Regulatory Compliance Report

Upgrade to Austral Public School

205 Edmondson Ave, Austral NSW 2179

Prepared for:	**The Minister for Education and Early Learning**
Date:	**12.02.25**
Revision:	**G**

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Date	Rev No	No. of Pages	Issue or Description of Amendment	Assessed By	Approved By	Date Approved
15.2.24	A	38	Regulatory Compliance Report: *95% Drawing review for comments*	Luis De Araujo	Geoff Pearce	18.02.24
19.2.24	A	38	Regulatory Compliance Report: *Amend address.*	Luis De Araujo	Geoff Pearce	18.02.24
8.3.24	B	33	Regulatory Compliance Report: *Update stair location, layout, population number and other outstanding information.*	Luis De Araujo	-	-
15.3.24	C	33	Regulatory Compliance Report: *Update based on clients' comments*	Luis De Araujo	-	-
24.5.24	D	36	Regulatory Compliance Report: *Update based on allotments within the parent allotment*	Luis De Araujo	-	-

27.11.24	E	40	Regulatory Compliance Report: *Update wording to the Standard Wording, Preamble and Reporting Requirements*	Luis De Araujo	-	-
16.01.25	F	40	Regulatory Compliance Report: *Update wording to the Standard Wording, Preamble and Reporting Requirements*	Kingsley Lunt	-	-
12.02.25	G		Regulatory Compliance Report: *Update to Preamble Reporting Requirements and Comments Received*	Kingsley Lunt	-	-

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1. Executive Summary

Development Overview

This Building Code of Australia (BCA) Report has been prepared to support a Review of Environmental Factors (REF) for the Department of Education (DoE) for the upgrade of Austral Public School (APS) (the activity). The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP) as "development permitted without consent" on land carried out by or on behalf of a public authority under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP.

The proposed activity is for the upgrades to the existing APS at 205 Edmondson Avenue, Austral, NSW, 2179.

The purpose of this report is for Upgrade to Austral Public School works consisting of a new building for educational purposes, alterations and additions to existing education-use buildings, and a parking area containing 57 spaces with new vehicular entry from Edmondson Avenue.

Mitigation Measures

As requested, we have included a table of mitigation measures to be considered from a BCA compliance perspective.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
Crown certification- S.6.28 of the Environmental Planning and Assessment Act	Prior to commencement of any building work	A Crown Certificate is to be provided by a registered certifier- building surveyor to confirm the proposed works have been designed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Architectural 'For Construction' documentation	Prior to commencement of any building work	A suitably registered architect is to provide plans and design certification to confirm the proposed works have been designed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Structural 'For Construction' documentation	Prior to commencement of any building work	A suitably registered structural engineer is to provide plans and design certification to confirm the proposed works have been designed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Civil 'For Construction' documentation	Prior to commencement of any building work	A suitably registered civil engineer is to provide plans and design certification to confirm the proposed works have been designed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Electrical 'For Construction' documentation	Prior to commencement of any building work	A suitably registered electrical engineer is to provide plans and design certification to confirm the proposed works have been designed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Hydraulic 'For Construction' documentation	Prior to commencement of any building work	A suitably registered hydraulic engineer is to provide plans and design certification to confirm the proposed works have been designed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Mechanical 'For Construction' documentation	Prior to commencement of any building work	A suitably registered mechanical engineer is to provide plans and design certification to confirm the proposed works have been designed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Fire Services 'For Construction' documentation	Prior to commencement of any building	A suitably registered accredited practitioner fire safety is to provide plans and design certification to confirm the proposed works	To ensure BCA compliance and satisfy S.6.28 of the

	work	have been designed in accordance with and can satisfy the Building Code of Australia.	Environmental Planning and Assessment Act
Fire Engineering Report	Prior to commencement of any building work	A suitably registered accredited practitioner fire safety/ registered certifier- fire safety is to provide a Fire Engineering Report that has been submitted to and incorporates any recommendations provided by Fire and Rescue NSW as deemed necessary by the accredited practitioner fire safety/ registered certifier- fire safety, to address all fire related aspects of the design that are proposed to satisfy the Building Code of Australia via a Performance Solution pathway.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Access Report	Prior to commencement of any building work	A suitably qualified access consultant is to provide an access report to address all access related aspects of the design that are proposed to satisfy the Building Code of Australia via a Performance Solution pathway.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Energy Report	Prior to commencement of any building work	A suitably qualified energy consultant is to provide an energy report to address all energy related aspects of the design that are proposed to satisfy the Building Code of Australia via a Performance Solution pathway.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Contractor confirmation	Prior to commencement of any building work	The appointed main contractor is to confirm they will build in accordance with the approved design and the Building Code of Australia.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act
Structural 'As Built' documentation	Prior to occupation and use of the development subject to building works	A suitably registered structural engineer is to provide completion certification and 'As Built' documentation to confirm the proposed works have been constructed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance
Civil 'As Built' documentation	Prior to occupation and use of the development subject to building works	A suitably registered civil engineer is to provide completion certification and 'As Built' documentation to confirm the proposed works have been constructed in accordance with and can satisfy the Building Code of Australia and the Plumbing Code of Australia.	To ensure National Construction Code compliance
Electrical 'As Built' documentation	Prior to occupation and use of the development subject to building works	A suitably registered electrical engineer is to provide completion certification and 'As Built' documentation to confirm the proposed works have been constructed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance
Hydraulic 'As Built' documentation	Prior to occupation and use of the development subject to building works	A suitably registered hydraulic engineer is to provide completion certification and 'As Built' documentation to confirm the proposed works have been constructed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance
Mechanical 'As Built' documentation	Prior to occupation and use of the development subject to building works	A suitably registered mechanical engineer is to provide completion certification and 'As Built' documentation to confirm the proposed works have been constructed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance
Fire Services 'As	Prior to	A suitably accredited practitioner fire	To ensure BCA

Built' documentation	occupation and use of the development subject to building works	safety is to provide completion certification and 'As Built' documentation to confirm the proposed works have been constructed in accordance with and can satisfy the Building Code of Australia. This should include a Fire Safety Certificate, following the process layout within Part 11 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021.	compliance
Fire Engineering Report, compliance certificate	Prior to occupation and use of the development subject to building works	A suitably registered accredited practitioner fire safety/ registered certifier- fire safety is to provide a compliance certificate to confirm all fire related aspects of the design that were approved to satisfy the Building Code of Australia via a Performance Solution pathway have been suitably executed.	To ensure BCA compliance
Access Report	Prior to occupation and use of the development subject to building works	A suitably qualified access consultant is to provide an access completion certificate to confirm all access related aspects of the design that were approved to satisfy the Building Code of Australia via a Performance Solution pathway have been suitably executed.	To ensure BCA compliance
BCA Compliance Statement	Prior to occupation and use of the development subject to building works	A suitably qualified registered certifier-building surveyor is to provide a BCA completion certificate to confirm the works have been suitably executed to permit the occupation and use of the building in accordance with its BCA classification.	To ensure BCA compliance
Architectural 'As Built' documentation	Prior to occupation and use of the development subject to building works	A suitably registered architect is to provide plans and design certification to confirm the proposed works have been designed in accordance with and can satisfy the Building Code of Australia.	To ensure BCA compliance and satisfy S.6.28 of the Environmental Planning and Assessment Act

Compliance Summary

As building surveyor, we have reviewed the proposed architectural design documents prepared by Pedavoli Architects (refer appendix A) for compliance with the building assessment provisions currently outlined in BCA 2022, as current project timeframes indicate that BCA 2022 will be that which applies to the works. Following our review, further information has been provided by the relevant parties to ensure the items identified within this report have been addressed, which is also referenced in appendix A.

This report has been prepared to assess the project against the Building Code of Australia to enable the issuance of construction approvals. Further assessment of the design will be undertaken as the design develops to ensure compliance is achieved prior to approval being issued.

Deviations from the Deemed-to-Satisfy Provisions

The assessment of the proposed architectural design documentation has revealed that the following areas deviate from the deemed-to-satisfy provisions of the BCA. These items are to be addressed to ensure compliance is achieved, either through design amendment to achieve compliance with the deemed-to- satisfy provisions or through a performance solution demonstrating compliance with the Performance Requirements of the BCA:

No.	Description	DTS Clause	Performance Requirements
Fire Safety Items			

1	**External wall within 3m from the allotment boundary** It is proposed for the new building to be built over 3 existing allotments within the parent allotment.	Specification 5, C4D3	C1P2, C1P8.
2	**Egress over multiple allotments.** It is proposed the path of travel to the road and open space is over multiple allotment for the new building	D2D5	D1P4, E1P2
3	**Extended Travel Distance:** • Ground Floor Point A - 23m to the nearest exit in lieu of 20m, • Ground Floor Point B - 24m to the nearest exit in lieu of 20m, • Ground Floor Point C - 23m to the nearest exit in lieu of 20m, • Level 1 & 2, Point D & J - 45m to the nearest exit in lieu of 40m, • Level 1 & 2, Point E & L - 24m to a point choice in lieu of 20m, - 42m to the nearest exit in lieu of the 40m, • Level 1 & 2, Point F & M - 24m to a point choice in lieu of 20m, - 53m to the nearest exit in lieu of the 40m, • Level 1 & 2, Point G & N - 46m to the nearest exit in lieu of 20m, • Level 1 & 2, Point H & O - 23m to a point choice in lieu of 20m, • Level 1 & 2, Point I & P - 24m to a point choice in lieu of 20m, - 61m between alternative exits in lieu of 60m.	D2D5, D2D6	E1P2
4	**Fire Hydrant** Due to the new building being proposed to be over 3 existing allotments, it is proposed fire hydrant system be a shared service.	E1D2	E1P3
Miscellaneous Items			
5	**Symphonic stormwater drainage**	F1D3	F1P2, F1P3
6	**Weatherproofing of External Walls** As the external walls are proposed to be constructed of a material not nominated in F3D5, a performance solution is to be provided by the façade engineer/registered architect demonstrating that the external walls comply with the requirements of Performance Requirement F3P1 (previously FP1.4).	F3D5	F3P1

The feasibility and any additional requirements that will apply as a result of the performance solution will need to be confirmed by the professional preparing the performance solution. Any performance solution will need to be prepared by a suitably qualified/accredited professional.

Fire Safety Services

The following key fire safety services are required to meet the minimum DTS requirements.

1.	Sprinklers system throughout required if Timber is used in accordance with C2D13
2.	Fire hydrant system throughout
3.	Smoke Detection System

4.	Fire precautions during construction

Refer to parts 9 and 10 of this report for further details regarding the required services.

Any fire engineered solution items will need to be approved after consultation with the NSW Fire Brigade as part of the Crown Certificate process.

Further Assessment during the Building Approval stage

The assessment of the design documentation has also revealed that the following additional information is required in order to complete the assessment, and/or the following areas need to be further reviewed.

No.	Further Information / Review Required	Report Reference
1.	Location of the fire hydrant and fire extinguishers. In addition, the hydraulic engineer to confirm the requirements of booster assembly and pumps.	9.1, 9.2
2.	Energy Efficiency Report	11
3.	Access Report	12

Documentation to enable assessment and demonstrate compliance will be required to address the above items prior to approval.

The application for a Crown Certificate shall be assessed under the relevant provisions of the Department of Education (DoE) is the proponent and determining authority pursuant to Section 5.1 of the Environmental Planning and Assessment Act 1979 (the Act).

2. Introduction

This BCA Report has been prepared to support a Review of Environmental Factors (REF) for the Department of Education (DoE) for the upgrade of Leppington Public School (LPS) (the activity). The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) as “development permitted without consent” on land carried out by or on behalf of a public authority under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP.

The proposed activity is for upgrades to the existing LPS at 144 Rickard Road, Leppington, NSW, 2179 (the site).

The purpose of this report is to assess the BCA compliance of the proposed works.

Site Description

LPS is located at 144 Rickard Road, Leppington on the eastern side of Rickard Road, north of Ingleburn Road and south of Byron Road. The site has an area of 3.013 ha and comprises 4 allotments, legally described as:

- Lot 1 DP 127446
- Lot 1 DP 439310
- Lot 38E DP 8979
- Lot 39C DP 8979

The site currently comprises an existing co-education primary (K-6) public school with:

- 14 permanent buildings;
- 11 demountable structures (including 2 male/female toilet blocks);
- interconnected paths;
- covered walkways;
- play areas; and

- at-grade parking.

The site also contains locally listed heritage buildings along its southern boundary.

The buildings are 1 storey in height and there is a sports oval in the eastern portion of the site. The existing buildings are clustered in the north-western part of the site.

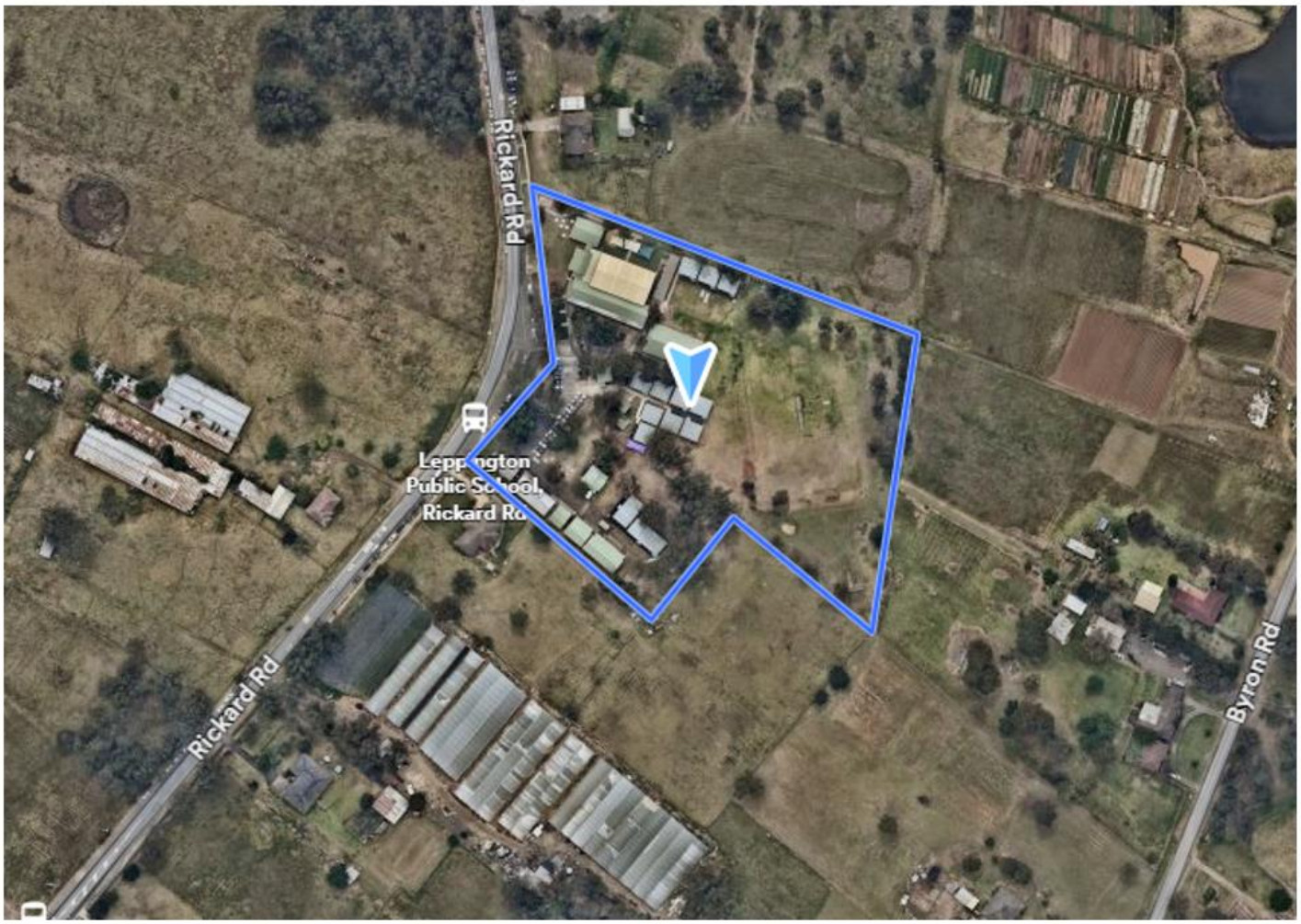


Figure 1 **Aerial image of the site, outlined in red (Source: NearMap, taken 24 Sept 2024)**

Proposed Activity Description (to be used in all plans and reports)

The proposed activity involves upgrades to the existing LPS, including the following:

- Demolition of existing structures and trees;
- Erection of a new 3-storey teaching space along the northern boundary that includes 20 permanent teaching spaces and 3 support teaching spaces;
- Erection of a new hall and COLA comprising of a hall, canteen and OSHC hub towards the eastern boundary of site;
- Extension of the existing library (Building E) and adjoining playground;
- Upgraded sports and play facilities;
- Relocation of the Yarning Circle;
- Erection of a substation and upgrades to site services;
- Footpaths, fencing and associated works; and
- Landscaping.

The intent of the activity is to allow for upgrades to LPS that will provide a 'CORE 35' school standard in line with

the Educational Facilities Standards and Guidelines (EFSG). The activity will increase the capacity of the school from 430 to 621 students.

Figure 2 below show the scope of works for the proposed activity.

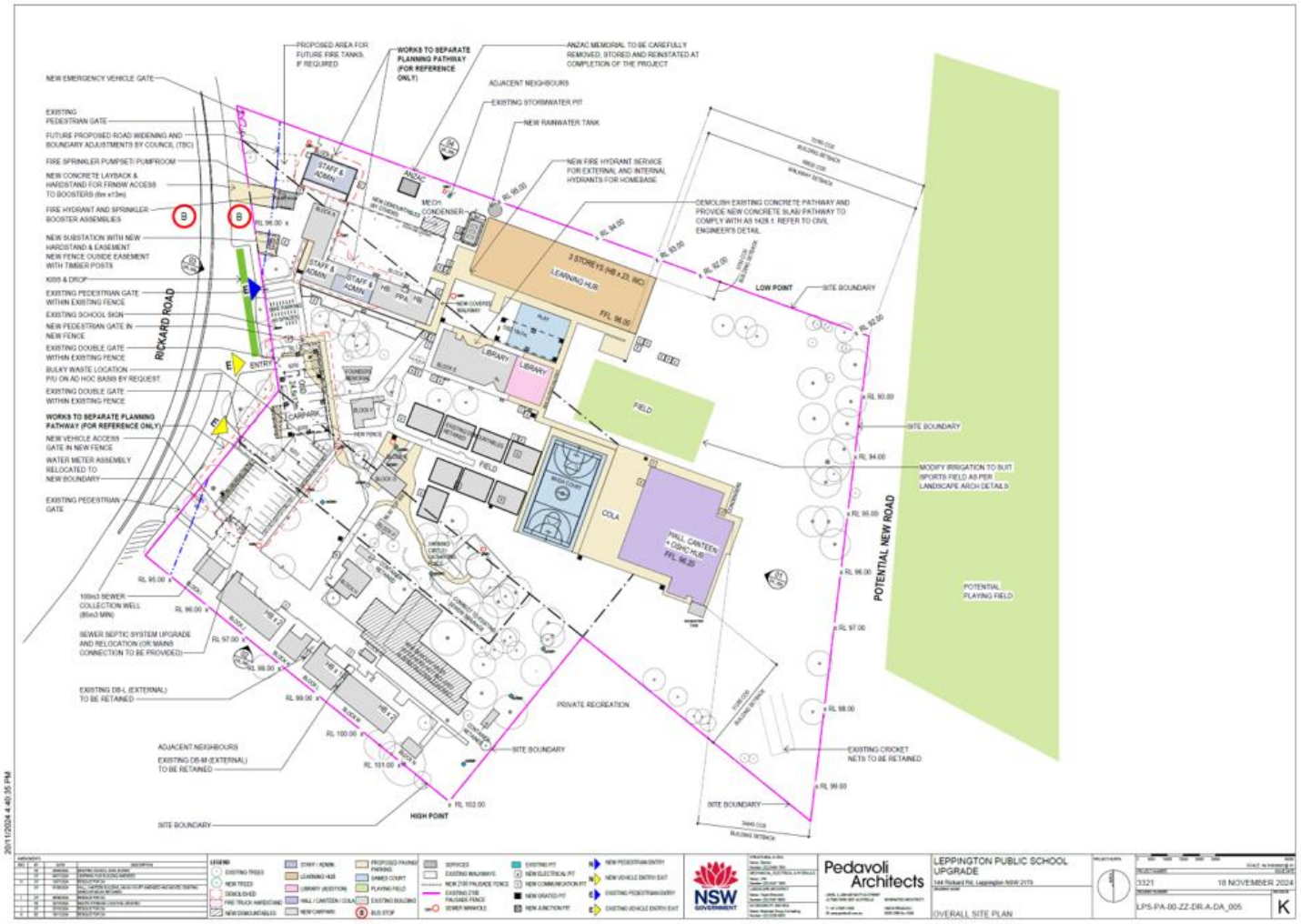


Figure 2 Proposed Activity (Source: Pedavoli Architects, Overall Site Plan (Rev K))

The report is intended as an overview of the relevant provisions of the BCA for assistance only. Detailed drawings and associated review will still be required as the final design is developed.

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979. This Act requires that all new building works must be designed to comply with the BCA.

The version of the BCA applicable to the works, is the version that is in place at the time of the application to the Registered Certifier for the Crown Certificate. For the purposes of this Report, BCA 2022 has been utilised as it is anticipated that BCA 2022 will apply to the project based on project timeframes.

3. Compliance with the Building Code of Australia

The Building Code of Australia is a performance-based document, whereby compliance is achieved by complying with the Governing Requirements and the Performance Requirements.

Performance Requirements are satisfied by one of the following:

1) A Performance Solution

2) A Deemed-to-Satisfy Solution
3) A combination of (1) and (2)

4. Documentation of Performance Solutions

A Performance Solution must demonstrate compliance with all relevant Performance Requirements, or the solution must be at least equivalent to the Deemed-to-Satisfy provisions.

Compliance with the Performance Requirements is to be demonstrated through one or a combination of the following:

a) Evidence of suitability in accordance with Part A5 of the BCA that shows the use of a material, product, plumbing and drainage product, form of construction or design meets the relevant Performance Requirements.
b) A Verification Method including the following:
    i. The Verification Methods provided in the NCC.
    ii. Other Verification Methods, accepted by the appropriate authority that show compliance with the relevant Performance Requirements
c) Expert Judgement
d) Comparison with the Deemed-to-Satisfy Provisions

Where a Performance Solution is proposed as the method to achieve compliance, the following steps must be undertaken:

a) Prepare a performance-based design brief in consultation with relevant stakeholders,
b) Carry out analysis, using one or more of the assessment methods nominated above, as proposed by the performance-based design brief.
c) Evaluate results from (b) against the acceptance criteria in the performance-based design brief,
d) Prepare a final report that includes:
    i. All Performance Requirements and/or Deemed-to-Satisfy Provisions identified as applicable,
    ii. Identification of all assessment methods used,
    iii. Details of required steps above
    iv. Confirmation that the Performance Requirement has been met; and
    v. Details of conditions or limitations, if an exist, regarding the Performance Solution.

5. Preliminaries

5.1. Building Assessment Data

Summary of Construction Determination:

Part of Project	New Learning Hub building
Classification	9b
Number of Storeys	3
Rise In Storeys	3
Type of Construction	A
Effective Height (m)	7.35m

Note: The effective height of the project includes all stories included in the rise in stories of the project (2nd Floor FFL 7.350 – GR FFL 0.000).

Part of Project	Alteration to existing Building I Library
Classification	9b
Number of Storeys	1
Rise In Storeys	1
Type of Construction	C
Effective Height (m)	N/A

Summary of the floor areas and relevant populations where applicable: -

New Learning Hub building	BCA Classification	Approx. Floor Area (m^2)	Approximate Volume (m^3)	Assumed Population
Ground Floor	9b	984	3,444	293
Level 1		984	3,444	325
Level 2		984	3,444	325
Total		**2,952**		**943**

Alteration to existing Building I Library	BCA Classification	Approx. Floor Area (m^2)	Approximate Volume (m^3)	Assumed Population
Ground Floor	9b	458	1,603	150

Notes:

- The populations are based on the numbers provided by the architect Sam Rigoli via email correspondence 1.3.24. Two numbers were proposed based on BCA and Assumed capacity. For the purpose of this report, the BCA calculation was used as a conservative figure, and this does not reflect the proposed population of the site.

5.2. Copy of Certificate of Title:

A review of the NSW Planning Portal Spatial Viewer has revealed several existing allotments within one parent allotment, 865/-/DP2475. A portion of the proposed new building extends over three of these existing allotments. Although the school owns all the individual allotments within the parent allotment, the proposed building results in technical non-compliance due to the boundaries of these allotments not being amalgamated.

6. Structure

6.1. Structural Provisions (BCA B1):

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/NZS 1170.2-2021 and AS 1170.4-2007.

Depending on the importance level of the building as determined by AS/NZS 1170.0-2002, the non structural elements of the building, including partitions (and non-structural fire walls), ceilings, services and racking/shelving may be required to comply with the seismic restraint requirements of AS 1170.4-2007. Where this is required, certification will be required confirming that the design of the seismic restraints comply with AS 1170.4-2002. This may be provided by a specialist seismic consultant or by the architect and services design engineers.

It is noted that BCA 2019 introduced a new Verification Method, B1V2 (previously BV2), which is a pathway available to verify compliance with BCA Performance Requirement B1P1 (1)(c) (previously BP1.1(a)(iii)).

Glazing is to comply with AS1288-2021, and AS2047-2014.

Prior to the issue of the Crown Certificate structural certification is required to be provided by a Professional Engineer registered on the National Engineering Register.

Refer to mitigation measures.

7. Fire Protection

7.1. Fire Compartmentation (BCA C2D2 (previously C1.1))

The BCA stipulates three levels of fire resistant construction, which is based upon the rise in storeys and classification of the building. Each of these types of construction has maximum floor area and volume limitations as per BCA Table C3D3 (previously C2.2).

Internal Alteration to Existing Buildings

The internal alteration of the existing Building I, the Type of Construction, floor area and volume is as per the base building Occupancy Certificate as the internal works do not impact any additional requirements to be addressed under this clause.

Construction of the New Learning Hub

For the new Learning Hub building, based upon the rise in storeys and use of the building, it is required to be constructed in accordance with the requirements of **Type A** Construction, in accordance with Tables S5C11a-g of Specification 5 (previously Table 3 of Specification C1.1) of the Building Code of Australia 2022.

The building has been assessed on the basis of the following fire separation / compartmentation:

- Fire compartmentation of the building at each floor level.

The maximum floor area and volume limitations of a fire compartment as nominated in the deemed to satisfy provisions are as follows:

Classification		**Type of Construction**		
		A	**B**	**C**
5, 9b or 9c aged care building	max floor area—	8 000 m^2	5 500 m^2	3 000 m^2
	max volume—	48 000 m^3	33 000 m^3	18 000 m^3
6, 7, 8 or 9a (except for patient care areas)	max floor area—	5 000 m^2	3 500 m^2	2 000 m^2
	max volume—	30 000 m^3	21 000 m^3	12 000 m^3

Note: The floor area and volume limitation for Type A Construction is based per floor.

7.2. Fire Resistance (BCA C2D2 (previously C1.1))

The new Learning Hub Building, should be constructed generally in accordance with the relevant provisions of Specification 5 (previously Specification C1.1) of the BCA applicable to **Type A** Construction, please refer to Appendix C which outlines the required fire rating to be achieved by the development.

Where a fire wall is proposed, it is noted that the wall is to achieve a structural rating regardless of whether it is loadbearing or not. Refer to Appendix C for required FRLs.

The above areas are to be separated from the remainder of the building by construction achieving a minimum fire resistance level of 120 minutes.

7.3. Fire Hazard Properties (BCA C2D10 and C2D11 (previously C1.10 and BCA C1.9))

The New Learning Hub

External Wall Cladding

Since the building is of **Type A** construction, the following components are required to be completely non-combustible:

- External walls and common walls, including façade coverings, framing, insulation;
- Flooring and floor framing of lift pits;
- Non-loadbearing internal walls required to have an FRL;
- All non-loadbearing shafts;
- All loadbearing internal walls and loadbearing fire walls, including those that are part of loadbearing shafts.

For materials and assemblies that are required to be non-combustible, the material or system must be not deemed combustible when tested in accordance with AS 1530.1-1994.

This should be documented and demonstrated as part of the architectural requirements listed in the mitigation measures.

Combustible Materials

The following materials, though combustible or containing combustible fibres, may be used wherever a non-combustible material is required:

a) Plasterboard.
b) Perforated gypsum lath with a normal paper finish.
c) Fibrous-plaster sheet.
d) Fibre-reinforced cement sheeting.
e) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0.
f) Sarking type materials that do not exceed 1mm in thickness and have a Flammability Index not greater than 5.
g) Bonded laminated materials where -
   (i) each laminate is non-combustible; and
   (ii) each adhesive layer does not exceed 1 mm in thickness; and
   (iii) the total thickness of the adhesive layers does not exceed 2 mm; and
   (iv) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole does not exceed 0 and 3 respectively.

Copies of the fire test certificates/reports be provided for review and approval.

This should be documented and demonstrated as part of the architectural requirements listed in the mitigation measures.

Any Aluminium Composite Panels must be labelled in accordance with SA TS 5344.

The BCA 2022 has included additional items that are not required to comply with the above, including glazing, fixings, packers, paints, sealants to joints, adhesives and the like.

Furthermore, the BCA now considers the following items as non-combustible, therefore non-combustibility does not need to be demonstrated to achieve compliance. These items are concrete, steel, masonry, aluminium, autoclaved aerated concrete, iron, terracotta, porcelain, ceramic, natural stone, copper, zinc, lead, bronze, brass.

The BCA does nominate that ancillary elements may not be fixed to an external wall that is required to be non-combustible unless they comprise of the following:

a) An ancillary element that is non-combustible.
b) A gutter, downpipe or other plumbing fixture or fitting.
c) A flashing.
d) A grate or grille not more than 2 m² in area associated with a building service.
e) An electrical switch, socket-outlet, cover plate or the like.
f) A light fitting.
g) A required sign.
h) A sign other than one provided under (a) or (g) that—
   i) achieves a group number of 1 or 2; and
   ii) does not extend beyond one storey; and
   iii) does not extend beyond one fire compartment; and
   iv) is separated vertically from other signs permitted under (h) by at least 2 storeys.
i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that—
   i) meets the relevant requirements of Table S7C7 as for an internal element; and
   ii) serves a storey—
      A. at ground level; or
      B. immediately above a storey at ground level; and
   iii) does not serve an exit, where it would render the exit unusable in a fire.
j) A part of a security, intercom or announcement system.
k) Wiring.
l) Waterproofing material installed in accordance with AS 4654.2 and applied to an adjacent floor surface, including vertical upturn, or a roof surface.
m) Collars, sleeves and insulation associated with service installations.
n) Screens applied to vents, weepholes and gaps complying with AS 3959.
o) Wiper and brush seals associated with doors, windows or other openings.
p) A gasket, caulking, sealant or adhesive directly associated with (a) to (o)

Please provide fire hazard properties reports for any proposed signs and confirm their extent i.e. not spanning more than one storey or fire compartment.

This should be documented and demonstrated as part of the architectural requirements listed in the mitigation measures.

Interior Linings applicable to all buildings

The fire hazard properties of fixed surface linings and mechanical ductwork will also need to be addressed within the detailed documentation phase pursuant to Specification 7 (previously Specification C1.10) of the Building Code of Australia. The following requirements apply:

Sprinkler Protected Areas applicable to the Learning Hub

a) Floor Coverings – Critical radiant Flux not less than 1.2 kW/m^2
b) Wall and Ceiling Linings – Material Group No. 1, 2, 3
c) Other Materials – Spread of Flame Index not exceeding 9 and Smoke Developed Index not exceeding 8 (if Spread of Flame if >5)

Rigid and flexible air handling ductwork must comply with AS4254 Parts 1 & 2 2012.

Floor linings and floor coverings used in lift cars must have a critical radiant flux not less than 2.2, and wall and ceiling linings must be a Material Group No. 1 or 2.

7.4. Fire-protected timber: Concession (C2D13 (previously C1.13))

If the building is proposed to utilise timber elements in some of the primary building structures, it may comply with this clause in addition to achieving the minimum FRL required for Type A Construction. This may need to be addressed as a Performance Solution by an accredited fire engineer.

Fire-protected timber may be used wherever an element is required to be non-combustible, provided –

a) The building is –
   (i) a separate building; or
   (ii)a part of a building –
      (A) which only occupies part of a story, and is separated from the remaining part by a fire wall; or
      (B) which is located above or below a part not containing fire protected timber and the floor between the adjoining parts is provided with an FRL not less than that prescribed for a fire wall for the lower storey; and
b) the building has an effective height of not more than 25m; and
c) the building has a sprinkler system (other than FPAA101D or FPAA101H system) throughout complying with Specification 17 (previously Specification E1.5); and
d) any insulation installed in the cavity of the timber building element required to have an FRL is non-combustible; and
e) Cavity barriers are provided in accordance with Specification 9 (previously Specification C1.13).

7.5. Protection of Openings fire rated building elements (BCA C4D6, C4D11 (previously C3.5 and BCA C3.10))

The prescriptive provisions of the BCA stipulate that openings within building elements required to have an FRL shall be protected as follows:

a) Penetrations through fire rated floors to be protected either by a tested prototype (e.g. fire collar, fire damper, etc) or be installed within a fire rated shaft achieving an FRL the same as the FRL of the floor it is passing through;
b) Any penetration through a wall or room required to have an FRL (e.g. substation, boiler room, apartment separating wall etc) is to be protected either by a tested prototype (e.g. fire collar, fire damper, etc) or be installed within a shaft achieving an FRL the same as the FRL of the floor it is passing through; (or 120/120/120 where it is a room such as a substation);
c) Self-closing -/60/30 fire doors to the doors opening to the fire isolated stairs (note that this also includes the access doors to the condenser units on the plant platforms).

Note that where fire dampers, fire collars, etc are utilised, allowance needs to be made for access hatches to be provided within the walls / ceilings to ensure that maintenance access is provided.

As the design develops, details will need to be included in relation to sealing of penetrations / construction of fire rated shafts.

This should be documented to demonstrate compliance with the mitigation measures.

7.6. Protection of Openings in External Walls (BCA C4D3, C4D4, C4D5 (previously C3.2 / C3.3 / C3.4))

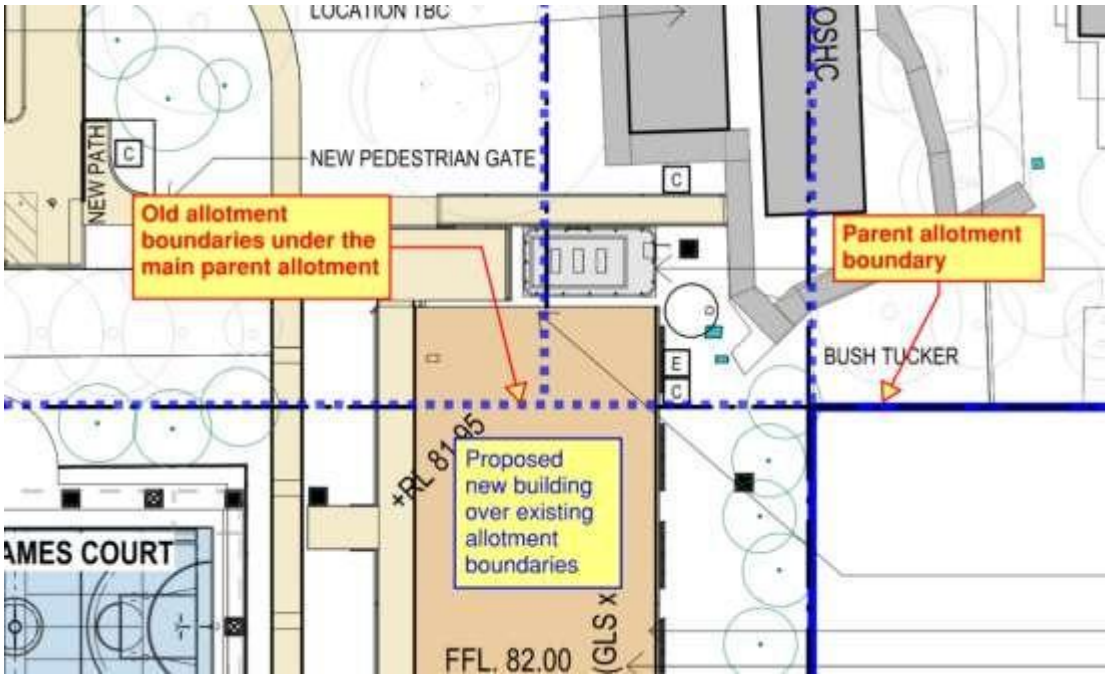
The prescriptive provisions of the BCA stipulate that any external opening within 3m of the boundary, within 6m of the far boundary of a road, river, lake or the like that adjoins the allotment, or within 6m of another building on the allotment requires protection by -/60/- fire rated construction, or externally located wall wetting sprinklers.

Due to the proposed building being built over 3 allotments due to not being amalgamated under the parent allotment, this technical creates non-compliance with the BCA under this clause. The non-compliances are as follows:

- FRL requirements building within 3m from the boundary,

- Protection of openings within 3m from the boundary.

The technical non-compliance above is to be addressed as a performance solution by the Fire Safety Engineer using BCA Performance Requirements C1P2 and C1P8.



8. Access and Egress

8.1. Provision for Escape (BCA D2 (previously D1))

The egress provisions for the proposed building are provided by the following:

- Required non-fire isolated stairways
- External Doors

The egress provisions that apply to the building also apply to any occupiable outdoor areas.

Detailing issues that will need to be addressed as the design develops include:

- Door Hardware
- Exit Door Operation
- Stair Construction
- Handrail and Balustrade construction
- Details of the egress provisions to the Road.
- Door swings

Due to the technical non-compliance of the proposed building being built over the existing allotment boundaries that have not been incorporated into one allotment, non-compliance exists for the travel distance to the open space and public road of having to cross over multiple allotments.

The technical non-compliance above is to be addressed as a performance solution by the Fire Safety Engineer using BCA Performance Requirements D1P4 and E2P2.

This should be documented and demonstrated as part of the mitigation measures.

8.2. Exit Travel Distances (BCA D2D5, D2D6 (previously D1.4, D1.5))

The locations of the proposed exits would appear to indicate that the deemed to satisfy requirements in terms of travel distances, distances between alternative exits and egress widths would be satisfied.

The travel distances to exits should not exceed:

Class 9b

- no point on the floor must be more than 20m to a single exit or point of choice and where two exits are provided, a maximum of 40m to one of those exits; and
- exits shall be located to not be more than 60m apart and not closer than 9m.

The locations of the proposed exits indicate that the travel distances within the building are as follows:

Learning Hub Building	BCA Provisions (Distance to Point of Choice/ Travel Distance/Distance Between	Assessed Distances			Comments
		To a Point of Choice	Overall Travel Distance	Between Alternate Exits	
Ground Point A	20m/40m/60m	-	**23m**	-	Extended travel distance to the nearest exit in addition, the exit swings against the direction of egress.
Ground Point B	20m/40m/60m	-	**24m**	-	
Ground Point C	20m/40m/60m	-	**23m**	-	
Level 1 & 2 Point D &J	20m/40m/60m	20m	**45m**	58m	Extended travel distance to the nearest exit.
Level 1 & 2 Point E & L	20m/40m/60m	**24m**	**42m**	59m	Extended travel distance to POC and the nearest exit.
Level 1 & 2 Point F & M	20m/40m/60m	**24m**	**53m**	60m	
Level 1 & 2 Point G & N	20m/40m/60m	20m	**46m**	60m	Extended travel distance to the nearest exit.
Level 1 & 2 Point H & O	20m/40m/60m	**23m**	37m	60m	Extended travel distance to POC
Level 1 & 2 Point I & P	20m/40m/60m	**24m**	30m	**61m**	Extended travel distance to POC and the alternative exits

The above indicates that the deemed to satisfy requirements in terms of travel distances are not satisfied for the 3 storey Learning Hub building. Refer to markup for further information.

For internal alteration to Building I, the travel distance are generally compliant provided the designated doors to be exits (2) are as far apart as possible. Refer to markup for further information.

The extended travel distances and distance between the exit stairs will need to be addressed to comply with the requirements of the deemed to satisfy provisions noted above, or be assessed as performance solutions by the Fire Safety Engineer using BCA Performance Requirements D1P4 and E2P2 (previously DP4 & EP2.2).

This should be documented and demonstrated as part of the mitigation measures.

8.3. Dimensions of Exits (BCA D2D7, D2D8, D2D9, D2D10, D2D11 (previously D1.6))

Minimum dimensions of 1000mm and 2000mm height to be provided within exits, with the paths of travel should provide a minimum width of 1000mm (note that all maintenance access, cat walks, etc may comply with AS1657-2018 in which case a 600mm clear width is required).

The following table summarises the exit widths required by BCA Clause D2D7, D2D8, D2D9, D2D10, D2D11 (previously D1.6):

Learning Hub Building	Number of people	Exit Width Required	Exit Width Provided
Level 1	325	3.5m	4.2m
Level 2	325	3.5m	4.2m

Building I Library	Number of people	Exit Width Required	Exit Width Provided
Ground Floor	152	2m	2m

Note:

- The population numbers a based on the Tables in Part 5.1 of this report.

Doorways are permitted to contain a clear opening width of the required width of the exit minus 250mm, with a height of 1980mm as part of egress requirements. Access for persons with disabilities however requires a clear doorway opening width of 850mm (i.e. minimum 920 mm doors).

Currently, the final exit doors of the classroom on the ground floor swing against the direction of egress. These doors will be required to swing in the direction of egress as these are the exits of each classroom.

This should be documented and demonstrated as part of the mitigation measures.

8.4. Travel via Required Non-Fire Isolated Stairs (BCA D2D14 (previously D1.9)

This clause will be only applicable if the sprinkler system is installed. This should be documented and demonstrated as part of the mitigation measures.

A required non-fire isolated stair must provide direct egress, via its own flights from every storey served to the level of road or open space.

The following additional travel distance parameters apply where a required non-fire isolated stair is utilised for egress:

- In Class 5-9 buildings, the distance from any point of a floor to road or open space is not to exceed 80m,
- In a Class 5 to 8 or 9b building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than:
  - 20 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or
  - 40 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire isolated ramp is in opposite or approximately opposite directions.

In the review of the proposed stairways, the design is compliant as it provides continuous means of travel to the ground floor and open space/road. However, there are extended travel distances that require a performance solution as outlined in Part 8.2. This should be documented and demonstrated as part of the mitigation measures.

8.5. Non-Required Non-Fire Isolated Stairs (BCA D2D17 (previously D1.12))

The stairway must not, either directly or indirectly, connect more than 2 storeys, or more than 3 storeys in a sprinklered building (Specification 17, (previously Spec E1.5) compliant), and those storeys must be consecutive.

As the building is proposed to be fitted with a sprinkler system, the non-fire Isolated stairs connecting to the 3 storeys are compliant with this clause.

8.6. Balustrades and Handrails (BCA D3D17, D3D18, D3D19, D3D20, D3D22, D3D29 (previously D2.16 / BCA D2.17 / D2.24))

<u>Generally</u>

Balustrading to a minimum height of 1000mm with a maximum opening of 124mm in any direction should be provided adjacent to balconies, landings, corridors etc where located adjacent to a change in level exceeding 1000mm, or where it is possible to fall through an openable window located more than 4m above the surface beneath.

Where it is possible to fall more than 4m to the surface below, the balustrade shall not contain any horizontal or near horizontal members that facilitate climbing between 150 – 760mm above the floor. It is noted that these provisions also apply to any building elements, including AC covers and the like, that are within 1m of the required balustrade.

Where a required barrier is fixed to the vertical face forming an edge of a landing, balcony, deck, stairway or the like, the opening formed between the barrier and the face must not exceed 40 mm.

Handrails should generally be provided at a minimum height of 865mm alongside of all ramps and stairs.

The public stairs and ramps located along an accessible path of travel should be designed in accordance with the requirements of AS1428.1 for persons with disabilities. This requires a handrail on each side of the stair and ramp and for the handrail to extend approximately 550mm – 600mm past the last tread / end of ramp.

In addition to the above, handrails are required on both sides of all stairs with a width of 2m or more.

For Class 9b primary schools, intermediate rails located between 665mm and 750 mm should be provided within Class 9b Primary Schools.

The balustrading and handrails indicated are acceptable.

8.7. Slip Resistance (BCA D3D15 (previously D2.14))

The adoption of BCA 2014 introduced a requirement for slip resistance of stairway treads and ramp surfaces. The requirements are as follows:

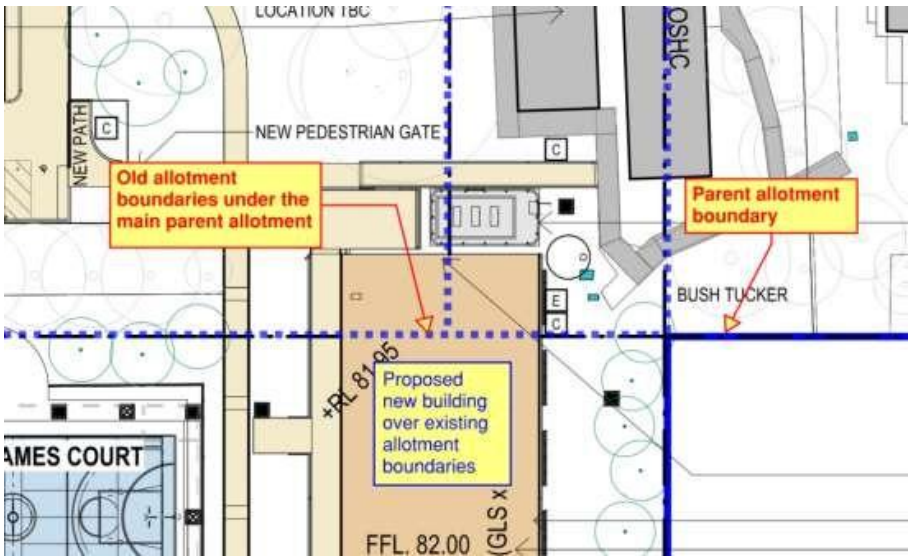
Table D3D15 (prev. Table D2.14) SLIP-RESISTANCE CLASSIFICATION

Application	Surface conditions	
	Dry	Wet
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

9. Services and Equipment

The following section of this report describes the essential fire safety measures and the minimum performance requirements of those measures. A draft essential fire safety schedule can be found in Appendix B.

In addition, technical non-compliance exists for the proposed new building due to the existing allotments have not been amalgamated into the one-parent allotment, therefore, a performance solution by the fire engineer is required for shared services over different allotments.



9.1. Fire Hydrants (BCA E1D2 (previously E1.3))

The new Learning Hub Building

A system of Fire Hydrants is required to be provided in accordance with BCA Clause E1D2 (prev. E1.3) and AS2419.1-2021. This should be documented and demonstrated as part of the mitigation measures.

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; the fire services/hydraulic engineer is to confirm the required flow rates.

The hydraulic engineer to confirm the requirements of the booster assembly and fire pump for this development. If required, 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 within sight of the main entry of the building within 20m of a hardstand area. This should be documented and demonstrated as part of the mitigation measures.

As the stairway location has been moved to the edge of the building and currently on the drawings, only 1 hydrant stem is provided, the system coverage is not achieved to cover all areas of the building on each floor. An additional fire hydrant will be required at the other stairway to achieve compliance with the Australian Standard. The hydraulic engineer is to provide design compliance in accordance with AS 2419.1 – 2021 or to be addressed as a performance solution.

9.2. Fire Extinguishers (BCA E1D14 (previously E1.6))

The provision of portable fire extinguishers is required to BCA Clause E1D14 (previously E1.6) and AS2444 - 2001 to provide coverage to all buildings.

Table E.6 details when portable fire extinguishers are required:

Occupancy Class	Risk Class (as defined in AS 2444)

Occupancy Class	Risk Class (as defined in AS 2444)
General provisions – Class 2 to 9 buildings.	a) To cover Class AE or E fire risks associated with emergency services switchboards. (Note 1) b) To cover Class F fire risks involving cooking oils and fats in kitchens. c) To cover Class B fire risks in locations where flammable liquids in excess of 50 litres are stored or used (not excluding that held in fuel tanks of vehicles). d) To cover Class A fire risks in normally occupied fire compartments less than 500m^2 not provided with fire hose reels (excluding open deck carparks). e) To cover Class A fire risks in classrooms and associated schools not provided with fire hose reels. f) To cover Class A fire risks associated with Class 2 or 3 building or class 4 part of building.

Fire extinguishers are to be located in accordance with AS 2444 - 2001, often collocated with fire hydrants and/or fire hose reels. This should be documented and demonstrated as part of the mitigation measures.

The fire extinguisher locations are to be shown on the drawings as the design develops for further review.
This should be documented and demonstrated as part of the mitigation measures.

9.3. Automatic Sprinkler Protection (BCA E1D4 – E1D13 (previously E1.5))

Automatic sprinkler protection is required to Specification 17 (previously Spec. E1.5) and AS2118.1-2017 to the following areas:

- For timber members used as part of the primary structure, a sprinkler system will be required to be installed as per BCA clause C2D13.

The sprinkler system shall be connected to and activate an occupant warning system complying with BCA Specification 20 (prev. Spec E2.2a).

Details of the proposed sprinkler system design will need to be reviewed as the design develops.
This should be documented and demonstrated as part of the mitigation measures.

An occupant warning system should be provided in accordance with BCA Specification 17 (previously Spec E1.5).
This should be documented and demonstrated as part of the mitigation measures.

9.4. Smoke Hazard Management (BCA E2D3 – E2D20 (previously E2.2)

The New Learning Hub and the Internal fitout of the existing Library buildings.

Under BCA clause NSW E2D16 variation, the new 3 storey and the library building as a 9b assembly building, the following provisions apply:

A building or part of a building used as an assembly building must be provided with automatic shutdown of any air-handling system (other than non-ducted individual room units with a capacity not more than 1000 L/s and miscellaneous exhaust air systems installed in accordance with Sections 5 and 6 of AS 1668.1) which does not form part of the smoke hazard management system, on the activation of:

- smoke detectors installed complying with S20C6; and
- any other installed fire detection and alarm system, including a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17.

This should be documented and demonstrated as part of the mitigation measures.

9.5. Lift Services (BCA E3D3, E3D4, E3D5, E3D9, E3D10, E3D11E3.4 and BCA E3.6)

The passenger lifts to be installed are to be:-

- Fitted with warning signs, fire service controls in accordance with Clauses E3D4, Figure E3D4, E3D9, E3D11, andE3D12 (previously E3.3, Figure E3.3, E3.7, E3.9 and E3.10) of the BCA.
- Be provided with the following in order to satisfy accessibility requirements:
  - A handrail in accordance with AS1735.12-1999,
  - Minimum internal floor dimensions of 1400 x 1600mm for lifts which travel more than 12m, or 1100 x 1400mm for lifts which travel not more than 12m,
  - Fitted with a series of door opening sensory devices which will detect a 75mm diameter or across the door opening between 50mm and 1550mm above floor level,
  - Have a set of buttons for operating the lift located at heights above level complying with AS1735.12 - 1999
  - For lifts serving more than 2 levels, automatic audible information within the lift car identifying the level each time the car stops, and audible and visual indication at each lift landing to indicate the arrival of a car

This should be documented and demonstrated as part of the mitigation measures.

9.6. Exit Signs and Emergency Lighting (BCA E4D2, E4D4, E4D5, E4D6 and E4D8 (previously E4.2 E4.5, E4.6, E4.8))

Emergency Lighting and Exit Signs indicating exit location paths of travel to exits are to be provided in accordance with BCA Part E4 and AS/NZS 2293.1-2018, including the potential use of photo luminescent exit signs.

Details are required to be provided for review during the building approval stage.
This should be documented and demonstrated as part of the mitigation measures.

9.7. Fire Precautions During Construction (BCA E1D16 (previously E1.9))

After the building has reached an effective height of 12m, the following fire services are required to be operational:

- Required fire hydrants and fire hose reels on every storey covered by the roof/floor structure (except the 2 uppermost storeys); and
- Booster connections installed.

Due to the height of the building, this will need to be considered and implemented during construction.
This should be documented and demonstrated as part of the mitigation measures.

10. Health and Amenity

10.1. Stormwater Drainage (BCA Clause F1D3 (previously Clause F1.1)

Stormwater drainage systems serving the building are to comply with AS3500.3 - 2018.
The use of a syphonic stormwater drainage system is not covered by Australian Standards and any design incorporating one would need an appropriate performance solution will need to be documented by the hydraulic consultant addressing the system compliance against BCA Performance Requirements F1P2 and F1P3 (prev. FP1.2 & FP1.3).

This should be documented and demonstrated as part of the mitigation measures.

10.2. Surface Water Management (BCA Part F1)

Exposed Joints

Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must not be located beneath or run through a planter box, water feature or similar part of the building.

Joints are to be protected in accordance with Section 2.9 of AS 4654.2.

This should be documented and demonstrated as part of the mitigation measures.

External Waterproofing Membranes

All external above ground areas (roof slabs, balconies etc.) shall be protected by a waterproofing system in accordance with AS4654 Parts 1 and 2 – 2012.

This should be documented and demonstrated as part of the mitigation measures.

10.3. Roof & Wall Cladding (BCA Part F3 (previously Part F1))

BCA 2022 has introduced some deemed to satisfy provisions that relate to the waterproofing of external walls. These provisions apply as follows:

- Masonry, including masonry veneer, unreinforced and reinforced masonry is to comply with AS 3700
- Autoclaved aerated concrete is to comply with AS 5146.3
- Metal wall cladding is to comply with AS 1562.1

Where the installation is not proposed to comply with the above, or a different material is proposed to be used, a performance solution can be utilised to demonstrate compliance.

Performance Requirement F3P1 (previously FP1.4) which relates to the prevention of the penetration of water through external walls, must be complied with. Where a performance solution is proposed, it is to be prepared by a suitably qualified professional (façade engineer with NER for structural engineering) that demonstrates that the external walls of the proposed building comply with Performance Requirement F3P1 (previously FP1.4) which reads as follows:

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.

This should be documented and demonstrated as part of the mitigation measures.

10.4. Wet Areas & Overflow Protection (BCA Part F2 (previously Part F1)

Internal wet areas throughout the development (e.g. bathrooms, laundries) shall be waterproofed in accordance with AS3740 - 2010 requirements.

Further review will be undertaken as the design develops with respect to the specification of waterproofing membrane, provision of water-stops at doorways etc. This should be documented and demonstrated as part of the mitigation measures.

10.5. Sanitary Facilities (BCA F4D2, F4D3, F4D4, F4D5, F4D6 (previously F2.2 and F2.3)

Schools / Education

Separate sanitary facilities are required to be provided for male & female staff and for male & female students; this also includes the provision of a unisex disabled facility for both staff and students separately.

The following table summarises the sanitary facilities provided:

Sanitary Facilities Provided			
The new Learning Hub Building	WC	Urinals	Basins
Male	18	-	18
Female	18	-	18
Accessible	3	-	3

Sanitary Facilities Provided
The Above Facilities are adequate for 750 male & 750 female students. However, the school is to provide the expected increase in the population number of staff and students associated with this development.

Detailed designs will need to be developed as to the layout, dimensions, etc of the sanitary facilities.
Note: The Unisex facilities provided for people with disabilities may be counted once for each sex. These facilities are to be provided in accordance with AS1428.1-2009.

Bathroom Construction

Where bathrooms or rooms containing water closets have the WC within 1200mm of the doorway, the door shall be either sliding, open outwards, or be provided with removable hinges.

This should be documented and demonstrated as part of the mitigation measures.

10.6. Light and Ventilation (BCA Part F6 (previously Part F4)

Class 9

Natural Ventilation is required to be provided to rooms at a rate of 5% of the floor area in openings. Alternatively, mechanical ventilation is required in accordance with AS1668.2-2012

Artificial lighting complying with AS/NZS1680.0-2009 is to be incorporated with the final detailed design to be developed to confirm this.

These provisions also apply to areas considered as occupiable outdoor areas.

11. Energy Efficiency

11.1. SECTION J (JP1 Energy Efficiency)

Efficient energy use must be achieved appropriate to the function and use of the building, level of human comfort, solar radiation, energy source of the services and sealing of the building envelope. To achieve this JV1, JV2, JV3, JV4 and JV5 verification methods have been introduced as options available to achieve compliance.

It is noted that a deemed to satisfy pathway is still available.

The proposed site will be located in a climate zone 6.

Due to special nature of the building some energy provisions may not be appropriate.

Certification from an appropriately qualified engineer should be provided for either option with a report / computations outlining how compliance is achieved. This should be documented and demonstrated as part of the mitigation measures.

Verification Methods

The Verification Methods available to demonstrate compliance with the BCA on a performance basis are as follows:

J1V2 (previously JV3) Green Star

To achieve compliance with J1P1 (previously JP1) for Class 3,4,5,6, 7, 8, 9 and common area of Class 2 buildings Green Star can be used as a verification method when the calculation method complies with ANSI/ASHRAE Standard 140, Specification 34 (previously Spec JVb) and when:

- The building complies with simulation requirements and is registered for a Green Star – Design & As-Built rating; and
- The annual greenhouse gas emissions of the proposed building are less than 90% of the annual greenhouse gas emissions of the reference building; and
- In the proposed building, a thermal comfort level of between predicted mean vote of -1 to +1 is achieve across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building; and

J1V3 (previously JV3) Verification Using a Reference Building

To achieve compliance with JP1 for Class 3,4,5,6, 7, 8, 9 and common area of Class 2 buildings verification using a reference building can be used when the calculation method complies with ANSI/ASHRAE Standard, Specification 34 (previously Spec JVb) and when:

- It is determined that the annual greenhouse gas emissions of the proposed building are not more than the annual greenhouse gas emissions of a reference building when
  - the proposed building is modelled with the proposed services; and
  - the proposed building is modelled with the same services as the reference building.
  - The proposed building thermal comfort level is to be between predicted mean vote of -1 to +1 across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation; and
  - The building achieves the additional requirements in Specification 33 (previously Spec JVa); and
  - The greenhouse gas emissions of the proposed building may be offset by renewable energy generated and use on site and another process such as reclaimed energy used on site.

J1V4 (previously JV4) Building Envelope Sealing

Compliance with J1P1(e) (previously JP1) and J1P2 (previously JP2) is verified for building envelope sealing when the envelope is sealed at an air

- permeability rate, tested in accordance with Method 1 of AS/NZS ISO 9972, of not more than—For a class 2 building or a class 4 part of a building, 10m³hr.m² at 50 Pa reference pressure; or
- For a class 5, 6, 8, 9a or 9b building other than a ward area in climate zones 1, 7 and 8, 5 m³/hr.m² at 50 Pa reference pressure; or
- For class 3 or 9c building, or a class 9a ward area in climate zones 1, 3, 4, 6, 7 and 8 5m³/hr.m² at 50 Pa reference pressure.

Part J3 and performance solution that uses on of the other NCC assessment Methods which verifies that compliance with JP1 (e) will be achieve can also be used as verification methods.

11.2. Building Fabric (Part J4 (previously Part J1))

Roof and Ceiling Construction (Part J4D4 (previously J1.3))

For a deemed-to-satisfy solution roofs and or ceilings are to be constructed to provide a total R-Value greater than or equal to-

(i) in climate zones 1, 2, 3, 4 and 5, R3.7 for a downward direction of heat flow; and
(ii) in climate zone 6, R3.2 for a downward direction of heat floor; and
(iii) in climate zone 7, R3.7 for an upward direction of heat flow; and
(iv) in climate zone 8, R4.8 for an upward direction of heat flow;

In climate zones 1, 2, 3, 4, 5, 6 and 7, the solar absorptance of the upper surface of a roof must be not more than 0.45.

Where the layer of insulation is penetrated by the percentages as tabled below, additional upgrading of the remainder of the insulation level is required.

This should be documented and demonstrated as part of the mitigation measures.

To achieve compliance with J0.2 (c) a roof that has a metal sheet roofing fixed to metal purlins, metal rafters or metal battens and does not have a celling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens must have a thermal break. The thermal break to be consisting of a material with a R-Value of not less than R0.2, installed at all points of contact between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens.

External Walls and Glazing (Part J4D6 (previously J1.5))

For walls and glazing construction the total system U-value must not be greater than-

(i) for a Class 5, 6, 7, 8 or 9b building other than a ward area, U2.0; and

The total system U-value of wall-glazing construction should be calculated in accordance with Specification 37 (previously J1.5a).

Wall components of the wall-glazing construction must achieve a minimum total R-Value of R1.0 where the wall is less 80% if the area and reflect the value specified in Table J4D6a (previously J1.5a) where the wall is *0% or more of the area.

There are further design parameters for display glazing and solar admittances for wall-glazing construction, both of which should comply with the relevant provisions of J4D6 (previously J1.5).

Floors (Part J4D7 (previously J1.6))

Floors are to achieve an R rating of 2.0.

This should be documented and demonstrated as part of the mitigation measures.

11.3. Building sealing (Part J5 (previously J3))

Windows and Doors (Part J5D5 (previously J3.4))

a) A door, openable window or the alike must be sealed –
   (i) When forming part of the envelope; or
   (ii) In climate zones 4,5,6,7 or 8
b) The requirements of (a) do not apply to –
   (i) A window complying with AS2047; or
   (ii) A fire door or smoke door; or
   (iii) A roller shutter door, roller shutter grille or other security door or device installed only for out of house security
c) A seal to restrict air infiltration –
   (i) For the bottom edge of a door, must be draft protection device; and
   (ii) For the other edged of a door or the edges of an openable window or other such opening, may be a foam or rubber compression strip, fibrous seal or the like.
d) An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, rapid roller door, revolving door or the like, other than –
   (i) When the conditioned space has a floor area of not more than 50m²; or
   (ii) Where a café, restaurant, open front shop or the like has –

(A) A 3m deep un-conditioned zone between the main entrance, including an open front, and the conditioned space; and

(B) At all other entrances to the café, restaurant, open front shop or the like, self-closing doors.

(iii) A loading dock entrance, if leading to a conditioned space, must be fitted with a rapid roller door or the like

Exhaust fans (Part J5D6 (previously J3.5))

An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving a conditioned space or a habitable room in climate zones 4, 5, 6, 7, or 8.

Construction of ceilings, walls and floors (Part J5D7 (previously J3.6))

A seal to restrict air infiltration must be fitted to each edge of the external doors and openable windows. The seals may be foam or compressible strip, fibrous seal or the like. The main entry doors must have either an airlock, or self-closing doors, or a revolving door.

Ceilings, walls, floors and any openings such as a window frame, door frame, roof light frame or the like must be constructed to minimise air leakage in accordance with the below when forming part of –

(i) The envelope; or
(ii) In climate zones 4, 5, 6, 7 or 8

Construction required by above must be –

(iii) Enclosed by internal lining systems that are close fittings at ceiling, wall and floor junctions; or
(iv) Sealed at junctions and penetrations with –
  (A) Close fitting architrave, skirting or cornice; or
  (B) Expanding foam, rubber compressible strip, caulking or the like

The above does not apply to openings, grilles or the like required for smoke hazard management.

Evaporative coolers (Part J5D8 (previously J3.7))

An evaporative cooler must be fitted with a self-closing damper or the like –

(a) When serving a heated space; or
(b) In climate zones 4,5,6,7 or 8.

11.4. Air Conditioning and Ventilation systems (Part J6 (previously J5))

Air conditioning and ventilation systems must be designed to comply with the following provisions:

- Be capable of being deactivated when the building or part of a building being served by that system is not occupied;
- Where motorised dampers are in place, they should close when the system is deactivated
- Time switches should be provided to control an air-conditioning system of more than 2kWr and a heater of more than 1kW $_{heating}$ used for air-conditioning, and be capable of switching electric power on and off at variable pre-programmed times on variable pre-programmed days.
- Ductwork and fittings in an air-conditioning system should have insulation complying with AS/NZS 4859.1 and have an insulation R-Value greater than or equal to:-
  - for flexible ductwork R1.0; or
  - for cushion boxes, that of the connecting ductwork; or
  - That specified in Table J6D6 (previously J5.5)

Table J6D6 (previously Table J5.5)

Location of ductwork and fittings	Climate zone 1, 2, 3, 4, 5, 6 or 7	Climate zone 8
Within a conditioned space	1, 2	2.0
Where exposed to direct sunlight	3.0	3.0
All other locations	2.0	3.0

Mechanical:

- Be capable of being deactivated where the building or part of the building served by that system is not occupied
- Time switches must be provided to a mechanical ventilation system with an air flow rate of more than 1000 L/s, capable of switching electric power on and off at variable pre-programmed times and on variable pre-programmed days;

Heaters

A heater used for air-conditioning or as part of an air-conditioning system must be a either a solar heater, gas heater, heat pump heaters, a heater using reclaimed heat or an electric heater.

A gas water heater, that is used as part of an air-conditioning system must:-

(i) if rated to consume 500 MJ/hour of gas or less, achieve a minimum gross thermal efficiency of 86% ; or
(ii) If rated to consume more than 500 MJ/hour of gas, achieve a minimum gross thermal efficiency of 90%.

Unitary air-conditioning equipment

Unitary air-conditioning equipment including packaged air-conditioners, split systems, and variable refrigerant flow systems must comply with MEPS and for a capacity greater than or equal to 65 kWr –

(a) Where water cooled, have a minimum energy efficiency ratio of 4.0 W_r/ $W_{input\ power}$ for cooling when tested in accordance with AS/NZS 3823.1.2 at test condition T1, where input power includes both compressor and fan input power; or
(b) Where air cooled, have a minimum energy efficiency ratio of 2.9 W_r / $W_{input\ power}$ for cooling when tested in accordance with AS/NZS 3823.1.2 at test condition T1, where input power includes both compressor and fan input power.

11.5. Artificial Lighting and Power (Part J6)

Interior Artificial Lighting and Power Control (Part J6.2 & 6.3)

The maximum illumination power density;

Stairways, including fire-isolated stairways	2W/m^2
Toilet, locker room, staff room, rest room or the like	3W/m^2
Lift cars	3W/m^2
Service area, cleaner's room and the like	3W/m^2
Plant room:	
(A) Where an average of 160 lx vertical illuminance is required on a vertical panel such as in switch rooms	4W/m^2
(B) With a horizontal illuminance target of 80 lx	2W/m^2
Library:	

(A) Stack & shelving area	2.5W/m^2
(B) Reading room & general areas	4.5W/m^2
Office:	
(A) Artificially lit to an ambient level of 200 lx or more	4.5W/m^2
(B) Artificially lit to an ambient level of less than 200 lx	2.5 W/m^2
Storage	1.5W/m^2
School:	4.5W/m^2

Artificial Lighting must be controlled by a time switch, other control device or a combination of both.
Each light control in a building must not operate lights within an area of more than;

- Not operate lighting for an area more than -
  a) 250m^2 for a space of not more than 2000m^2;
  b) 1000m^2 for a space of more than 2000m^2
  if in a Class 3, 6, 7, 8 (other than a laboratory) or 9 building;
- 1000m^2 for a space of more than 2000m^2

Interior decorative and display lighting

Interior decorative and display lighting, such as for a foyer mural or art display, must be controlled -

- Separately from other artificial lighting; and
- By a manual switch for each area other than when operating times of the displays are the same in a number of areas (e.g. where in a museum) in which case they may be combined; and
- By a time switch in accordance with Specification 40 (previously J6) where the display lighting exceeds 1 kW

Window display must be controlled separately from other display lighting exceeds 1kW.

Exterior artificial lighting

Artificial lighting attached to or directed at the façade of the building if it exceeds a total of 100W must;

- Use LED luminaires for 90% of the total lighting load; or
- Be controlled by a motion detector in accordance with Specification J6 of the BCA;
- When used for decorative purposes, such as façade lighting or signage lighting, have a separate switch in accordance with Specification J6.

Lifts (Part J7D8 (previously J6.7))

Lifts must be configured to ensure artificial lighting and ventilation in the car are turned off when it is unused for 15 minutes and achieve the idle and standby energy performance level required, and the energy efficiency class under J7D8 (previously J6.7) of the BCA.

11.6. Heated Water Supply (Part J8 (previously J7))

Heated water supply (Part J8D2 (previously J7.2))

A heated water supply system for food preparation and sanitary purposes must be designed and installed in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.

11.7. Energy Monitoring and On-Site Distributed Energy Resources (Part J9 (previously Part J8))

Facilities for Energy Monitoring (J9D3 (previously J8.3))

A building or sole-occupancy unit with a floor area of more than 500 m2 must have energy meters configured to record the time-of-use consumption of gas and electricity.

A building with a floor area of more than 2 500 m2 must have energy meters configured to enable individual time-of-use energy data recording, in accordance with the below, of—

a) artificial lighting; and
b) appliance power; and
c) central hot water supply; and
d) internal transport devices including lifts, escalators and moving walkways where there is more than one serving the building; and
e) on-site renewable energy equipment; and
f) on-site electric vehicle charging equipment; and
g) on-site battery systems; and
h) other ancillary plant.

Energy meters required by the above must be interlinked by a communication system that collates the time-of-use energy data to a single interface monitoring system where it can be stored, analysed and reviewed.

These provisions do not apply to energy meters serving—

a) individual sole-occupancy units with a floor area of less than 2 500 m

Facilities for Solar Photovoltaic and Battery Systems

The main electrical switchboard of a building must—
a) contain at least two empty three-phase circuit breaker slots and four DIN rail spaces labelled to indicate the use of each space for—
   i. a solar photovoltaic system; and
   ii. a battery system; and
b) be sized to accommodate the installation of solar photovoltaic panels producing their maximum electrical output on at least 20% of the building roof area.

At least 20% of the roof area of a building must be left clear for the installation of solar photovoltaic panels, except for buildings—
a) with installed solar photovoltaic panels on—
   i. at least 20% of the roof area; or
   ii. an equivalent generation capacity elsewhere on-site; or
b) where 100% of the roof area is shaded for more than 70% of daylight hours; or
c) with a roof area of not more than 55 m2; or
d) where more than 50% of the roof area is used as a terrace, carpark, roof garden, roof light or the like.

The requirements do not apply to a building with solar photovoltaic panels installed on at least 20% of the roof area or to a building with battery systems installed.

12. Access for People with Disabilities

The works are required to comply with the accessibility provisions contained within:

- The Building Code of Australia 2022;
- Disability (Access to Premises – Buildings) Standards 2010;
- AS1428.1-2009 General Requirements for Access – New Building Work;

- AS1428.4.1 -2009 Tactile Ground Surface Indicators
- AS2890.6-2009 Car Parking for People with Disabilities

Note: With the introduction of the Commonwealth *Disability Discrimination Act (DDA)* in 1992 (enacted in 1993), all organisations have a responsibility to provide equitable and dignified access to goods, services and premises used by occupants. Organisations and individuals since its introduction, are required to work to the objects of the Act which are to eliminate, as far as possible, discrimination against persons on the ground of disability in the **areas of work, accommodation, education, access to premises, clubs and sports, and the provision of goods, facilities, services and land, existing laws and the administration of Commonwealth laws and programs.**

This report assesses against the requirements contained with the Building Code of Australia (and documents referred to therein) and is not considered to be a full assessment against the Disability Discrimination Act.

12.1. General Building Access Requirements (BCA D4D2 (previously D3.1))

Access for people with disabilities shall be provided to and within the building in accordance with the requirements of Clause D4D3, D4D4 and D4D5 (previously D3.2, D3.3 and D3.4) of the BCA 2022 and AS 1428.1. Parts of the building required to be accessible shall comply with the requirements of:-

- AS1428.1-2009 General Requirements for Access – New Building Work;
- AS1428.4.1 -2009 Tactile Ground Surface Indicators
- AS2890.6-2009 Car Parking for People with Disabilities

Access for persons with a disability is to be provided as follows:

Schools

To and within all areas normally used by the occupants.

12.2. Provision for Access to Buildings (BCA Clause D4D3 (previously D3.2)

The BCA prescribes access to be provided to and within the building as follows:

- Via the principle pedestrian entry and at least 50% of all other entrances from the allotment boundary
- From designated car parking spaces for the use of occupants with a disability.
- From another accessible building connected by a pedestrian link.
- All areas used by the occupants.

In buildings over 500m^2 in floor area, a non-accessible entrance must not be located more than 50m from an accessible entrance.
Where a pedestrian entry contains multiple doors, the following is required;

- Entrance containing not more than 3 doors, at least one of the doorways must be accessible.
- Where an entrance contains more than 3 doors, not less than 50% of the doorways must be accessible.

A door is considered to be accessible if it is automatic (open and closing) or is more than 850mm in clear opening width and contains the required door circulation space.

12.3. Accessibility within Building (BCA Clause D4D4 (previously D3.3))

A building required to be accessible is required to be equipped with either a AS 1428.1 compliant lift or AS 1428.1 compliant ramp, (but the maximum vertical rise of a ramp must not exceed 3.6m).

An exemption to not provide either a lift or ramp exists for class 5, 6, 7b, or 8 buildings, where a building contains;

a) Less than 3 storeys; and

b) Floor area of each storey (excluding the entrance level) is not more than 200m^2.

Within the building the following are required;

- Door circulation space as per AS1428.1 Clause 13.3;
- Doorways must have a clear opening of 850mm;
- Passing spaces (1.8m wide passages) must be provided at maximum of 20m intervals
- Within 2.0m of end access ways/corridors, turning areas spaces are required to be provided.
- Carpet pile height of not more than 11mm to an adjacent surface and backing <4mm
- Any glazing capable of being mistaken for a doorway or opening must be clearly marked (or contain chair rail, hand rail or transom as per AS 1288 requirements)

The design would generally comply with the prescriptive provisions of the BCA with additional ongoing review being undertaken as to door widths, circulation, etc. Further details are to be provided or access to these areas is to be assessed by an access consultant.

12.4. Car Parking (BCA Clause D4D6 (previously D3.5))

Accessible car parking spaces are required to comply with AS 2890.6-2009 at the rate of 1 accessible space for every 100 carparking space.

The development is proposed to contain 57 car parking spaces which requires a minimum of 1 accessible spaces.

A 'shared zone' of minimum 5400mm x 2400mm is required adjacent to accessible car parking spaces, protected with a bollard.

12.5. Tactile Indicators (BCA Clause D4D9 (previously D3.8))

Tactile indicators are required to be provided to warn occupants of all stairs (except Fire Isolated stairs) and ramps regardless of public nature or private environment and where an overhead obstruction occurs less than 2.0m above the finished floor level.

12.6. Stairs (BCA Clause D4D4 (previously clause D3.3 inter Alia AS1428.1))

Stairs shall be constructed as follows:

a) Where the intersection is at the property boundary, the stair shall be set back by a minimum of 900mm so that the handrail and TGSIs do not protrude into the transverse path of travel.
b) Where the intersection is at an internal corridor, the stair shall be set back one tread width plus 300mm (nominally 700mm as per AS 1428.1-2009 Fig 26(b)), so the handrails do not protrude into transverse path of travel.
c) Stairs shall have opaque risers.
d) Stair nosing shall not project beyond the face of the riser and the riser may be vertical or have a splay backwards up to a maximum 25mm.
e) Stair nosing profiles shall;
   - Have a sharp intersection;
   - Be rounded up to 5mm radius; or
   - Be chamfered up to 5mm x 5mm
f) All stairs, including fire isolated stairs shall, at the nosing of each tread have a strip not less than 50mm and not more than 75mm deep across the full width of the path of travel. The strip may be set back a maximum of 15mm from the front of the nosing. The strip shall have a minimum luminance contrast of 30% to the background. Where the luminous contrasting strip is affixed to the surface of the tread, any change in level shall not exceed a difference of 5mm.

12.7. Accessible Sanitary Facilities (BCA Clause F4D5, F4D6, F4D7 (previously F2.4))

Unisex Accessible Sanitary Facilities

An accessible unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only and provided in accordance with AS 1428.1-2009 and must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary products and as per following.

Ambulant Facilities

At each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1-2009 must be provided for use by males and females.

Where male sanitary facilities are provided at a separate location to female sanitary facilities, accessible unisex sanitary facilities are only required at one of those locations.

An accessible unisex sanitary compartment or an accessible unisex shower need not be provided on a storey or level that is not provided with a passenger lift or ramp complying with AS 1428.1-2009

12.8. Signage (BCA Clause D4D7 (previously D3.6))

As part of the detailed design package, specifications will need to be developed indicating:

- Sanitary Facility Identification Signs (note that they are to comply with BCA Specification 15 (previously Spe. D3.6) and include the use of Braille, Tactile, etc and be placed on the wall on the latch side of the facility);
- Directional / Way Finding signs to the Lifts, Sanitary Facilities, etc;
- Hearing Augmentation System;
- Identify each door required by BCA Clause E4D5 (previously E4.5) to be provided with an exit sign, stating ‘EXIT’ and ‘Level” number
- Braille and tactile signs must be illuminated to ensure *luminance contrast* requirements are met at all times during which the sign is required to be read.

12.9. Lifts (BCA Clause E3D7, E3D8 (previously E3.6))

Lifts compliant to BCA E3D7, E3D8, and E3D9 (previously E3.6, E3.7) must be provided, where required to be provided, with a minimum size of 1400 x 1600mm or 1100mm x 1400mm (whichever is appropriate) in size – with appropriate handrails and auditory commands.

13. Appendix A - Reference Documentation

The following documentation was used in the assessment and preparation of this report:

Drawing No.	Title	Revision	Date	Prepared By
APS-PA-00-GF-DR-A-DA_101	SITE PLAN - GROUND FLOOR COMPOSITE PLANS - SHEET 01	D	8.3.24	Pedavoli Architects
APS-PA-00-GF-DR-A-DA_102	SITE PLAN - GROUND FLOOR COMPOSITE PLANS - SHEET 02	D	8.3.24	Pedavoli Architects
APS-PA-00-L1-DR-A-DA_103	SITE PLAN - LEVEL 1 COMPOSITE PLANS - SHEET 01	D	8.3.24	Pedavoli Architects
APS-PA-00-L1-DR-A-DA_104	SITE PLAN - LEVEL 1 COMPOSITE PLANS - SHEET 02	D	8.3.24	Pedavoli Architects
APS-PA-00-L2-DR-A-DA_105	SITE PLAN - LEVEL 2 COMPOSITE PLANS - SHEET 01	D	8.3.24	Pedavoli Architects
APS-PA-00-L2-DR-A-DA_106	SITE PLAN - LEVEL 2 COMPOSITE PLANS - SHEET 02	D	8.3.24	Pedavoli Architects
APS-PA-00-L3-DR-A-DA_107	SITE PLAN - ROOF COMPOSITE PLANS -SHEET 01	D	8.3.24	Pedavoli Architects
APS-PA-00-XX-DR-A-DA_000	COVER SHEET AND DRAWING LIST	D	8.3.24	Pedavoli Architects
APS-PA-00-ZZ-DR-A-DA_003	SITE PLAN - EXISTING CONDITIONS	D	8.3.24	Pedavoli Architects
APS-PA-00-ZZ-DR-A-DA_005	OVERALL SITE PLAN	D	8.3.24	Pedavoli Architects
APS-PA-00-ZZ-DR-A-DA_007	SITE SECTIONS	D	8.3.24	Pedavoli Architects
APS-PA-B00I-GF-DR-A-02011	BUILDING I - GROUND FLOOR PLAN & FURNITURE PLAN	D	8.3.24	Pedavoli Architects
APS-PA-B00J-GF-DR-A-03501	LEARNING HUB - GROUND FLOOR -FURNITURE PLAN - TYPICAL	B	11.3.24	Pedavoli Architects
APS-PA-B00J-L1-DR-A-03502	LEARNING HUB - LEVEL 1 – FURNITURE PLAN - TYPICAL	B	11.3.24	Pedavoli Architects
APS-PA-B00J-L2-DR-A-0350	LEARNING HUB - LEVEL 2 – FURNITURE PLAN - TYPICAL	B	11.3.24	
APS-PA-B00B-ZZ-DR-A-01011	BUILDING B - GROUND FLOOR & LEVEL 1 - GA & FURNITURE PLAN	D	11.3.24	

The following updated documentation was provided to our office post issuance of Rev F of this report.

Drawing No.	Title	Revision	Date	Prepared By
-	Architectural Design Statement	B	16.1.25	Pedavoli Architects
APS-PA-00-00-	COVER SHEET AND DRAWING	B	16.1.25	Pedavoli

DR-A-REF_000	LIST			Architects
APS-PA-00-00-DR-A-REF_001	SITE ANALYSIS PLAN	B	16.1.25	Pedavoli Architects
APS-PA-00-00-DR-A-REF_003	SITE PLAN - EXISTING CONDITIONS	B	16.1.25	Pedavoli Architects
APS-PA-00-00-DR-A-REF_004	SITE PLAN - DEMOLITION	B	16.1.25	Pedavoli Architects
APS-PA-00-00-DR-A-REF_005	OVERALL SITE PLAN	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_007	SITE SECTIONS	B	16.1.25	Pedavoli Architects
APS-PA-00-GF-DR-A-REF_101	SITE PLAN - GROUND FLOOR COMPOSITE PLANS - SHEET 01	B	16.1.25	Pedavoli Architects
APS-PA-00-GF-DR-A-REF_102	SITE PLAN - GROUND FLOOR COMPOSITE PLANS - SHEET 02	B	16.1.25	Pedavoli Architects
APS-PA-00-L1-DR-A-REF_103	SITE PLAN - LEVEL 1 COMPOSITE PLANS - SHEET 01	B	16.1.25	Pedavoli Architects
APS-PA-00-L1-DR-A-REF_104	SITE PLAN - LEVEL 1 COMPOSITE PLANS - SHEET 02	B	16.1.25	Pedavoli Architects
APS-PA-00-L2-DR-A-REF_105	SITE PLAN - LEVEL 2 COMPOSITE PLANS - SHEET 01	B	16.1.25	Pedavoli Architects
APS-PA-00-L2-DR-A-REF_106	SITE PLAN - LEVEL 2 COMPOSITE PLANS - SHEET 02	B	16.1.25	Pedavoli Architects
APS-PA-00-L3-DR-A-REF_107	SITE PLAN - ROOF COMPOSITE PLANS - SHEET 01	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_111	ELEVATIONS - SHEET 01	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_112	ELEVATIONS - SHEET 02	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_121	COMPOSITE SECTIONS - SHEET 01	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_122	COMPOSITE SECTIONS - SHEET 02	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_301	SHADOW - EXISTING AND PROPOSED - 21 JUNE 9AM	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_302	SHADOW - EXISTING AND PROPOSED - 21 JUNE 12 NOON	B	16.1.25	Pedavoli Architects
LPS-PA-00-ZZ-DR-A-REF_501 APS-PA-00-ZZ-DR-A-REF_303	SHADOW - EXISTING AND PROPOSED - 21 JUNE 3PM	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_304	SITE HEIGHT LIMIT DIAGRAM	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_305	HEIGHT LIMIT 3D MASSING RENDERS	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_401	RENDERS AND MATERIAL BOARD	B	16.1.25	Pedavoli Architects
APS-PA-00-ZZ-DR-A-REF_501	GFA PLANS AND AREA CALCULATION	B	16.1.25	Pedavoli Architects

14. Appendix B - Draft Fire Safety Schedule – Learning Hub building

No.	Measure	Particulars of Measure *(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)*	Currently Implemented (Yes/No)	Proposed (Yes/No)
STATUTORY FIRE SAFETY MEASURES				
1.	Automatic Fire Suppression System (sprinklers)	BCA 2022 Clause C2D13	No	Yes
2.	Mechanical Air Handling System (Shutdown of air-handling system)	BCA 2022 Clause NSW E2D16, Spec 20	No	Yes
3.	Emergency Lighting	BCA 2022 Clause E4D2, E4D4 & AS/NZS 2293.1 – 2018	No	Yes
4.	Exit Signs	BCA 2022 Clauses E4D5, E4D6 & E4D8 and AS/NZS 2293.1 – 2018	No	Yes
5.	Fire Hydrant Systems	BCA 2022 Clause C3D13, E1D2, Spec 18, I3D9 & AS 2419.1 – 2021	No	Yes
6.	Portable Fire Extinguishers	BCA 2022 Clause E1D14 & I3D11, AS 2444 – 2001	No	Yes
15. Draft Fire Safety Schedule – Library Fitout				
	Mechanical Air Handling System (Shutdown of air-handling system)	BCA 2022 Clause NSW E2D16, Spec 20	No	Yes
	Emergency Lighting	BCA 2022 Clause E4D2, E4D4 & AS/NZS 2293.1 – 2018	No	Yes
	Exit Signs	BCA 2022 Clauses E4D5, E4D6 & E4D8 and AS/NZS 2293.1 – 2018	No	Yes
	Portable Fire Extinguishers	BCA 2022 Clause E1D14 & I3D11, AS 2444 – 2001	No	Yes

16. Appendix C - Fire Resistance Levels

The table below represents the Fire resistance levels required in accordance with BCA 2022:

Type A Construction

Table S5C11a: Type A Construction: FRL of loadbearing parts of external walls

Distance from a fire source feature	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3m	90/60/30	120/90/90	180/180/120	240/240/180
3m or more	90/60/30	120/60/30	180/120/90	240/180/90

Table S5C11b: Type A Construction: FRL of non-loadbearing parts of external walls

Distance from a fire source feature	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	-/90/90	-/120/120	-/180/180	-/240/240
1.5 to less than 3m	-/60/60	-/90/90	-/180/120	-/240/180
3m or more	-/-/-	-/-/-	-/-/-	-/-/-

Table S5C11c: Type A Construction: FRL of external columns non incorporated in an external wall

Column tyle	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing	90/-/-	120/-/-	180/-/-	240/-/-
Non-loadbearing	-/-/-	-/-/-	-/-/-	-/-/-

Table S5C11d: Type A Construction: FRL of common walls and fire walls

Wall type	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing or non-loadbearing	90/90/90	120/120/120	180/180/180	240/240/240

Table S5C11e: Type A Construction: FRL of loadbearing internal walls

Location	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair shafts	90/90/90	120/120/120	180/120/120	240/120/120

Bounding public corridors, public lobbies and the like	90/90/90	120/-/-	180/-/-	240/-/-
Between or bounding sole-occupancy units	90/90/90	120/-/-	180/-/-	240/-/-
Ventilating, pipe, garbage, and like shafts not used for the discharge of hot products of combustion	90/90/90	120/90/90	180/120/120	240/120/120

Table S5C11f: Type A Construction: FRL of non-loadbearing internal walls

Location	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair shafts	-/90/90	-/120/120	-/120/120	-/120/120
Bounding public corridors, public lobbies and the like	-/60/60	-/-/-	-/-/-	-/-/-
Between or bounding sole-occupancy units	-/60/60	-/-/-	-/-/-	-/-/-
Ventilating, pipe, garbage, and like shafts not used for the discharge of hot products of combustion	-/90/90	-/90/90	-/120/120	-/120/120

Table S5C11g: Type A Construction: FRL of other building elements not covered by Tables S5C11a to S5C11f

Location	FRL (in minutes): Structural Adequacy/ Integrity/ Insulation			
	Class 2,3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Other loadbearing internal walls, internal beams, trusses and columns	90/-/-	120/-/-	180/-/-	240/-/-
Floors	90/90/90	120/120/120	180/180/180	240/240/240
Roofs	90/60/30	120/60/30	180/60/30	240/90/60