

NEW HIGH SCHOOL FOR JORDAN SPRINGS

BUILDING CODE OF AUSTRALIA 2022 REPORT – SCHEMATIC DESIGN

| Report prepared for: | The Department of Education (DoE) Level 8, 259 George Street Sydney NSW 2000 |
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REVISION HISTORY

| Revision No. | Prepared by | Description | Date |
|--------------|--------------|----------------------------------------------------------------------------------------------------|------------|
| R00 | Matt Shahidi | Final BCA Report | 08/11/2024 |
| R01 | Matt Shahidi | Final BCA Report – Incorporating amendments as per updated preamble | 12/11/2024 |
| R02 | Matt Shahidi | Draft BCA Report – Incorporating review comments | 11/12/2024 |
| R03 | Matt Shahidi | Final BCA Report – Incorporating review 12/12/2024 comments from DFP and SINSW Stat Planning | |

□ BUILDING CODE □ ACCESS CONSULTING □ ESSENTIAL SERVICES

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1.0 Introduction and Documentation

This Building Code of Australia 2022 (BCA) Assessment Report has been prepared to accompany a Review of Environmental Factors (REF) for the Department of Education (DoE) for the construction and operation of a New High School for Jordan Springs (the activity) under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP TI).

This report has been prepared to offer comments and recommendations with respect to Building Code of Australia 2022 compliance. The report is the result of the review of the below listed architectural drawings as available at the time of assessment against the requirements of the Building Code of Australia 2022 (BCA), Volume 1. The architectural plans including BCA mark ups have been attached to this report (refer to Appendix C).

The design documentation assessed comprises only the plans developed by djrd architects as follows (no structural or services documentation have been assessed as part of our review):

| Drawing No/Rev. | Title | Dated |
|---------------------------------|---------------------------------|------------|
| JSHS-DJRD-00-00-DR-A-0101/P02 | SITE PLAN | 01/11/2024 |
| JSHS-DJRD-00-00-DR-A-0250/P03 | OVERALL GROUND FLOOR PLAN | 04/11/2024 |
| JSHS-DJRD-00-00-DR-A-0251/P03 | OVERALL LEVEL 1 FLOOR PLAN | 04/11/2024 |
| JSHS-DJRD-00-00-DR-A-0252/P03 | OVERALL LEVEL 2 FLOOR PLAN | 04/11/2024 |
| JSHS-DJRD-00-00-DR-A-0253/P03 | OVERALL ROOF PLAN | 04/11/2024 |
| JSHS-DJRD-B00A-GF-DR-A-1010/P02 | BUILDING A - GROUND FLOOR PLAN | 25/10/2024 |
| JSHS-DJRD-B00A-L1-DR-A-1011/P02 | BUILDING A - LEVEL 1 FLOOR PLAN | 25/10/2024 |
| JSHS-DJRD-B00A-L2-DR-A-1012/P02 | BUILDING A - LEVEL 2 FLOOR PLAN | 25/10/2024 |
| JSHS-DJRD-B00B-GF-DR-A-1020/P02 | BUILDING B - GROUND FLOOR PLAN | 25/10/2024 |
| JSHS-DJRD-B00B-L1-DR-A-1021/P02 | BUILDING B - LEVEL 1 FLOOR PLAN | 25/10/2024 |
| JSHS-DJRD-B00B-L2-DR-A-1022/P02 | BUILDING B - LEVEL 2 FLOOR PLAN | 25/10/2024 |
| JSHS-DJRD-B00C-GF-DR-A-1030/P02 | BUILDING C - GROUND FLOOR PLAN | 25/10/2024 |
| JSHS-DJRD-B00C-L1-DR-A-1031/P02 | BUILDING C - LEVEL 1 FLOOR PLAN | 25/10/2024 |
| JSHS-DJRD-B00C-L2-DR-A-1032/P02 | BUILDING C - LEVEL 2 FLOOR PLAN | 25/10/2024 |
| JSHS-DJRD-B00D-GF-DR-A-1040/P02 | BUILDING D - GF PLAN - STAGE 1 | 25/10/2024 |

We have reviewed the submitted architectural plans as tabulated above for compliance with the deemed-tosatisfy provisions of the Building Code of Australia 2022. Where compliance with the deemed to satisfy provisions is not possible, a schedule of performance solutions will be required. We have made every attempt to cover the main issues under Sections C, D, E, F, G & I of the Building Code of Australia. Areas of the design are still being refined so that resolution will be possible prior to the issue of a Construction Certificate (CC) / Section 6.28 Crown Certification for the works.

It is the responsibility of all designers and engineers to ensure that the design complies with the requirements of the Building Code of Australia, the Australian Standards and applicable legislation. This report does not infer compliance of the design at this stage of documentation. Further assessment will be required to validate the full compliance of the building design at the Construction Certificate (CC)/Section 6.28 Crown Certification Stage.

The sole purpose of this report is to verify capability of compliance of the proposed buildings with the Building Code of Australia. Consideration of environmental factors in the Guidelines for Division 5.1 assessments (the Guidelines) by the Department of Planning, Housing and Infrastructure and Sections 170, 171 and 171A of the EP&A Regulation are not relevant with respect to BCA compliance.

This report does not assess the impact of the Disability Discrimination Act (DDA), which is outside the scope of the BCA, nor does it include compliance with Part D4, E3D8, F4D5, F4D6 or F4D12 of the BCA. Refer to the Access Consultant's Report for DDA compliance. Any access design amendments or additional information is to be addressed prior to the issue of a Construction Certificate / Crown Certification.

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1.1 Proposed Activity Description

The proposed activity for the construction and operation of a New High School for Jordan Springs is proposed to have a capacity of 1,000 students and 80 staff to meet forecast enrolment demand associated with population growth in Jordan Springs and Ropes Crossing. The school will provide permanent General Learning Spaces (GLS), Support Learning Spaces (SLS), staff facilities and a library across three (3), three storey buildings, a single storey hall, half playing field, three (3) outdoor sport courts, 72 operational at grade parking spaces (including two (2) accessible spaces), 100 bicycle spaces and landscaping.

Public domain works and the permanent off-site OSD Basin are to be constructed by others under separate planning pathways.

1.2 Proposed Activity Scenarios

The project scope of works includes two (2) Scenarios, to allow construction and operation of the school, with (Scenario 1 – preferred option) or without (Scenario 2 – Interim Solution) the public domain works and permanent off-site basin being constructed by others under a separate planning pathway.

Scenario 1 – Preferred Option - Road Network completed and permanent OSD Basin Constructed

- External works undertaken by others to facilitate Scenario 1
 - Construction of Park Edge Road;
 - Any adjustments to Infantry Street;
 - Kiss and drop zone along Park Edge Road;
 - Support kiss and drop zone located along Infantry Street; and
 - Construction and operation of permanent OSD Basin off site.

Note – Scenario 1 is not to proceed if external works undertaken by others is not completed.

- Scenario 1
 - Construction and Operation of the New High School for Jordan Springs, including:
 - Decommissioning of existing on-site OSD basin;
 - Earthworks;
 - Three (3) multi-storey classroom buildings;
 - One (1) school hall;
 - Three (3) outdoor sport's courts;
 - One (1) sport's field;
 - 72 at grade car parking spaces, including two (2) accessible parking spaces, and waste services, accessed via Park Edge Road;
 - 100 bicycle parking spaces across the site; and
 - Landscaping.

Scenario 2 - Interim Solution – Road network not completed, Permanent OSD Basin not constructed.

- Scenario 2 Stage 1
 - Construction and operation of a temporary on-site OSD Basin;
 - Construction and operation of the New High School for Jordan Springs, including;
 - Earthworks;
 - Three (3) multi-storey classroom buildings;
 - One (1) sport's field;
 - Temporary carpark 72 at grade car parking spaces, including two (2) accessible parking spaces and waste services, located on the northwest corner of the site, accessed off Armoury Road;
 - 100 bicycle parking spaces across;
 - Temporary Kiss and drop facilities on Armoury Road; and
 - Associated landscaping.



Scenario 2 - Stage 2

Stage 2 is not to be undertaken until the temporary on-site OSD basin under stage 1 works is completed and operational.

- Decommissioning of existing on-site OSD basin, prior to the following works being undertaken:
 - 72 at grade car parking spaces, including two (2) accessible parking spaces, and waste services, located on the southeast corner of the site. This car park cannot be constructed until the decommissioning of the existing OSD basin is completed and will be non-operational with no road connection until completion of Scenario 2 – Stage 3;
 - One (1) school hall;
 - Three (3) outdoor sport's courts; and
 - Associated landscaping.

External works undertaken by others to facilitate Stage 3

- Construction of Park Edge Road;
- Any adjustments to Infantry Street;
- Kiss and drop zone along Park Edge Road;
- o Support kiss and drop zone located along Infantry Street; and
- Construction and operation of OSD Basin off site.

Note – Scenario 2 - Stage 3 is not to proceed until the external works undertaken by others have been completed.

- Scenario 2 Stage 3
 - Connection of the southeast carpark to Park Edge Road;
 - Rectification works along Armoury Road to remove temporary kiss and drop facilities and cross over for temporary carpark;
 - o Demolition of temporary carpark, once permanent car park is operational; and
 - Decommissioning of temporary OSD basin.

1.3 Activity Site

The project site is located on the corner of Armoury Road and Infantry Street in Jordan Springs and is legally described as part of Lots 2 and 3 in DP 1248480.

Figure 1 provides an aerial photograph of the project site, outlines the boundaries of the project site (in red) and the boundaries of Lots 2 and 3 in DP 1248480 (in blue).



Figure 1: Aerial Photograph

The project site is within the Central Precinct of the St Mary's Release Area in the Penrith Local

Government Area.

Other Approvals

• External works and construction of the permanent off-site OSD Basin are to be constructed by others.

2.0 List of Potential Fire Safety and Other Performance Solutions

The following list has been compiled based on a desktop review of the architectural plans submitted to date and are highlighted throughout the body of this report against the relevant BCA 2022 DtS provisions in **red**. Items are still being developed at this stage and will need reassessment with respect to justification of performance solutions and further assessment as the design changes and progresses. Coordination with the design team will be needed to determine if the intent is to propose a DtS solution, or if a fire engineered solution is preferred.

| BCA Reference | Performance Requirements | Details of Non-compliance |
|---------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D2D5 | D1P4 and E2P2 | Various non-compliances with respect to travel to a point of choice and travel distance to reach an exit identified. Refer to Section 6 Clause D2D5 of this report for full details including extent of non-compliances. |
| | | Design to be amended otherwise a fire engineered performance solution may be utilised. |
| D2D6 | D1P4 and E2P2 | Various non-compliances with respect to distance between alternative exits identified. Refer to Section 6 Clause D2D6 of this report for full details including extent of non-compliances. |
| | | Design to be amended otherwise a fire engineered performance solution may be utilised. |
| D3D25 | D1P4 | Most final exit doors on the ground floor for all buildings except building D swing against the direction of egress. |
| | | Design to be amended otherwise a fire engineered performance solution may be utilised. |

The following matters require further consideration or potential performance solution to be developed:

| BCA Reference | Performance Requirements | Details of Non-compliance |
|-------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NSW E2D16 | E2P2 | Smoke hazard management over the stage in building D to be addressed by the Fire Safety Engineer or alternatively a smoke exhaust system must be provided in accordance with Specification 21 of the BCA. |
| E1D3(6) | E1P1 | BCA does not permit Fire Hose Reels (FHR) to pass through fire doors. Potential deletion of FHRs in storerooms where fire separated from the remainder of building D. |
| G5, Specification 43 | G1P1 and G5P2 | Buildings are placed on land identified as designed bushfire prone land as per current bushfire prone land maps. Application of Part G5 and Specification 43 of the BCA to be assessed by the Fire Safety Engineer. |

Areas outside fire safety that may have possible variances from the deemed to satisfy provisions and hence addressable by performance solutions that may also need to be considered are as follows:-

| BCA Reference | Performance Requirements | Details of Non-compliance |
|---------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| F3D5 | F3P1 | 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 |
| F6D9 | F6P3 | Accessible unisex sanitary facilities in the library and various staff rooms open directly into the area of public assembly and workplaces occupied by more than one person and are not provided with an airlock or screened from views. |

3.0 Building Assessments

Building classification, use, and type of construction of the proposed buildings are tabulated below. As provided for in the associated mark ups, Buildings A – C have been assessed as united buildings. This has been afforded due to the provision of covered walkways which unite the buildings, respectively, and also allowing the buildings to draw on and utilise external non-fire-isolated stairways of adjoining buildings for egress purposes. Building D is considered a separate building.

It is worth noting that the united buildings, namely Buildings A – C are required to comply with the BCA provisions as if they were a single building.

A7G1 United buildings

Buildings are deemed united when two or more buildings adjoining each other are connected and used as one building.

Explanatory Information

It is not unusual for authorities to receive plans proposing the connecting of two or more buildings. Connecting buildings could be achieved by breaking openings through walls, or by joining the buildings by a tunnel, bridge or **covered walkway**.

When connected, if the buildings jointly comply with all the requirements of the NCC applying as if they were a single building, they become a united building.

Notwithstanding, for the purposes of fire compartmentation the design has been assessed as if each building is its own fire compartment (except buildings B & C) as the external bridges are considered not to contribute to fire load. Building B and C are considered one fire compartment due to the outdoor workshop connecting both buildings.

| BCA Parameters – Buildings A | | | |
|------------------------------|------------------------------------------------------------------------|--|--|
| BCA Classifications | Class 9b School and Class 5 Staff / Admin Areas | | |
| Rise in Storeys (RIS) | 3 | | |
| Effective Height | 7.5m | | |
| Type of Construction | A | | |
| Floor Area (Approx) | Ground Floor = 1065m ² | | |
| | Level 1 = 1075m ² | | |
| | Level 2 = 1075m ² | | |
| Fire Compartment | Max. Fire Compartment Floor Area must be less than 8,000m ² | | |
| | Max. Fire Compartment Volume must be less than 48,000m ³ | | |
| Structural Importance Level | Structural Engineer to confirm | | |

| BCA Parameters – Buildings B & C | | | |
|------------------------------------------|------------------------------------------------------------------------|--|--|
| BCA Classifications | Class 9b School and Class 5 Staff / Admin Areas | | |
| Rise in Storeys (RIS) | 3 | | |
| Effective Height | 7.5m | | |
| Type of Construction | A | | |
| Floor Area (Approx)Ground Floor = 2155m² | | | |
| | Level 1 = 2176m ² | | |
| | Level 2 = 2140m ² | | |
| Fire Compartment | Max. Fire Compartment Floor Area must be less than 8,000m ² | | |
| | Max. Fire Compartment Volume must be less than 48,000m ³ | | |
| Structural Importance Level | Structural Engineer to confirm | | |

| BCA Parameters – Building D | | |
|-----------------------------|----------------------------------------------------------|--|
| BCA Classifications | Class 9b School Hall Building and Class 7b Storage Areas | |
| Rise in Storeys (RIS) | 1 | |
| Effective Height | Om | |
| Type of Construction | C | |

| Floor Area | 1818m2 including the stage and COLA |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Fire Compartment | Max. Fire Compartment Floor Area must be less than 3,000m ² for class 9b and 2000m ² for class 7b |
| | Max. Fire Compartment Volume must be less than $18,000m^3$ for class 9b and 12,000 m ³ for class 7b |
| Structural Importance Level | Structural Engineer to confirm |

Building Classifications

The following BCA Classifications are considered applicable to the proposed works based on the classification and use of the building.

Class 9 buildings

A Class 9 building is a building of a public nature and includes the following sub-classifications:

- a. Class 9a a health-care building including any parts of the building set aside as laboratories, and includes a health-care building used as a residential care building.
- b. Class 9b an assembly building including a trade workshop or laboratory in a primary or secondary school.
- c. Class 9c a residential care building.

Class 9b buildings are assembly buildings which include schools and early childhood centres.

Class 5 buildings

A Class 5 building is an office building used for professional or commercial purposes.

Class 7 buildings

Class 7 includes the following sub-classifications:

- a. Class 7a a carpark.
- b. Class 7b a building that is used for storage, or display of goods or produce for sale by wholesale.

4.0 Structure

| Clause | Description | Requirement | Assessment |
|-----------|-------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SECTION B | | | |
| Section B | Structure | Structural provisions | Designers to note The structural components of the buildings must comply with the applicable Australian Standards. A structural engineer will need to ensure the structural requirements of BCA Clauses B1D2, B1D3, and B1D4 are considered in the building designs (including the importance level of the buildings). This will mean assessment according to all relevant parts of Section B of the Building Code of Australia and where any provisions cannot be met, a performance solution to be formulated for consideration of the relevant project stakeholders. Under Part B1D1 of the Building Code of Australia (BCA), buildings or structures must be designed to withstand loads including earthquake loads in accordance with AS1170.1-2002, AS1170.2-2021, AS1170.4-2007, as appropriate. Whilst earthquake loads have obvious implications to the structural design of a building or structure, it is important to note that within AS1170.4-2007, there is also an obligation for certain non-structural parts, components and their connections to be designed & constructed to withstand earthquake loads. Structural design and certification must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |

5.0 Fire Resistance

| Clause | Requirement | Assessment | | |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| SECTION C - | - FIRE RESISTANCE | | | |
| C2D2 | Type of construction required Table C2D2: Table C2D2: Type of construction required Rise in storeys 4 or more A 3 A 2 B 1 C | Designers to note Type A construction is required for buildings A – C. Type C construction is required for Building D. Structural Engineer to note the requirements for the activity in accordance with the requirements of Specification 5. Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. Refer to Appendix A of this report for specific FRLs applicable to these buildings. | | |
| C2D9 | Lightweight construction If lightweight construction is utilised to achieve the required FRL, it must comply with Specification 6 of the BCA. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. | | |
| C2D10 | Non-combustible building elements In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible: a. External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation. b. The flooring and floor framing of lift pits. c. Non-loadbearing internal walls where they are required to be fire-resisting. | Designers to note This is applicable to buildings A – C. Details demonstrating compliance must be submitted with the application for the Construction Certificate / Crown Design Verification Certificate. | | |
| C2D11 | Fire hazard properties All new surface finishes, assemblies and linings are to comply with BCA Clause C2D11 and Specification 7 including NSW variations with regard to Fire Hazard Properties of various finishes and materials within the building. | Compliance Achievable Compliance with C2D11 and Specification 7 to be specified in the architectural specifications with respect to floor, wall, ceiling covering as well as air-handling ductwork and lift cars etc. Test reports for fire hazard properties to be provided prior to issue of an Occupation Certificate / Crown Occupation Verification Certificate. | | |
| C2D14 | Ancillary Elements An ancillary element must not be fixed, installed, attached to or supported by | Designers to note Details demonstrating compliance must be submitted with the application for | | |

| Clause | Requirement | Assessment |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | the concealed internal parts or external face of an external wall that is required to be non-combustible unless it is an ancillary element that is non-combustible or as permitted by C2D14. | Construction Certificate / Crown Design Verification Certificate. |
| C2D15 | Fixing of bonded laminated cladding panels In a building required to be of Type A or B construction, externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame. | Designers to note This is applicable to buildings A – C. Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| C3D3 | General floor area and volume limitations The tables below depict the floor area and volume limitations applicable for Type A and C construction. Classification Type A Construction Class 5, 9b or Max floor area – 8,000m2 9c Max volume – 48,000m2 Classification Type C Construction Class 5, 9b or Max floor area – 3,000m2 Class 5, 9b or Max floor area – 3,000m2 Max volume – 18,000m2 Max volume – 18,000m2 | Designers to note Buildings A – C Max. Fire Compartment Floor Area must be less than 8,000m2 Max. Fire Compartment Volume must be less than 48,000m3 Currently, fire compartment floor areas comply. Building D Max. Fire Compartment Floor Area must be less than 3,000m² for class 9b and 2000m² for class 7b Max. Fire Compartment Volume must be less than 18,000m³ for class 9b and 12,000 m³ for class 7b. Currently, fire compartment floor areas comply. However, designers to note and details of fire compartment volume must be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| C3D7 | Vertical separation of openings in external walls. If in a building of Type A construction, any part of a window or other opening in an external wall is above another opening in the storey next below and its vertical projection falls no further than 450 mm outside the lower opening (measured horizontally), fire rated spandrel protection must be provided. | Designer to note Applies to buildings A – C. Further information including wall details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| C3D11 | Separation of lifts shafts Any lift connecting more than 2 storeys, or more than 3 storeys if the building is sprinklered, (other than lifts which are wholly within an atrium) must be separated from the remainder of the building by enclosure in a shaft which achieves an FRL in accordance with Specification 5 for Type A and Type B construction (when loadbearing) and if non-loadbearing in Type B construction, be of non-combustible construction. | Designers to note Applies to all lifts. Refer to appendix A with respect to FRL of lift shaft walls. Enclosure of shaft at the top and bottom must meet Specification 5, Clause S5C8 of the BCA. |
| C3D13 | Separation of equipment | Designers to note |

| Clause | Requirement | Assessment |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Equipment comprising of lift motors, lift control panels, emergency generators, central smoke control plant, boilers or a battery or batteries installed in the building that have a total voltage exceeding 12 volts and a storage capacity exceeding 200kWh must be constructed with an FRL in accordance with Spec 5 but not less than 120/120/120 and any doorway protected with a self-closing fire door having an FRL of not less than -/120/30. | Fire compartmentation plans to clearly identify rooms requiring an FRL enclosure. Details demonstrating compliance to be provided with the application for the Construction Certificate / Crown Design Verification Certificate. |
| C3D14 | Electricity supply system An electricity substation or main switchboard that sustains emergency equipment operating in the emergency mode located within a building must be separated from other parts of the building by construction having an FRL of not less than 120/120/120, and doorways in that construction to be self- closing fire doors with an FRL of not less than -/120/30. | Designers to note MSB must be enclosed by construction having an FRL of not less than 120/120/120, with self-closing fire doors with an FRL of not less than -/120/30 when sustaining emergency equipment operating in emergency mode. Details demonstrating compliance must be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| C4D3 | Protection of openings in external walls Any openings in an external wall required to have an FRL must be protected in accordance with BCA C4D5 and if used, wall-wetting sprinklers are to be externally fitted to fixed shut windows. | Designers to note Design currently appears to comply as buildings are more than 3m from property boundaries and more than 6m from each other. |
| C4D11 | Openings in fire-isolated lift shafts Doorways — If a lift shaft is required to be fire-isolated, an entrance doorway to that shaft must be protected by -/60/- fire doors that— a. comply with AS 1735.11; and b. are set to remain closed except when discharging or receiving passengers, goods or vehicles. Lift indicator panels — A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than -/60/60 if it exceeds 35 000 mm² in area. | Compliance Achievable Test report to be provided from the manufacturers demonstrating compliance. |
| C4D13 | Openings in floors and ceilings for services Where a service passes through a floor that is required to have an FRL with respect to integrity and insulation, the service must be protected: a. in a building of Type A construction, by a shaft complying with Specification 5; or b. in a building of Type B or C construction, by a shaft that will not reduce the fire performance of the building elements it penetrates; or c. in accordance with C4D15. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| C4D16 | Construction Joints Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with | Designers to note |

| Clause | Requirement | Assessment |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | AS 4072.1 and AS 1530.4 to achieve the required FRL; or that differs from a prototype in accordance with Section 4 of AS 4072.1 and achieves the required FRL. | |
| C4D17 | Columns protected with lightweight construction to achieve an FRL A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire. | Designers to note |
| S5C15 | Type A fire-resisting construction – roof concession A roof need not be provided an FRL in accordance with Table S5C11g if its covering is non-combustible and the building has a rise in storey of 3 or less. | Designers to note Buildings A – C are afforded this concession as they have a rise in storey of 3. Designer to note that roof covering must be non-combustible. |
| S5C17 & S5C11(1)(d) | Type A fire-resisting construction – internal columns and walls: Concession For a building with an effective height of not more than 25 m and having a roof without an FRL in accordance with S5C15, in the storey immediately below that roof, internal columns other than those referred to in S5C11(1)(d) and internal walls other than fire walls and shaft walls may have— a. in a Class 2 or 3 building: FRL 60/60/60; or b. in a Class 5, 6, 7, 8 or 9 building— i. with rise in storeys exceeding 3: FRL 60/60/60; or ii. with rise in storeys not exceeding 3: no FRL. | Designers to note |

6.0 Access and Egress

| Clause | Requirement | Assessment |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| SECTION D - | ACCESS AND EGRESS | |
| D2D3 | Number of exits required In Class 9 buildings, a minimum of 2 exits must be provided from: a. Any storey used as a Class 9b early childhood centre. b. Each storey in a primary or secondary school with a rise in storeys of 2 or more. c. Any storey or mezzanine that accommodates more than 50 persons, calculated under D2D18. | Design Complies All buildings are provided with at least 2 exits each. |

| Clause | Requirement | Assessment |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D2D4 | When fire-isolated stairways and ramps are required Every stairway or ramp serving as a required exit must be fire-isolated unless it connects, passes through or passes by not more than 2 consecutive storeys and one extra storey of any classification may be included if the building has a sprinkler system (other than a FPAA101D system) complying with Specification 17 installed throughout. | Not Applicable Under certain specified conditions, D2D13 permits the use of external stairways in place of fire isolated stairways. The design provides for external non-fire-isolated stairways in through the adaption of D2D13. See clause D2D13 for further information. |
| D2D5 | Exit travel distances No point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40 m. | Does not comply Travel distances to an exit and a point of choice do not comply in numerous instances across the stages, buildings and floors as highlighted below in red. Refer to plan mark ups in Appendix C of this report. See below for maximum non-compliances per building per floor. Noting there are a handful of instances where point of choice travel distances will potentially exceed the maximums allowed by the BCA and as a result have been identified. Design amendments are required otherwise a fire engineered performance solution may be utilised. Building A Level 1: Max distance to a PoC: 34m Max distance to a PoC: 22m Max distance to an exit: 49m Design amendments are required to the library providing additional egress doorway into the external circulation area as shown in plan mark ups attached to this report. Building B Ground: Max distance to a PoC: 26m Max distance to a PoC: 26m Max distance to an exit: 44m Level 2: Max distance to an exit: 44m Level 2: Max distance to a PoC: 26m Max distance to an exit: 44m Level 2: |

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| | | Building C Level 1: - Max distance to an exit: 51m Level 2: - Max distance to a PoC: 28m - Max distance to an exit: 48m |
| D2D6 | Distance between alternative exits Exits used as alternative means of egress must be no closer than 9m apart and no more than 60m apart. Alternate paths must also not converge to less than 6m apart. | Does not comply Distances between exits do not comply in numerous instances across the buildings. See below for maximum non-compliances highlighted in red. Noting there are a handful of instances where distances between exits will potentially exceed maximums allowed by the BCA and as a result have been identified. Design amendment is required otherwise a fire engineered performance solution may be utilized. Building A Level 1: • Max distance between exits: 65m Level 2: • Max distance between exits: 67m Building B Ground level: • Min distance between exits: 67m Level 1: • Max distance between exits: 67m Building B Ground level: • Min distance between exits: 67m Level 2: • Max distance between exits: 67m Building C Ground: • Min distance between alternative exits: 8.1m in lieu of 9m (at Alu Workshop) Level 1: • Max distance between exits: 67m Building C Ground: • Min distance between exits: 67m Level 2: • Max distance between exits: 67m Level 2: • M |
| D2D7 | Height of exits, paths of travel to exits and doorways | Designers to note. |
| | In a required exit or path of travel to an exit the unobstructed height | Details demonstrating compliance must be submitted with the application for |

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| | throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm. | Construction Certificate / Crown Design Verification Certificate. |
| D2D8 | Width of exits and paths of travel to exits The minimum unobstructed width of a path of travel and required exits must not be less than 1m throughout the building except doorways where it can be reduced by no more than 250mm. In a story which accommodates more than 200 people, the aggregate unobstructed width of the required exits or path of travel to an exit must not be less than 2m plus 500mm for each 60 persons in excess of 200. | Designers to note The number of occupants to be provided with the application for a Construction Certificate / Crown Design Verification Certificate. Main areas including highest population being the hall and the library have been assessed as follows: Building A: First floor library provides 3m of aggregate egress width, allowing for 320 persons. Hall: 8m of aggregate egress width provided allows for 800 persons Other areas are likely to comply given the width of each stairways being 2m each however needs to be further clarified once population numbers are solidified. |
| D2D9 | Widths of doorways in exits or paths of travel to exits. In a required exit or path of travel to an exit, the unobstructed width of a doorway must be not less than— a. the unobstructed width of each exit provided to comply with D2D8, minus 250 mm; or b. 850mm where serving an area to be accessible in accordance with Part D4; or c. in any other case except where it opens to a sanitary compartment or bathroom — 750 mm wide. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| D2D11 | Determination and measurement of exits and paths of travel to exits The required width of a stairway or ramp in a required exit or path of travel to an exit must be measured clear of all obstructions such as handrails, projecting parts of barriers and the like; and extend without interruption, except for ceiling cornices, to a height not less than 2 m vertically above a line along the nosings of the treads or the floor surface of the ramp or landing. | Designers to note Ensure a clear heigh of 2m is provided to all stairways. Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| D2D13 | External stairways or ramps in lieu of fire-isolated exits. An external stairway or ramp may serve as a required exit in lieu of a fire-isolated exit serving a storey below an effective height of 25 m, if the stairway or ramp is— a. non-combustible throughout; and b. protected in accordance with D2D13 if it is within 6 m of, and exposed to, any part of the external wall of the building it serves. | Design Complies |



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| | Figure D2D13b: Protection of the external exit using shielding construction in accordance with D2D13(3)(b) | |
| | Image | |
| | The external exit is considered to be any part of the stair that would be used by any occupant travelling down the stair. The perpendicular extension from the main balcony would be only used by the occupants of that level and is no different to the requirements of main external balcony | |
| | Shielding construction as described in D2D13(4) 6 metre min External balcony | |
| | External wall INTERNAL PART OF BUILDING | |
| D2D14 | Travel by non-fire-isolated stairways A non-fire-isolated stairway serving as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided. | Design generally complies |
| | The distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or non-fire-isolated ramp must not exceed 80 m. | |
| | 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- | |

| Clause | Requirement | Assessment |
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| | isolated ramp is in opposite or approximately opposite directions. | |
| D2D15 | Discharge from exits An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it. Where required exit leads to open space, path of travel to the road must be minimum 1m or the minimum width of the required exit. Also, the path of travel to the road must have a gradient not steeper than 1:8 or 1:14 where required by Part D4 of the BCA2022. | Compliance Achievable |
| D2D18 | Number of persons accommodated The number of persons accommodated in a storey must be determined with consideration to the purpose for which it is used and the layout of the floor area by calculating the sum of the numbers obtained by dividing the floor area of each part of the storey by the number of square metres per person listed in Table D2D18 according to the use of that part, excluding spaces set aside for— (i) lifts, stairways, ramps and escalators, corridors, hallways, lobbies and the like; and (ii) service ducts and the like, sanitary compartments or other ancillary uses; or (iii) reference to the seating capacity in an assembly building or room; or (iv) any other suitable means of assessing its capacity. | Compliance Achievable Refer to D2D8 above. The number of occupants can be provided by the owner of the building, the Notice of Determination issued by the Council or by area per person calculation as per table D2D18 of the BCA. Occupancy numbers are largely driven by the provided aggregate egress widths as per Clause D2D8 above. Also refer to Part F of this report in respect to calculation of sanitary facilities. |
| D2D22 | Access to lift pits Access to lift pits must be through the lowest landing doors where the pit depth is not more than 3m. | Designer to note |
| D3D4 | Non-fire-isolated stairways and ramps In a building having a rise in storeys of more than 2, required stairs and ramps (including landings and any supporting building elements) which are not required to be within a fire-resisting shaft, must be constructed according to D3D3, or only of— a. reinforced or prestressed concrete; or b. steel in no part less than 6 mm thick; or c. timber that— i. has a finished thickness of not less than 44 mm; and ii. has an average density of not less than 800 kg/m³ at a moisture content of 12%; and iii. has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |

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| D3D8 | Installation of exits and paths of travel Services or equipment must be enclosed with non-combustible construction and suitably sealed against smoke spreading from the enclosure where they are installed in a required exit, or in any corridor, hallway, lobby or the like leading to a required exit and the service or equipment comprises of: a) electricity meters, distribution boards or ducts; or b) central telecommunications distribution boards or equipment; or c) electrical motors or other motors serving equipment in the building. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| D3D9 | Enclosure of space under stairs and ramps The space below a required non fire-isolated stairway (including an external stairway) or non fire-isolated ramp must not be enclosed to form a cupboard or other enclosed space unless— a. the enclosing walls and ceilings have an FRL of not less than 60/60/60; and b. any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| D3D14 – D3D22 | Construction of stairways, balustrade and handrails The construction and discharge of stairs, landings, thresholds, balustrades, and handrails will need to meet the requirements of the BCA and AS1428.1. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| D3D24 | Doorways and doors A power-operated door in a required exit must be able to be opened manually under a force of not more than 110N if there is a malfunction or failure of the power source and where it leads directly to a road or open space it must open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| D3D25 | Swinging doors A swinging door in a required exit or forming part of a required exit must swing in the direction of egress unless it serves a building or part with a floor area not more than 200m2, it is the only required exit from the building or part and it is fitted with a device for holding it in the open position. | Does not comply Numerous final exit doors on ground floor of buildings A – C buildings swing against the direction of egress. Fire engineering to allow swing of doors against the direction of egress. |
| D3D26 | Operation of latch All doors in an exit, forming part of the exit or in the path of travel to the exit must be openable without a key from the egress side by a single hand downward action or single hand push action installed in accordance with | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |

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| | this part of the BCA. | |
| Part D4 | Access for people with a disability | Excluded. Refer to the Access Consultant's report. |

7.0 Services and Equipment

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| SECTION E - | SERVICE AND EQUIPMENT | |
| E1D2 | Fire Hydrants A fire hydrant system must be provided to serve a building— having a total floor area greater than 500 m²; and where a fire brigade station is— no more than 50 km from the building as measured along roads; and equipped with equipment capable of utilising a fire hydrant. The fire hydrant system must be installed in accordance with AS 2419.1-2021. | Designers to note Hydraulic / wet fire services consultant to design a fire hydrant system in accordance with AS2419.1-2021. |
| E1D3 | Fire hose reels A fire hose reel system must be provided— a. to serve the whole building where one or more internal fire hydrants are installed; or b. where internal fire hydrants are not installed, to serve any fire compartment with a floor area greater than 500 m². Fire hose reels are required to serve the entire building (except for Class 5 Office / Admin areas, classrooms and associated corridors in a primary / secondary school where portable fire extinguishers can be provided in lieu) having 36m hose length and 4m water spray. They are to be located within 4m of an exit and adjacent to an internal fire hydrant. They must be designed and installed in accordance with Clause E1D3 of BCA2022 & AS2441- 2005. | May not comply. FHRs are not required in office buildings, classrooms and associated corridors. Other areas require FHR. Clause E1D3(6): FHR are required in Building D. If storerooms are to be fire separated from the remainder of the building as per the EFSG, FHRs must be provided inside each storeroom or a Performance Solution be developed to address no FHR coverage to storerooms. Hydraulic / wet fire services consultant to provide details for assessment including a single line diagram to demonstrate compliant coverage. Details to be provided prior to the issue of a Construction Certificate / Crown Design Verification Certificate. |
| E1D14 | Portable fire extinguishers PFE's are required to be located throughout the building in accordance with Clause E1D14 of BCA2021. PFE's are to comply with AS2444-2001. | Compliance Achievable Hydraulic / wet fire services consultant to provide details for assessment. Details to be provided prior to the issue of a Construction Certificate / Crown Design Verification Certificate. |

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| E1D16 | Fire precautions during construction In a building under construction not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit. | Designers to note |
| E1D17 | Provisions for special hazards Suitable additional provision must be made if special problems of fighting fire could arise because of— a. the nature or quantity of materials stored, displayed or used in a building or on the allotment; or b. the location of the building in relation to a water supply for fire-fighting purposes. | Designers to note |
| E2D3 | Smoke hazard management General Requirements (1) An air-handling system which does not form part of a smoke hazard management system in accordance with E2D4 to E2D20 and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must be designed and installed to operate as a smoke control system in accordance with AS 1668.1. (3) Miscellaneous air-handling systems covered by Sections 5 and 6 of AS 1668.1 serving more than one fire compartment (other than a carpark ventilation system) and not forming part of a smoke hazard management system must comply with these Sections of the Standard. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| E2D9 | Buildings not more than 25m in effective height: Class 5, 6, 7b, 8 and 9b building (1) A building not more than 25 m in effective height that— (a) is a Class 5 or 9b school building or part of a building having a rise in storeys of more than 3; or (b) is a Class 6, 7b, 8 or 9b building (other than a school) or part of a building having a rise in storeys of more than 2; or (c) has a rise in storeys of more than 2 and contains— (i) a Class 5 or 9b school part; and (ii) a Class 6, 7b, 8 or 9b (other than a school) part, must meet the requirements of (2). (2) A building referred to in (1) must be provided with— (a) in each required fire-isolated stairway, including any associated fire-isolated passageway or fire-isolated ramp, an automatic air pressurisation system for fire-isolated exits in accordance with AS 1668.1; or | Designers to note A smoke detection and alarm system installed in accordance with specification 20 required. |

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| NSW E2D16 | (b) a zone pressurisation system between vertically separated fire compartments in accordance with AS 1668.1, if the building has more than one fire compartment; or (c) an automatic smoke detection and alarm system complying with Specification 20; or (d) a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. Class 9b – all assembly buildings 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— a. smoke detectors installed complying with S20C6; and b. any other installed fire detection and alarm system, including a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. | Designers to note Automatic shutdown of air-handling systems and an automatic smoke detection and alarm system complying with Specification 20 Clause S20C6 must be provided. The stage area is measured at approximately 168 m ² , and as such needs to be provided with an automatic smoke exhaust system complying with Specification 21. Details demonstrating compliance with the above must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. Alternatively, smoke hazard management to the stage to be addressed by the Fire Safety Engineer. |
| | Stages and backstages: A building or part of a building used as an assembly building which has a stage with a floor area of more than 50 m² and not more than 150 m² must, over the stage, be provided with— a. an automatic smoke exhaust system complying with Specification 21 (including Figure S21C2); or b. roof mounted automatic smoke-and-heat vents complying with NSW I4D59, in a single storey building or the top storey of a multi storey building. | |
| E3D2 | Lift installations An electric passenger lift installation must comply with Specification 24 of BCA2022. | Designers to note Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. |
| E3D3 | Stretcher facility in lifts A stretcher facility in accordance with must be provided if passenger lifts are installed to serve any storey above an effective height of 12 m. A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level. | Not applicable Building's effective height is below 12m and an emergency lift is not required. |
| E3D4 | Warning against use of lifts in fire | Designers to note |

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| | A warning sign must be displayed where it can be readily seen near every call button for a passenger lift. Warning sign details and dimensions must comply with Part E3D4(3) and Figure E3D4 of BCA2022. | Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. | |
| E3D7 | Passenger lift types and their limitations | Designers to note | |
| | A passenger lift must not rely on a constant pressure device for its operation if the lift car is fully enclosed. | Details demonstrating compliance must be submitted with the application for Construction Certificate / Crown Design Verification Certificate. | |
| E3D8 | Accessible features required for passenger lifts In an accessible building, every passenger lift must have the following | Refer to access consultant's report | |
| | (a) A handrail complying with the provisions for a mandatory handrail in AS 1735.12, and; (b) Lift floor dimensions of not less than 1100 mm wide x 1400 mm deep for all lifts which travel not more than 12 m, and; (c) Passenger protection system complying with AS 1735.12 for all lifts with power-operated doors, and; (d) Lift landing doors at the upper landing for all lifts, and; (e) Lift car and landing control buttons complying with AS 1735.12, and; (f) Lighting in accordance with AS 1735.12 for all enclosed lift cars, and; (g) For all lifts serving more than 2 levels— automatic audible information within the lift car to identify the level each time the car stops; and audible and visual indication at each lift landing to indicate the arrival of the lift car; and audible information and audible indication required by (i) and (ii) is to be provided in a range of between 20 - 80 dB(A) at a maximum frequency of 1500 Hz, and; (h) Emergency hands-free communication, including a button that alerts a call centre of a problem and a light to signal that the call has been received. | Access consultant to confirm compliance when lift details are available. Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. | |
| E4D2 - E4D6 | Emergency Lighting and Exit Signage | Designer to note | |
| E4D8 | Emergency lighting, exit and directional signs are to be located, designed and installed in accordance with Part E4 of BCA 2022 and AS2293.1-2018. | Electrical consultant to provide details for assessment. Details to be provided prior to the issue of a Construction Certificate / Crown Design Verification Certificate. | |
| E4D9 | Emergency warning and intercom systems An emergency warning and intercom system complying, where applicable, with AS1670.4 must be installed in a Class 9b building used as a school and having a rise in storeys of more than 3 and used as a theater, public hall, or the like, having a floor area more than 1000m2 or a rise in storeys of more than 2. | Designer to note Only required to the building D if proposed to be used as public hall, theater or the like. Not required to buildings A – C as rise is story is not more than 3. | |

8.0 Surface water management, rising damp and external waterproofing

| Clause | Requirement | Assessment |
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| SECTION F - | HEALTH AND AMENITY | |
| F1D3 | Stormwater drainage Stormwater drainage must be designed and constructed in accordance with AS/NZS 3500.3. | Designers to note Hydraulic engineering design details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| F1D5 | External waterproofing membranes A roof, balcony or similar horizontal surface part of a building must be provided with a waterproofing membrane consisting of materials complying with AS 4654.1 and designed and installed in accordance with AS 4654.2. | Designers to note External walkways/circulation will need to comply with AS4654. Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate OR a BCA performance solution to be developed where strict adherence to AS4654 cannot be met. |
| F1D6 | Damp-proofing Moisture from the ground must be prevented from reaching the structure by installation of damp-proof course or impervious sheet material in accordance with AS3660.1 where required. | Designers to note Architectural and structural engineering details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| F1D7 | Damp-proofing of floors on the ground (1) If a floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapor barrier in accordance with AS 2870. | Designers to note Designers and consultants to note. Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| | (2) The requirements of (1) do not apply where— (a) weatherproofing is not required; or (b) the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means. | |
| F1D8 | Subfloor ventilation (1) Subfloor spaces must— | Designers to note Details demonstrating compliance for any subfloor spaces between the ground surface must be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| F2D2 | Wet area construction | Designers to note |

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| | In a Class 9 building, building elements in a bathroom or shower room, a slop hopper or sink compartment, a laundry or sanitary compartment must be water resistant or waterproof in accordance with Specification 26 and comply with AS 3740. | Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| F2D4 | Floor wastes Where a floor waste is installed— a. the minimum continuous fall of a floor plane to the waste must be 1:80; and b. the maximum continuous fall of a floor plane to the waste must be 1:50. | Designers to note Falls to any floor waste must be a minimum of 1:80 and a maximum of 1:50. Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| F3D2 | Roof coverings A roof must be covered with— a. roof tiles complying with AS 2049, fixed in accordance with AS 2050; or b. metal sheet roofing complying with AS 1562.1; or c. plastic sheet roofing designed and installed in accordance with AS 1562.3; or d. terracotta, fibre-cement and timber slates and shingles designed and installed in accordance with AS 4597, except in cyclonic areas; or e. an external waterproofing membrane complying with F1D5. | Designers to note Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| F3D5 | Wall cladding External wall cladding must comply with one or a combination of the following: a) Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700. b) Autoclaved aerated concrete: AS 5146.3. c) Metal wall cladding: AS 1562.1. | Designers to noteDetails demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate.A Performance Solution addressing Performance Requirement F3P1 below must be provided for any wall cladding systems not listed in BCA 2022 F3D5.F3P1 - 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. |
| F4D4 | Facilities in Class 3 to 9 buildings Sanitary facilities must be provided in accordance with this clause. | Designers to note Separate sanitary facilities must be provided for staff and students. Plans to clearly dedicate each facility to staff/students and male/females. For the purpose of BCA count and in consultation with the architects, the following assumptions are made: |

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| | | Sanitary facilities at levels 1 & 2 of buildings A - C are dedicated to students on equal male/female ratio. The sanitary facilities on the outside of the hall building are dedicated to female student. Based on the above, total sanitary count across the school allows for: 1300 male and 1300 female students. 60 male and 60 female staff. See below break down which needs to be further confirmed at the next design activity stage: | | | |
| | | Class 9b - schools | Pans | Urinals | Washbasins |
| | | Male employees | 3 | 3 | 6 |
| | | Allowable Population | 60 | 75 | 180 |
| | | Female employees | 6 | - | 6 |
| | | Allowable Population | 80 | - | 180 |
| | | Male students 15 15 | | 28 | |
| | | Allowable Population 1300 1400 | | 1975 | |
| | | Allowable Deputation | 29 | - | 24 |
| | | Allowable Population | 1500 | - | 1015 |
| F4D5 F4D6 | Accessible sanitary facilities Accessible unisex sanitary compartments must be provided in accessible parts of the building. | Refer to Access Report | | | |
| F5D2 | Height of rooms and other spaces The height of rooms and other spaces in a Class 9b building must be not less than— a. for a school classroom or other assembly building or part that accommodates not more than 100 persons — 2.4 m; and b. for a theatre, public hall or other assembly building or part that accommodates more than 100 persons — 2.7 m; and c. for a corridor— i. that serves an assembly building or part that accommodates not more than 100 persons — 2.4 m; or ii. that serves an assembly building or part that accommodates more than 100 persons — 2.4 m; or | Designers to note Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. t t t t | | r | |
| F6D2 | Provision of natural light | Designers to note | 141 - 41 | | |
| | Natural light must be provided in: | Details demonstrating compliance to be provided | with the app | lication fo | r |

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| | a. A Class 9b building — to all general purpose classrooms in primary or secondary schools and all playrooms or the like for the use of children in an early childhood centre. | Construction Certificate / Crown Design Verification Certificate. This will include a window schedule including the area of glazing for each window/door. | |
| F6D3 | Methods and extent of natural light Required natural light must be provided by— a. windows, excluding roof lights, that— i. have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 10% of the floor area of the room; and ii. are open to the sky or face a court or other space open to the sky or an open verandah, carport or the like; or b. roof lights, that— i. have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 3% of the floor area of the room; and ii. are open to the sky; or c. a proportional combination of windows and roof lights required by (a) and (b). | re t e t | |
| F6D5 | Artificial Lighting Artificial lighting must be provided to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. The artificial lighting system must comply with AS/NZS 1680.0. | Electrical consultant to note Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. | |
| F6D6 | Ventilation of rooms A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have natural ventilation complying with F6D7; or a mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS/NZS 3666.1. | Mechanical consultant to note Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. | |
| F6D9 | Restriction on location of sanitary compartments A sanitary compartment must not open directly into: a) a kitchen or pantry; or b) a public dining room or restaurant; or c) a room used for public assembly; or d) a workplace normally occupied by more than one person. | Does not comply Accessible unisex sanitary facilities in the library and various staff rooms open directly into the area of public assembly and workplaces occupied by more than one person and are not provided with an airlock or screened from views. | |
| F6D10 | Airlocks If a sanitary compartment is prohibited under F6D9 from opening directly to | Designer to note Accessible unisex sanitary facilities in the library and various staff rooms must be | |

| another room— in a Class 5, 6, 7, 8 or 9 building (which is not an early childhood centre, primary school or open spectator stand)— access must be by an airlock, hallway or other room with a floor area of not less than 1.1 m2 (i) and fitted with self-closing doors at all access doorways; or (ii) the sanitary compartment must be provided with mechanical | Clause | Requirement | Assessment |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| exhaust ventilation and the doorway to the room adequately screened from view. | | another room— in a Class 5, 6, 7, 8 or 9 building (which is not an early childhood centre, primary school or open spectator stand)— access must be by an airlock, hallway or other room with a floor area of not less than 1.1 m2 (i) and fitted with self-closing doors at all access doorways; or (j) the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view. | provided with an airlock or screened from views. Alternatively, a BCA performance solution to be developed. |

9.0 Ancillary Provisions

| Clause | Description | Requirement | Assessment |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SECTION | SECTION G – ANCILLARY PROVISIONS – PART G1 MINOR STRUCTURES AND COMP | | NENTS |
| G1D5 Provision for cleaning windows A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level. A building satisfies the above where— a. the windows can be cleaned wholly from within the building; or b. provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act. SECTION G – ANCILLARY PROVISIONS - PART G5 CONSTRUCTION IN BUSHFIRE PRO | | windows for a safe manner of cleaning any windows located 3 ground level. above where— e cleaned wholly from within the building; or or the cleaning of the windows by a method complying th and Safety Act 2011 and regulations made under | Designers to note This is applicable to buildings with windows that have a rise in storeys of 3 or more. Details demonstrating compliance to be provided with the application for Construction Certificate / Crown Design Verification Certificate. |
| G5D2 | Application of part The Deemed-to-Satisfy Provisions of this Part apply in a designated bushfire prone area to— a. a Class 2 or 3 building; or b. a Class 4 part of a building; or c. a Class 9 building that is a special fire protection purpose located in an area subject to a Bushfire Attack Level (BAL) not exceeding BAL—12.5, determined in accordance with Planning for Bush Fire Protection; or d. a Class 10a building or deck immediately adjacent or connected to a building or part of a type in (a), (b) or (c). | | Designers to note Information to date provided suggests that proposed buildings are located on bushfire prone land maps, hence the land fits within the definition of Designated Bushfire Prone Land. Details demonstrating compliance with Specification 43 to be provided with the application for Construction Certificate/Crown Certificate or a Performance Solution by a Fire Safety Engineer must be developed addressing the relevant performance requirements of the BCA. |
| G5D4 | 4 Protection – certain Class 9 buildings | | |

| Clause | Description | Requirement | Assessment |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| | In a designated bushfire with Specification 43: a. A Class 9a health-o b. A Class 9b— i. early chilo ii. primary o c. A Class 9c residen In a designated bushfire adjacent or connected t with S43C2 and S43C1 | e prone area the following must comply care building. Ihood centre; or r secondary school. tial care building. e prone area, a Class 10a building or deck immediately o a building of a type listed in (1) must comply 3. | |

10.0 Energy efficiency

| Clause | Description | Requirement | Assessment | |
|-----------|-------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| SECTION J | I ENERGY EFFICIECNY | | | |
| Section J | Energy Efficiency provi | sions | ESD Consultant to address Proposed activity will be required to be compliant with Section J of BCA 2022. A Section J consultant's report will need to be provided to confirm compliance with the BCA DtS provisions or a J1V3 report must be submitted demonstrating compliance prior to the issue of the Construction Certificate / Crown Design Verification Certificate. | |

11.0 Recommendations

We have assessed the drawings with respect to the Building Code of Australia 2022. We are confident that the design is generally capable of meeting the Deemed-to-Satisfy provisions and Performance Requirements of the Building Code of Australia 2022, except where noted within sections of this report. Areas of the design are still being developed but are unlikely to impact on the planning approval submission. Parts of the design that are still in the process of development are to be addressed prior to the issue of the Construction Certificate / Crown Design Verification Certificate for the works.

12.0 Mitigation Measures

Section 1.2 of this report provides two scenarios for the delivery of the activity. Scenario 1 includes the delivery of the public domain works and off-site stormwater basin at the same time or before the handover of the Jordan Springs High School. Scenario 2 excludes the delivery of public domain works and off-site basin and instead includes temporary measures including on-site temporary basin, temporary carpark and temporary kiss and drop facilities. The temporary facilities will be decommissioned upon delivery of permanent public domain works and off-site basins.

We note that stormwater drainage, provision for on-site carpark and kiss and drop facilities are all planning requirements and are not driven by the BCA, hence we do not envisage any impact on BCA compliance of the buildings and structures on site with respect to the two scenarios.

| Mitigation measures | | | |
|-------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mitigation Number/ Name | When is Mitigation Measure to be complied with | Mitigation Measure | Reason for Mitigation Measure |
| BCA Compliance | During design and throughout construction | All building work to be designed and carried out in accordance with the National Construction Code Series, Building Code of Australia, Volume 1 and 2 (as applicable). Where compliance with the deemed-to- satisfy (DtS) provisions of BCA is not possible or preferrable, a fire engineered performance solution or BCA performance solution must be developed. Refer to section 2 of this report identifying a preliminary list of DtS non-compliance which needs to be further developed as the design progresses. Designs are still being developed at this stage and will need reassessment with respect to justification of performance solutions and further assessment as the design changes and progresses. Coordination with the design team will be needed to determine if the intent is to propose a DtS solution, or if a fire engineered solution is preferred. | Achieve BCA compliance to ensure occupant safety, provide accessible built environment, meet the minimum acceptable levels of occupant amenity and ensure buildings are energy efficient. BCA compliance is required to meet the minimum legislative requirements. |

The following table includes the mitigation measures that have been identified with respect to the proposed buildings and structures:

APPENDIX A – FIRE RESISTANCE OF BUILDING ELEMENTS

TYPE A FIRE-RESISTING CONSTRUCTION – FIRE-RESISTANCE OF BUILDING ELEMENTS

| Table S5C11a: Type A Constru | ction: FRL of load | dbearing parts o | f external walls | | | |
|---------------------------------------------------|---------------------------------------------------------------|---------------------|--------------------|------------------|--|--|
| | FRL (in minutes): Structural adequacy/ integrity / insulation | | | | | |
| Distance from a fire-source feature | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or 8 | | |
| | 4 part | or 9 | | | | |
| Less than 1.5m | 90/90/90 | 120/120/120 | 180/180/180 | 240/240/240 | | |
| 1.5m to less than 3m | 90/60/60 | 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 Constructi | on: FRL of non-lo | badbearing parts | of external walls | | | |
| | FRL (in min | utes): Structural | adequacy/ integr | ity / insulation | | |
| Distance from a fire-source feature | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or 8 | | |
| | 4 part | or 9 | | | | |
| Less than 1.5m | -/90/90 | -/120/120 | -/180/180 | -/240/240 | | |
| 1.5m to less than 3m | -/60/60 | -/90/90 | -/180/120 | -/240/180 | | |
| 3m or more | -/-/- | -/-/- | -/-/- | -/-/- | | |
| Table S5C11c: Type A Construction: FRL | of external colui | mns not incorpo | rated in an extern | al wall. | | |
| | FRL (in min | utes): Structural | adequacy/ integr | ity / insulation | | |
| Column Type | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or 8 | | |
| | 4 part | or 9 | | | | |
| Loadbearing | 90/-/- | 120/-/- | 180/-/- | 240/-/- | | |
| Non-loadbearing | -/-/- | -/-/- | -/-/- | -/-/- | | |
| Table S5C11d: Type A Cons | truction: FRL of o | common walls a | nd fire walls | | | |
| | FRL (in min | utes): Structural | adequacy/ integr | ity / insulation | | |
| Wall Type | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or 8 | | |
| | 4 part | or 9 | | | | |
| Loadbearing or Non-loadbearing | 90/90/90 | 120/120/120 | 180/180/180 | 240/240/240 | | |
| Table S5C11e: Type A Cor | struction: FRL of | f loadbearing int | ernal walls | | | |
| | FRL (in min | utes): Structural | adequacy/ integr | ity / insulation | | |
| Location | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or 8 | | |
| | 4 part | or 9 | | | | |
| Fire-resisting lift and stair shafts | 90/90/90 | 120/120/120 | 180/180/180 | 240/240/240 | | |
| Bounding public corridors, public lobbies and the | 90/90/90 | 120/-/- | 180/-/- | 240/-/- | | |
| like | | | | | | |
| Between or bounding sole-occupancy units | 90/90/90 | 120/-/- | 180/-/- | 240/-/- | | |
| Ventilating, pipe, garbage, and like shafts not | 90/90/90 | 120/90/90 | 180/120/120 | 240/120/120 | | |
| used for the discharge or hot products of | | | | | | |
| combustion | | | | | | |
| Table S5C11f: Type A Const | ruction: FRL of no | on-loadbearing i | nternal walls | | | |
| | FRL (in min | utes): Structural | adequacy/ integr | ity / insulation | | |
| Location | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or 8 | | |
| | 4 part | or 9 | | | | |
| Fire-resisting lift and stair shafts | -/90/90 | -/120/120 | -/120/120 | -/120/120 | | |
| Bounding public corridors, public lobbies and the | -/60/60 | -/-/- | -/-/- | -/-/- | | |
| like | | | | | | |
| Between or bounding sole-occupancy units | -/60/60 | -/-/- | -/-/- | -/-/- | | |
| Ventilating, pipe, garbage, and like shafts not | -/90/90 | -/90/90 | -/120/120 | -/120/120 | | |
| used for the discharge or hot products of | | | | | | |
| combustion | | | | | | |
| Table S5C11g: Type A Construction: FRL of oth | ner building elem | ents not covered | d by Tables S5C1 | 1a to S5C11f | | |
| | FRL (in min | utes): Structural | adequacy/ integr | ity / insulation | | |
| Building Element | Class 2, 3 or 4 part | Class 5, 7a or 9 | Class 6 | Class 7b or 8 | | |
| Other loadbearing internal walls, internal beams. | 90/-/- | 120/-/- | 180/-/- | 240/-/- | | |
| trusses and columns | | | • | , | | |
| 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 | | |

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TYPE C FIRE-RESISTING CONSTRUCTION – FIRE-RESISTANCE OF BUILDING ELEMENTS

| Tables S5C24a: Type C Construction: FRL of parts of external walls | | | | | | |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------|-------------------|----------------|--|--|
| | FRL (in minute | es): Structural ac | lequacy/ integrit | y / insulation | | |
| Distance from a fire-source feature | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or | | |
| | 4 part | or 9 | | 8 | | |
| Less than 1.5m | 90/90/90 | 90/90/90 | 90/90/90 | 90/90/90 | | |
| 1.5m to less than 3m | -/-/- | 60/60/60 | 60/60/60 | 60/60/60 | | |
| 3m or more | -/-/- | -/-/- | -/-/- | -/-/- | | |
| Table S5C24b: Type C Construction: FRL of external columns not incorporated into an external wall | | | | | | |
| | FRL (in minute | s): Structural ac | lequacy/ integrit | y / insulation | | |
| Distance from a fire-source feature | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or | | |
| | 4 part | or 9 | | 8 | | |
| Less than 1.5m | 90/-/- | 90/-/- | 90/-/- | 90/-/- | | |
| 1.5m to less than 3m | -/-/- | 60/-/- | 60/-/- | 60/-/- | | |
| 3m or more | -/-/- | -/-/- | -/-/- | -/-/- | | |
| Table S5C24c: Type C Construction: FRL of common w | alls and fire wal | ls | | | | |
| | FRL (in minutes): Structural adequacy/integrity / insulation | | | | | |
| Wall Type | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or | | |
| | 4 part | or 9 | | 8 | | |
| Loadbearing or Non-loadbearing | 90/90/90 | 90/90/90 | 90/90/90 | 90/90/90 | | |
| Table S5C24d: Type C Construction: FRL of internal wa | alls | | | | | |
| | FRL (in minutes): Structural adequacy/integrity / insulation | | | | | |
| Location | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or | | |
| | 4 part | or 9 | | 8 | | |
| Bounding public corridors, public lobbies and the like | 60/60/60 | -/-/- | -/-/- | -/-/- | | |
| Between or bounding sole-occupancy units | 60/60/60 | -/-/- | -/-/- | -/-/- | | |
| Bounding a stair if required to be rated | 60/60/60 | 60/60/60 | 60/60/60 | 60/60/60 | | |
| Table S5C24e: Type C Construction: FRL of roof | | | | | | |
| | FRL (in minute | es): Structural ac | lequacy/ integrit | y / insulation | | |
| Location | Class 2, 3 or | Class 5, 7a | Class 6 | Class 7b or | | |
| | 4 part | or 9 | | 8 | | |
| Roofs | -/-/- | -/-/- | -/-/- | -/-/- | | |



APPENDIX B – CLIMATE ZONES OF GREATER SYDNEY AND SURROUNDING AREAS



APPENDIX C – ARCHITECTURAL PLAN MARK UPS



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| P01 | 04/10/2024 | ISSUE FOR COORDINATION | TD | SITE IMAGE | TSA Pilov | ĺ |
| P02 | 25/10/2024 | ISSUE FOR COORDINATION | TD | Landscape Architects | I OF THEY | ĺ |
| | | | | Level 3-5 Baptist Street Redfern, 2016 | Level 15, 207 Kent Street, Sydney NSW 2000 | ĺ |
| | | | | T + 61 2 8332 5600 | T + 1300 482 651 | ĺ |
| | | | | SERVICES | STRUCTURE & CIVIL | Γ |
| | | | | STEENSEN VARMING Level 8/9-13 Castlereagh Street, Sydney NSW 2000 T + (02) 9967 2200 | Level 6/73 Miller St, North Sydney NSW 2060 T + (02) 9439 7288 | |

