drive off Kamber Road
Terrey Hills 2084

Facsimile: (02) 9450 1028



Mathew Edmonds

Pittwater Council

Your Ref: N1038/00

Our Ref: N1038/00

DATE: 28-Aug-02

RE: DEVELOPMENT AND/OR BUILDING APPLICATION
House No 5 Lot No: 1 DP No: 785132
Forest Road Warriewood
DA No: N1038/00 BA No: File No:

As per Planning for Bushfire Protection (2001) and Australian Standard 3959 "Construction of Buildings in bushfire-prone areas", the following is the Bushfire Attack Category and the necessary level of construction.

Bushfire Attack Category: MEDIUM

Construction Type: Level 1 Construction Required

Following an inspection of the proposal at the above address, please be advised that the NSW Rural Fire Service recommends Pittwater Council impose the following conditions:

The development is deemed a 'Special Protection Development' of Planning for Bushfire Protection 2001. This requires for the slope and vegetation type an Asset Protection Zone to be maintained to a distance of 30 meters, surrounding the chapel. The Asset Protection Zone is to be comprised of a 20 meter Inner Protection Area and 10 meter Outer Protection Area.
Inner Protection Area - This zone is the area immediately adjacent to the dwelling to a radial distance of 20 meters. This area is to be kept free of flammable/combustible plants, rubbish and debris. It is suited to lawns, separated trees and low flammability gardens. No tree is to hang directly over the proposed structure.

Outer Protection Area - This zone is the area immediately adjacent to the Inner Protection Area. It is to be to a radial distance of 10 meters. This area is to be maintained to a maximum vegetation level of 8 tonnes per hectare.

For further information refer to section 4.2 Planning for Bushfire Protection 2001

The access road to the structure and perimeter fire trail around the structure are to be established to a minimum standard to allow access for firefighting vehicles. That is at least 4m wide and capable of carrying vehicles up to 28 Tonnes, or 9 T per axle. One meter either side of the trail/access road should be free from overhanging vegetation.

Leafless Gutters or other mechanical means to be installed on the structures to prevent the build up of flammable materials with the gutters.

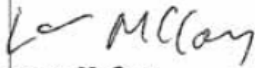
Due to the extensive area of adjacent bushland, consideration should be given to the installation of other fire protection measures such as shutters, garden/house sprinkler systems, fire pumps & hoses and the use of fire resistant/retardant plant species.

If water supply is not reticulated, supply is to comply with Policy GOV-PL 720 Water Storage for Domestic and Rural Fire Fighting Purposes. Tanks must be of minimum 45000L capacity with 10000L reserved for fire fighting, outlet to be fitted with a 'stop valve' and stortz fittings.

Providing the above conditions are implemented, the NSWRFSS has no objections to this proposal.

Please do not hesitate to call if you have any queries.

Yours Sincerely,



Laurence McCoy
Planning and Mitigation Officer

The works approved under Development Consent DA N1038/00 have been substantially completed except for the construction of the approved Library/Staff and Administration/Canteen buildings, located to the south of the existing Chapel, between Block A and the Lecture Theatre.

The Development Consent also approved the establishment of a 30 metre wide Asset Protection Zone to the northwest and west of the completed buildings, which has also been established and maintained.

The proposed Section 96 Modification seeks to replace the approved Library/Staff and Administration/Canteen buildings with a single, three level building excavated into the slope of the land. It is proposed to construct the new building in two [2] stages.

The College Campus contains managed landscaped gardens and playing fields with an area of retained vegetation in the northwest corner of the Campus. This vegetation and the vegetation on the land to the north and west of the College is recorded on the Northern Beaches Bushfire Prone Land Map as Category 1 Bushfire Prone Vegetation.

As the College Campus is mapped as 'Bushfire Prone Land', the proposed works are classified as Integrated Development under Section 91(1) of the *Environmental Planning and Assessment Act*. In addition, under Section 100B of the *Rural Fires Act 1997*, the proposed development is a "Special Fire Purpose Development" that requires the implementation of additional protection measures and requires the issue of a 'Bushfire Safety Authority' by the Commissioner of the NSW Rural Fire Service.

However, due to the previous Development Consent for the construction of the buildings the development proposed in the Section 96 Application is classified, under Section 4.2.5 of *Planning for Bushfire Protection 2006*, as 'infill development' which requires an appropriate combination of bushfire protection measures and compliance with the intent and performance criteria of each measure within Section 4.3.5 of *Planning for Bushfire Protection 2006*.

This report assesses the requirements of Section 44 of the *Rural Fires Regulation 2013*, necessary to provide compliance with *Section 100B* of the *Rural Fires Act 1997 (Amended)* and the issue of a *Bushfire Safety Authority* by the Commissioner of the NSW Rural Fire Service under *Section 100B(4)* of the *Rural Fires Act*.

This report has determined that the proposal to modify the location and shape of the approved Library/Staff and Administration/Canteen buildings satisfies the aim and objectives of *Planning for Bushfire Protection 2006*.



Graham Swain
Managing Director,
Australian Bushfire Protection Planners Pty Limited.

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SECTION 1

INTRODUCTION

1.1 Development Proposal.

The Section 96 Application seeks to replace the approved Library/Staff and Administration/Canteen buildings with a single, three level building which is to be partially excavated into the slope of the land.

It is proposed to construct the new building in two [2] stages. Figure 1 on Page 8 provides a copy of the Overall Site Plan showing the location of the existing buildings constructed under Development Application N1038/00 and the proposed new building. Figure 2 on Page 9 provides an enlarged Site Plan of the proposed new building.

Level 1 contains Administration, Offices, Boardroom, Staff Study, Meeting, Bulk Store, Uniform Shop and Amenities – refer to Figure 3 on Page 10.

Level 2 contains Staff Study, Staff Common Room, Kitchen, Student Interview, Councillor, Student Services, Office and Communications – refer to Figure 4 on Page 11.

Level 3 contains a Resource Centre and Canteen with an external Podium – refer to Figure 5 on Page 12.

Figures 6 – 8 on Pages 13 – 15 provide Cross Sections and Elevations of the proposed building.

The Overall Site Plan identifies that the new building is to be located in the 'centre' of the existing buildings with the closest corner of the building being 54.6 metres from the outer edge of the existing, approved 30 metre wide Fuel Free Zone [Asset Protection Zone], to the northwest and more than 99 metres from the site boundary and unmanaged vegetation on the land to the west of the Campus.

The Sections identify that the building is partially excavated into the slope of the land, well below the level of the land in the north-western corner of the Campus and therefore below any fire event that may occur in the retained vegetation located beyond the existing Asset Protection Zone.

Figure 1 – Overall Site Plan showing existing buildings and the building proposed under the Section 96 Application.

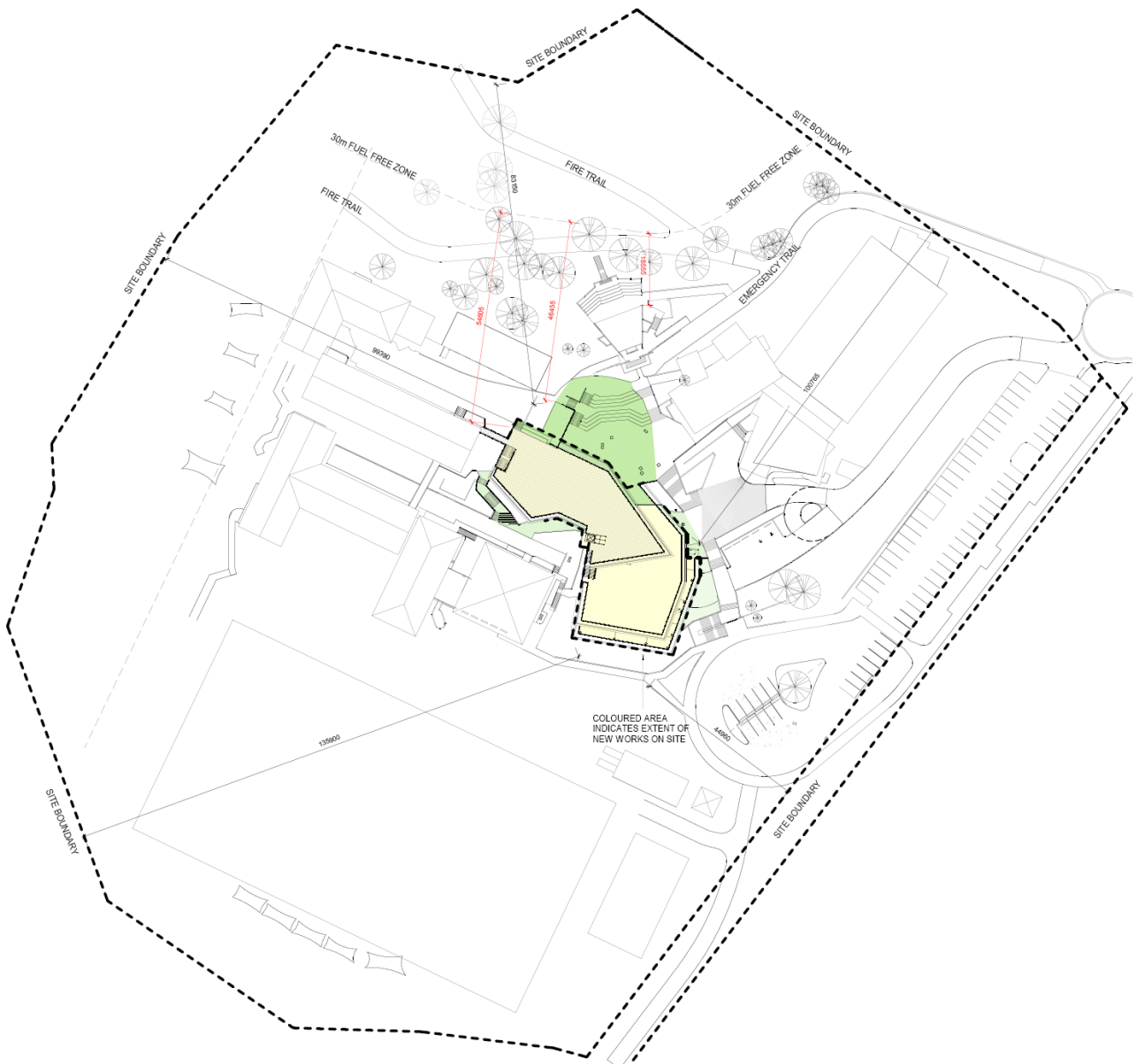


Figure 2 – Part Overall Site Plan showing existing buildings and the building proposed under the Section 96 Application.

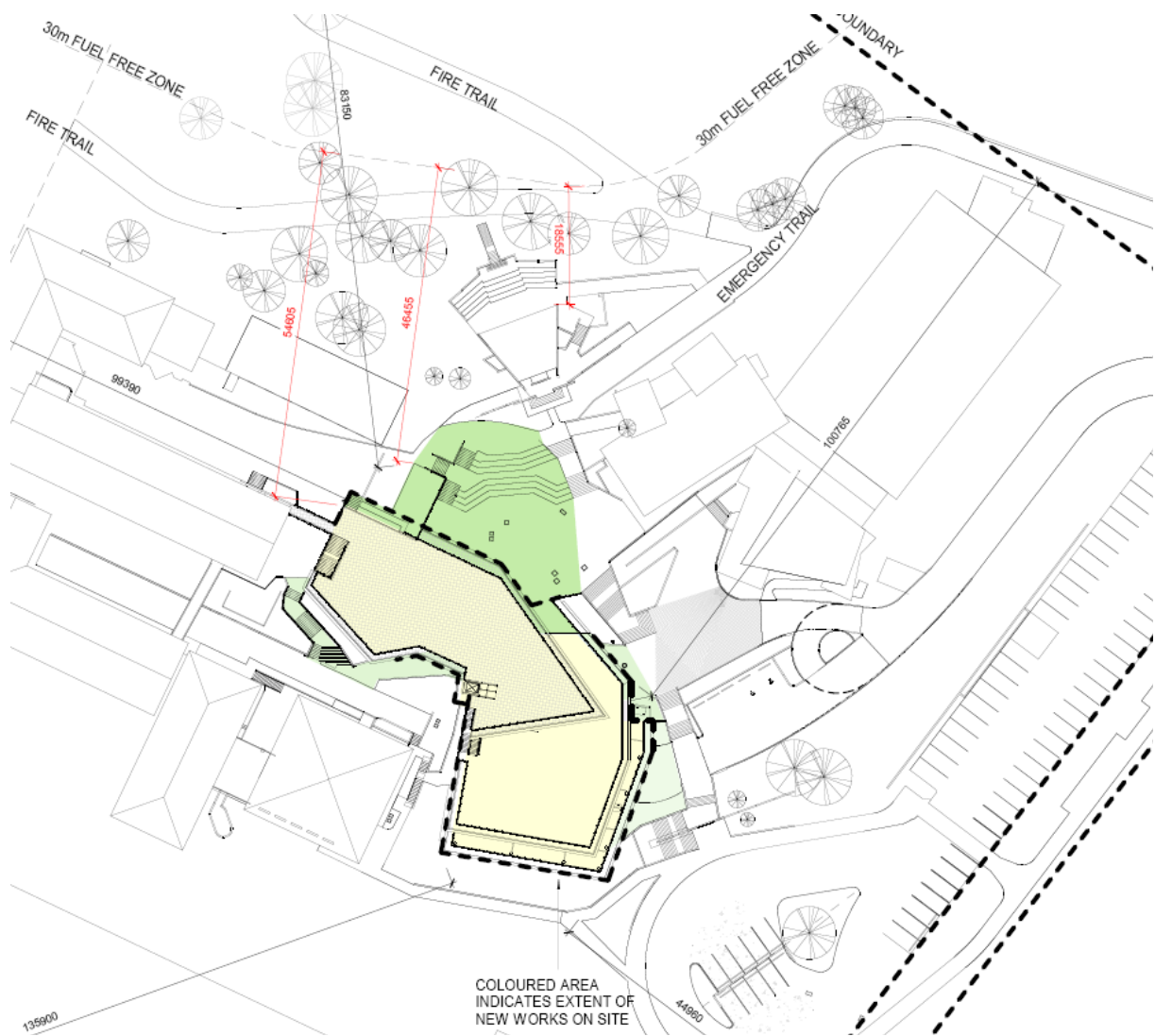


Figure 3 – Level 1 Floor Plan

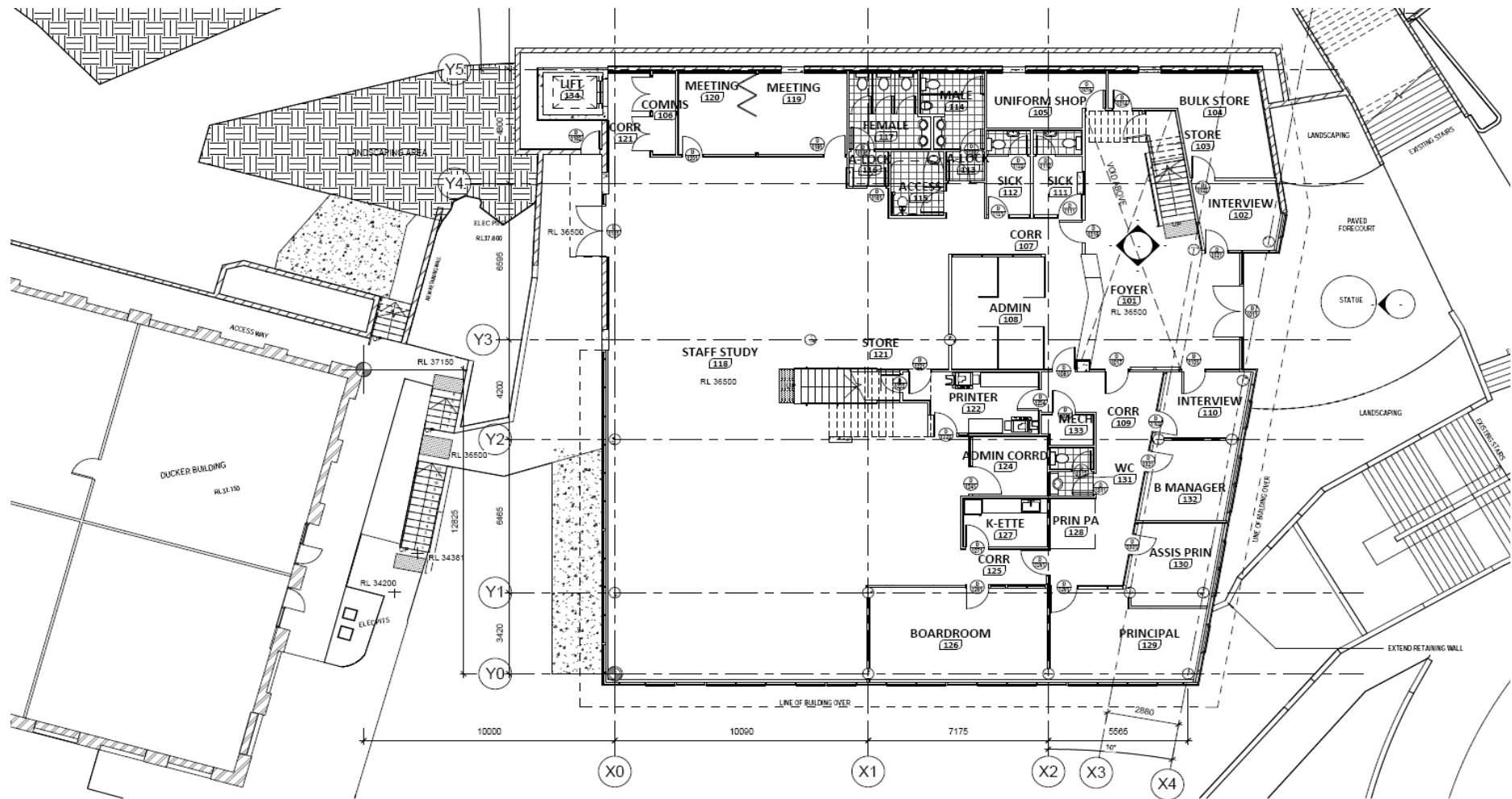


Figure 4 – Level 2 Floor Plan.

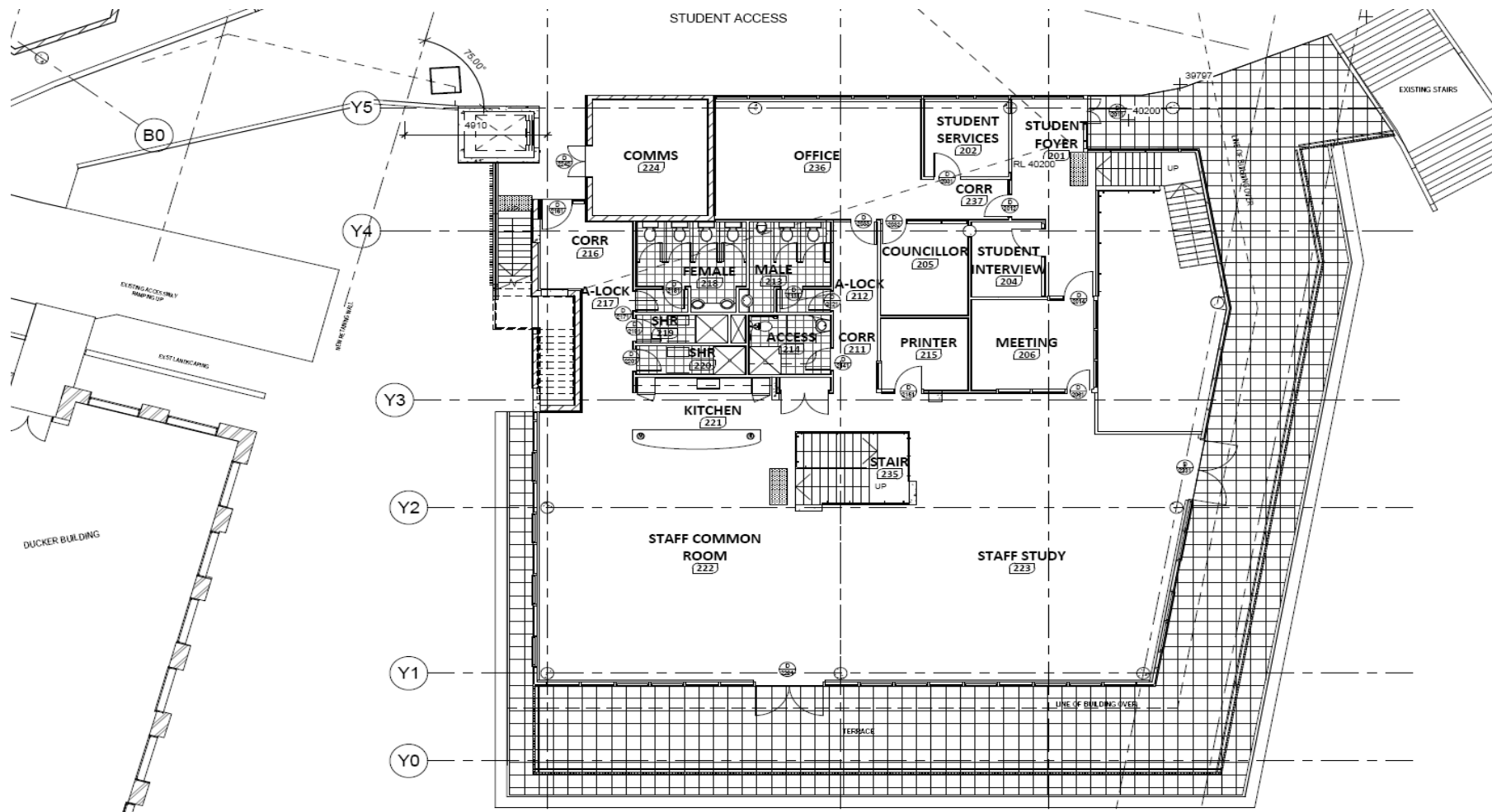


Figure 5 – Level 3 Floor Plan.

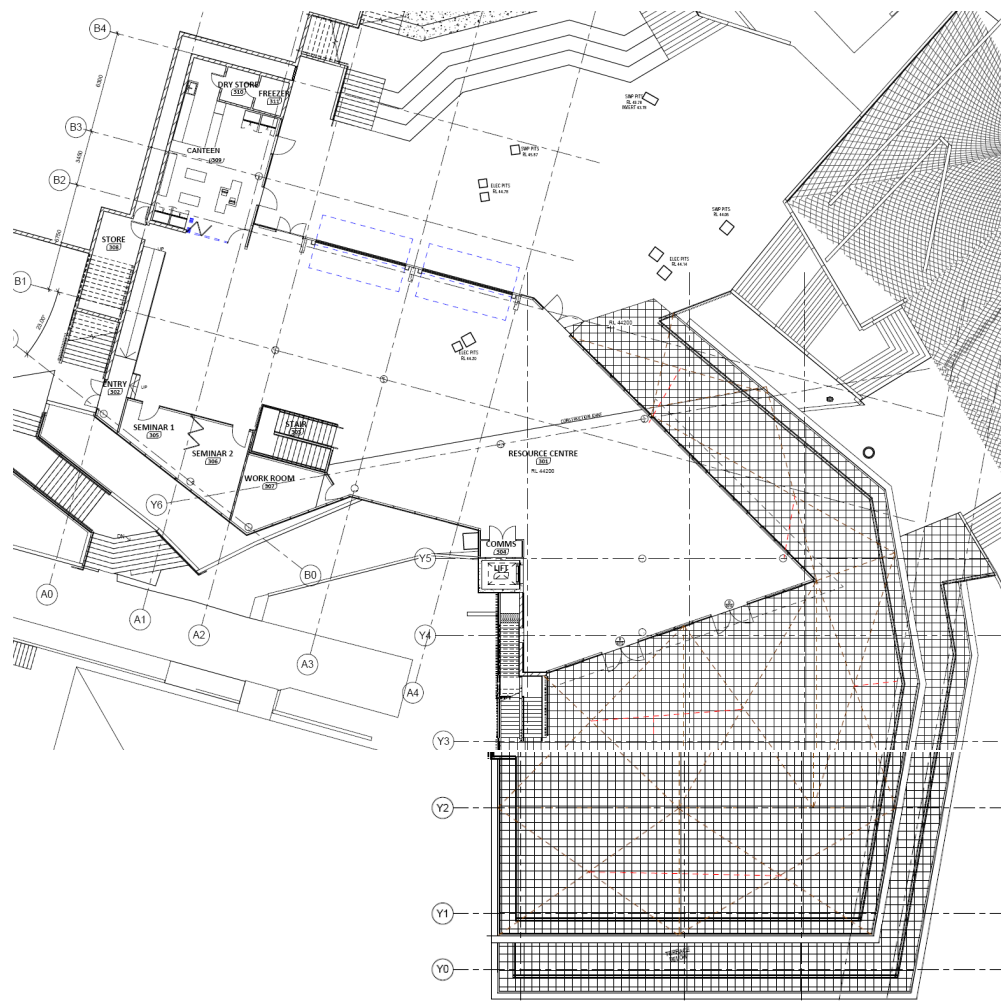


Figure 6 – Section.

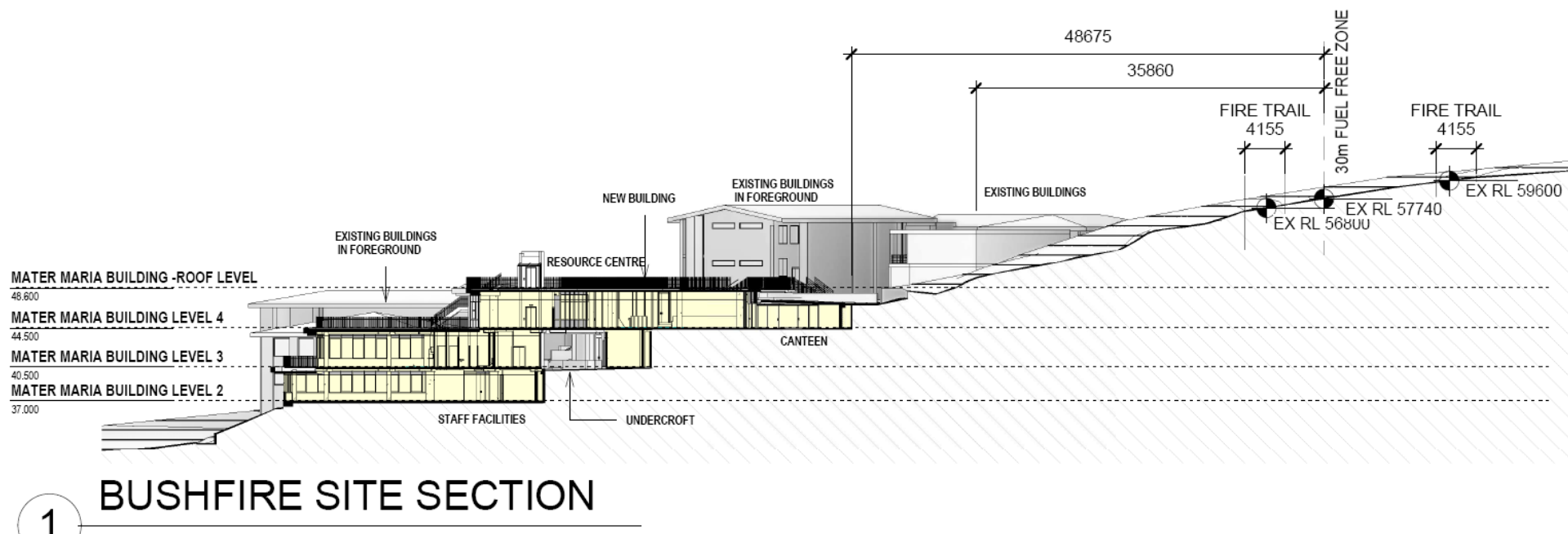


Figure 7 – South & East Elevations.

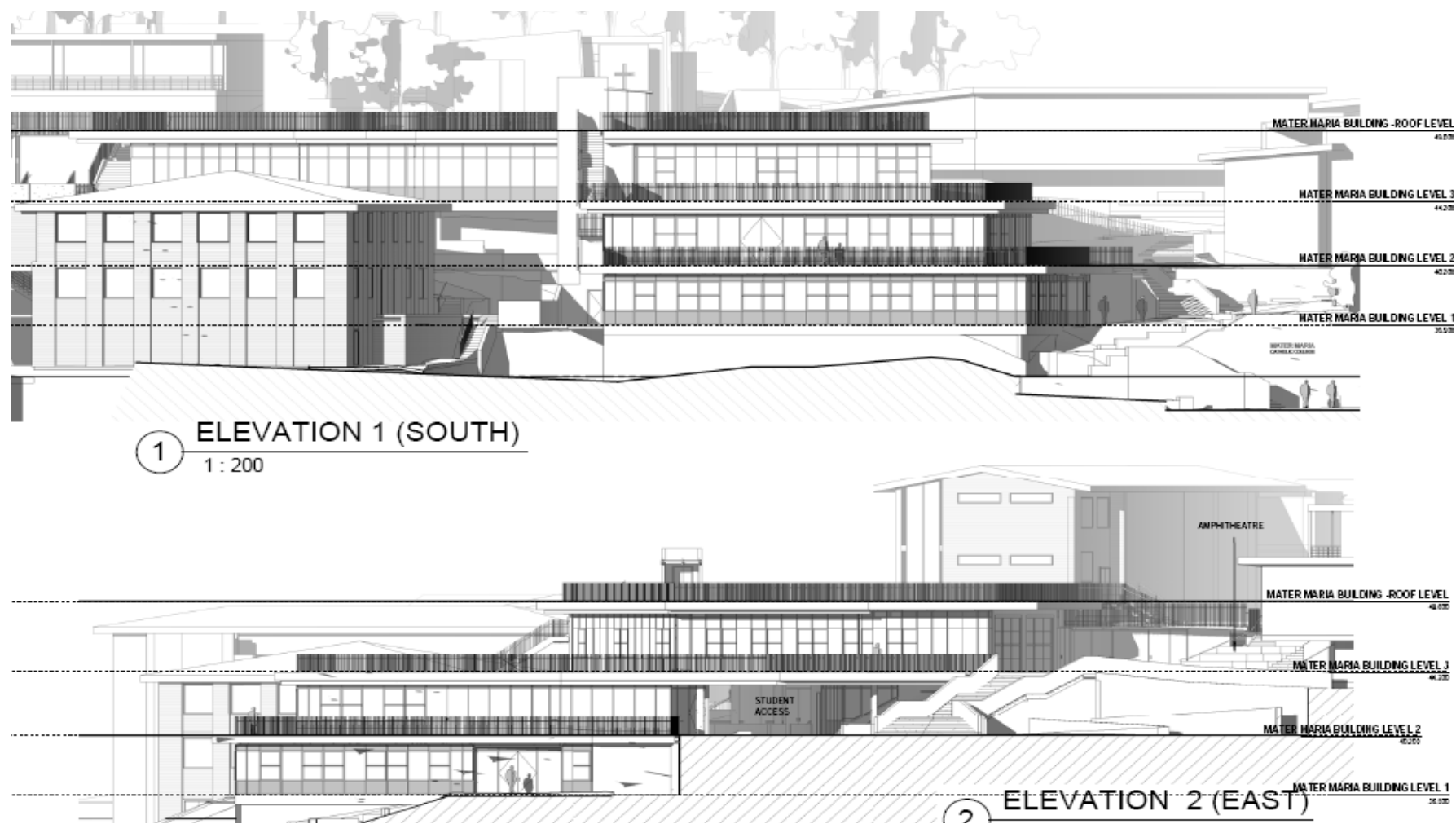
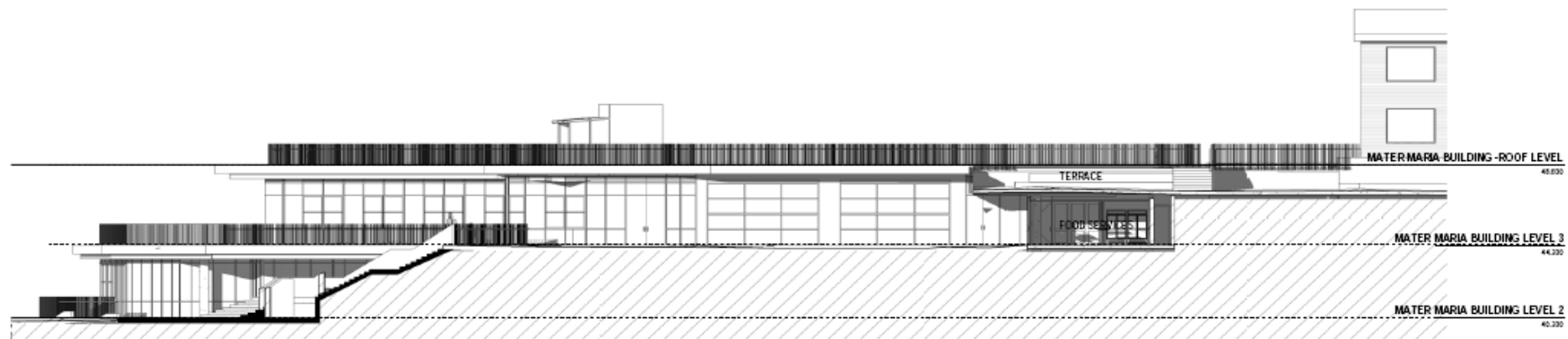


Figure 8 – North & West Elevations.



1 ELEVATION 3 (NORTH)
1 : 200



2 ELEVATION 4 (WEST)

1.2 Aim of this Assessment.

The aim of this Bushfire Protection Assessment is to address the bushfire protection measures to the proposed Section 96 Application, including an assessment to:

- Determine the formation of the vegetation mapped as bushfire prone in accordance with the vegetation classification system contained in *Planning for Bushfire Protection 2006*;
- Determine the effective slope of the land that contains bushfire prone vegetation;
- Determine the Fire Danger Index [FDI] for the site;
- Examine the provision of building setbacks (Asset Protection Zones) from vegetated areas which have been found to constitute bushfire prone vegetation;
- Review the provision of fire fighting water supplies;
- Review access requirements for emergency service vehicles;
- Determine construction standards to the building [if required];
- Review land management responsibilities; and
- Evacuation management.

1.3 Statutory Requirements.

This report has been prepared having regard to the following legislative and planning requirements:

1.3.1 Legislation.

(a) *Environmental Planning and Assessment Act (EPA Act)*

Planning and development within NSW is regulated by the *Environmental Planning & Assessment Act, 1997* (EPA Act). In relation to bushfire planning for new residential, rural residential and special fire protection purpose developments (including Schools) in bushfire prone areas in NSW, the following section of the EPA Act applies:

- (i) **Section 79C(1)** states *“In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:*

- *The likely impacts of the development (e.g. natural hazards such as bushfire threat);*
 - *The suitability of a site for development (e.g. bushfires)*
- (ii) **Section 91(1)** defines the subdivision of Bushfire Prone Land for residential and rural residential subdivision and the construction of special fire protection purpose developments that are located in a Bushfire Prone Area as integrated development, which requires authorization under Section 100B of the *Rural Fires Act 1997*.

(b) Rural Fires Act 1997

The objectives of the *Rural Fires Act* are to provide:

- The prevention, mitigation and suppression of fires;
- Coordination of bushfire fighting and prevention
- Protection of people and property from fires; and
- Protection of the environment.

The *Rural Fires Act* was amended in August 2013 by the *Rural Fires & Environmental Assessment Legislation Amendment Act, 2013*. In relation to bushfire planning for new residential, rural residential and special fire purpose developments in bushfire prone areas in NSW, Section 100B of the Act applies.

Section 100B provides for the issue, by the Commissioner of the NSW Rural Fire Service, of a Bushfire Safety Authority for development which creates the subdivision of bushfire prone land for residential and rural residential development and construction of special fire protection purpose developments located within a Bushfire Prone Area.

Application for a Bushfire Safety Authority must be lodged as part of the development application process and must demonstrate compliance with *Planning for Bushfire Protection 2006* and other matters which are considered necessary, by the Commissioner, to protect persons, property and the environment from the impact of bushfire.

In relation to the management of bushfire fuels on public and private lands within NSW, Sections 63(1) and 63(2) require public authorities and owners / occupiers of land to take all practicable steps to prevent the occurrence of bushfires on, and to minimize the danger of the spread of bushfires.

(c) Rural Fires Regulation 2013.

Section 44 of the *Rural Fires Regulation 2013* provides details of the matters that are required to be addressed for the issue of a *Bushfire Safety Authority* under Section 100B of the *Rural Fires Act*.

(d) Threatened Species Conservation Act 1995 (TSC Act).

The TSC Act aims to protect and encourage the recovery of threatened species, populations and communities as listed under the Act.

The TSC Act is integrated with the EP&A Act and requires consideration of whether a development or an activity (such as the implementation of hazard reduction and asset protection) is likely to significantly affect threatened species, populations and ecological communities or their habitat.

1.3.2 Planning Policies.

Planning for Bushfire Protection – 2006 (Rural Fire Service).

This document provides guidance on the planning and development control processes in relation to bushfire protection measures for residential subdivision and Special Fire Protection Purpose Developments in bushfire prone areas. The Commissioner may determine, under Section 100B of the *Rural Fires Act*, additional measures that are considered necessary to protect the development against the impact of bushfire.

1.4 Documentation reviewed in this Assessment.

- Development Consent No. N10338/-- issued by Pittwater Council;
- Modification of Development Consent N1038/00 Redevelopment of Mater Marie Catholic College, Warriewood – issued by Pittwater Council, dated 23.11.2001;
- Letter from Warringah Pittwater District Office of the NSW Rural Fire Service – dated 28.8.2002;
- Plans prepared by Fulton Trotter Carthey Architects approved under Development Application No. N1038/00;
- Section 96 Application Plans, Elevations and Sections prepared by Alleanza Architecture;
- *Planning for Bushfire Protection 2006* prepared by the NSW Rural Fire Service/Planning N.S.W;
- Australian Standard AS3959 - 2009 *Construction of Buildings in Bushfire Prone Areas*;
- *Rural Fires Regulation 2013*;
- Northern Beaches Bushfire Prone Land Map.

1.5 Site Inspection.

Graham Swain of Australian Bushfire Protection Planners Pty Limited inspected the Mater Marie Catholic College on the 27th February 2017 to assess the topography, slopes and vegetation classification within and adjoining the College Campus.

The management of the existing Asset Protection Zone was also inspected and found to comply with the NSW Rural Fire Service's standards.

SECTION 2

PROPERTY DESCRIPTION

2.1 Location.

The Mater Marie Catholic College Campus site occupies an irregular shaped parcel of land to the south of the western terminus of Forest Road, Warriewood.

Figure 9 – Location of the Mater Marie Catholic College on Lot 13 in DP 1083731, Forest Road, Warriewood

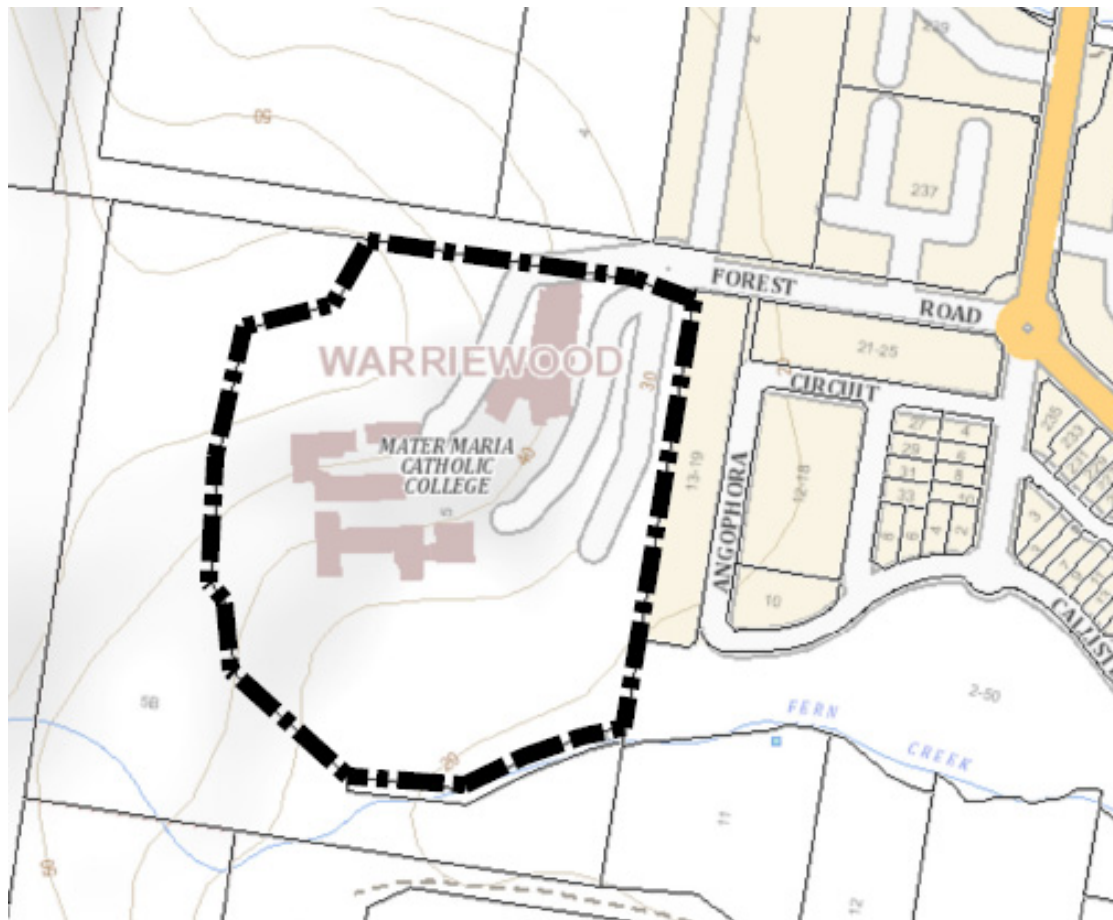


Figure 10 – Aerial Photograph of the Mater Marie Catholic College on Lot 13 in DP 1083731, Forest Road, Warriewood.



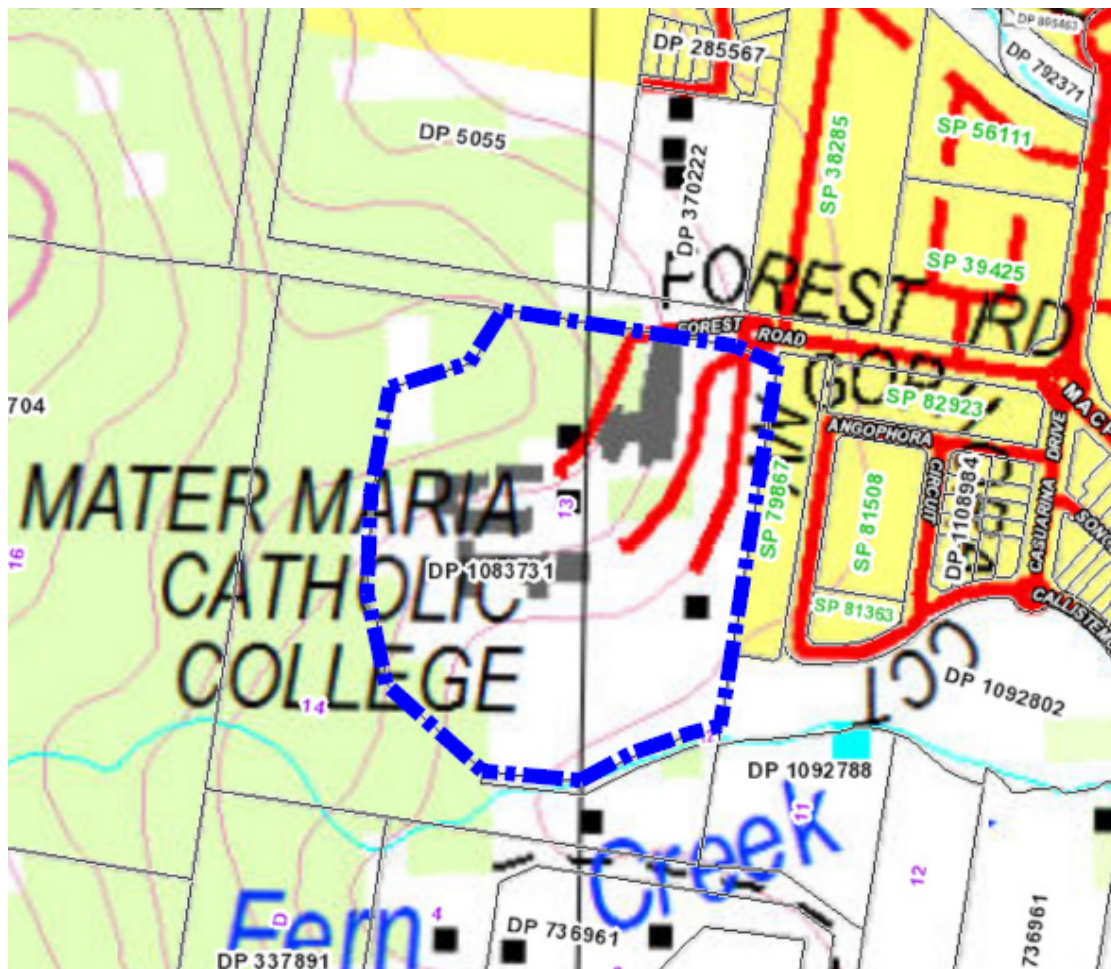
2.2 Topography.

Appendix 2 of *Planning for Bushfire Protection 2006* states that slopes should be assessed, over a distance of at least 100m from a development site and that the gradient of the land should be determined which will most significantly influence the fire behaviour to the site.

The College Campus occupies the southern and eastern end of a broad ridgeline that rises to the west from the western terminus of Forest Road.

The ridgeline rises to the west and northwest from the rear of the existing development footprint – refer to Figure 11 – Topographic Map on Page 21.

Figure 11 – Topographic Map.



2.3 Vegetation.

Appendix A2.3 of *Planning for Bushfire Protection 2006* provides a methodology for determining the predominant bushfire prone vegetation for at least 140 metres in all directions from the future development on the site. Vegetation is classified using Table A2.1 of *Planning for Bushfire Protection 2006*, which classifies vegetation types into the following groups:

- (a) Forests [wet & dry sclerophyll forests];
- (b) Woodlands;
- (c) Plantations – being pine plantations not native plantations;
- (d) Forested Wetlands;
- (e) Tall Heaths;
- (f) Freshwater Heaths;
- (g) Short Heaths;
- (h) Alpine Complex;
- (i) Semi – arid Woodlands;
- (j) Arid Woodlands; and
- (k) Rainforests.

The vegetation within the immediate curtilage to the buildings within the College Campus consists of managed landscaped gardens and managed Ovals/Playing Fields.

The north-western corner of the College Campus contains partially managed Dry Sclerophyll Low Open Ridgetop Forest which extends onto the adjoining property to the northwest. The western portion of the College Campus contains a narrow band of Dry Sclerophyll Low Open Ridgetop Forest which extends onto the adjoining property to the west and southwest.

This vegetation has been classified as Category 1 Bushfire Prone Vegetation on the Northern Beaches Bushfire Prone Land Map.

This is the only vegetation which creates a bushfire hazard to the College buildings.

2.4 Significant Environmental Features on the College Campus.

The land within the College Campus does not contain significant environmental features such as SEPP 44 Koala Habitat; SEPP 14 Wetlands; SEPP 26 Littoral Rainforests; Land slip areas or National Parks Estate; Areas of Geological interest or riparian corridors. The south-western and western portion of the Campus contains steep land.

2.5 Known Threatened Species, Population or Ecological Community within the College Campus.

There are no known threatened species, populations or ecological communities within the College Campus.

2.6 Details and location of Aboriginal Relics or Aboriginal Place.

No known Aboriginal relics or Aboriginal places are located within the development precinct of the College Campus.

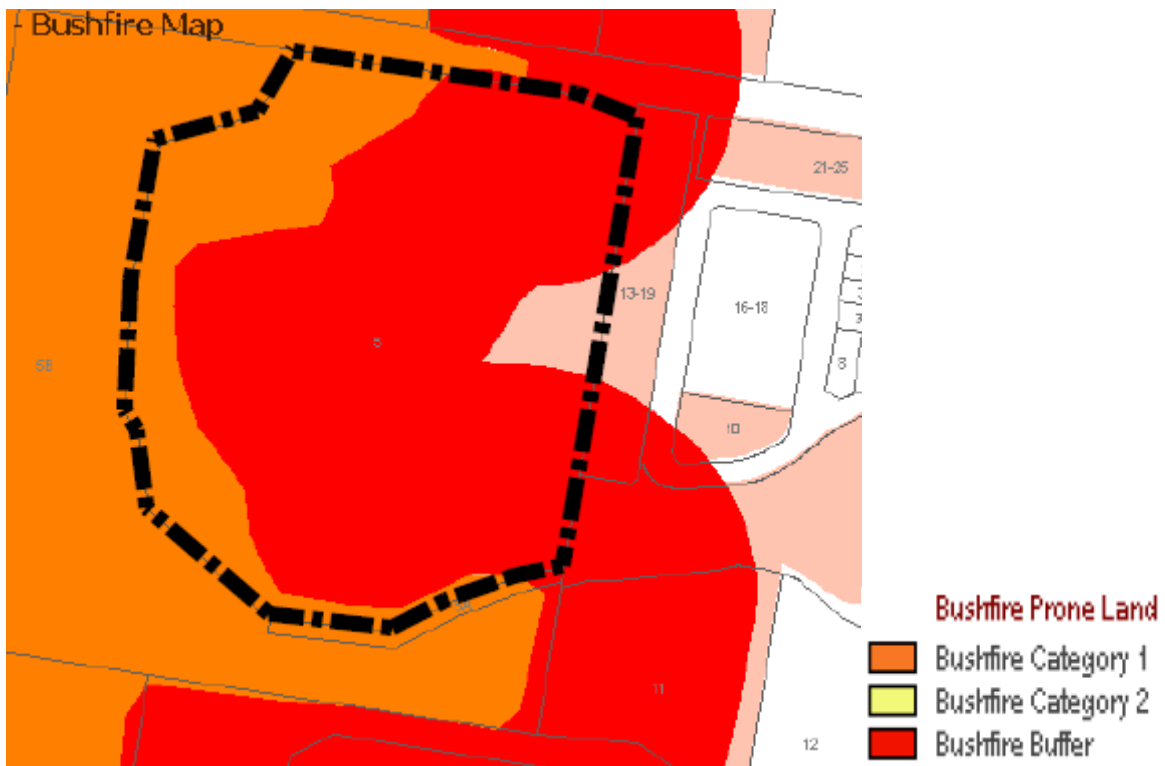
SECTION 3

PRECINCT LEVEL ASSESSMENT

3.1 Certified Bushfire Prone Land Map.

The following Figure 11 is a copy of an extract of the Northern Beaches Council [Pittwater] Bushfire Prone Land Map showing the extent of the Category 1 Bushfire Prone Vegetation on the College Campus and adjoining land.

Figure 11 – Plan of Bushfire Prone Land.



The site inspection undertaken on the 27th February 2017 examined the vegetation within the College Campus and confirmed that the extent of unmanaged vegetation which could legally be recorded as bushfire prone vegetation is not accurately shown on the Northern Beaches Bushfire Prone Land Map as the map records the managed vegetation within the approved [and maintained] Asset Protection Zone to the northwest of the existing buildings.

SECTION 4

BUSHFIRE PROTECTION ASSESSMENT

4.1 Introduction.

Section 44 of the *Rural Fires Regulation 2013* requires that an application for a *Bushfire Safety Authority*, under Section 100B of the *Rural Fires Act 1997*, must include a bushfire assessment for the proposed development (including the methodology used in the assessment) that addresses the extent to which the development provides:

- *Asset protection zones,*
- *The siting and adequacy of water supplies for fire fighting operations,*
- *Capacity of public roads to handle increased volumes of traffic during a bushfire emergency,*
- *Whether or not public roads link with the fire trail network and have two way access,*
- *The adequacy of access and egress for the purposes of emergency response,*
- *The adequacy of bushfire maintenance plans and fire emergency procedures,*
- *The construction standards to be used for building elements.*

Planning for Bushfire Protection 2006 provides a methodology to determine the Asset Protection Zones and Bushfire Attack / Construction Standards required for Special Protection Developments that are designated as bushfire prone.

Planning for Bushfire Protection 2006 also provides specifications on the provision of access and water supplies for fire fighting operations and construction standards to buildings. These matters, and the remaining items identified by Section 44 of the *Rural Fires Regulation 2013* are examined in Sections 4.4 – 4.9 of this report.

4.2 Determination of Asset Protection Zones.

Appendix 2 of *Planning for Bushfire Protection 2006* provides the following procedure for determining setback distances (Asset Protection Zones):

(a) *Determine vegetation formations as follows:*

- Identify all vegetation in all directions from the site for a distance of 140 metres;
- Consult Table A2.1 to determine the predominant vegetation type; and
- Select the predominant vegetation formation as described in Table A2.1.

- (b) *Determine the effective slope of the land under the predominant vegetation Class.*
- (c) *Determine the appropriate Fire Danger Index [FDI] from Table A2.2.*
- (d) *Consult Table A2.6 and determine the appropriate setback [Asset Protection Zone] for the assessed land use, vegetation formation and slope range [for Special Fire Purpose Development].*

The only vegetation identified as being a hazard to the proposed building which is the subject of the Section 96 Application is located to the northwest and west. The vegetation to the southwest of the proposed building is located more than 100 metres from the building.

The separation to the west of the proposed building is more than 80 metres, with the landform rising to the west. This width satisfies Table A2.5 of *Planning for Bushfire Protection 2006* for forest vegetation on an up-slope gradient.

The separation to the northwest of the north-western corner of the Resource Centre [Level 3] is 54.6 metres and 46.4 metres to the corner of the Canteen [provided by the approved and maintained 30 metre wide Asset Protection Zone and the additional setback to the proposed building].

Whilst these setback widths do not satisfy the 60 metre width required by Table A2.5 of *Planning for Bushfire Protection 2006*, this part of the proposed building is excavated into the landform and therefore 'below' ground with a flat, open podium roof across the entire Resource Centre/Canteen area.

Furthermore, the existing two storey building and the previous excavated embankment provide significant shielding to the new building – refer to Figure 6 – Section on Page 13.

Figure 12 on Page 27 provides a Site Plan showing the available setbacks to the outer edge of the approved and maintained Asset Protection Zone.

Figure 12 - Site Plan showing the available setbacks to the outer edge of the approved and maintained Asset Protection Zone.



4.3 Assessment of Bushfire Attack (Construction Standards).

The proposed building is defined by the Building Code of Australia as Class 9 building works and is therefore not triggered by the requirements of both Part 2.3.4 and GF5.1 of the Building Code of Australia for bushfire protection.

However, this type of development, when located within a bushfire prone area, is classified as a “*Special Fire Protection Purpose Development*” under Section 100B of the *Rural Fires Act* and therefore the building construction performance standards of the buildings are to be assessed in accordance with Appendix 3 of *Planning for Bushfire Protection 2006*.

An assessment undertaken to determine the separation distance of the proposed building [which is the subject of the Section 96 Application] to the actual Category 1 Bushfire Prone Vegetation has found that the width of the Asset Protection Zone to the west and southwest exceeds the maximum width required to satisfy Table A2.6 of *Planning for Bushfire Protection 2006*.

The width of the available Asset Protection Zone to the northwest is 54.6 metres to the north-western corner of the Research Centre and 46.4 metres to the north-western corner of the Canteen. These setbacks do not satisfy the requirements of Table A2.6 of *Planning for Bushfire Protection 2006*.

However, the shielding provided by the existing buildings, coupled to the fact that the north-western corner of the proposed building is ‘buried’ into the ground and therefore below the natural ground line that contains the forest vegetation located in the north-western corner of the College Campus, means that any fire event that occurs on the ridgeline, including the tilted flame extension from the fire front, is located well above the building.

The result is a negligible level of radiant heat on the exterior of the building – refer to Figure 6 on Page 13 for a survey accurate cross section of the ridgeline and location of the proposed building.

Due to the likelihood of ember attack, the proposed building shall be constructed to BAL 12.5 bushfire construction standards as prescribed in A.S. 3959 – 2009.

4.4 Water Supplies for Fire Fighting Operations.

The existing College Campus is connected to a reticulated mains supply which extends from the Sydney Water street mains in Forest Road.

An internal hydrant supply services the Campus and shall be upgraded to accommodate the proposed building and satisfy the requirements of A.S. 2419.1 - 2005. It is also recommended that investigation should be undertaken into the provision of a hydrant at the turning area to the west of the Movement Centre.

4.5 Access for Fire Fighting Operations.

4.5.1 Adequacy of Public Roads.

The existing College Campus has direct access from Forest Road which is constructed to provide public road access for heavy vehicles and provides adequate access and turning facilities for fire fighting and other emergency vehicles and complies with the deemed-to-satisfy standards for two-way public roads as defined by Section 4.1.3(1) of *Planning for Bushfire Protection 2006*.

4.5.2 Fire Trail Access to two-way Public Roads.

The existing fire/access trail within the north-western corner of the College Campus has direct access onto the cul-de-sac on Forest Road.

4.5.3 Emergency Response Access / Egress.

The existing access to the College Campus is via an internal road network that was approved until Development Consent No. N1038/00.

Supplementary fire-fighting access is provided to the north-western corner of the Campus via the existing fire/access road extension off Forest Road.

It is recommended that the existing turning head west of the Movement Centre shall be upgraded to provide an additional parking/passing bay to allow one fire appliance to park whilst a second appliance uses the turning head to exit the site in a forward direction.

4.6 Adequacy of Bushfire Maintenance Plans and Fire Emergency Plans.

The Development Consent required the preparation of preparation of a Bushland Management which includes the maintenance of the approved Asset Protection Zone. A Fire Emergency Plan is not required.

4.7 Fuel Management.

The management of the approved Asset Protection Zones, landscaped areas, grounds and the playing fields within the College Campus is being and will continue to be undertaken by the College.

4.8 Evacuation.

The existing Evacuation Plan shall be revised and updated to include the management of the College during bushfire emergencies and include the proposed building.

4.9 Adequacy of Sprinkler Systems & other Fire Protection Measures.

There is no requirement for the installation of bushfire sprinklers or other bushfire protection measures.

SECTION 5

RECOMMENDATIONS

Recommendation 1:

Fuel Management:

The management of the approved Asset Protection Zones, landscaped gardens and sporting fields shall continue to be undertaken to the existing standards.

Recommendation 2:

Bushfire Construction Standards to the proposed Building:

The proposed building shall be constructed to comply with Section 3 and Section 5 [BAL 12.5] of A.S. 3959 – 2009 – ‘Construction of Buildings in Bushfire Prone Areas’.

Recommendation 3:

Water Supplies for Bushfire-Fighting Operations:

It is recommended that investigation should be undertaken into the provision of a hydrant at the turning area to the west of the Movement Centre.

Recommendation 4:

Fire Trail Access:

It is recommended that the existing turning head west of the Movement Centre shall be upgraded to provide an additional parking/passing bay to allow one fire appliance to park whilst a second appliance uses the turning head to exit the site in a forward direction.

Recommendation 5:

Evacuation Plan:

The existing Evacuation Plan shall be revised and updated to include the management of the College during bushfire emergencies and include the proposed building.

SECTION 6

CONCLUSION

A Section 96 Application is to be lodged with the Northern Beaches Council seeking approval to modify Development Consent No. N1038/00 [approved by Pittwater Council] to allow for the construction of a building that contains Administration, Staff and Student Amenities, Canteen and a Resource Centre in lieu of the approved separate Library/Staff, Administration/Canteen and TAS Buildings.

The proposed building amalgamates the approved buildings into one three level building which is partially excavated into the hillside, thus providing level podiums accessible to students and teachers.

A review of Development Consent Number N1038/00 has found that the NSW Rural Site required the implementation of a 30 metre wide fuel free zone [Asset Protection Zone] to the northwest and west of the approved buildings. This requirement has been established and is being maintained by the College.

The location of the proposed building increases the approved setback width to more than 45 metres to the northwest corner of the Canteen on the third [top] level of the building with the Resource Centre portion of the third level located more than 54 metres to the outer edge of the Asset Protection Zone.

These setback widths do not comply with the widths required by *Planning for Bushfire Protection 2006* which was introduced after the original approval date [11th October 2002].

However, the new single building is to be excavated partially into the hillside with the northwest corner 'buried' into the ground and therefore protected by the existing buildings and the higher hillside.

This protection mitigates the level of radiant heat exposure on the new building, students and staff and satisfies the aim and objectives of *Planning for Bushfire Protection 2006*.

The following table summarises the extent to which the development proposal conforms with or deviates from the requirements of Section 44 of the *Rural Fires Regulation 2013* and the aims and objectives of *Planning for Bushfire Protection 2006*.

Table 1. Compliance with Section 44 of the Rural Fires Regulation

| Requirements of Section 44 of Rural Fires Regulation | Compliance with deemed-to-satisfy provisions of <i>Planning for Bushfire Protection 2006</i>. |
|--|--|
| Asset Protection Zone setbacks | Exceed widths approved by Development Consent No. N1038/00 dated 11 th October 2002. Do not comply with widths required by Table A2.6 of <i>Planning for Bushfire Protection 2006</i> – exceptional circumstance applies with Section 96 Application being assessed as ‘infill development’. Building excavated into hillside and therefore below and protected from high levels of radiant heat. |
| The siting and adequacy of water supplies for fire fighting | Existing Hydrant supply. Recommendation that an additional hydrant be located at the turning head to the existing fire trail to the west of the Movement Centre. |
| Capacity of public roads to handle increased volumes of traffic in the event of a bushfire emergency | Existing public road provides for increased traffic flows during emergencies. |
| Public roads that link with the fire trail network have two - way access | Yes. |
| Adequacy of emergency response access and egress | Recommendation that the existing fire trail be modified to provide an improved turning/passing bay to the west of the Movement Centre. |
| Adequacy of bushfire maintenance plans and fire emergency procedures | Existing Bushland Management Plan. Fire Management Plan/Fire Emergency Plan not required. |
| Building construction standards | Recommendation that the new building be constructed to comply with A.S. 3959 – 2009 BAL 12.5 standards in order to address ember attack. |
| Adequacy of sprinkler systems and other fire protection measures to be incorporated into the development | Existing fire protection measures provide satisfactory protection to the existing buildings. |

The proposed building, which is the subject to the Section 96 Application, provides a better bushfire protection outcome than the buildings approved by Pittwater Council and the NSW Rural Fire Service under Development Application N1038/00 and complies with the aims and objectives of *Planning for Bushfire Protection 2006*.



Graham Swain
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REFERENCES:

- N.S.W Rural Fire Service – Planning for Bushfire Protection 2006;
- *Environmental Planning & Assessment Act – 1979;*
- *Rural Fires Act – 1997;*
- *Rural Fires Regulation 2013;*
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2015;*
- *Threatened Species Conservation Act 1995;*
- *Native Vegetation Act;*
- *Bushfire Environmental Assessment Code 2006;*
- Building Code of Australia;
- Australian Standard A.S. 3959-2009 “*Construction of Buildings in Bushfire Prone Areas*”;
- Northern Beaches [Pittwater] Bushfire Prone Land Map.