BCA Design Compliance Report (BCA Consultant)

Blakebrook – Northern Rivers Schools

Prepared for: SINSW

Our Ref: 23000417 | Issue date: 18 Dec 2023

Contents

Authorisation

Revision	Comment / Reason for Issue	Issue Date	Prepared by	Reviewed by
03	BCA - Pre-planning (PP) Report	18.12.2023		
			Curtis Schumann	Joel Lewis

Revision History

Revision	Comment / Reason for Issue	Issue Date	Prepared by
01	Draft BCA Report	16.10.2023	Curtis Schumann
02	BCA - Pre-planning (PP) - DRAFT Report	13.11.2023	Curtis Schumann
03	BCA - Pre-planning (PP) Report	18.12.2023	Curtis Schumann

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1 Executive Summary

Modern Building Consultants (MBC Group) as the appointed BCA Consultant for the proposed development, have reviewed architectural design documents prepared by Pedavoli Architects Pty Ltd (refer Appendix A) for compliance with the National Construction Code - Building Code of Australia Volume One 2019 Amendment 1.

1.1 Performance Solutions - Fire & Life Safety

The assessment of the design documentation has revealed that the following areas are required to be assessed against the relevant Performance Requirements of the BCA in accordance with Clause 25 of the Building and Development Certifiers Regulation 2020. The submission for a Crown Certificate will need to include verification from a Certifier – Fire Safety, where determined permissible under A2.1 of the BCA, for the following aspects: -

DTS Clause	Description of Non-Compliance	Performance Requirement
C1.1 / Spec C1.1	**Fire resisting construction** For a Type B 9b school building, the following FRL's are required for load-bearing elements under Table 4: - External load-bearing Walls 120/30/30 - Internal load-bearing Walls 120/-/- - Internal load-bearing Columns 120/-/- It is proposed to rationalise the FRL requirements of the load-bearing elements for the 9b school portion. The following FRL's are proposed: - External load-bearing Walls -/-/- - Internal load-bearing Walls -/-/- - Internal load-bearing Columns -/-/- It is noted that a FRL of 30/30/30 will be applied to the external walls of the storage component on ground with a 60-minute fire rated ceiling. This requirement exceeds the minimum BCA provisions and is a requirement of the performance solution. To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety	CP1, CP2

DTS Clause	Description of Non-Compliance	Performance Requirement
C1.1 / Spec C1.1	**Fire resisting construction** Under Spec C1.1 Clause 4.1 (i), the floor separating storeys is required to achieve an FRL of 30/30/30. It is also proposed to omit fire separation from the Level 1 floor separating storeys to achieve the following FRL: - Floor separating storeys -/-/- To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety	CP1, CP2
C1.9	**Non-combustible building elements** It is proposed to install the following combustible materials within the external wall system: - Timber back blocks for fixing - Polyisocyanurate (PIR) insulation within canteen walls To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety	CP2
C1.14	**Ancillary Elements** It is proposed to have combustible signage materials fixed to the external walls which will not achieve the non-combustibility requirements of AS1530.1. To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety	CP2, CP4
D1.10	**Discharge from exits** The path of travel to road from open space is not open to the sky and necessitates travelling underneath the covered walkway. To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety	DP4

DTS Clause	Description of Non-Compliance	Performance Requirement
E1.3	**Fire Hydrants** It is proposed to permit the hydrant simultaneous flow requirement of the AS2419.1-2005 Hydrant System suitable to serve a Fire Compartment less than 1000m^2. To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety	EP1.3
E1.4	**Fire hose reels** Fire hose reels are required to be provided to the storage rooms, canteen, admin/staff rooms and library. It is anticipated due to the function and characteristics of building occupants typically housed within these areas that fire hose reels are to be omitted from this building. To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety	EP1.1

Any Performance Solution relating to category 2 items (CP9, EP1.3, EP1.4, EP1.6, EP2.2, EP3.2) will be subject to consultation and by Fire and Rescue NSW as part of the Crown Certificate process.

1.2 Performance Solutions – Accessibility

The assessment of the design documentation has revealed that the following areas are required to be assessed against the relevant Performance Requirements of the BCA in accordance with Clause 25 of the Building and Development Certifiers Regulation 2020.

Refer to the Accessibility DA Issue Report by MBC Group for further information surrounding the accessibility requirements of the site.

1.3 Performance Solutions Non-fire or Access Related

- The assessment of the design documentation has revealed that the following areas are required to be assessed against the relevant Performance Requirements of the BCA in accordance with Clause 18 of the Building and Development Certifiers Regulation 2020. The submission for a Crown Certificate will need to include verification from a Accredited Consultant (suitably qualified in the relevant field), where determined permissible under A2.1 of the BCA, for the following aspects:

DTS Clause	Description of Non-Compliance	Performance Requirement
Weather Proofing	A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause – (a) Unhealthy or dangerous conditions, or loss of amenity for occupants; and (b) Undue dampness or deterioration of building elements There are not Deemed-to-Satisfy Provisions for Performance Requirement FP1.4 (The prevention of the penetration of water through external walls) This must be addressed by way of Performance Solution **Façade Engineer to note and provide further details demonstrating compliance with performance requirement FP1.4 prior to the issue of the relevant Crown Certificate.** **SINSW to note the above-mentioned pathway – there is no DtS pathway under the provisions the BCA 2019 Amd 1.**	FP1.4

1.4 Performance Solutions Non-fire or Access Related

The assessment of the design documentation has revealed that the following areas are required to be assessed against the relevant Performance Requirements of the BCA in accordance with Clause 18 of the Building and Development Certifiers Regulation 2020. The submission for a Crown Certificate will need to include verification from a Accredited Consultant (suitably qualified in the relevant field), where determined permissible under A2.1 of the BCA, for the following aspects:

DTS Clause	Description of Non-Compliance	Performance Requirement
Weather Proofing	A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause – (c) Unhealthy or dangerous conditions, or loss of amenity for occupants; and (d) Undue dampness or deterioration of building elements There are not Deemed-to-Satisfy Provisions for Performance Requirement FP1.4 (The prevention of the penetration of water through external walls) This must be addressed by way of Performance Solution	FP1.4

DTS Clause	Description of Non-Compliance	Performance Requirement
	Façade Engineer to note and provide further details demonstrating compliance with performance requirement FP1.4 prior to the issue of the relevant Crown Certificate. SINSW to note the above-mentioned pathway – there is no DtS pathway under the provisions the BCA 2019 Amd 1.	

1.5 Design Details Required

The assessment of the design documentation has revealed that the following areas require further details to demonstrate compliance with the prescriptive provisions of the BCA

DTS Clause	Description
D1.10	**Discharge from exits** An exit must not be blocked at the point of discharge. Further information is required as to whether locked gates located along paths of travel from open space to the road. If so, a fire engineered performance solution may be required.
D2.16 / D2.17	**Balustrades and handrails** A continuous barrier must be provided where there is any drop below the ground greater than 1m. Furthermore, there shall be no climbable elements between 150 – 760mm from the finished floor along the barrier. Note that primary schools are required to be fitted with a double handrail in accordance with Clause D2.17(a)(iii) whereby the second rail is installed between 665 – 750mm which is within the climbable zone. Architect to note and where this may apply, ensure that the barrier extends greater than 1m. This needs to be reflected and noted on the architectural plans. EFSG Requirements to be considered in addition to the above.
D2.21	**Operation of latch** A door in a required exit, forming part of a required exit or in the path of travel of a required exit must be readily openable without a key from the side that faces a person seeking egress, by – (i) A single downward action on a single device which is located between 900mm and 1.1 from the floor and if serving an area required to be accessible by Part D3 –

DTS Clause	Description
	(A) Be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and (B) Have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35mm and not more than 45mm. Further details of the proposed door as the design develops towards the issue of the Crown Certificate. Clarification on the locking and unlocking mechanisms is required as they form the path of travel to an exit. This detail is not required to be provided for the purposes of obtaining the DA.
	Smoke Hazard Management
NSW Table E2.2b and Spec E2.2a (Clause 6)	Smoke detection to facilitate automatic shutdown of air handling systems in accordance with E2.2b is required unless the air conditioning system is non-ducted serving individual rooms with a capacity of less than 1000 L/s. Further information is required.

The documentation will need further detailing such as door hardware, construction specifications, services design and manufacturer's details, as outlined in Appendix D of this report.

The application for Crown Certificate shall be assessed under the relevant provisions of the Environmental Planning and Assessment Act 1979 (As Amended) and the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021.

Joel Lewis
Director
MBC Group

2 Introduction

Modern Building Certifiers (MBC) have been engaged as the appointed BCA Consultant for the development subject of this report by SINSW. This report is based upon a desktop review of architectural details (as listed in Appendix A), presently schematic design phase, against the applicable provisions of the National Construction Code - Building Code of Australia Volume One 2019 Amendment 1.

2.1 Purpose

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy (DtS) provisions of the BCA.

2.2 Methodology

The methodology applied in undertaking this assessment has included: -

- A desktop review of architectural plans, as listed in Appendix A
- Detailed assessment of Sections C, D, E, F, G (as applicable / relevant) of the BCA
- Discussions with the design development team to gain an understanding of the development proposed.

2.3 Limitations

This report does not include or imply any detailed assessment for design, compliance or upgrading for:

- the structural adequacy or design of the building;
- the requirements of the Education Facilities Standards Guidelines (EFSG); and
- the inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and
- the design basis and/or operating capabilities of any proposed
    - electrical
    - mechanical
    - hydraulic
    - fire protection services.

This report does not include, or imply compliance with:

- the National Construction Code – Plumbing Code of Australia Volume 3
- the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to)
- The deemed to satisfy provisions of Part D3 and F2.4 of BCA 2019 Amendment 1
- The deemed to satisfy provisions of Section J of BCA 2019 Amendment 1
- Demolition Standards not referred to by the BCA;
- Work Healthy and Safety Act 2011;
- An out of cycle change to the Building Code of Australia.

- Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Roads and Transport Authority, Local Council, ARTC, Department of Planning and the like; and
- Conditions of Development Consent issued by the Local Consent Authority.

This report has been prepared by MBC in the capacity as the appointed Certifier for the proposed development. This report is an assessment of the proposed development against the DtS provisions of the applicable BCA.

2.4 Current Legislation

The applicable legislation governing the design of buildings in NSW is the Environmental Planning and Assessment Act 1979.

Applicable Building Code of Australia (BCA)

Pursuant to S6.28 of the Environmental Planning and Assessment Act 1979, the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the time of the date of invitation for tenders to carry out the Crown building work.

The new BCA 2022 came into effect on the 1st of May 2023. As the date of invitation for tenders to carry out the Crown building work was made prior to this date, the BCA in force is BCA 2019 Amendment 1. As this was applicable at the time of tender.

3 Development Description & Assessment Information

3.1 Proposed Development

The existing buildings at Blakebrook Public School, 417 Rosehill Road, Blakebrook (Lot 2 Deposited Plan (DP) 859866) were significantly inundated during the February / March 2022 floods and most of the structures are no longer habitable due to the damages caused by the flood waters.

As a result, the NSW Department of Education is proposing to demolish most of the existing school buildings and construct a new elevated school building to replace it. The floor level of the new building will be located above the design flood level to increase flood resistance and create useable undercroft spaces.

The works are being undertaken as a Development Application (DA) to Lismore City Council (Council). The proposed development is to be undertaken in two (2) stages as follows:

- Stage 1: Demolition of the existing buildings and tree removal (separate Early Works DA)
- Stage 2: Construction of a new elevated school building and landscaping and ancillary works and structures (this Main works DA).

The Main Works development comprises:

- Construction of a new elevated school building, with at-grade (undercroft) amenities and storage, including:

  o Ground Level:
    - Open undercroft space for covered outdoor learning and play.
    - Male and female amenities and accessible toilet / change room facility.
    - Cleaners' store.
    - Equipment store.
    - Sport equipment store.

  o Elevated Level:
    - New administration comprising interview room, clerical spaces, Principal's office, staff room, sick bay and male, female and accessible amenities.
    - School library with computer room, store, main communications room and library office.
    - Four (4) General Learning Spaces (GLS) with learning commons and multi-purpose space.
    - Canteen with open servery space.
    - Store.
    - Male, female and accessible amenities.
    - Mechanical plant.

- New and hard soft landscaping including replacement play equipment, vegetable garden,
- fernery and yarning circle.
- New hydrant pump house with fire tanks.
- Relocation and replacement of existing septic tanks and water tanks.
- It is not proposed to increase staff or student numbers as a result of these works.

3.2 Location and Description

The site is located on the 417 Rosehill Road Blakebrook 2480 and is legally described as Lot 2 /DP859866.

Figure 1 - Six Maps: SIX Maps (nsw.gov.au)

3.3 BCA Classification (Clause A3.2)

The proposed development shall contain the following classifications: -

- Class 5: being an office building or part
- Class 9b: being a school building

3.4 Rise in Storeys (Clause C1.2)

The proposed development has been assessed to have a rise in storeys of two (2).

3.5 Effective Height (Clause A1.1)

The proposed development has been assessed to have an effective height of 3.3m, this is measured from floor level at ground to floor level 1.

Please note the definition of effective height of a building was changed 1 May 2016. The BCA now defines effective height as: -

"Effective height means the vertical distance between the floor of the lowest storey included in a determination of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units)."

3.6 Type of Construction Required (Clause C1.1 / Table C1.1)

The proposed development is required to be Type B Construction. Specification C1.1 outlines the fire resistance required by certain building elements. This has also been provided in Appendix B.

3.7 Floor Area and Volume Limitations (Clause C2.2 / Table C2.2)

The development is limited to the following floor area and volume compartment limitations:

Class		Type A	Type B	Type C
5, 9b or 9c	Max floor area -	~~8,000m^2~~	5,500m^2	~~3,000m^2~~
	Max volume -	~~48,000m^3~~	33,000m^3	~~18,000m^3~~
~~6, 7, 8 or 9a~~	~~Max floor area -~~	~~5,000m^2~~	~~3,500m^2~~	~~2,000m^2~~
	~~Max volume -~~	~~30,000m^3~~	~~21,000m^3~~	~~12,000m^3~~

3.8 Building Data Summary

Part of Development	Use	Class	Floor Area (approx.) m^2	Population (using D1.13)
Ground	Assembly area and storage (<10%)	9b	70	52 Students & 10 Staff (As indicated by SINSW).
Level 1	Classrooms, Staff Room, Library & Amenities	5 & 9b	1000	

Notes:

- The above populations have been provided by SINSW
- The floor areas have been adjusted to account for ancillary areas such as sanitary facilities, corridors, shelving and / or racking layouts in storage areas by a factor or 0.8.

Summary of Construction and Building	
Use(s)	Office, School
Classifications(s)	5 & 9b
Number of Storeys contained	2
Rise in Storeys	2
Type of Construction	B
Effective Height	3.3m

4 Proposed Fire Safety Schedule

The following is a draft Fire Safety Schedule for the proposed building, listing the likely measures and standards of performance required, this schedule shall be subject of further development and review as part of the Performance Solutions assessment:

Fire Safety Schedule
Section 78 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021

Premises: Blakebrook - Norther Rivers Schools
Address: 417 Rosehill Road Blakebrook 2480

The following essential fire safety measures shall be implemented in the whole of the building premises and each of the fire safety measures must satisfy the standard of performance listed in the schedule which, for the purposes of Section 78 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021, is deemed to be the current fire safety schedule for the building.

SCHEDULE – Base Building BCA 2019-Amendment 1
Type of Construction B
Effective height = 3.3m

	Measure	**Status**	**Existing Performance Standard**
1.	Automatic fire detection and alarm system	N	BCA 2019 Amd. NSW Table E2.2b and Spec E2.2a (Clause 6) AS 1670.1-2018 (automatic shutdown only)
2.	Emergency lighting	N	BCA 2019 Amd. 1 Clause E4.2, E4.3 E4.4, AS 2293.1-2018
3.	Exit and directional signage	N	BCA 2019 Amd. 1 Clause E4.5, NSW E4.6 & E4.8, Spec E4.8 AS 2293.1-2018
4.	Fire alarm monitoring system	N	BCA 2019 Amd. 1 Spec E2.2a Clause 8, AS 1670.3-2018
5.	Fire doors	N	BCA 2019 Amd. 1 Clause C2.12, C2.13, Spec C3.4, AS 1905.1-2015
6.	Fire hydrant systems	N	BCA 2019 Amd. 1 Clause E1.3, AS 2419.1-2005
7.	Mechanical air handling systems	N	BCA 2019 Amd. 1 Clause E2.2, Spec E2.2a AS/NZS 1668.1-2015, AS 1668.2-2012
8.	Path of travel for stairways, passageway and ramps	N	Section 107-109 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021
9.	Portable fire extinguishers	N	BCA 2019 Amd. 1 Clause E1.6, AS 2444-2001

	Measure	Status	Existing Performance Standard
10.	Required automatic exit doors	N	BCA 2019 Amd. 1 Clause D2.19, D2.21
11.	Warning and operational signs	N	BCA 2019 Amd. 1 Clause D2.23, E3.3, Clause 183 of the Environmental Planning and Assessment Regulation 2000
12.	Fire engineered performance solution	N	Performance Solution Report E-lab, prepared by XXXX dated XXXX

4.1 Flood Hazard

It is noted that the proposed primary school is located on a lot contained within a Flood Zone as identified within Lismore Local Environmental Plan 2012 (2013 EPI 66).

The development will be subject to an investigation and report, provided by a qualified flood consultant. The requirements of this report and Clause B1.6 of the BCA are to be implemented into the design of the building.

4.2 Heritage

It is noted that an item of heritage "Blakebrook Public School Grounds Significance: Local" is identified on the Lismore Local Environmental Plan 2012 (2013 EPI 66).

The development will be subject to an investigation and report, provided by a qualified heritage consultant. The requirements of this report are to be implemented into the design of the building.

5 BCA Assessment – Clause by Clause

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
Part B - Structural			
B1 – Structural Provisions			
B1.0	Deemed-to-Satisfy Provisions	Note.	Part B1 is applicable
B1.1	Resistance to Action	Compliance readily achievable.	Any new structural works are to comply with the applicable requirements of BCA Part B1, including AS/NZS 1170.0-2002, AS/NZS 1170-1-2002, AS/NZS1170.2-2011, AS/NZS1170.3-2003, AS1170.4-2007 and any other applicable Australian Standards Drawings and design documentation will be required prior to issue of the Approval
B1.2	Determination of individual Actions	Compliance readily achievable.	Drawings and design documentation that demonstrate that the construction materials and forms of construction will comply with B1.4 of the BCA and the applicable Australian Standards. Any deviations from B1.4 or applicable Australian Standards will need to be addressed as a performance solution.
B1.4	Determination of Structural resistance of materials and form of construction	Note.	The structural resistance of materials and forms of construction shall be determined in accordance with the following: (i) Masonry - AS3700-2018 (ii) Concrete construction - AS3600-2018 (iii) Footings and slabs – AS2870-2011 (iv) Steel construction - AS4100-1998 or AS/NZS 4600-2005 (v) Termite Risk Management - AS3660.1-2014 (vi) Piling - AS2159-2009 (vii) Glazed assemblies - AS2047-2014-amendments 1 & 2 (external), and/or AS1288-2006 (internal)
B1.6	Construction of buildings in flood hazard areas	Noted.	The building is located within a flood zone and will be subject to comply with the BCA and Flood Report.
Part C – Fire Resistance			
C1 - Fire Resistance			
C1.0	Deemed-to-Satisfy Provisions	Noted.	Applicable

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
C1.1 / Spec C1.1	Type of Construction Required	Performance Solution Required	The building is required to be constructed in accordance with Type B Construction as noted in specification C1.1. For a Type B 9b school building, the following FRL's are required for load-bearing elements under Table 4: - External load-bearing Walls 120/30/30 - Internal load-bearing Walls 120/-/- - Internal load-bearing Columns 120/-/- It is proposed to rationalise the FRL requirements of the load-bearing elements for the 9b school portion. The following FRL's are proposed: - External load-bearing Walls -/-/- - Internal load-bearing Columns -/-/- - Internal load-bearing Columns -/-/- It is noted that a FRL of 30/30/30 will be applied to the external walls of the storage component on ground with a 60-minute fire rated ceiling. This requirement exceeds the minimum BCA provisions and is a requirement of the performance solution. To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety
C1.1 / Spec C1.1	Fire resisting construction	Performance Solution Required	The building is required to be constructed in accordance with Type B Construction as noted in specification C1.1. Under Spec C1.1 Clause 4.1 (i), the floor separating storeys is required to achieve an FRL of 30/30/30. It is also proposed to omit fire separation from the Level 1 floor separating storeys to achieve the following FRL:

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			- Floor separating storeys -/-/- To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety
C1.2	Calculation of Rise in storeys	Note.	The building has a Rise in Stories of 2.
C1.8	Lightweight Construction	Compliance readily achievable.	Any lightweight construction must comply to Specification C1.8 provisions within the BCA if required due to equipment being installed as noted in NCC C2.12 and C2.13. Confirmation of materials of construction being installed will be required to confirm.
C1.9	Non-combustible building elements	Performance Solution Required	In a building required to be of Type A or B construction, all external walls including all components incorporated within them including façade covering and insulation are to be non-combustible. It is proposed to install the following combustible materials within the external wall system: - Timber back blocks for fixing - Polyisocyanurate (PIR) insulation within canteen walls To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety
C1.10 & *NSW Variation*	Fire Hazard Properties	Compliance readily achievable.	All floor, wall and ceiling lining materials shall comply with C1.10 and Specification C1.10. Design Compliance Statement to be provided by relevant architect prior to issue of CC.
C1.14	Ancillary Elements	Performance Solution Required	An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is a material exempted by this clause. It is proposed to have combustible signage materials fixed to the external walls which will not achieve the non-combustibility requirements of AS1530.1.

<table>
<tr><th>BCA CLAUSE</th><th>Compliance Provisions</th><th>Status</th><th>Assessment commentary</th></tr>
<tr><td></td><td></td><td></td><td>To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety</td></tr>
<tr><td colspan="4">C2 - Compartmentation and Separation</td></tr>
<tr><td>C2.0</td><td>Deemed-to-Satisfy Provisions</td><td>Noted.</td><td>Applicable.</td></tr>
<tr><td>C2.1</td><td>Application of Part</td><td>Noted.</td><td>This part is applicable</td></tr>
<tr><td>C2.2</td><td>General Floor area and volume limitations</td><td>Noted.</td><td>Fire Compartment limitations for Type B Construction are compliant:
<table>
<tr><th>Class</th><th></th><th>Type A</th><th>Type B</th><th>Type C</th></tr>
<tr><td rowspan="2">5, 9b or 9c</td><td>Max floor area -</td><td>8,000m²</td><td>5,500m²</td><td>3,000m²</td></tr>
<tr><td>Max volume -</td><td>48,000m³</td><td>33,000m³</td><td>18,000m³</td></tr>
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<tr><td>Max volume -</td><td>30,000m³</td><td>21,000m³</td><td>12,000m³</td></tr>
</table></td></tr>
<tr><td>C2.7</td><td>Separation in fire walls</td><td>Noted.</td><td>(a) Construction — A fire wall must be constructed in accordance with the following:

(i) The fire wall has the relevant FRL prescribed by Specification C1.1 for each of the adjoining parts, and if these are different, the greater FRL.

(c) Separation of fire compartments — A part of a building separated from the remainder of the building by a fire wall may be treated as a separate fire compartment if it is constructed in accordance with (a) and the fire wall extends to the underside of—

(i)a floor having an FRL required for a fire wall; or
(ii) the roof covering</td></tr>
<tr><td>C2.12</td><td>Separation of equipment</td><td>Compliance readily achievable</td><td>The following equipment must be separated from the remainder of the building –

▪ emergency generators used to sustain emergency equipment operating in the emergency mode; or</td></tr>
</table>

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			▪ a battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours. ▪ Separating construction must have— an FRL as required by Specification C1.1, but not less than 120/120/120; any doorway protected with a self-closing fire door having an FRL of not less than –/120/30.
C2.13	Electricity supply system	Compliance readily achievable	Electrical substations, main switchboards that operate emergency equipment and electrical conductors serving the above must be separated from the remainder of the building by construction achieving and FRL of 120/120/120. It should be noted that EFSG requires a minimum of 60/60/60 construction to EDB enclosures. Confirmation is required if any of these services are installed within the building.
C3 – Protection of Openings			
C3.2	Protection of openings in external walls	Not Applicable	Openings in an external wall that is required to have an FRL must— (a) if the distance between the opening and the fire-source feature to which it is exposed is less than— (i) 3 m from a side or rear boundary of the allotment; or (ii) 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or (ii) 6 m from another building on the allotment that is not Class 10

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			There are no proposed openings within external walls required to have an FRL that would require protection under this clause.
C3.4	Acceptable methods of protection	Not Applicable	(a) Where protection is required, doorways, windows and other openings must be protected as follows: (i) Doorways— (A) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or (B) –/60/30 fire doors that are self-closing or automatic closing. (ii) Windows— (A) internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or (B) –/60/– fire windows that are automatic closing or permanently fixed in the closed position; or (C) –/60/– automatic closing fire shutters. (iii) Other openings— (A) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or (B) construction having an FRL not less than –/60/–. (e) Fire doors, fire windows and fire shutters must comply with Specification C3.4.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			There are no proposed openings within external walls required to have an FRL that would require protection under this clause.
C3.5	Doorways in fire walls	Note	A fire door must have an FRL of not less than that required by Specification C1.1 for the fire wall except that each door or shutter must have an insulation level of at least 30.
C3.15	Openings for service installations	Compliance Readily Achievable.	Any new proposed penetrations made to the floor separating the 7b storage on ground floor and the Level 1 building above must comply with provisions of C3.15 and Spec. C3.15. At OC stage a detailed schedule of every penetration is required to be produced. Advise engaging specialist fire stopping company.
Specifications			
Spec C1.1	Fire-Resisting Construction	Performance Solution Required	Type B Construction / Refer to specification. For a Type B 9b school building, the following FRL's are required for load-bearing elements under Table 4: - External load-bearing Walls 120/30/30 - Internal load-bearing Walls 120/-/- - Internal load-bearing Columns 120/-/- It is proposed to rationalise the FRL requirements of the load-bearing elements for the 9b school portion. The following FRL's are proposed: - External load-bearing Walls -/-/- - Internal load-bearing Columns -/-/- - Internal load-bearing Columns -/-/- It is noted that a FRL of 30/30/30 will be applied to the external walls of the storage component on ground with a 60-minute fire rated ceiling. This requirement exceeds the minimum BCA provisions and is a requirement of the performance solution.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety
Spec C1.1	Fire resisting construction	Performance Solution Required	The building is required to be constructed in accordance with Type B Construction as noted in specification C1.1. Under Spec C1.1 Clause 4.1 (i), the floor separating storeys is required to achieve an FRL of 30/30/30. It is also proposed to omit fire separation from the Level 1 floor separating storeys to achieve the following FRL: - Floor separating storeys -/-/- To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety
Spec C1.8	Structural Tests for Lightweight Construction	Note	Refer to specification
Spec C1.10 & *NSW Variation*	Fire Hazard Properties	Note	Refer to specification
Spec C3.15	Penetration of Walls, Floors and Ceilings by Services	Note	Refer to specification
Part D - Access and Egress			
D1 - Provision for Escape			
D1.0	Deemed-to-Satisfy Provisions	Note	Noted
D1.1	Application of Part	Note	This part is applicable
D1.2 & *NSW Variation*	Number of exits required	Complies	A class 9b building that accommodates more than 50 people is required to be serviced by two (2) exits. Compliance has been achieved.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
D1.4	Exit travel distances	Complies	Travel distance shall be as follows: **Class 9b Buildings:** - 20m to a point of choice - 40m total distance to an exit. Travel distances have been checked on the Schematic plans provided for review. Compliance has been achieved.
D1.5	Distance between alternative exits	Complies	Exits must not be less than 9m apart; and note more than: Class 9b - 60m apart; and Located so that alternative paths of travel do not converge such that they become less than 6 m apart. The distance between exits been checked on the Schematic plans provided for review. Compliance has been achieved.
D1.6 & *NSW Variation*	Dimensions of exits and paths of travel to exits	Complies	Dimensions of exits and paths of travel appear compliant with provisions in D1.6 of the BCA. 1m in width of an exit or path of travel to an exit is required. The unobstructed height of throughout must also not be less than 2m (1980mm at doorways). Aggregate exit width caters for the proposed number of occupants on each level as determined by D1.13 of the BCA.
D1.10	Discharge from exits	Further information required / Performance Solution Required	An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it. Exits must not obstructed by potential vehicle blockage by placement of bollards.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			Due to the location of the building with respect to driveways, carparking and roads, it would not be deemed necessary for bollards to be installed at proposed exits. However, this should be considered by SINSW as a precautionary measure. Further information is required as to whether locked gates located along paths of travel from open space to the road. If so, a fire engineered performance solution may be required. The path of travel to road from open space is not open to the sky and necessitates travelling underneath the covered walkway. To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety
D1.13	Number of persons accommodated	Note	Population has been confirmed by SINSW and demonstrated in the MP Reports from Pedavoli Architects.
D2 – Construction of Exits			
D2.0	Deemed-to-Satisfy Provisions	Note	Noted
D2.1 & NSW Variation	Application of Part	Note	This part is applicable
D2.7	Installations in exits and paths of travel	Compliance readily achievable.	Services or equipment comprising— (i) electricity meters, distribution boards or ducts; or (ii) central telecommunications distribution boards or equipment; or (iii) electrical motors or other motors serving equipment in the building, may be installed in— (iv) a required exit, except for fire-isolated exits specified in (a); or (v) in any corridor, hallway, lobby or the like leading to a required exit, if the services or equipment are enclosed by non-combustible construction or a fire protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			Current plans show the distribution board located externally to the building. Further review will be undertaken as the design develops.
D2.15 & *NSW Variation*	Thresholds	Note	No steps are to be located closer to the doors threshold then the width of the door unless to the door leads to open space; a step ramp compliant with AS1428.1-2009 can be incorporated.
D2.16 & *NSW Variation*	Barriers to prevent falls	Note	Compliant balustrades not less than 1m high with no climbable features between 150mm and 760mm are to be provided wherever it is possible to fall 1m or more.
D2.17	Handrails	Compliance readily achievable.	Handrails are to be provided to either side of ramps and stairs in accordance with AS1428.1-2009. The above will apply to ramps that Appear to be provided to comply with access provisions between buildings, from the DDA carpark and principal pedestrian entrance. Further review will be undertaken as the design develops.
D2.20.	Swinging doors	Complies	A swinging door in a required exit or forming part of a required exit must swing in the direction of egress unless it serves a building or part with a floor area not more than 200 m 2, it is the only required exit from the building or part and it is fitted with a device for holding it in the open position. The required exits on Level 1 are nominated as the first riser of the stairs leading to Ground. All other doors on Level 1 are internal and not forming part of required exit doors. Doors on Ground level are serving parts < 200m2.
D2.21 & *NSW Variation*	Operation of latch	Compliance readily achievable.	Doors shall be readily openable without a key from the side that a person may seek egress by a single-handed downward action on a single device located between 900mm and 1100mm. Alternatively door must be readily openable on activation of a fail-safe device. Further review of the door hardware will be required as the design develops.
D3 – Access for People with a Disability			
D3.0	Deemed-to-Satisfy Provisions	Noted.	Applicable

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
D3.1	General building access requirements	Note	Access is required to all areas of a class 9b building.
D3.2	Access to buildings	Refer to Access Report.	(a) An accessway must be provided to a building required to be accessible— (i) from the main points of a pedestrian entry at the allotment boundary & (ii) from another accessible building connected by a pedestrian link; and (iii) from any required accessible carparking space on the allotment. - Confirmation of the accessway between buildings is required. If this is a rampway, further review of the landings will be required for compliance with AS 1428.1-2009. - Further detail of accessway to main building entry from principal pedestrian entrance and the carpark is required.
D3.3	Parts of buildings to be accessible	Refer to Access Report.	Access is to be provided to and within all areas normally used by occupants in accordance with AS 1428.1-2009.
D3.4	Exemptions	Refer to Access Report.	The following areas are not required to be accessible: (a) An area where access would be inappropriate because of the particular purpose for which the area is used. (b) An area that would pose a health or safety risk for people with a disability. (c) Any path of travel providing access only to an area exempted by (a) or (b).
D3.5	Accessible carparking	Refer to Access Report.	Accessible carparking is to be provided for class 9b school buildings. This requires: 1 space for every 100 carparking spaces or part thereof or as stipulated by development consent (DA).
D3.6	Signage	Refer to Access Report.	To be provided throughout in accordance with details in D3.6. i.e. tactile and braille indicating the following:

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			- Sanitary Facilities. - Hearing augmentation.
D3.7	Hearing augmentation	Refer to Access Report.	A hearing augmentation system must be provided where an inbuilt amplification system, other than one used only for emergency warning, is installed— (i) in a room in a Class 9b building; or (ii) in an auditorium, conference room, meeting room or room for judicatory purposes; or (iii) at any ticket office, teller's booth, reception area or the like, where the public is screened from the service provider.
D3.8	Tactile indicators	Refer to Access Report.	To be provided in accordance with AS 1428.1-2009 throughout: (i) a stairway, other than a fire-isolated stairway (iv) a ramps, step ramp, kerb ramp TGSI are also required in the absence of suitable barrier to protect from overhead obstructions or an accessway meeting a vehicular way adjacent to an pedestrian entrance to a building.
D3.11	Ramps	Refer to Access Report.	On an accessway— - A series of connected ramps must not have a combined vertical rise of more than 3.6 m.
D3.12	Glazing on an access way	Compliance readily achievable.	Glazing to be provided visual indicators in accordance with AS1428.1-2009 when able to be confused for a doorway.
Specifications			
Spec D3.6	Braille and Tactile Signs	Note.	This Specification sets out the requirements for the design and installation of braille and tactile signage as required by D2.21, D3.6 and Specification F2.9.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			A compliance statement shall be provided by the architect prior to the issuance of the Approval.
Part E – Services and Equipment			
E1 – Fire Fighting Equipment			
E1.0	Deemed-to-Satisfy Provisions	Applicable.	Noted
E1.3	Fire hydrants	Performance Solution Required	A system of Fire Hydrants is required to be provided in accordance with BCA Clause E1.3 and AS2419.1-2005. Pressure and flow information will be required to confirm the required pressures and flow to the system, depending on the type of hydrant to be utilised. ▪ Feed hydrants (within 20m of hard stand for pumping appliance), 200 kPa NSW - 150 ▪ Attack hydrant (within 50m of hard stand) 350 kPa NSW - 250 ▪ Hydrants on a pump station, 700 kPa The flow requirements depend on the size of the fire compartment and type of building, system designer to confirm on drawings and design documentation. The building may be required to be provided with a booster assembly as part of the fire hydrant requirements. The booster is required to be located attached to the building at the main entry. If remote from the building, the booster is to be located at the main vehicle entry or with sight of the main entry of the building within 20m of a hardstand area. It is proposed to permit the hydrant simultaneous flow requirement of the AS2419.1-2005 Hydrant System suitable to serve a Fire Compartment less than 1000m2. To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety
E1.4	Fire hose reels	Performance Solution Required	A fire hose reel (FHR) system shall be provided in accordance with Clause E1.4, and AS2441-2005 is required to be provided to all areas except for classrooms.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			Drawings and design documentation will be required prior to issue of the Approval. Alternatively, the removal of FHR may be addressed by the project fire engineer. Fire hose reels are required to be provided to the storage rooms, canteen, admin/staff rooms and library. It is anticipated due to the function and characteristics of building occupants typically housed within these areas that fire hose reels are to be omitted from this building. To be addressed as part of a performance solution certified by a suitably qualified Accredited Practitioner - Fire Safety
E1.6	Portable fire extinguishers	Note.	Portable fire extinguishers shall be provided in accordance with Clause E1.6, and AS 2444-2001. Details of the type of portable fire extinguishers proposed and their location shall be provided. This detail shall be certified by a suitably qualified person.
E2 – Smoke Hazard Management			
E2.0	Deemed-to-Satisfy Provisions	Applicable.	Noted
NSW Table E2.2b and Spec E2.2a (Clause 6)	General requirements	Further Information Required	Smoke detection to facilitate automatic shutdown of air handling systems in accordance with E2.2b is required unless the air conditioning system is non-ducted serving individual rooms with a capacity of less than 1000 L/s.
E4 – Emergency Lighting, Exit Signs and Warning Systems			
E4.0	Deemed-to-Satisfy Provisions	Applicable.	Noted
E4.2	Emergency lighting requirements	Compliance readily achievable.	Emergency Lighting & Exit Signage to be provided to the building in accordance with E4 and AS 2293.1-2005. An emergency lighting system must be installed in every room or space to which there is public access in every storey in a Class 6 or 9b building if floor area in that storey is more than 300 m2, or, any point on the floor of that storey is more than 20 m from the nearest doorway leading directly to a stairway, ramp, passageway, road or open space

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			Design Certification to be provided prior to issue of Approval.
E4.4	Design and operation of emergency lighting	Compliance readily achievable.	Emergency Lighting & Exit Signage to be provided to the building in accordance with E4 and AS 2293.1-2018. Design Certification to be provided prior to issue of Approval.
E4.5	Exit signs	Compliance readily achievable.	Emergency Lighting & Exit Signage to be provided to the building in accordance with E4 and AS 2293.1-2018. Design Certification to be provided prior to issue of Approval.
E4.6	Direction signs	Compliance readily achievable.	If an exit is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit.
E4.8	Design and operation of exit signs	Compliance readily achievable.	Emergency Lighting & Exit Signage to be provided to the building in accordance with E4 and AS 2293.1-2005. Design Certification to be provided prior to Approval.
Part F – Health and Safety			
F1 – Damp and Weatherproofing			
F1.0	Deemed-to-Satisfy Provisions	Note.	There are not Deemed-to-Satisfy Provisions for Performance Requirement FP1.4 (The prevention of the penetration of water through external walls) This must be addressed by way of Performance Solution
FP1.4	Weatherproofing	Performance Solution Required	A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause – (f) Unhealthy or dangerous conditions, or loss of amenity for occupants; and (g) Undue dampness or deterioration of building elements There are no Deemed-to-Satisfy Provisions for Performance Requirement FP1.4 (The prevention of the penetration of water through external walls) This must be addressed by way of Performance Solution Façade Engineer to note and provide further details demonstrating compliance with performance requirement FP1.4 prior to the issue of the relevant building approval.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			SINSW to note the above-mentioned pathway – there is no DtS pathway under the provisions the BCA 2019 Amd 1.
F1.1	Stormwater drainage	Compliance readily achievable.	Stormwater drainage shall comply with AS 3500.3-2018. Details of the proposed Stormwater Management System shall be provided. This detail shall be certified by a suitably qualified and Chartered Engineer
F1.4	External above ground membranes	Compliance readily achievable.	Waterproofing membranes for external above ground use must comply with AS 4654.1-2012 and AS 4654.2-2012. Details demonstrating compliance shall be provided as the design develops.
F1.5	Roof coverings	Compliance readily achievable.	The roof must be covered with one of the following materials, concrete roof tiles, terracotta roof tiles, cellulose cement corrugated sheeting, metal sheet roofing, plastic sheet roofing or shingles made of terracotta, fibre cement, timber or slate.
F1.6	Sarking	Note.	Sarking-type material used for weatherproofing of roof and walls must comply with AS4200.1-2017 and AS4200.2-2017.
F1.7	Waterproofing of wet areas in buildings	Compliance readily achievable.	Waterproofing of wet areas shall comply with the requirements of Table F1.7 and AS 3740-2010. Details demonstrating compliance shall be provided as the design develops.
F1.9	Damp-proofing	Compliance readily achievable.	Moisture from the ground must be prevented from reaching the structure of the building. Where a damp-proof course is provided it must comply with AS 2904-1995 or impervious sheet material in accordance with AS3660.1-2014. Details demonstrating compliance shall be provided as the design develops.
F1.10	Damp-proofing of floors on the ground	Compliance readily achievable.	Floors laid on ground shall be provided a vapour barrier in accordance with AS 2870-2011. Details demonstrating compliance shall be provided
F1.13	Glazed assemblies	Note.	Glazed assemblies in an external wall shall comply with AS 2047-2014. The following glazed assemblies need not comply revolving doors, fixed louvres, skylights / roof lights, sliding and swinging doors without a frame, heritage windows or second-hand windows, windows constructed onsite which are not design tested.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			Details demonstrating compliance shall be provided
F2 – Sanitary and Other Facilities			
F2.0	Deemed-to-Satisfy Provisions	Noted	Applicable
F2.2	Calculation of number of occupants and facilities	Note.	Where it cannot be more accurately determined, the number of occupants shall be determined by the application of Clause D1.13 of the BCA.
F2.3	Facilities in Class 3 to 9 buildings	Compliance readily achievable.	(a) Except where permitted by (b), (c), (f), F2.4(a), F2.4(b) and F2.9(b), separate sanitary facilities for males and females must be provided for Class 3, 5, 6, 7, 8 or 9 buildings in accordance with Table F2.3. Employees and the public may share the same facilities in a Class 6 and 9b building (other than a school or early childhood centre) provided the number of facilities provided is not less than the total number of facilities required for employees plus those required for the public. MBC Group have reviewed and confirm the proposed facilities cater for the occupancy identified by SINSW.
F2.5	Construction of sanitary compartments	Compliance readily achievable.	(a) Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend— (i) from floor level to the ceiling in the case of a unisex facility; or (ii) to a height of not less than 1.5 m above the floor if primary school children are the principal users; or (iii) 1.8 m above the floor in all other cases. (b) The door to a fully enclosed sanitary compartment must— (i) open outwards; or (ii) slide; or (iii) be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2 m, measured in accordance with Figure F2.5, between the closet pan within the sanitary compartment and the doorway.

BCA CLAUSE	Compliance Provisions	Status	Assessment commentary
			(b) In an early childhood centre, facilities for use by children must have each sanitary compartment screened by a partition which, except for the doorway, is opaque for a height of at least 900 mm but not more than 1200 mm above the floor level. Review to be completed by Access Consultant. Please refer to Access report.
F3 – Room Heights			
F3.0	Deemed-to-Satisfy Provisions	Noted.	Applicable.
F3.1	Height of rooms and other spaces	Complies	Floor to ceiling heights compliant with Clause F3.1 of the BCA shall be achieved throughout the development. Details demonstrating compliance has been provided.
F4 – Light and Ventilation			
F4.0	Deemed-to-Satisfy Provisions	Noted	Applicable
F4.1	Provision of natural light	Compliance readily achievable.	Natural light is required to be all general-purpose classrooms within a class 9b secondary school. A light schedule is to be provided to demonstrate compliance in these spaces.
F4.4	Artificial lighting	Compliance readily achievable.	Artificial lighting shall be provided to required stairways, passageways and ramps. Artificial lighting shall comply AS 1680.0
F4.5 & F4.6 *NSW Variation*	Ventilation of rooms	Compliance readily achievable.	Natural ventilation via openable windows at the rate of 5% of room floor area or mechanical ventilation to AS1668.2-2012 is required throughout. Drawings and design documentation will be required prior to issue of the Approval.
Part J – Energy Efficiency			
J0.0	Deemed-to-Satisfy Provisions	Compliance readily achievable.	An energy efficiency report confirming compliance with the requirements of section J is required prior to issue of the Approval.

6 Appendix A – Architectural Plans Reviewed

The following documentation, prepared by Pedavoli Architects was used in the assessment and preparation of this report: -

Drawing No.	Title	Date	Drawn By	Revision
BLA - ARC - PP - DWG - 001	COVER SHEET	24/11/2023	Pedavoli Architects	C
BLA - ARC - PP - DWG - 003	SITE ANALYSIS PLAN	24/11/2023	Pedavoli Architects	C
BLA - ARC - PP - DWG - 009	PROPOSED SITE PLAN - POST DEMO	16/10/2023	Pedavoli Architects	C
BLA - ARC - PP - DWG - 010	PROPOSED SITE PLAN	24/11/2023	Pedavoli Architects	D
BLA - ARC - PP - DWG - 015	DEMOLITION PLAN	16/10/2023	Pedavoli Architects	E
BLA - ARC - PP - DWG - 100	UNDERCROFT FLOOR PLAN	24/11/2023	Pedavoli Architects	D
BLA - ARC - PP - DWG - 110	RAISED LEVEL FLOOR PLAN	24/11/2023	Pedavoli Architects	D
BLA - ARC - PP - DWG - 120	ROOF PLAN	24/11/2023	Pedavoli Architects	D
BLA - ARC - PP - DWG - 200	ELEVATIONS	08/12/2023	Pedavoli Architects	E
BLA - ARC - PP - DWG - 201	ELEVATIONS	08/12/2023	Pedavoli Architects	E
BLA - ARC - PP - DWG - 300	SECTIONS	08/12/2023	Pedavoli Architects	D
BLA - ARC - PP - DWG - 400	SHADOW DIAGRAMS	24/11/2023	Pedavoli Architects	C
BLA - ARC - PP - DWG - 500	RENDERS	24/11/2023	Pedavoli Architects	B

7 Appendix B

7.1 Table 4 of Specification C1.1

Below is an abridged version of Table 4 of Specification C1.1. These are the Deemed to Satisfy requirements and do not take into consideration any reduction in FRL's sought via a performance-based solution or any concessions afforded by Part 4 of Specification C1.1.

7.2 Table 4 Type B construction; FRL of building elements

Building element	Class of building — FRL: (in minutes) Structural adequacy/Integrity/Insulation			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any fire-source feature to which it is exposed is—				
For loadbearing parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 30	120/ 90/ 60	180/120/ 90	240/180/120
3 to less than 9 m	90/ 30/ 30	120/ 30/ 30	180/ 90/ 60	240/ 90/ 60
9 to less than 18 m	90/ 30/–	120/ 30/–	180/ 60/–	240/ 60/–
18 m or more	–/–/–	–/–/–	–/–/–	–/–/–
For non-loadbearing parts—				
less than 1.5 m	–/ 90/ 90	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/ 60/ 30	–/ 90/ 60	–/120/ 90	–/180/120
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN not incorporated in an external wall, where the distance from any fire-source feature to which it is exposed is—				
For loadbearing parts—				
less than 18 m	90/–/–	120/–/–	180/–/–	240/–/–
18 m or more	–/–/–	–/–/–	–/–/–	–/–/–
For non-loadbearing parts—				
	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—				
All	90/ 90 / 90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS—				
Fire-resisting lift and stair shafts—				
Loadbearing	90/ 90/ 90	120/120/120	180/120/120	240/120/120
Non-loadbearing	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding public corridors, public lobbies and the like—				
Loadbearing	60/ 60/ 60	120/–/–	180/–/–	240/–/–

Building element	Class of building — FRL: (in minutes) Structural adequacy/Integrity/Insulation			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
Non-loadbearing	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding sole-occupancy units—				
Loadbearing	60/ 60/ 60	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like shafts not used for the discharge of hot products of combustion—				
Loadbearing	60/ 60/ 60	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/ 60/ 60	–/–/–	–/–/–	–/–/–
OTHER LOADBEARING INTERNAL WALLS and COLUMNS—				
All	60/–/–	120/–/–	180/–/–	240/–/–
ROOFS				
Any	–/–/–	–/–/–	–/–/–	–/–/–

7.3 Specification C1.1 - Type B Fire-Resisting Construction.

4.1 Fire-resistance of building elements – Part (i):

In a Class 9b building, a floor separating storeys or above a space for the accommodation of motor vehicles or used for storage or any other ancillary purpose, must:

(i) be constructed so that it is at least of the standard achieved by a floor/ceiling system incorporating a

ceiling which has a resistance to the incipient spread of fire to the space above itself of not less than

60 minutes; or

(ii) have an FRL of at least 30/30/30; or

(iii) have a fire-protective covering on the underside of the floor, including beams incorporated in it, if the

floor is combustible or of metal

8 Appendix C – Occupancy Calculations

The floor area estimations have been provided by Pedavoli Architects Pty Ltd, including the excluded circulation spaces.

Ground & Level 1				
Subject Area	Occupancy Use	D1.13 Density	Floor Area (approx.)	Population Determined
Classrooms and associated corridors.	School – General Classroom	2m^2 / person	TBC	As indicated by SINSW.
Staff Rooms	School – Staff Room	10m^2 / person	TBC	
Library	Library	2m^2 / person	TBC	
Canteen	Kitchen	10m^2 / person	TBC	
Storage areas	Storage space	30m^2 / person	TBC	
		TOTAL	TBC	52 Students & 10 Staff (As indicated by SINSW).

9 Appendix D – Aggregate Egress Width Calculations

The following has been determined from the submitted details from Pedavoli Architects and SINSW.

Aggregate Egress Widths					
Part of Development	Population	Egress Width Required	Means of Egress	Egress Width Provided	Status
Ground	< 100	1.0m	Perimeter Exit Doors	2.0m	Compliant
Level 1	< 100	1.0m	Required Non-fire-isolated Stairs	2.0m	Compliant

10 Appendix E – Sanitary Facilities Calculations

The following has been determined from the submitted details from Pedavoli Architects Pty Ltd. Calculation below are based on a 50/50 split of male and female staff & students.

MBC Confirm that the proposed facilities cater for the proposed occupancy, meeting the BCA requirements of Part F2.

Sanitary Facility Calculations												
Description of building or part	Occupant Number	Population No.		Required			Provided			Difference		
				WC	U	B	WC	U	B	WC	U	B
Ground & L1 - Students	52	Male	26	2	1	2	5	1	7	3	0	5
		Female	26	3		2	6		7	3		5
Ground & L1 - Teachers	10	Male	5	1	0	1	2	0	2	1	0	1
		Female	5	1		1	2		2	1		1

Key:
*signifies a unisex accessible sanitary facility was added to this facility
` signifies a pan was counted as a urinal or vice versa
Red numbers signify a deficiency in facilities


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