BUILDING CODE OF AUSTRALIA 2022 ASSESSMENT REPORT

THE GABLES NEW PRIMARY SCHOOL & PRE-SCHOOL

LOT 301 / DP1287967 - FONTANA DRIVE, THE GABLES, BOX HILL NORTH, NSW 2765

Report prepared for:

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REVISION HISTORY

Rev No.	Prepared by	Description	Date
R01	Shaneel Sharma	Draft BCA report for review and comment	26/09/2024
R02	Shaneel Sharma	Updated Draft BCA report for review and comment	27/09/2024
R03	Shaneel Sharma	Updated Draft BCA report in response to Planner's comments	18/11/2024
R04	Shaneel Sharma	Updated BCA report in response to Planner's comments	21/11/2024

1.0 Introduction and Documentation

This Building Code of Australia 2022 (BCA) Assessment Report has been prepared by Philip Chun on behalf of NSW Department of Education (the Applicant) to assess BCA compliance of the proposed development The Gables New Primary School at Lot 301 DP 1287967 on Fontana Drive, Gables (the site).

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.

This report accompanies a Review of Environment Factors that seeks approval for the construction and operation of a new primary school at the site, which involves the following works:

- Construction of school buildings, including learning hubs, a school hall and an administration and library building.
- Construction and operation of a public preschool.
- Delivery of a sports court and fields.
- Construction of car parking, waste storage and loading area.
- Associated site landscaping and open space improvements.
- Associated off-site infrastructure works to support the school, including (but not limited to) services, driveways and pedestrian crossings.

For a detailed project description, refer to the Review of Environmental Factors prepared by Ethos Urban.

This document guides the consultant team in preparing their documentation to accompany a REF for the development of the Gables Primary School. The table below addresses the relevant REF requirements and provides a project response.

REF Reporting Requirements

Item	REF Requirement	Relevant Sections of Report
14	BCA Report	Sections 2.0 to 11.0.

The site is located on Cataract Road, Gables, within The Hills Local Government Area (LGA), approximately 50km northwest of the Sydney CBD and 10km north of the Rouse Hill Town Centre. It comprises one lot, legally described as Lot 301 DP 1287967, that measures approximately 2.2ha in area. The site is bound by Pennant Way to the north, Cataract Road to the east, Fontana Drive to the west and a vacant lot to the south. An aerial image of the site is shown below in Figure 1.

Figure 1 Site Aerial (Source: Nearmap, edits by Ethos Urban)

Statement of Significance
Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development from a Building Code of Australia perspective, it is determined that:

• Potential impacts can be appropriately mitigated or managed / addressed to ensure that there is minimal effect on the locality, community.

Documentation and Scope of Assessment
The design documentation assessed comprises only the plans developed by Architectus Australia Pty Ltd as follows (no structural or services documentation have been assessed as part of our review):

Drawing No/Rev.	Dated
AR-SD2000, AR-SD2001, AR-SD2002, AR-SD2003, AR-SD2301/P.01, AR-SD2302/P.01, AR-SD2303/P.01, AR-SD2304/P.01, AR-SD2305/P.01, AR-SD2306/P.01, AR-SD2307/P.01	06/09/24 & 23/08/24

We have reviewed the submitted architectural plans as tabulated above for compliance with the deemed-to-satisfy 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 B, C, D, E, F, G, I & J 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) / Crown Design Verification Certificate (CDVC) 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 the 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.

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 CC / CDVC.

This report is for the exclusive use of the client and cannot be used for any other purpose without prior permission from Philip Chun BC NSW Pty Ltd. The report is valid only in its entire form. Philip Chun accepts no responsibility for any loss suffered as a result of any reliance upon such assessment or report other than as being accurate at the date the report was issued.

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	Details of Non-compliance
C3D3	Main school building - Note the stairway between Block 1 and Block 2 is currently not proposed to be fire isolated (subject to fire engineering) and connects 3 levels which can potentially result in a maximum fire compartment floor area of more than 8,000m^2. (Fire compartment floor areas TBC)
C3D7	Main school building - Non-DtS fire rated spandrel configuration to be addressed by Fire Engineering otherwise confirm if DtS fire-rated spandrels are proposed.
D2D4	Main school building - The stairway between Block 1 and Block 2 connects more than 2 storeys in a building that is not sprinkler protected. This stairway must be either be addressed by Fire Engineering or be re-designed as a fire-isolated stairway.
D2D5	<u>Main School Building</u> Ground Floor: - Canteen office: up to 23m to a point of choice in lieu of 20m. - Block 2 & 3 GLS areas: up to 23m to a point of choice in lieu of 20m. Level 1: - Block 2 GLS areas: up to 24m to a point of choice in lieu of 20m. - Block 3 GLS areas: up to 22m to a point of choice in lieu of 20m. - Block 2 EDB Plant Room: up to 44m to the nearest exit in lieu of 40m. - Block 2 GLS areas: up to 48m to the nearest exit in lieu of 40m. Level 2: - Block 1 & 3 GLS areas: up to 22m to a point of choice in lieu of 20m. - Block 2 GLS areas: up to 24m to a point of choice in lieu of 20m. - Block 1 GLS areas: up to 41m to the nearest exit in lieu of 40m. - Block 2 EDB Plant Room: up to 44m to the nearest exit in lieu of 40m. - Block 2 GLS areas: up to 48m to the nearest exit in lieu of 40m. Architect to amend design or Fire Engineer to address the above departures. Note furniture layouts may extend these distances. Designers / Fire Engineer to consider and allow sufficient flexibility for furniture layout.
D2D8	<u>Hall Building</u> The hall building has an aggregate egress width of 2m available which can cater for a population of 200. A D2D18 calculation results in a max. allowed population of 368 which requires a minimum aggregate egress width of 3.5m. An additional 1.5m of egress / exit width is required for the hall. Architect to amend design to include additional swing exit doors.
D2D13	The proposed external stairs to the main school building must be constructed to comply with this clause otherwise be fire-isolated. Current configuration is not compliant. Protection as below is required. Note external stairs must discharge externally, they cannot discharge within or into covered areas.
D2D15	<u>Main School Building</u> Show a paved pathway leading to road / public footpath from the main entry. <u>Hall Building</u> Show a paved pathway leading to road / public footpath from the northern egress doorway. <u>Pre-school Building</u> A path leading from the rear exits to the path leading to road must be shown.
D3D25	All buildings - All exit doors at Ground Floor must swing outwards. Architect to amend.

BCA Reference	Details of Non-compliance
E2D19	This clause will apply to the Block 1 and Block 2 Combined Fire Compartment of the main school building. It requires a smoke exhaust system or roof mounted automatic smoke-and-heat vents to a fire compartment exceeding 2000m^2. Will need to confirm how the stairway between Block 1 and Block 2 is being addressed as the non-fire-isolated stairway connects the three levels resulting in a fire compartment exceeding 2000m^2. Note - only Classrooms attract an exemption in accordance with this clause and this Fire Compartment contains a Library and Canteen.
Part G3	Applies to main school Building. Fire engineer to address atrium adjacent the stairway between Block 1 and Block 2 otherwise compliance with Part G3 is required.

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	Details of Non-compliance
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.

Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements F3P1 is satisfied by complying with the DtS prescriptive requirements of F3D2 to F3D5.

3.0 Building Assessments

Classes and use and type of construction of the buildings are as follows:

BCA Parameters – Main School Building	
BCA Classifications	Ground Floor = Class 9b School and Class 5 Staff / Admin Areas
	Level 1 = Class 9b School & School Library
	Level 2 = Class 9b School and Ancillary Class 5 Staff / Admin Areas
Rise in Storeys (RIS)	3
Effective Height	<12m (Approx 7.75m) (RL 45.650 - RL 37.900) – No sections drawings currently available.
Type of Construction	A
Floor Area	Ground Floor = 3,134m^2
	Level 1 = 3,148m^2
	Level 2 = 3,148m^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 **TBC – SINSW & Architect to confirm use of the covered walkways connecting teaching blocks. I.e., will there be any combustible items located / stored within the covered walkways that contribute to fire load e.g, school bag storage etc.**
Structural Importance Level	Structural Engineer to confirm

BCA Parameters – School Hall Building	
BCA Classifications	Class 9b School Hall Building and Class 7b Storage Areas
Rise in Storeys (RIS)	1
Effective Height	0m
Type of Construction	C
Floor Area	721m^2
Fire Compartment	Max. Fire Compartment Floor Area = <2,000m^2 (Approx. 721m^2) Max. Fire Compartment Volume = <12,000m^3 (TBC but likely to be less than 12,000m^3)
Structural Importance Level	Structural Engineer to confirm

BCA Parameters – Pre-school Building	
BCA Classifications	Class 9b Pre-school (Early Childhood Centre)
Rise in Storeys (RIS)	1
Effective Height	0m
Type of Construction	C
Floor Area	620m^2 (Including COPA)
Fire Compartment	Max. Fire Compartment Floor Area = <3,000m^2 (Approx. 620m^2) Max. Fire Compartment Volume = <18,000m^3 (TBC but likely to be less than 18,000m^3)
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.
Please note that the School Hall Building has not been assessed as a building for public functions and event use / place of public entertainment / entertainment venue.

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	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 and any alterations to structural elements within an existing 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 Engineer to note the requirements for the development prior to issue of a CC / CDVC. **Note the Hall building and Pre-school buildings are considered separate buildings to the main school building and must be treated as fire-source features. The shade structure between the hall building and main school building is a separate free-standing Class 10a non-combustible shade structure.** Compliance is readily achievable. Structural design and certification required prior to the issue of the CC / CDVC for the works.

5.0 Fire Resistance

Clause	Description	Requirement	Assessment
SECTION C – FIRE RESISTANCE			
C2D2	Type of construction required	Type A construction is required for the Main School building. Type C construction is required for the Hall and Pre-school buildings. Refer to Appendix A of this report for specific FRLs applicable to these buildings.	Structural Engineer to note the requirements for the development in accordance with the requirements of Specification 5. Compliance readily achievable. Details demonstrating compliance must be provided with the application for CC / CDVC.
C2D9	Lightweight construction	If lightweight construction is utilised to achieve the required FRL, it must comply with Specification 6 of the BCA.	Architect to note. Details demonstrating compliance must be submitted with the application for CC / CDVC.
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.	Architect to note. Applies to main school building. Details demonstrating compliance must be submitted with the application for CC / CDVC.
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 can be readily achievable. All new floor, wall and ceiling details to be provided demonstrating compliance with Specification 7 prior to issue of a CC / CDVC.
C2D14	Ancillary Elements	An ancillary element must not be fixed, installed, attached to or supported by 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.	Architect to note. Applies to main school building. Details demonstrating compliance must be submitted with the application for CC / CDVC.
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	Architect to note. Applies to main school building.

<table>
<tr><th>Clause</th><th>Description</th><th>Requirement</th><th>Assessment</th></tr>
<tr><td></td><td></td><td>supported or restrained to the supporting frame.</td><td></td></tr>
<tr><td>C3D3</td><td>General floor area and volume limitations</td><td>The tables below depict the floor area and volume limitations applicable for Type A and C construction.
<table><tr><td>Classification</td><td>Type A Construction</td></tr><tr><td>Class 5, 9b or 9c</td><td>Max floor area – 8,000m2</td></tr><tr><td></td><td>Max volume – 48,000m2</td></tr></table>
<table><tr><td>Classification</td><td>Type C Construction</td></tr><tr><td>Class 5, 9b or 9c</td><td>Max floor area – 3,000m2</td></tr><tr><td></td><td>Max volume – 18,000m2</td></tr></table></td><td><u>Main School Building</u>
Max. Fire Compartment Floor Area must be less than 8,000m^2
Max. Fire Compartment Volume must be less than 48,000m^3
SINSW & Architect to confirm use of the covered walkways connecting teaching blocks. I.e., will there be any combustible items located / stored within the covered walkways that contribute to fire load e.g, school bag storage etc.
Note the stairway between Block 1 and Block 2 is currently not proposed to be fire isolated (subject to fire engineering) and connects 3 levels which can potentially result in a maximum fire compartment floor area of more than 8,000m^2. (Fire compartment floor areas TBC)

<u>Hall and Pre-school Buildings</u>
Both buildings are within the limits of Type C Construction. Complies.</td></tr>
<tr><td>C3D7</td><td>Vertical separation of openings in external walls.</td><td>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.</td><td>Applies to main school building. Non-DtS fire rated spandrel configuration to be addressed by Fire Engineering otherwise confirm whether DtS fire-rated spandrels are proposed.</td></tr>
<tr><td>C3D11</td><td>Separation of lifts shafts</td><td>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.</td><td>Lifts serving the main school building must be contained wholly within fire-isolated lift shafts. Details demonstrating compliance must be submitted with the application for CC / CDVC.</td></tr>
<tr><td>C3D13</td><td>Separation of equipment</td><td>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.</td><td>Services engineer or architect to confirm if at all applicable prior to issue of any CC / CDVC.</td></tr>
</table>

Clause	Description	Requirement	Assessment
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. A MSB Room sustaining emergency equipment must be fire-separated by FRL 120/120/120 construction. Details demonstrating compliance must be provided with the application for CC / CDVC.
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.	Main School Building Any openings within a loadbearing wall within 6m of the Hall Building will need protection. Hall and Pre-school Buildings Both buildings are more than 3m away from the main school building and do not require external wall FRLs. Note that the shade structure between the hall building and main school building is a separate free-standing Class 10a non-combustible shade structure.
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 mm^2 in area.	Lift designers to note. Details demonstrating compliance must be submitted with the application for CC / CDVC.
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 CC / CDVC.

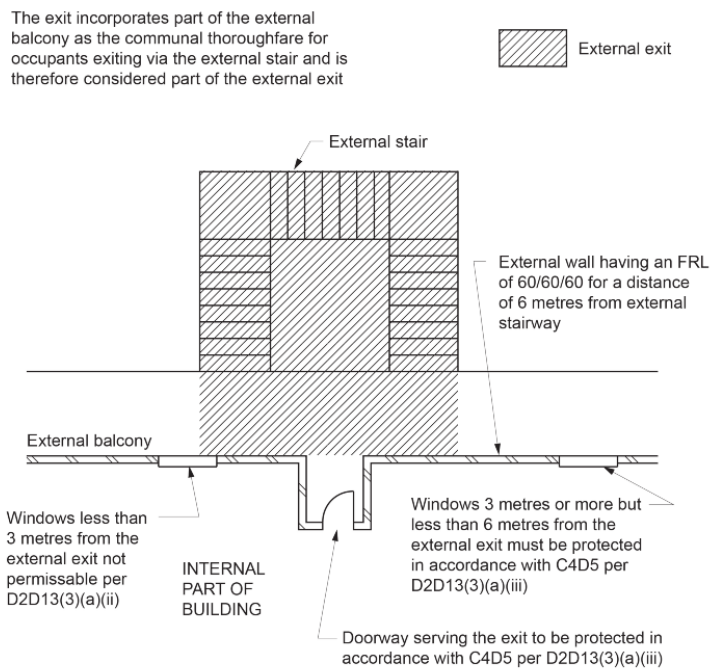
Clause	Description	Requirement	Assessment
C4D16	Construction Joints	Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 4072.1 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.	Designers to note.
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 stores of 3 or less.	The main school building has a rise in storeys of only 3 and is not required to have a fire- rated roof if the roof covering is 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.	<u>Main School Building</u> Internal columns and internal walls (other than fire walls) within the storey immediately below the roof are afforded the concession to achieve nil FRLs however this does not apply to internal columns that face and are within 1.5m of a window and are exposed through that window to a fire-source feature.

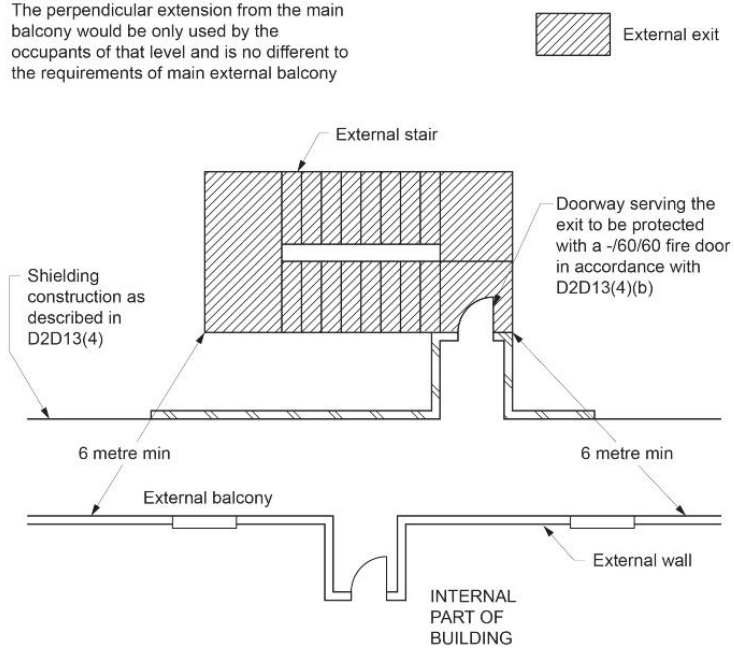
6.0 Access and Egress

Clause	Description	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.	Main School Building **At least 2 exits are provided. Complies.** Hall Building **At least 2 exits are provided however additional exits are required to accommodate the hall population (Refer to D2D8 below for additional requirements)** Pre-school Building **At least 2 exits are provided, however a path leading from the rear exits to the path leading to road must be shown.**
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.	Main School Building **The stairway between Block 1 and Block 2 connects more than 2 storeys in a building that is not sprinkler protected. This stairway must be either be addressed by Fire Engineering or be re-designed as a fire-isolated stairway.** **Other stairways along the perimeter of the main school building must be either fire-isolated or comply with D2D13 – External stairways or ramps in lieu of fire-isolated exits.**
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.	**Main School Building** **Ground Floor:** - **Canteen office: up to 23m to a point of choice in lieu of 20m.** - **Block 2 & 3 GLS areas: up to 23m to a point of choice in lieu of 20m.** **Level 1:** - **Block 2 GLS areas: up to 24m to a point of choice in lieu of 20m.** - **Block 3 GLS areas: up to 22m to a point of choice in lieu of 20m.** - **Block 2 EDB Plant Room: up to 44m to the nearest exit in lieu of 40m.** - **Block 2 GLS areas: up to 48m to the nearest exit in lieu of 40m.** **Level 2:** - **Block 1 & 3 GLS areas: up to 22m to a point of choice in lieu of 20m.** - **Block 2 GLS areas: up to 24m to a point of choice in lieu of 20m.** - **Block 1 GLS areas: up to 41m to the nearest exit in lieu of 40m.** - **Block 2 EDB Plant Room: up to 44m to the nearest exit in lieu of 40m.** - **Block 2 GLS areas: up to 48m to the nearest exit in lieu of 40m.** **Architect to amend design or Fire Engineer to address the above departures.**

Clause	Description	Requirement	Assessment
			Note furniture layouts may extend these distances. Designers / Fire Engineer to consider and allow sufficient flexibility for furniture layout. <u>Hall Building</u> Egress distances are within DtS limits. Complies. <u>Pre-school Building</u> **Egress distances are within DtS limits however a path leading from the rear exits to the path leading to road must be shown.**
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.	Distances between exits within the buildings are within DtS limits and comply.
D2D7	Height of exits, paths of travel to exits and doorways)	In a required exit or path of travel to an exit the unobstructed height throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm.	Architect to note. Ensure a clear heigh of 2m is provided to all stairways.
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.	<u>Main School Building</u> Ground Floor: The Admin and Teaching Hubs are each provided with 2 egress doorways which can accommodate a population of 200 in each hub. Level 1: An aggregate egress width of 7.5m consisting of the 4 egress stairways can cater for a population of 860 people. Level 2: An aggregate egress width of 7.5m consisting of the 4 egress stairways can cater for a population of 860 people. It is noted that the School will have a maximum total design occupancy of 1060 (1000 students + 60 Staff) across the three levels as confirmed by the Architect. Compliance is readily achievable. Architect to note path of travels within <u>Hall Building</u> **The hall building has an aggregate egress width of 2m available which can cater for a population of 200. A D2D18 calculation results in a max. allowed population of 368 which requires a minimum aggregate egress width of 3.5m. An additional 1.5m of egress / exit width is required for the hall. Architect to amend design to include additional swing exit doors.**

Clause	Description	Requirement	Assessment
			Pre-school Building **At least 2 exits are provided, however a path leading from the rear exits to the path leading to road must be shown.** Architect to note paths of travel to be at least minimum 1m wide within all buildings.
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.	Architect to note. Detail drawings to be provided at CC/ CDVC stage to confirm compliance.
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.	Architect to note. Ensure a clear heigh of 2m is provided to all stairways.
D2D12	Travel via fire-isolated exits	Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, the following applies: a. That part of the wall must have— i. an FRL of not less than 60/60/60; and ii. any openings protected internally in accordance with C4D5; and b. The protection required by (a) must extend for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser.	Discharge of the main school building stairway between Block 1 and Block 2 to comply if amended to be fire-isolated. Otherwise comply with the Fire Engineering requirements if subject to a Fire Engineered Performance Solution.
D2D13	External stairways or ramps in lieu of	An external stairway or ramp may serve as a required exit in lieu of a fire-isolated exit serving	**The proposed external stairs to the main school building must be constructed to comply with this clause otherwise be fire-isolated. Current configuration is**

Clause	Description	Requirement	Assessment
	fire-isolated exits.	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.	**not compliant. Protection as below is required. Note external stairs must discharge externally, they cannot discharge within or into covered areas.** **Figure D2D13a: Protection of the external exit using the external wall of building in accordance with D2D13(3)(a)** **Image**  **Or**

Clause	Description	Requirement	Assessment
			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 
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. 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.	Discharge of the main school building stairway between Block 1 and Block 2 to comply if subject to fire engineering as a non-fire-isolated stairway.

Clause	Description	Requirement	Assessment
		A required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than 20 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or 40 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions.	
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.	Main School Building **Show a paved pathway leading to road / public footpath from the main entry.** Hall Building **Show a paved pathway leading to road / public footpath from the northern egress doorway.** Pre-school Building **A path leading from the rear exits to the path leading to road must be shown.**
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.	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. Occupant 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. Designers to note.
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.
D2D23	Egress from primary schools	Every part of a Class 9b primary school must be wholly within a storey that provides direct egress to a	Design complies.

Clause	Description	Requirement	Assessment
		road or open space. The requirements of the above do not apply to a building with a rise in storeys of 4 or less, where the primary school is the only use in that building.	
D3D3	Fire-isolated stairways and ramps	A stairway or ramp (including any landings) that is required to be within a fire-resisting shaft must be constructed— a. of non-combustible materials; and b. so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft.	Architect 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/m^3 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.	Architect to note. Further details required to ensure compliance prior to the issue of a CC / CDVC.
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.	Architect and service consultants to note requirements – further details required to ensure compliance prior to the issue of a CC / CDVC.

Clause	Description	Requirement	Assessment
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.	Architect to note. Compliance is readily achievable.
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.	Architect to note. Further details are required to ensure compliance prior to the issue of a CC / CDVC.
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.	All new doors to comply. Architect to note. Further details required to ensure compliance prior to the issue of a CC / CDVC.
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.	**All buildings - All exit doors at Ground Floor must swing outwards. Architect to amend.**
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 this part of the BCA.	Architect to note. Further details required to ensure compliance prior to the issue of a CC / CDVC.
D3D29	Protection of openable windows	A window opening must be provided with protection, if the floor below the window is 2 m or more above the surface beneath in an Class 9b early childhood centre. Where the lowest level of the window opening is less than 1.7 m above the floor, a window opening	Architect to note. Applicable to the Early Childhood Centre if a window is located less than 1.7m above FFL where there is a risk of fall of more than 2m.

Clause	Description	Requirement	Assessment
		covered by the above must comply with the following: a. The openable portion of the window must be protected with— i. a device capable of restricting the window opening; or ii. a screen with secure fittings.	
Part D4	Access for people with a disability	Access for people with a disability	Refer to the Access Consultant's Report for DDA compliance.

7.0 Services and Equipment

Clause	Description	Requirement	Assessment
SECTION E – SERVICE AND EQUIPMENT			
E1D2	Fire Hydrants	A fire hydrant system must be provided to serve a building— a. having a total floor area greater than 500 m^2; and b. where a fire brigade station is— i. no more than 50 km from the building as measured along roads; and ii. equipped with equipment capable of utilising a fire hydrant. The fire hydrant system must be installed in accordance with AS 2419.1-2021.	Each building has a floor area greater than 500m^2. 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 CC / CDVC.
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 m^2. 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	Applies to all buildings except for where a concession applies. 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 CC / CDVC.

Clause	Description	Requirement	Assessment
		an exit and adjacent to an internal fire hydrant. They must be designed and installed in accordance with Clause E1D3 of BCA2022 & AS2441- 2005.	
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 readily achievable. Hydraulic / wet fire services consultant to provide details for assessment. Details to be provided prior to the issue of a CC / CDVC.
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.	Architect to note and provide sufficient notation on the plans.
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.	Ensure provision for dangerous chemical storage to comply with relevant legislation.
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. (2) 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. (3) A smoke detection system must be installed in accordance with S20C6 to operate AS 1668.1 systems that are provided for zone pressurisation and automatic air pressurisation for fire-	Services consultants to note. Details demonstrating compliance to be provided with the application for CC / CDVC.

Clause	Description	Requirement	Assessment
		isolated exits.	
E2D16	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. 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 m^2 and not more than 150 m^2 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.	Automatic shutdown of air-handling systems must be provided. Services consultants to note. Details demonstrating compliance to be provided with the application for CC / CDVC. Note – Hall Building stage is less than 50m^2.
E2D19	Class 9b – assembly buildings: fire compartments greater than 2000m^2	In a building or part of a building used as an assembly building (not being a night club, discotheque or the like; or an exhibition hall, museum or art gallery) where the floor area of a fire compartment is more than 2000 m^2, the fire compartment must be provided with— a. an automatic smoke exhaust system complying with Specification 21; or b. roof mounted automatic smoke-and-heat vents complying with Specification 22, in a single storey building or the top storey of a multi storey building; or c. if the floor area of the fire compartment is not	**This clause will apply to the Block 1 and Block 2 Combined Fire Compartment of the main school building. It requires a smoke exhaust system or roof mounted automatic smoke-and-heat vents to a fire compartment exceeding 2000m^2. Will need to confirm how the stairway between Block 1 and Block 2 is being addressed as the non-fire-isolated stairway connects the three levels resulting in a fire compartment exceeding 2000m^2.** **Note - only Classrooms attract an exemption in accordance with this clause and this Fire Compartment contains a Library and Canteen.**

Clause	Description	Requirement	Assessment
		more than 5000 m^2 and the building has a rise in storeys of not more than 2— i. an automatic smoke detection and alarm system complying with Specification 20; or ii. a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. The following buildings are exempt from the provisions of the above: a. Sporting complexes, (including sports halls, gymnasiums, swimming pools, ice and roller rinks, and the like) other than indoor sports stadiums with total spectator seating for more than 1000 persons. b. Churches and other places used solely for religious worship. c. School classrooms.	
E3D2	Lift installations	An electric passenger lift installation must comply with Specification 24 of BCA2022.	Details demonstrating compliance to be provided with the application for CC / CDVC.
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.	The main school building has an effective height of 7.75m. A stretcher facility is not required.
E3D4	Warning against use of lifts in fire	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 to be provided with the application for CC / CDVC.
E3D7	Passenger lift types and their limitations	A passenger lift must not rely on a constant pressure device for its operation if the lift car is fully enclosed.	Lift manufacturer to note. Details demonstrating compliance to be provided with the application for CC / CDVC.
E3D8	Accessible features required for passenger lifts	In an accessible building, every passenger lift must have the following features where applicable: (a) A handrail complying with the provisions for a	Access consultant to confirm compliance when lift details are available. Details demonstrating compliance to be provided with the application for CC / CDVC.

Clause	Description	Requirement	Assessment
		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— i. automatic audible information within the lift car to identify the level each time the car stops; and ii. audible and visual indication at each lift landing to indicate the arrival of the lift car; and iii. 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.	
E4D2 - E4D6, E4D8	Visibility in an emergency, exit signs and warning systems	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.	Compliance readily achievable. Electrical consultant to provide details for assessment. Details to be provided prior to the issue of a CC / CDVC.

8.0 Surface water management, rising damp and external waterproofing

Clause	Description	Requirement	Assessment
SECTION F – HEALTH AND AMENITY			
F1D3	Stormwater drainage	Stormwater drainage must be designed and constructed in accordance with AS/NZS 3500.3.	Hydraulic engineering design details demonstrating compliance to be provided with the application for CC / CDVC.
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 and consultants to note. Details demonstrating compliance to be provided with the application for CC / CDVC.
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.	Architectural and structural engineering details demonstrating compliance to be provided with the application for CC / CDVC.
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. (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.	Designers and consultants to note. Details demonstrating compliance to be provided with the application for CC / CDVC.
F1D8	Subfloor ventilation	(1) Subfloor spaces must— (a) be provided with openings in external walls and internal subfloor walls in accordance with Table F1D8 for the climatic zones given in Figure F1D8; and (b) have clearance between the ground surface and the underside of the lowest horizontal member in the subfloor in accordance with Table F1D8.	Designers and consultants to note. Details demonstrating compliance for any subfloor spaces between the ground surface must be provided with the application for CC / CDVC.

Clause	Description	Requirement	Assessment
F2D2	Wet area construction	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.	Designers and specialist waterproofing consultants to note. Details demonstrating compliance to be provided with the application for CC / CDVC.
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 and consultants to note. Falls to any floor waste must be a minimum of 1:80. Details demonstrating compliance to be provided with the application for CC / CDVC.**
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 and specialist waterproofing consultants to note. Details demonstrating compliance to be provided with the application for CC / CDVC.
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 and consultants to note. Details demonstrating compliance to be provided with the application for CC / CDVC. **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.	Main School Building Architect has confirmed a total max. population for the Primary School as follows: 1000 Students 60 Staff

Clause	Description	Requirement	Assessment
			Total amenities provided: *Students:* Male - GF = 15p + 0u + 3wb + 4UniAcc L1 = 2p + 0u + 2wb + 2Uni Acc L2 = 2p + 0u + 2wb + 2Uni Acc Female - GF = 18p + 6wb + 4UniAcc L1 = 2p + 2wb + 2UniAcc L2 = 2p + 2wb + 2Uni Acc **Architect to confirm washbasin numbers in amenities between Hubs to enable an accurate calculation.** *Staff:* Male - GF = 2p + 0u + 1wb + 1UniAcc L1 = 0p + 0u + 0wb + 1UniAcc L2 = 1p + 0u + 1wb + 1UniAcc Female - GF = 2p + 1wb + 1UniAcc L1 = 1p + 1wb + 1UniAcc L2 = 1p + 1wb + 1UniAcc Above can cater for 120 Staff (60 male + 60 female staff). Compliance achievable. <u>Hall Building</u> **Architect to confirm washbasin numbers in the amenities to enable an accurate calculation.** <u>Pre-school Building</u> **Architect to provide detail drawings or amenities count to enable an accurate calculation.**
F4D4	Facilities in Class 3 to 9 buildings	A Class 9b early childhood centre must be provided with: a. a kitchen or food preparation area with a kitchen sink, separate hand washing facilities, space for a refrigerator and space for cooking facilities, with— i. the facilities protected by a door or gate with child proof latches to prevent unsupervised access to the facilities by children younger	Applies to Pre-school Building. Architect to note. Details demonstrating compliance to be provided with the application for CC / CDVC.

Clause	Description	Requirement	Assessment
		than 5 years old; and ii. the ability to facilitate supervision of children from the facilities if the early childhood centre accommodates children younger than 2 years old; and b. one bath, shower or shower-bath; and c. if the centre accommodates children younger than 3 years old— i. a laundry facility comprising a washtub and space in the same room for a washing machine; and ii. a bench type baby bath, which is within 1 m of the nappy change bench; and iii. a nappy changing bench which— 1. is within 1 m of separate adult hand washing facilities and bench type baby bath; and 2. must be not less than 0.9 m^2 in area and at a height of not less than 850 mm, but not more than 900 mm above the finished floor level; and 3. must have a space not less than 800 mm high, 500 mm wide and 800 mm deep for the storage of steps; and 4. is positioned to permit a staff member changing a nappy to have visibility of the play area at all times.	
F4D5 F4D6	Accessible sanitary facilities	Accessible unisex sanitary compartments must be provided in accessible parts of the building.	Refer to Access Report to ensure compliance prior to issue of any CC / CDVC.
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	Architect to note. Details demonstrating compliance to be provided with the application for CC / CDVC.

Clause	Description	Requirement	Assessment
		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 — 2.7 m.	
F6D2	Provision of natural light	Natural light must be provided in: 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.	Architect to note. Details demonstrating compliance to be provided with the application for CC / CDVC.
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).	
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 provide details for assessment. Details to be provided prior to the issue of a CC / CDVC.

Clause	Description	Requirement	Assessment
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 provide details for assessment. Details to be provided prior to the issue of a CC / CDVC.
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.	Compliance is readily achievable.

9.0 Ancillary Provisions

Clause	Description	Requirement	Assessment
SECTION G – ANCILLARY PROVISIONS – PART G1 MINOR STRUCTURES AND COMPONENTS			
G1D4	Outdoor play spaces	Any outdoor play space in a Class 9b early childhood centre must be enclosed on all sides with a barrier which, where the edge of the trafficable surface of the outdoor play space is at the same level or less than 2 m above the surface beneath, complies with AS 1926.1. AS 1926.1 is applied as if there is a swimming pool located outside the outdoor play space, so that the barrier restricts children from exiting the premises without the knowledge of staff in the centre.	Applies to Pre-school Building. Architect to note. Details demonstrating compliance to be provided with the application for CC / CDVC.
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	Applies to main school Building. Architect to note. Details demonstrating compliance to be provided with the application for CC / CDVC.

Clause	Description	Requirement	Assessment
		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 G3 ATRIUM CONSTRUCTION			
G3D1	Application of Part	This Part does not apply to an atrium which— a. connects only 2 storeys; or b. connects only 3 storeys if— i. each storey is provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 throughout; and ii. one of those storeys is situated at a level at which there is direct egress to a road or open space.	**Applies to main school Building. Fire engineer to address atrium adjacent the stairway between Block 1 and Block 2 otherwise compliance with Part G3 is required.**
SECTION G – ANCILLARY PROVISIONS - PART G5 CONSTRUCTION IN BUSHFIRE PRONE AREAS			
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).	**As the buildings are Class 9 buildings that are of a special fire protection purpose, please refer to the Development Consent to confirm if the proposed works are within Bushfire Prone Land and construction requirements as it appears that the building may be within vicinity of bushfire prone land.**
G5D4	Protection – certain Class 9 buildings	In a designated bushfire prone area the following must comply with Specification 43: a. A Class 9a health-care building. b. A Class 9b— i. early childhood centre; or ii. primary or secondary school. c. A Class 9c residential care building. In a designated bushfire prone area, a Class 10a building or deck immediately adjacent or connected to a building of a type listed in (1) must comply	

Clause	Description	Requirement	Assessment
		with S43C2 and S43C13.	

10.0 Energy efficiency

Clause	Description	Requirement	Assessment
SECTION J ENERGY EFFICIECNY			
Section J	Energy Efficiency provisions	Energy efficiency provisions	**Proposed developments will be required to be compliant with the requirements of the energy efficiency calculations under Section J of the 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 CC.** **The building is in Climate Zone 6.** **Please note that infrastructure and provisions for future solar panel and EV chargers may be required for each building as per Part J9D5. Subject to the Section J Consultant's advice.**

11.0 Conclusion

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 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 and the items identified are to be addressed prior to issue of the CC / CDVC for the works. This may be possible, subject to further design development by designers and the Fire Engineer, without giving rise to significant changes to the proposal that is subject to this REF.

12.0 Mitigation Measures

Project Stage ***Design (D), Construction (C), Operation (O)***	**Mitigation Measures**	**Relevant Sections of Report**
D	Areas of the design are still being developed and the items identified are to be addressed prior to issue of the CC / CDVC for the works, however, please note that environmental impacts of the development activity are not applicable to the Building Code of Australia 2022 assessment.	Sections 2.0 to 11.0.

APPENDIX A – FIRE RESISTANCE OF BUILDING ELEMENTS

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

Table S5C11a: Type A Construction: FRL of loadbearing parts of external walls				
Distance from a fire-source feature	FRL (in minutes): Structural adequacy/ integrity / insulation			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5m 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 Construction: FRL of non-loadbearing parts of external walls				
Distance from a fire-source feature	FRL (in minutes): Structural adequacy/ integrity / insulation			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	-/90/90	-/120/120	-/180/180	-/240/240
1.5m to less than 3m	-/60/60	-/90/90	-/180/120	-/240/180
3m or more	-/-/-	-/-/-	-/-/-	-/-/-
Table S5C11c: Type A Construction: FRL of external columns not incorporated in an external wall.				
Column Type	FRL (in minutes): Structural adequacy/ integrity / insulation			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing	90/-/-	120/-/-	180/-/-	240/-/-
Non-loadbearing	-/-/-	-/-/-	-/-/-	-/-/-
Table S5C11d: Type A Construction: FRL of common walls and fire walls				
Wall Type	FRL (in minutes): Structural adequacy/ integrity / insulation			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing or Non-loadbearing	90/90/90	120/120/120	180/180/180	240/240/240
Table S5C11e: Type A Construction: FRL of loadbearing internal walls				
Location	FRL (in minutes): Structural adequacy/ integrity / insulation			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair shafts	90/90/90	120/120/120	180/180/180	240/240/240
Bounding public corridors, public lobbies and the like	90/90/90	120/-/-	180/-/-	240/-/-
Between or bounding sole-occupancy units	90/90/90	120/-/-	180/-/-	240/-/-
Ventilating, pipe, garbage, and like shafts not used for the discharge or hot products of combustion	90/90/90	120/90/90	180/120/120	240/120/120
Table S5C11f: Type A Construction: FRL of non-loadbearing internal walls				
Location	FRL (in minutes): Structural adequacy/ integrity / insulation			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair shafts	-/90/90	-/120/120	-/120/120	-/120/120
Bounding public corridors, public lobbies and the like	-/60/60	-/-/-	-/-/-	-/-/-
Between or bounding sole-occupancy units	-/60/60	-/-/-	-/-/-	-/-/-
Ventilating, pipe, garbage, and like shafts not used for the discharge or hot products of combustion	-/90/90	-/90/90	-/120/120	-/120/120
Table S5C11g: Type A Construction: FRL of other building elements not covered by Tables S5C11a to S5C11f				
Building Element	FRL (in minutes): Structural adequacy/ integrity / insulation			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Other loadbearing internal walls, internal beams, trusses and columns	90/-/-	120/-/-	180/-/-	240/-/-
Floors	90/90/90	120/120/120	180/180/180	240/240/240
Roofs	90/60/30	120/60/30	180/60/30	240/90/60

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

Tables S5C24a: Type C Construction: FRL of parts of external walls				
Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy/ integrity / insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	90/90/90	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				
Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy/ integrity / insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	90/-/-	90/-/-	90/-/-	90/-/-
1.5m to less than 3m	-/-/-	60/-/-	60/-/-	60/-/-
3m or more	-/-/-	-/-/-	-/-/-	-/-/-
Table S5C24c: Type C Construction: FRL of common walls and fire walls				
Wall Type	FRL (in minutes): *Structural adequacy/ integrity / insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing or Non-loadbearing	90/90/90	90/90/90	90/90/90	90/90/90
Table S5C24d: Type C Construction: FRL of internal walls				
Location	FRL (in minutes): *Structural adequacy/ integrity / insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
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				
Location	FRL (in minutes): *Structural adequacy/ integrity / insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Roofs	-/-/-	-/-/-	-/-/-	-/-/-

APPENDIX B – MARK UPS