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BUILDING CODE OF AUSTRALIA 2022 CAPABILITY ASSESSMENT REPORT

'FRESHIE' - MIXED USED RESIDENTIAL DEVELOPMENT

10-28 LAWRENCE STREET, FRESHWATER, NSW 2096

Report prepared for: Lawrence Street Pty Ltd

Attention: Michael Bacik

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REVISION HISTORY

Revision No.	Prepared by	Description	Date
R01	Shaneel Sharma	Draft BCA Capability Report for review and comment	25/10/2024
R02	Shaneel Sharma	Final BCA Capability Report	06/12/2024

1.0 Introduction and Documentation

At the request of MD Living, we offer high level DA stage comments and recommendations with respect to Building Code of Australia 2022 compliance for the proposed mixed used retail and residential development located at 10-28 Lawrence Street, Freshwater, NSW 2096. This report is the result of the review of the below listed DA stage architectural drawings as available at the time of assessment against the requirements of the Building Code of Australia 2022 (BCA), Volume 1.

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

Drawing No/Rev.	Date
A-DA-000/04, A-DA-001/04, A-DA-002/04, A-DA-003/04, A-DA-097/04, A-DA-098/04, A-DA-099/04, A-DA-100/04, A-DA-101/04, A-DA-102/04, A-DA-103/04, A-DA-104/04, A-DA-201/04, A-DA-301/04, A-DA-302/04	28/11/2024

We have reviewed the submitted architectural plans as tabulated above for high-level compliance with the deemed-to-satisfy (DtS) 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 & 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) 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, F4D7 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.

This statement / report is not to be construed as specialist advice as referenced in Clause 9(d) of the Design and Building Practitioners Regulation 2021 and as such is not to be referenced in any Compliance Declarations made under the Design and Building Practitioners Legislation.

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 Fire Safety and Other Non-Compliances / 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 prior to the issue of the CC.

BCA Reference	Details of Non-compliance
C2D2, C3D9 & C3D10, Spec 5 – Fire Resisting Construction / Separation of Classifications	The fire engineer may rationalise / reduce FRLs via a fire engineered performance solution where possible.
C4D3 – Protection of openings in external walls	The eastern SOUs are exposed to the side boundary and any openings within 3m of and exposed to that boundary must be protected otherwise be addressed by Fire Engineering.
D2D3 – Number of exits required	- Alternate exits for Lower Ground Retail 01B are within 9m of each other. - All other areas of the Lower Gound basement storey only have access to one exit. Access to an additional exit from a common / shared lobby or corridor must be provided or otherwise be addressed via fire engineering.
D2D5 – Exit travel distances	Lower Ground: - Cold Water Pump Room, Grease Arrestor Room and the CP Fan Room - Extended travel distances of up to 26m to a single exit in lieu of 20m. Architect to amend design to demonstrate compliance or fire engineer to address.
D2D12 – Travel via fire-isolated exits	Fire-isolated stairs at the Upper Ground Floor discharge into covered areas that are not open for at least 2/3 of its perimeter. The path of travel from the fire-isolated stair discharge points also requires passing within 6m of unprotected walls and openings of the same building. Architect to amend design to demonstrate compliance or fire engineer to address.
D3D5 – Separation of rising and descending stair flights	Separation of rising and descending flights are currently not shown. Architect to amend design to demonstrate compliance or fire engineer to address.
D3D25 – Swinging doors	All final exit doors must swing outwards / in the direction of egress unless otherwise justified by fire engineering.

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 Assessment

Classifications, uses and type of construction for the building are as follows:

BCA Parameters			
`BCA Classifications	Roof Level	Class 2 (Residential)	
	Third Floor	Class 2 (Residential)	
	Second Floor	Class 2 (Residential)	
	First Floor	Class 2 (Residential), Class 8 (Substation) & Ancillary Class 7b Storage (Class 7b < 10% of floor area of storey)	
	Upper Ground	Class 6 (Retail / Restaurant) & Class 8 (Substation) & Ancillary Class 7b Storage (Class 7b < 10% of floor area of storey)	
	Lower Ground	Class 6 (Retail) & Class 7b (Residential Storage)	
	Basement 1	Class 7a (Car Park)	
	Basement 2	Class 7a (Car Park)	
Rise in Storeys (RIS)	5 (Note the roof level constitutes a storey because of the enclosed lobbies)		
Levels Contained	8		
Effective Height	Approx. 14.6m		
Type of Construction	A		
Floor Area	Roof Level	Approx. 468m^2	
	Third Floor	Approx. 1455m^2	
	Second Floor	Approx. 1707m^2	
	First Floor	Approx. 1923m^2	
	Upper Ground	Approx. 2059m^2	
	Lower Ground	Approx. 1536m^2	
	Basement 1	Approx. 2504m^2	
	Basement 2	Approx. 2504m^2	
Fire Compartment Floor Area	Roof Level	Fire compartment size limitations are N/A to Class 2 portions.	
	Third Floor		
	Second Floor		
	First Floor		
	Upper Ground	Less than 5000m^2	Ensure fire separation is provided between Upper Ground, Lower Ground and Basement Levels to prevent connection of fire compartments
	Lower Ground	Less than 5000m^2	
	Basement 1	Approx. 2264m^2	Fire compartment size limitations do not apply to a sprinkler protected car park fire compartment.
	Basement 2	Approx. 2264m^2	
Fire Compartment Volumes	Architect to provide fire compartment volume sizes but it is recognised that compliance with fire compartment volume limitations are achievable.		
Structural Importance Level	Structural Engineer to confirm		
Climate Zone	5		

Building Classifications

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

Class 2 buildings
A Class 2 building is a building containing two or more sole-occupancy units.

Class 6 buildings
A Class 6 building is a shop or other building used for the sale of goods by retail or the supply of services direct to the public, including—
(1) an eating room, café, restaurant, milk or soft-drink bar; or
(2) a dining room, bar area that is not an assembly building, shop or kiosk part of a hotel or motel; or
(3) a hairdresser's or barber's shop, public laundry, or undertaker's establishment; or
(4) market or sale room, showroom, or service station.
(5) small live music or arts venue.

Class 7 buildings
(1) A Class 7 building is a storage-type building.
(2) 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.*

Class 8 buildings
A Class 8 building is a process-type building, including a substation building.

Please note that any portion of the building proposed to be used as a gym will be classified as a 9b use and those provisions applying to a Class 9b building will also apply.

4.0 Structure

Clause	Description	Requirement	Assessment
SECTION B			
Section B	Structure	Structural provisions	The structural components of the building 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 design (including the importance level of the building). 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), a building or structure 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. Compliance is readily achievable. Structural design and certification required prior to the issue of a CC.

5.0 Fire Resistance

Clause	Description	Requirement	Assessment
SECTION C – FIRE RESISTANCE			
C2D2	Type of construction required	Type A construction is required. Refer to Appendix A of this report for specific FRLs applicable to this building.	Structural Engineer to note the requirements for the development in accordance with the requirements of Tables S5C11a - S5C11g of Specification 5. The following FRLs are generally required: - Class 2 = 90min FRLs - Class 6 = 180min FRLs - Class 7a = 120min FRLs - Class 7b & 8 = 240min FRLs Note it is expected that the fire engineer may rationalise / reduce FRLs via a fire engineered performance solution where possible.
C2D3	Calculation of rise in storeys	The rise in storeys is the sum of the greatest number of storeys at any part of the external walls of the building and any storeys within the roof space— a. above the finished ground next to that part; or b. if part of the external wall is on the boundary of the allotment, above the natural ground level at the relevant part of the boundary.	The building has a Rise in Storeys of 5 as demonstrated in Section 3 of this report.
C2D10	Non-combustible building elements	In a building required to be of Type A 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 any external wall materials. Details demonstrating compliance must be submitted with the application for CC.
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. Details demonstrating compliance must be submitted with the application for CC.

<table>
<tr><th>Clause</th><th>Description</th><th>Requirement</th><th>Assessment</th></tr>
<tr><td>C3D2</td><td>Compartmentation and separation: Application of Part</td><td>C3D3, C3D4 and C3D5 do not apply to a carpark provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17, an open-deck carpark or an open spectator stand.</td><td>As required by other provisions of the BCA, the building is required to be provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 installed throughout therefore the concession can be applied to the carpark fire compartment.</td></tr>
<tr><td>C3D3</td><td>General floor area and volume limitations</td><td>The size of any fire compartment or atrium in a Class 5, 6, 7, 8 or 9 building must not exceed the relevant maximum floor area nor the relevant maximum volume set out in Table C3D3.

Table C3D3 Maximum size of fire compartments or atria
<table><tr><th>Classification</th><th>Type A construction</th><th>Type B construction</th><th>Type C construction</th></tr><tr><td rowspan="2">5, 9b or 9c</td><td>Max floor area—8 000 m^2</td><td>Max floor area—5 500 m^2</td><td>Max floor area—3 000 m^2</td></tr><tr><td>Max volume—48 000 m^3</td><td>Max volume—33 000 m^3</td><td>max volume—18 000 m^3</td></tr><tr><td rowspan="2">6, 7, 8 or 9a (except for patient care areas)</td><td>Max floor area—5 000 m^2</td><td>Max floor area—3 500 m^2</td><td>Max floor area—2 000 m^2</td></tr><tr><td>Max volume—30 000 m^3</td><td>Max volume—21 000 m^3</td><td>Max volume—12 000 m^3</td></tr></table></td><td>Any fire compartment must not exceed 5,000m^2 in floor area or 30,000m^3 in volume. Compliance with fire compartment size limitations is achievable as demonstrated in Section 3 of this report.</td></tr>
<tr><td>C3D7</td><td>Vertical separation of openings in external walls</td><td>In a building of Type A construction spandrel protection must be provided if 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).

A concession to omit spandrel protection is available to a building which has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 installed throughout.</td><td>As required by other provisions of the BCA, the building is required to be provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 installed throughout thus the concession for the omission of spandrel protection is available.</td></tr>
<tr><td>C3D8</td><td>Separation by fire walls</td><td>A fire wall must be constructed in accordance with the relevant FRL prescribed by Specification 5.

Separation of fire compartments — A part of a building separated from the remainder of the building by a fire wall may be treated as a separate fire compartment if it is constructed in accordance with the above and</td><td>Designers to note. Fire compartment drawings and details must be submitted with the application for CC.</td></tr>
</table>

Clause	Description	Requirement	Assessment
		the fire wall extends to the underside of— a. a floor having an FRL required for a fire wall; or b. the roof covering.	
C3D9	Separation of classifications in the same storey	If a building has parts of different classifications located alongside one another in the same storey— b. each building element in that storey must have the higher FRL prescribed in Specification 5 for that element for the classifications concerned; or c. the parts must be separated in that storey by a fire wall.	The following FRLs are generally required: - Class 2 = 90min FRLs - Class 6 = 180min FRLs - Class 7a = 120min FRLs - Class 7b & 8 = 240min FRLs Designers to note and ensure compliance with Specification 5 or the fire engineer may rationalise / reduce FRLs via a fire engineered performance solution where possible.
C3D10	Separation of classifications in different storeys	If parts of different classification are situated one above the other in adjoining storeys they must be separated as follows: a. Type A construction — The floor between the adjoining parts must have an FRL of not less than that prescribed in Specification 5 for the classification of the lower storey.	
C3D11	Separation of lift 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 in which— a. in a building required to be of Type A construction — the walls have the relevant FRL prescribed by Specification 5.	All lifts connect more than 3 storeys and must be contained within fire-isolated lift shafts.
C3D13	Separation of equipment	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. Separation of on-site fire pumps must comply with the requirements of AS 2419.1.	Designers to note. Fire compartment drawings and details must be submitted with the application for CC.

Clause	Description	Requirement	Assessment
C3D14	Electricity supply system	An electricity substation located within a building must— a. be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and b. have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30. A main switchboard located within the building which sustains emergency equipment operating in the emergency mode must— a. be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and b. have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30.	Designers to note that the Substation is a Class 8 portion of the building and requires 240/240/240 FRL separation from the remainder of the building. A fire engineered potential performance solution may be sought to rationalise / reduce this to 180min fire separation in accordance with authority requirements. Advice is to be sought from the Fire Engineer regarding the feasibility of this performance solution if desired. Note that penetration protection of up to 240minutes may be difficult to achieve.
C3D15	Public corridors in Class 2 and 3 buildings	In a Class 2 or 3 building, a public corridor, if more than 40 m in length, must be divided at intervals of not more than 40 m with smoke-proof walls complying with S11C2.	Complies. *Public corridor* (as defined in the BCA) lengths do not exceed 40m.
C4D3	Protection of openings in external walls	Openings in an external wall that is required to have an FRL must be protected in accordance with C4D5, and if wall-wetting sprinklers are used, they must be located externally. This requirement only applies if the distance between the opening and the fire-source feature to which it is exposed is less than – a. 3 m from a side or rear boundary of the allotment; or b. 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or c. 6 m from another building on the allotment that is not Class 10.	The eastern SOUs are exposed to the side boundary and any openings within 3m of and exposed to that boundary must be protected otherwise be addressed by Fire Engineering. Designers to also note for any other openings not detailed on plans that are within 3m and are exposed to the eastern and southern boundaries. Details demonstrating compliance must be submitted with the application for CC.

6.0 Access and Egress

Clause	Description	Requirement	Assessment
SECTION D – ACCESS AND EGRESS			
D2D3	Number of exits required	Basements — In addition to any horizontal exit, not less than 2 exits must be provided from any storey if egress from that storey involves a vertical rise within the building of more than 1.5 m, unless— a. the floor area of the storey is not more than 50 m²; and b. the distance of travel from any point on the floor to a single exit is not more than 20 m.	The following non-compliances have been identified: - Alternate exits for Lower Ground Retail 01B are within 9m of each other. - All other areas of the Lower Gound basement storey only have access to one exit. Access to an additional exit from a common / shared lobby or corridor must be provided or otherwise be addressed via fire engineering.
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.	The proposed fire stairs must be fire-isolated. Compliance is readily achievable.
D2D5	Exit travel distances	For Class 2 and 3 buildings as permitted by Specification 18 for a building provided with a sprinkler system – a. The entrance doorway of any sole-occupancy unit must be not more than— i. 12m from an exit or from a point from which travel in different directions to 2 exits is available; or ii. 30m from a single exit serving the storey at the level of egress to a road or open space; and b. no point on the floor of a room which is not in a sole-occupancy unit must be more than 20 m from an exit or from a point at which travel in different directions to 2 exits is available. For Class 5, 6, 7, 8 or 9 buildings – a. No point on a floor must be more than 20m from an exit, or a point from which travel in different directions to 2 exits is available, in which case	The following non-compliances have been identified: Lower Ground: - Cold Water Pump Room, Grease Arrestor Room and the CP Fan Room: Extended travel distances of up to 26m to a single exit in lieu of 20m. Architect to amend design to demonstrate compliance or fire engineer to address.

Clause	Description	Requirement	Assessment
		the maximum distance to one of those exits must not exceed 40m. b. in a Class 5 or 6 building, the distance to a single exit serving a storey at the level of access to a road or open space may be increased to 30m.	
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 (not more than 45m apart for Class 2 and 3). Alternate paths must also not converge to less than 6m apart.	Compliance is readily achievable.
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 height of 2m is provided to all stairways.
D2D8	Width of exits and paths of travel to exits	The minimum unobstructed width of a required exit 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.	Compliance is readily achievable.
D2D12	Travel via fire-isolated exits	A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from— a. a public corridor, public lobby or the like; or b. a sole-occupancy unit occupying all of a storey; or c. a sanitary compartment, airlock or the like. Each fire-isolated stairway or fire-isolated ramp must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway— a. to a road or open space; or b. to a point—	Fire-isolated stairs at the Upper Ground Floor discharge into covered areas that are not open for at least 2/3 of its perimeter. The path of travel from the fire-isolated stair discharge points also requires passing within 6m of unprotected walls and openings of the same building. Architect to amend design to demonstrate compliance or fire engineer to address. **Both fire stairs must be provided with stair pressurisation in accordance with AS 1668.1-2015 as more than 2 access doorways at the Upper Gound Floor open into each of the stairways.**

Clause	Description	Requirement	Assessment
		i. in a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least ⅔ of its perimeter; and ii. from which an unimpeded path of travel, not further than 20 m, is available to a road or open space; or c. into a covered area that— i. adjoins a road or open space; and ii. is open for at least ⅓ of its perimeter; and iii. has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and iv. provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m. 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. If more than 2 access doorways, not from a sanitary compartment or the like, open to a required fire-isolated exit in the same storey— a. a smoke lobby in accordance with D3D7 must be provided; or b. the exit must be pressurised in accordance with AS 1668.1.	
D2D18	Number of persons	The number of persons accommodated in a storey must be determined with consideration to the purpose	Refer to D2D8 above.

Clause	Description	Requirement	Assessment
	accommodated	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.	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.
D3D5	Separation of rising and descending stair flights	If a stairway serving as an exit is required to be fire-isolated— a. there must be no direct connection between— i. a flight rising from a storey below the lowest level of access to a road or open space; and ii. a flight descending from a storey above that level; and b. any construction that separates or is common to the rising and descending flights must be— i. non-combustible; and ii. smoke proof in accordance with S11C2.	Separation of rising and descending flights are currently not shown. Architect to amend design to demonstrate compliance or fire engineer to address.
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 final exit doors must swing outwards / in the direction of egress unless otherwise justified by fire engineering.
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 system of fire hydrants is required for the entire building - The system must be designed and installed to comply with Part E1D2 of BCA2022 and AS 2419.1-2021.	Hydraulic / wet fire services consultant 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.
E1D3	Fire hose reels	Fire hose reels are required to serve the entire building (except for Class 2 areas and the Class 8 electricity network substation) 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.	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.
E1D6	Where sprinklers are required: Class 2 and Class 3 buildings	In a Class 2 or 3 building, or any multi-classified building containing a Class 2 or 3 part, sprinklers are required throughout the whole building if any part of the building has— a. a rise in storeys of 4 or more; and b. an effective height of not more than 25 m.	Hydraulic / wet fire services consultant to provide details for assessment. Details to be provided prior to the issue of a CC.
E1D9	Where sprinklers are required: Class 7a buildings	In a Class 7a building, other than an open-deck carpark, sprinklers are required in fire compartments where more than 40 vehicles are accommodated.	Hydraulic / wet fire services consultant to provide details for assessment. Details to be provided prior to the issue of a CC.
E1D14	Portable fire extinguishers	PFE's are required to be located throughout the building in accordance with Clause E1D14 of BCA2022. PFE's are to comply with AS2444-2001.	Fire services consultant to provide details for assessment. Details to be provided prior to the issue of a CC.
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.	A fire safety strategy must be provided by the fire engineer addressing any EV charging and/or solar PV battery installations within the building.

Clause	Description	Requirement	Assessment
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) For the purposes of (1), each sole-occupancy unit in a Class 2 or 3 building is treated as a separate fire compartment. (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. (4) 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-isolated exits.	Services consultants to note. Details demonstrating compliance to be provided with the application for CC.
E2D4	Fire-isolated exits	A part of a building must be provided with— a. an automatic air pressurisation system for fire-isolated exits in accordance with AS 1668.1; or b. open access ramps or balconies in accordance with D3D6. The requirements of above apply to— a. a required fire-isolated stairway, including any associated fire-isolated passageway or fire-isolated ramp serving— i. any storey above an effective height of 25 m; or ii. more than 2 below ground storeys, not counted in the rise in storeys in accordance with C2D3. An automatic air pressurisation system for a fire-isolated exit must serve the entire exit.	Both fire stairs are required to be pressurised as they each have more than 2 access doorways serving them at the Upper Ground Floor level. The west fire stair also serves 3 storeys below ground level. Services consultants to note. Details demonstrating compliance to be provided with the application for CC.

Clause	Description	Requirement	Assessment
E2D8	Buildings not more than 25m in effective height: Class 2 buildings	In a Class 2 and 3 building or part of a building, or Class 4 part of a building, if the building is not more than 25 m in effective height— a. it must be provided with an automatic smoke detection and alarm system complying with Specification 20; and b. where a required fire-isolated stairway serving the Class 2 or 3 parts also serves one or more storeys of Class 5, 6, 7 (other than an open-deck carpark), 8 or 9b parts— i. the fire-isolated stairway, including any associated fire-isolated passageway or fire-isolated ramp, must be provided with an automatic air pressurisation system for fire-isolated exits in accordance with AS 1668.1; or ii. the Class 5, 6, 7 (other than an open-deck carpark), 8 and 9b parts must be provided with— 1. an automatic smoke detection and alarm system complying with Specification 20; or 2. a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17; and	The Class 2 parts of the building must be provided with an automatic smoke detection and alarm system complying with BCA Specification 20. The Class 6, 7 and 8 parts of the building must be provided with: - An automatic air pressurisation system to all fire-isolated exits (for the entire exit), including any associated fire-isolated passageway in accordance with AS1668.1-2015; or - An automatic smoke detection and alarm system complying with Specification 20; or - A sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. Services consultants to note. Details demonstrating compliance to be provided with the application for CC.
E2D9	Buildings not more than 25m in effective height: Class 5, 6, 7b and 9b buildings	A building not more than 25 m in effective height that 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 must meet the requirements of the below: 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 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	Services consultants to note. Details demonstrating compliance to be provided with the application for CC.

Clause	Description	Requirement	Assessment
		complying with Specification 20; or d. A sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17.	
E2D12	Class 7a buildings	A Class 7a building, including a basement, provided with a mechanical ventilation system in accordance with AS 1668.2, must comply with clause 5.5 of AS 1668.1.	Services consultants to note. Details demonstrating compliance to be provided with the application for CC.
E2D14	Class 6 buildings – in fire compartments more than 2000m2 (not containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit)	Assumed Class 6 fire compartments are less than 2000m2.	Architect to provide fire compartmentation drawings to confirm.
E2D16	Class 9b – Assembly buildings	The following provisions apply to all Class 9b assembly buildings: a. 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— i. smoke detectors installed complying with S20C6; and ii. any other installed fire detection and alarm system, including a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. b. A basement not counted in the rise in storeys in	Please note this clause will apply to any Class 9b gym portion of the building. Details demonstrating compliance to be provided with the application for CC.

Clause	Description	Requirement	Assessment
		accordance with C2D3, less than 2000 m^2 used as an assembly building or part of an assembly building containing an auditorium or other public area, must be equipped with— i. an automatic smoke detection system in accordance with Specification 20; or ii. an automatic zone pressurisation system in accordance with AS 1668.1 if the basement has more than one fire compartment; or if the basement forms part of a multi fire compartmented building served by the zone pressurisation system; or iii. a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17.	
E2D21	Provision for special hazards	Additional smoke hazard management measures may be necessary due to the— a. special characteristics of the building; or b. special function or use of the building; or c. special type or quantity of materials stored, displayed or used in a building; or d. special mix of classifications within a building or fire compartment, which are not addressed in E2D4 to E2D20.	A fire safety strategy must be provided by the fire engineer addressing any EV charging and/or solar PV battery installations within the building.
E3D2	Lift installations	An electric passenger lift installation must comply with the relevant clauses of Part E3 and Specification 24 of BCA 2022.	Designers to note. Details demonstrating compliance to be provided with the application for CC.
E3D3	Stretcher facility in lifts	A stretcher facility must be provided— a. in at least one emergency lift required by E3D5; or b. where an emergency lift is not required, if passenger lifts are installed to serve any storey above an effective height of 12 m, in at least one of those lifts to serve each floor served by the lifts. 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.	Designers to note. The building has an effective height of over 12m thus stretcher facilities in lifts must be provided so that all storeys have access to at least one lift with a stretcher facility. Details demonstrating compliance to be provided with the application for CC.

Clause	Description	Requirement	Assessment
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.

8.0 Surface water management, rising damp and external waterproofing

Clause	Description	Requirement	Assessment
SECTION F – HEALTH AND AMENITY			
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 a floor waste must be a minimum of 1:80. Details demonstrating compliance to be provided with the application for CC.
F4D4	Facilities in Class 3 to 9 buildings	Employees and the public may share the same facilities in a Class 6 provided the number of facilities provided is not less than the total number of facilities required for employees plus those required for the public. Separate sanitary facilities for males and females must be provided for Class 3, 5, 6, 7, 8 or 9 buildings.	Details of amenities have not yet been provided at this stage of design therefore have not been assessed.
F6D2 & F6D3	Provision of natural light	Natural light must be provided to all habitable rooms in a Class 2 building. 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—	Architect to note and verify compliance is achieved to all other habitable rooms.

Clause	Description	Requirement	Assessment
		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.	Compliance readily achievable. Electrical consultant to provide details for assessment. Details to be provided prior to the issue of a CC.
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.	Compliance readily achievable. Mechanical consultant to provide details for assessment. Details to be provided prior to the issue of a CC.
F6D11	Ventilation of carparks	Every storey of a carpark, except an open-deck carpark, must have— a. a system of mechanical ventilation complying with AS 1668.2; or b. a system of natural ventilation complying with Section 4 of AS 1668.4.	Mechanical consultant to note. Details demonstrating compliance to be provided prior to the issue of a CC.
F6D12	Kitchen local exhaust ventilation	A commercial kitchen must be provided with a kitchen exhaust hood complying with AS 1668.1 and AS 1668.2 where— a. any cooking apparatus has— i. a total maximum electrical power input exceeding 8 kW; or ii. a total gas power input exceeding 29 MJ/hour; or b. the total maximum power input to more than one apparatus exceeds, per m^2 of floor area of the room or enclosure—	Mechanical consultant to note. Details demonstrating compliance to be provided prior to the issue of a CC.

Clause	Description	Requirement	Assessment
		i. 0.5 kW electrical power; or ii. 1.8 MJ/hour gas.	
Part F7	Sound transmission and insulation: Application of Part	The Deemed-to-Satisfy Provisions of Part F7 apply to Class 2 and 3 buildings and Class 9c buildings.	A specialist Acoustic Consultant's report must be provided for compliance with part F7.
Part F8	Condensation management: Application of Part	The Deemed-to-Satisfy Provisions of this Part only apply to a sole-occupancy unit of a Class 2 building and a Class 4 part of a building.	Architect and services consultants to note the requirements of Part F8 as compliance is required.

9.0 Ancillary Provisions

Clause	Description	Requirement	Assessment
SECTION G – ANCILLARY PROVISIONS			
NSW 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 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.	Designers to note.
Part G5	Construction in bushfire prone areas	It is assumed that the proposed development is not located within bushfire prone land however please refer to the Development Consent to confirm if the proposed works are within a designated bushfire prone area and any construction requirements.	Designers to note.
G6D1	Occupiable outdoor areas	The Deemed-to-Satisfy provisions of Sections C, D, E, F and G of the BCA also apply to occupiable outdoor areas except where varied in Part G6.	Designers to note.

10.0 Energy efficiency

Clause	Description	Requirement	Assessment
SECTION J ENERGY EFFICIECNY			
Section J	Energy Efficiency provisions	Energy efficiency provisions	The proposed development will be required to comply with the energy efficiency requirements under Section J of the BCA 2022 and NSW BASIX requirements. A specialist Section J / ESD Consultant's report must be provided for compliance with Section J. Please note that infrastructure and provisions for future EV chargers are required as per Part J9. The building is in Climate Zone 5.

APPENDIX A

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