

EMKC CUBED PTY LTD

BCA ASSESSMENT REPORT

230 Martin Road, Badgerys Creek NSW 2555

Project Number: 118326

Report Type: BCA

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Document Control

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Jensen Hughes Australia

Providing building regulations, fire engineering, accessibility, and energy consulting services to NSW for over 25 years

Our story begins in 1997 with the founding of BCA Logic to fulfill the demand of a consultancy company whose expertise expanded across the entire life cycle of a building, from consulting on the initial planning through to construction and occupation.

BCA Logic, SGA Fire and BCA Energy joined Jensen Hughes in 2021, a leading global, multi-disciplinary engineering, consulting and technology firm focused on safety, security and resiliency. We continue to be at the forefront of our industry and work thoroughly to preserve our position by ensuring the successful delivery of projects.

Jensen Hughes was launched in 2014 through the historic merger of Hughes Associates and Rolf Jensen & Associates (RJA), two of the most experienced and respected fire protection engineering companies at the time. Since then, we have gained market leadership in nuclear risk consulting and established commanding positions in areas like forensic engineering, security risk consulting and emergency management. Over the past 22 years, our integration of more than 30 privately held engineering and consulting firms has

dramatically expanded our global footprint, giving us a powerful market presence ten times larger than our nearest competitor in some of our markets and extending our historical lineage back to 1939.

With more than 90 offices and 1500 employees worldwide supporting clients globally across all markets, we utilise our geographic reach to help better serve the needs of our local, regional, and multinational clients. In every market, our teams are deeply entrenched in local communities, which is important to establishing trust and delivering on our promises.

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Executive summary

This document provides an assessment of the architectural design drawings for the proposed industrial development at 230 Martin Road, Badgerys Creek NSW 2555, against the Deemed-to-Satisfy provisions of the Building Code of Australia (BCA) 2022.

The project comprises the formation of two (2) new large-isolated warehouses with attached two storey office buildings. The new buildings comprise the following:

- Warehouse 1 – 16,465m² single storey warehouse with one (1) adjoining 600m² two (2) storey office, one (1) 37m² adjoining amenities block and one (1) external detached 20m² single storey gatehouse.
- Warehouse 2 – 18,564m² single storey warehouse with two (2) adjoining two (2) storey offices (600m² and 504m²).
- External carparking, bicycle parking, enclosed outdoor area & rainwater tanks to each office.
- External pump rooms & sprinkler tanks to each warehouse

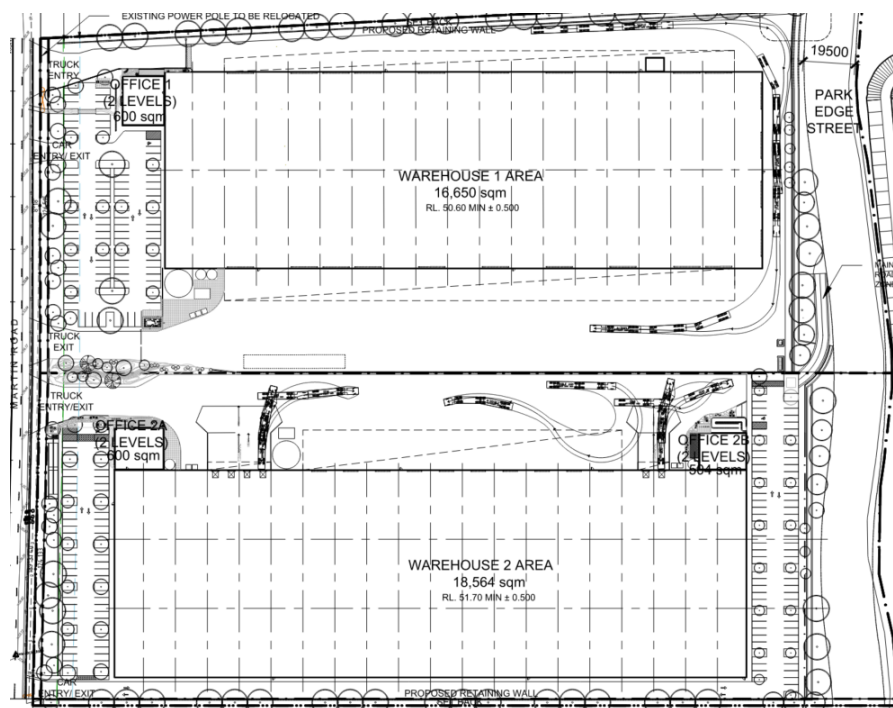


Figure 1 – Proposed Development

Part 3 'Matters for Further Consideration' of this report outlines the identified BCA compliance issues that require further information or consideration and/or assessment as Performance Solutions.

Part 8.0 of this report provides a detailed assessment of the proposal against ALL relevant Deemed-to-Satisfy Provisions of the BCA.

The architectural design documentation as referred to in report has been assessed against the applicable provisions of the Building Code of Australia, (BCA) and it is considered that such documentation complies or is capable of complying (as outlined in 8.0) with that Code subject to providing the necessary performance solutions outlined below and providing additional information where indicated below.

Any Performance Solution will need to be detailed in a separate report and must clearly indicate methodologies for achieving compliance with the relevant BCA Performance Requirements.

Item	Description	BCA Provision
Performance Solutions Required		
1.	Permit each building to be provided with vehicular perimeter access that is not continuous access and greater than 18m from the building in parts.	C3D5 C1P7
2.	Allow extended travel distances to the nearest of two exits within the warehouse portions of each building of up to 75m, in lieu of 40m to allow for internal racking.	D2D5 D1P4 & E2P2
3.	Allow extended separation between alternative exits within the warehouse portion of each building of up to 130m in lieu of 60m to allow for internal racking.	D2D6 D1P4 & E1P2
4.	Permit hydrants that are located beneath awnings to be considered as 'external' hydrants for the purposes of coverage within the buildings. Allow the booster assembly for Lot 2 to be located out of sight of the main entrance to Office 2B / Warehouse 2B.	E1D2 E1P3
5.	Permit the application of AS 2419.1-2021 to each building despite both buildings exceeding 108,000m ³ .	E1D2 E1P3
6.	Permit the use of PV (Solar) panels on the roof of both buildings which represent a special hazard.	E1D17 C1P2
7.	Alter the smoke exhaust systems provided as follows: - Rationalise the required smoke exhaust rates achieved by the smoke exhaust fans, in lieu of complying with Figure S21C2. - Omit the provision of smoke baffles to provide a single smoke reservoir per warehouse.	E2D10, S21C2, S21C4 E2P2
8.	Permit exit & directional signs to be provided above a height of 2.7m to prevent damage from forklifts and the like.	E4D5, & E4D6 E4P2
Building Code of Australia Compliance Matters to be Addressed		
1.	The following areas fall short of a minimum width of 1.0m: All non-fire-isolated stairs serving all offices – the clear width of landings measured between handrails are approximately 600mm to 800mm, in lieu of 1,000mm. The width between handrails is to be amended for each stair to achieve 1,000mm throughout each stairway.	D2D8

Item	Description	BCA Provision
	+ Lot 1 Office Ground Floor – female amenities lockers area reduces width in front of lockers to 910mm in lieu of 1,000mm. + Lot 1 Office Level 1 – male amenities entry is reduced to 930mm by urinal screening. Adjust location of screening to achieve 1,000mm width. + Lot 2 Office 2a Ground Floor – male lockers and female lockers areas achieve between 900mm and 760mm width. Areas are to be adjusted to achieve 1,000mm width. + Lot 2 Office 2a Level 1 – male amenities entry is reduced to 930mm by urinal screening. Adjust location of screening to achieve 1,000mm width. + Lot 2 Office 2b Ground Floor – male urinals & female handbasins areas achieve approx. 810mm width. Areas are to be adjusted to achieve 1,000mm width. The floor plans are to be amended to ensure that a minimum width of 1m is provided throughout all paths of travel.	
2.	Bollards are required to be provided to protect the exit doors provided to each building to ensure that they do not become blocked. The drawings provided do not indicate the provision of bollards.	D2D15
3.	Internal layouts indicate the amenities generally open into airlocks or corridors as required however the following accessible facilities are noted to open into workplaces that may normally be occupied by more than one person: + Office 1 Ground Floor (accessible facility) + Office 1 Level 1 (accessible facility) + Office 2A Ground Floor (accessible facility) + Office 2A Level 1 (accessible facility) + Office 2B Level 1 (accessible facility) The above rooms are required to be provided with an airlock or screened from view and provided with a mechanical exhaust system.	F6D9
Further Information Required		
1.	Further information is required to be provided in relation to the proposed Vitra Group metal cladding to determine	C2D10

Item	Description	BCA Provision
	whether the proposed product(s) are listed as non-conforming building products.	
2.	The proposed translucent roof sheeting (polycarbonate corrugated roof sheeting) that will be provided to the roof of each warehouse will exceed the maximum limitations imposed under (3)(i)(iv) & (3)(i)(v) of Clause C2D11 and be located within 1.5m of another roof light of the same construction. As such, the proposed translucent roof sheeting provided to the warehouse portions of the buildings must achieve a group number of 1, 2 or 3.	C2D11 & S7C4
3.	The external walls of the warehouse parts of each building are proposed to be constructed using precast concrete panels that will extend to a minimum height of 2.4m. It is assumed that the panels will extend to a height of 3.0m where external hydrants are located for the purposes of providing shielding to the hydrants. These walls will be required to be installed to comply with C2D12. The drawings provided do not currently indicate compliance is achieved.	C2D12
4.	A fire control centre is required to be provided to Warehouse 2 as the building will exceed a floor area of 18,000m². It is assumed that the FIPs will be installed within the Ground Floor entry airlocks of each office within each warehouse however these are not indicated on the drawings.	E1D15
5.	Please confirm the anticipated populations for each warehouse portion of the buildings as it is understood that the populations determined in accordance with D2D18 will not be accurate for warehouse use.	F4D3
6.	It is assumed that the warehouse portions of each building will be provided with natural ventilation. It is assumed that this will be provided through either: • Perforated roller shutter doors; or • A horizontal gap between the top of tilt-up panels and metal wall sheeting; or • Louvres within the external walls; or • A combination of the above. Confirmation of the proposed ventilation systems that will be implemented are to be provided.	F6D7

NCC Clause Numbering

BCA2022 uses a new structure and clause referencing system to create better consistency across all volumes of the NCC. While the new Section-Part-Type-Clause system makes the NCC look different at first, it's intended to improve user experience and make it more web accessible.

The new structure results in a reorganisation of specifications and parts, some of which are contained in the table below.

The NCC uses a uniform clause numbering system across each of its three volumes. This system is called Section-Part-Type-Clause (SPTC). In each clause number-

- + The first letter indicates which NCC section or part it sits within;
- + The first number indicates the number of the Part within a section or the number of a Specification.
- + The second letter indicates the clause type. It will be either G, O, F, P, V, D, or C. and these are explained below.
- + The second number is the clause number within each Part of Specification.

The clause Types used in the NCC are as follows:

- + G = Governing requirements (mandatory)
- + O = Objective (guidance)
- + F = Functional Statement (guidance)
- + P = Performance Requirement (mandatory) V = Verification Method (optional)
- + D = Deemed-to-Satisfy Provision (optional)
- + C = Clause in a Specification (can be mandatory or optional depending on how the Specification is called up by the NCC).

1.0 Basis of Assessment

1.1 LOCATION AND DESCRIPTION

The building development, the subject of this report, is located at 230 Martin Road, Badgerys Creek NSW 2555.

- Warehouse 1 – 16, 465m² single storey warehouse with one (1) adjoining 600m² two (2) storey office, one (1) 37m² adjoining amenities block and one (1) external detached 20m² single storey gatehouse.
- Warehouse 2 – 18,564m² single storey warehouse with two (2) adjoining two (2) storey offices (600m² and 504m²).
- External carparking, bicycle parking, enclosed outdoor area & rainwater tanks to each office.
- External pump rooms & sprinkler tanks to each warehouse

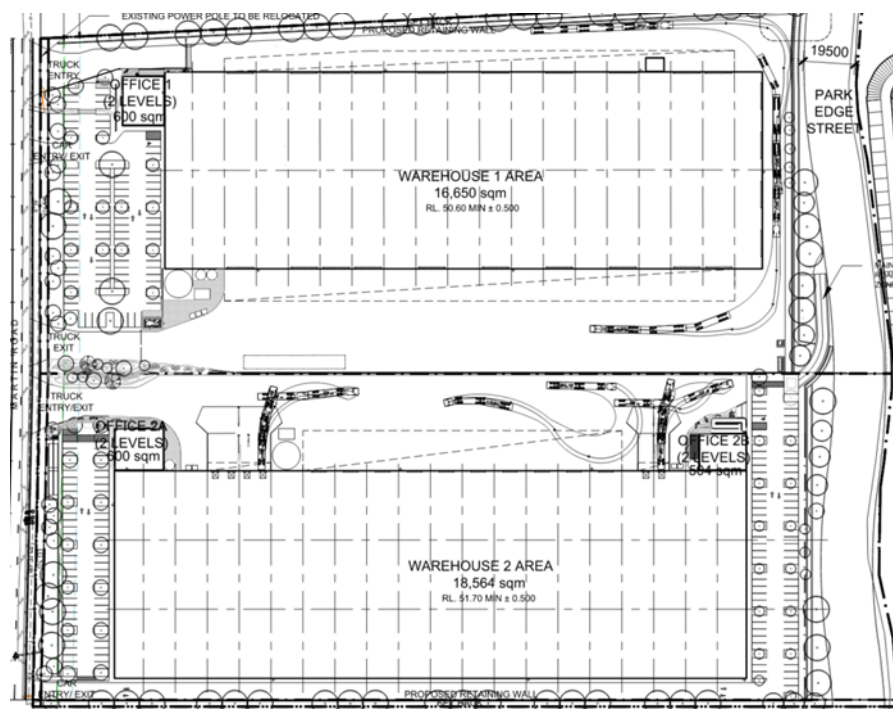


Figure 2 – Proposed Development

1.2 PURPOSE

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy Provisions of BCA, and to clearly outline those areas (if any) where compliance is not achieved, where areas may warrant redesign to achieve strict BCA compliance or where areas may be able to be assessed against the relevant performance criteria of BCA. Such assessment against relevant performance criteria will need to be addressed by means of a separate Performance-based Assessment (Performance Solution) Report to be prepared under separate cover.

1.3 BUILDING CODE OF AUSTRALIA

The National Construction Code (**NCC**) is Australia's primary set of technical design and construction provisions for buildings.

As a performance-based code, it sets the minimum required level for the safety, health, amenity, accessibility and sustainability of certain buildings. The Australian Building Codes Board, on behalf of the Australian Government and each State and Territory government, produces and maintains the National Construction Code.

The NCC has three (3) volumes being:

- Volume One - containing technical design and construction requirements for all Class 2 to 9 buildings
- Volume Two - containing technical design and construction requirements for certain residential (class 1) and non-habitable buildings and structures (Class 10).
- Volume Three - Containing technical requirements for the design and construction for plumbing and drainage systems in new and existing buildings

This report is based on the Deemed-to-Satisfy Provisions of the National Construction Code (**NCC**) Series Volume One – Building Code of Australia, 2022 Edition (**BCA**), incorporating the State variations where applicable. Please note that the version of the BCA applicable to new building works is the version applicable at the time of the lodgement of the Construction Certificate application to the Accredited Certifying Authority. The BCA is currently updated on a three-yearly cycle.

A reference to the BCA in this report is a reference to **BCA2022**, being volume 1 of the NCC.

1.4 LIMITATIONS

1. This report is not a Design Compliance Declaration (DCD) under the Design and Building Practitioners Act 2020, nor is it to be construed as such.
2. This report is limited to a visual assessment of the plans and specifications provided and does not include any assessment or interrogation of the BIM model or the like.
3. This report does not include nor imply any detailed assessment for design, compliance or upgrading for:
 - a. the structural adequacy or design of the building;
 - b. the inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and
 - c. the design basis and/or operating capabilities of any proposed electrical, mechanical or hydraulic services.
4. This report does not include, or imply compliance with:
 - a. the National Construction Code – Plumbing Code of Australia Volume Three;
 - b. the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to), (Note: The provision of access for people with a disability has not been assessed against the Deemed-to-Satisfy Provisions of Part D4 and Clauses E3D8, F4D5 and F4D12 of the BCA unless otherwise discussed in this report);
 - c. Demolition Standards not referred to by the BCA;
 - d. Work Health and Safety Act 2011;

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

1.5 DESIGN DOCUMENTATION

This report has been based on the Design plans and Specifications listed in 5.0 of this Report.

2.0 Building Description

For the purposes of the Building Code of Australia (BCA) the development may be described as follows.

2.1 RISE IN STOREYS (CLAUSE C2D3)

Each building has a rise in storeys of two (2).

2.2 CLASSIFICATION (CLAUSE A6G1)

Each building has been classified as follows.

Table 1: Building Classification

Class	Level	Description
7b	Ground	Warehouse
5	Ground & Level 1	Office & Gatehouse

2.3 EFFECTIVE HEIGHT (CLAUSE A1G4)

Each building has an *effective height* of less than 12 metres (3.65m).

2.4 TYPE OF CONSTRUCTION REQUIRED (TABLE C2D2)

Each building is required to be of Type C Construction (Large-Isolated Building).

2.5 FLOOR AREA AND VOLUME LIMITATIONS (TABLE C3D3)

Each building is subject to maximum floor area and volume limits of:-

Class 5	Maximum Floor Area	3,000m ²
	Maximum Volume	18,000m ³
.....		
Class 7b and 8	Maximum Floor Area	2,000m ²
	Maximum Volume	12,000m ³
.....		

However, the buildings are to be provided as large-isolated buildings which will allow the buildings to exceed the above maximum floor area & volume limitation under the condition that the buildings are provided with additional fire safety installations as outlined within this report.

2.6 FIRE COMPARTMENTS

The following *fire compartments* have been assumed:

1. Warehouse 1 will form a single fire compartment including the adjoining office building.
2. Warehouse 2 will form a single fire compartment including both adjoining office buildings.

2.7 EXITS

The following points in the building have been considered as the exits:

1. Warehouse 1

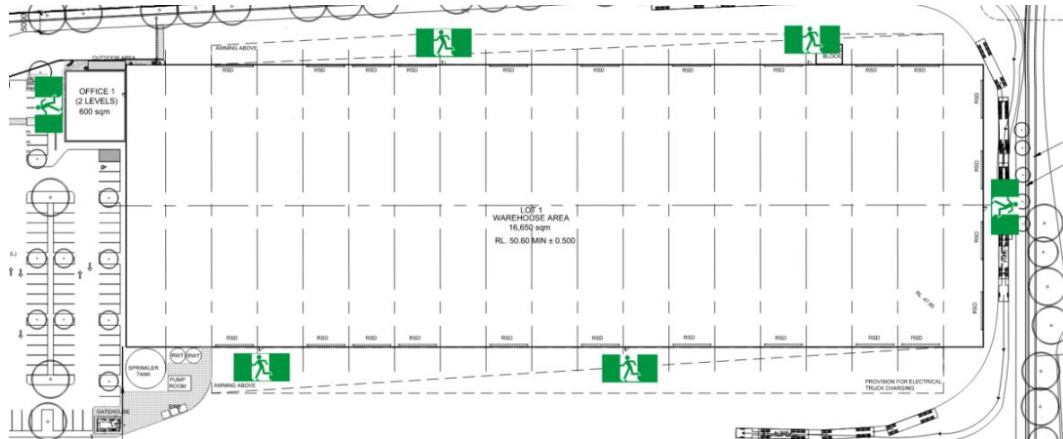


Figure 3 - Exits Warehouse 1

2. Warehouse 2

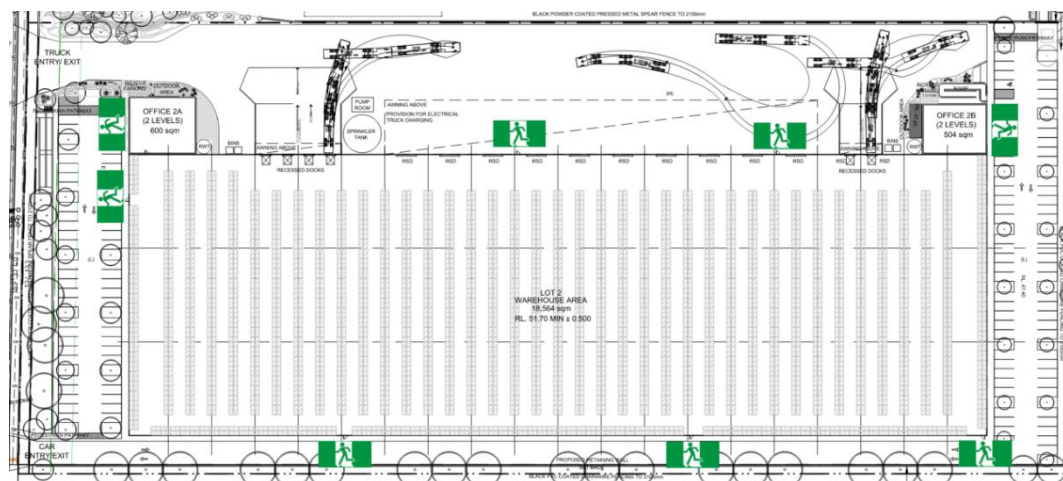


Figure 4 - Exits Warehouse 2

2.8 CLIMATE ZONE (SCHEDULE 1)

The building is located within Climate Zone 6.

2.9 BUILDING IMPORTANCE LEVEL

Certain Australian Standards (particularly structural standards) require the Importance Level of the building to be determined. The importance level relates to the individual actions on a building listed in clause B1D3 of the BCA, the building is to be constructed to comply with the requirements for Importance Level 1 (IL1).

Table B1D3a of the BCA provides the following:

Importance Level	Building Types	Jensen Hughes Interpretation and Examples
1	Buildings or structures presenting a low degree of hazard to life and other property in the case of failure.	1 and 2 storey factory buildings
2	Buildings or structures not included in Importance Level 1, 3 and 4.	Residential apartment buildings and associated carparking. Office buildings
3	Buildings or Structures that are designed to contain a large number of people.	Stadia, Entertainment venues, shopping centres. Transport facilities
4	Buildings or Structures that are essential to post-disaster recovery or associated with hazardous facilities.	Data centres, evacuation centres

The Guide to the BCA provides a generic description of building types which have Importance Levels assigned. The Guide state that the “Importance Level” concept is applicable to building structural safety only. Specific examples from the Guide are provided below. The examples provided by the Guide are not exhaustive of all building types.

Importance Level 1:

- Farm buildings and farm sheds.
- Isolated minor storage facilities.
- Minor temporary facilities.

Importance Level 2:

- Low rise residential construction.
- Buildings and facilities below the limits set for Importance Level 3.

Importance Level 3:

- Buildings and facilities where more than 300 people can congregate in one area.
- Buildings and facilities with a primary school, a secondary school or day care facilities with a capacity greater than 250.
- Buildings and facilities with a capacity greater than 500 for colleges or adult educational facilities.
- Health care facilities with a capacity of 50 or more residents but not having surgery or emergency treatment facilities.
- Jails and detention facilities.

- Any occupancy with an occupant load greater than 5000.
- Power generating facilities, water treatment and waste water treatment facilities, any other public utilities not included in Importance Level 4.
- Buildings and facilities not included in Importance Level 4 containing hazardous materials capable of causing hazardous conditions that do not extend beyond property boundaries.

Importance Level 4:

- Buildings and facilities designated as essential facilities.
- Buildings and facilities with special post disaster functions.
- Medical emergency or surgery facilities.
- Emergency service facilities: fire, rescue, police station and emergency vehicle garages.
- Utilities required as backup for buildings and facilities of Importance Level 4.
- Designated emergency shelters.
- Designated emergency centres and ancillary facilities.
- Buildings and facilities containing hazardous materials capable of causing hazardous conditions that extend beyond property boundaries.
- Importance Levels must be assigned on a case by case basis.

2.10 LOCATION OF FIRE-SOURCE FEATURES

The fire source features for each lot of the subject development are:

North: The adjoining property boundary.

South: The adjoining property boundary.

East: The far boundary of the future Park Edge Street.

West: The far boundary of Martin Road.

In accordance with Clause S5C2 of Specification 5, a part of a building element is exposed to a *fire-source feature* if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that—

- a. has an FRL of not less than 30/—/—; and
- b. is neither transparent nor translucent.

3.0 Matters for Further Consideration

3.1 GENERAL

Assessment of the Architectural design documentation against the Deemed-to-Satisfy Provisions of the BCA has revealed the following areas where compliance with the BCA may require further consideration and/or may involve assessment as Performance-based *Performance Solutions*. Any *Performance Solutions* will be required to clearly indicate methodologies for achieving compliance with the relevant *Performance Requirements*.

0 to this report provides a detailed assessment of the proposal against ALL relevant Deemed-to-Satisfy Provisions of the BCA. It is important that 0 is read in conjunction with the items below, as some matters may not have had sufficient information provided to allow a detailed assessment to be undertaken.

3.2 DIMENSIONS AND TOLERANCES

The BCA contains the minimum standards for building construction and safety, and therefore generally stipulates minimum dimensions which must be met. Jensen Hughes's assessment of the plans and specifications has been undertaken to ensure the minimum dimensions have been met.

The designer and builder should ensure that the minimum dimensions are met onsite, and consideration needs to be given to construction tolerances for wall set outs, applied finishes and skirtings to corridors and bathrooms for example, tiling bed thicknesses and the like which can adversely impact on critical matters such as access for people with disabilities, stair and corridor widths and balustrade heights.

3.3 PERFORMANCE-BASED DESIGN – PERFORMANCE SOLUTIONS

There are specific areas throughout the development where strict Deemed-to-Satisfy BCA Compliance may not be achieved by the proposed design and site constraints. These matters may need to be addressed in a detailed Performance Solution and/or Fire Engineering Report, to be prepared for this development under separate cover:

Table 2: Performance Solutions

Item	Description of Performance Solution	DTS Provision	Relevant Performance Requirements
1.	Permit each building to be provided with vehicular perimeter access that is not continuous access and greater than 18m from the building in parts.	C3D5	C1P7
2.	Allow extended travel distances to the nearest of two exits within the warehouse portions of each building of up to 75m, in lieu of 40m to allow for internal racking.	D2D5	D1P4 & E2P2
3.	Allow extended separation between alternative exits within the warehouse portion of each building of up to 130m in lieu of 60m to allow for internal racking.	D2D6	D1P4 & E1P2

Item	Description of Performance Solution	DTS Provision	Relevant Performance Requirements
4.	Permit hydrants that are located beneath awnings to be considered as 'external' hydrants for the purposes of coverage within the buildings. Allow the booster assembly for Lot 2 to be located out of sight of the main entrance to Office 2B / Warehouse 2B.	E1D2	E1P3
5.	Permit the application of AS 2419.1-2021 to each building despite both buildings exceeding 108,000m ³ .	E1D2	E1P3
6.	Permit the use of PV (Solar) panels on the roof of both buildings which represent a special hazard.	E1D17	C1P2
7.	Alter the smoke exhaust systems provided as follows: - Rationalise the required smoke exhaust rates achieved by the smoke exhaust fans, in lieu of complying with Figure S21C2. - Omit the provision of smoke baffles to provide a single smoke reservoir per warehouse.	E2D10, S21C2, S21C4	E2P2
8.	Permit exit & directional signs to be provided above a height of 2.7m to prevent damage from forklifts and the like.	E4D5 & E4D6	E4P2

3.4 RELIANCE ON CODEMARK CERTIFICATES

The ABCB have clarified that where a CodeMark Certificate is available that references compliance with a performance requirement of the BCA, that a building specific performance solution is not required where it is proposed to rely on that CodeMark.

This is a result of the Conformity Body that issues the CodeMark Certificate is required to undertake an assessment of the product using a process that is equivalent to the process set out in A2.2(4). Therefore, when relying on a CodeMark Certificate to demonstrate that a Performance Solution complies with relevant Performance Requirements, a construction practitioner need not undertake the process in A2.2(4) again.

3.5 FAÇADE CONSTRUCTION – NON COMBUSTIBLE

As the building is required to be of Type C Construction, the external façade is not required to be *non-combustible* or comply with Clause C2D10 of the BCA.

The external façade construction has been nominated on the plans to comprise the following:

- + Warehouse façade cladding – Colorbond steel sheeting.
- + Office façade cladding – Vitra Group metal cladding & Glazing
- + Roof Cladding – Lysaght steel sheeting & polycarbonate corrugated roof sheeting

Further information is required to be provided in relation to the proposed Vitra Group metal cladding to determine whether the proposed product(s) are listed as non-conforming building products.

4.0 *Statement of Compliance*

The plans assessed were developed to a standard suitable for submission as a development application and do not contain all the details necessary information to allow a CC to be issued. As such, this assessment was limited to the major items of the BCA with the view of identifying any items that may result in a modified development consent being required, or additional key items that need to be included in the design.

The architectural design documentation as referred to in report has been assessed against the applicable provisions of the Building Code of Australia, (BCA) and it is considered that such documentation complies or is capable of complying with that Code, subject to all matters for further consideration identified in this report being addressed in the design, and subject to compliance with all Annexures and Specifications included with this report.

Annexures

5.0 Annexure A - Design Documentation

This report has been based on the following design documentation.

Table 3: Architectural Plans

Architectural Plans Prepared by EMKC ³ project no. 100471			
Drawing Number	Revision	Date	Title
DA06 – 000	A	21/04/2026	Existing Site Plan
DA06 – 001	A	21/04/2026	Proposed Subdivision Site Plan
DA06 – 002	C	21/04/2026	Zoning Site Plan
DA06 – 003	M	21/04/2026	Proposed Masterplan w Built Form
DA06 – 004	L	21/04/2026	Proposed Site Plan (Lot 1)
DA06 – 005	M	21/04/2026	Proposed Spec Site Plan (Lot 2)
DA05 – 010	M	22/01/2026	Proposed Roof Plan (Lot 1)
DA05 – 011	M	22/01/2026	Proposed Roof Plan (Lot 2)
DA05 – 120	A	02/05/2025	Proposed Office 1 GF Plan
DA05 – 121	A	02/05/2025	Proposed Office 1 L1 Plan
DA05 – 122	B	22/01/2026	Proposed Office 2A GF Plan
DA05 – 123	A	02/05/2025	Proposed Office 2A L1 Plan
DA05 – 124	D	22/01/2026	Proposed Office 2B GF Plan
DA05 – 125	C	26/11/2025	Proposed Office 2B L1 Plan
DA05 – 210	M	22/01/2026	Proposed Warehouse 1 Elevations
DA05 – 211	M	22/01/2026	Proposed Warehouse 2 Elevations
DA05 – 220	B	02/05/2025	Proposed Office 1 Elevations
DA05 – 221	C	22/01/2026	Proposed Office 2A Elevations
DA05 – 222	E	26/11/2025	Proposed Office 2B Elevations
DA05 – 800	A	02/05/2025	Proposed Material Finishes Schedule
DA05 – 900	D	22/01/2026	Proposed Perspectives
DA05 – 901	D	22/01/2026	Proposed Perspectives

6.0 Annexure B - Essential Services

The following fire safety measures are required to be installed in the building. The following table may be required to be updated as the design develops and options for compliance are confirmed, including any omissions or additions as a result of the fire engineering processes.

This section provides information for the design team, including service designers, and may need to be updated upon receipt of final designs and performance solutions at the construction approval stage.

Table 4: Essential Fire Safety Measures

Item	Essential Fire and Other Safety Measures	Standard of Performance
Fire Resistance (Floors – Walls – Doors – Shafts)		
1.	Fire doors	BCA2022 C3D13 (Separation of Equipment) BCA2022 C3D14 (Electricity Supply Systems)
2.	Fire seals protecting openings in fire resisting components of the building	BCA2022 C4D15 (Openings for service installations) BCA2022 C4D16 (Construction joints) BCA2022 Specification 13 AS1530.4:2014 & AS4072.1-2005
3.	Lightweight construction + Fire Rating of Electrical Switchboards	BCA2022 C2D2, Specification 5 BCA2022 C3D13 (Separation of Equipment) AS1530.4:2014
General		
4.	Fire control centres + Class 6,7,8,9 >18,000m ²	BCA2022 E1D15, Specification 19 (Fire Control Centres)
5.	Large Isolated Building Perimeter emergency vehicle access + Vehicle Access (C3D5(2)) Fire Control Centre > 18,000m² Class 5 to 9 >18,000m² and 108,000m³ + Sprinkler system complying with Specification 17; and	BCA2022 C3D5 (Large Isolated Building) BCA2022 E1D15, Specification 19 (Fire Control Centres) BCA2022 Specification 21 Smoke Exhaust System and smoke detection in accordance with Specification 20.

Item	Essential Fire and Other Safety Measures	Standard of Performance
	➤ Perimeter vehicular access complying with C3D5(2). Further, if the ceiling height of the fire compartment is not more than 12 m ➤ an automatic smoke exhaust system in accordance with Specification 21; or ➤ automatic smoke-and-heat vents in accordance with Specification 22, or if the ceiling height of the fire compartment is more than 12 m, ➤ an automatic smoke exhaust system in accordance with Specification 21	
6.	Perimeter emergency vehicle access ➤ Vehicle Access (C3D5(2))	BCA2022 C3D5 FRNSW Guide No. 4 'Guidelines for Emergency Vehicle Access' (current version 02 dated 27 Oct 2010)
7.	Portable fire extinguishers	BCA2022 E1D14 AS 2444–2001
8.	Fire blankets	AS 2444–2001
General Egress		
9.	Automatic fail safe devices ➤ Auto open Sliding Exit doors ➤ Break Glass release	BCA2022 D3D26 (Operation of Latches) AS 1670.1:2018 (Fire)
10.	Evacuation Training	AS 3745:2010
11.	Operation of Door latches ➤ Failsafe ➤ Manual Push Button Control	D3D26 (Operation of Latch) AS 1670.1:2018
12.	Required Automatic Doors	D3D24 (Doorways and Doors)
13.	Swing of Exit Doors	D3D24 (Swinging Doors)
14.	Warning & operational signs	BCA2022 D3D28 (Signs on Fire Doors) BCA2022 D4D7 (Braille Exit Signs) (Note: E4D5 (Exit Signs)) BCA2022 E3D4 (Lift Signs)
Lifts		
15.	Access to Lift Pits ➤ Located at lowest level	BCA2022 D2D22 (Access to Lift Pits) 'DANGER LIFT WELL – ENTRY OF UNAUTHORISED PERSONS

Item	Essential Fire and Other Safety Measures	Standard of Performance
		PROHIBITED – KEEP CLEAR AT ALL TIMES'
Electrical Services		
16.	Automatic fail safe devices + Auto open Sliding Exit doors + Break Glass release	BCA2022 D3D26 (Operation of Latches) AS1670.1:2018 (Fire)
17.	Automatic fire detection & alarm: + Clause S20C4 – AS 1670.1:2018 system throughout the building/part connected to a BOWS @ 100dB(A) Note: if there is a SSISEP or EWIS applies different dB(A) i.e. At bedheads not SOU doors.	BCA2022 C3D4 (Large Isolated Building) BCA2022 D3D26 (Operation of Latch) Specification 12, Spec 20 - Clause S20C4 (Smoke detection system) Spec 20 – Clause S20C6 (Smoke detection for smoke control systems) Spec 20 - Clause S20C7 (BOWS) Spec 20 - Clause S20C8 (System Monitoring) AS 1670.1:2018 (Fire) – Section 4 and 5 (Detectors) AS 1670.1:2018 (Fire) – Section 7 (Smoke Control) AS 1670.3:2018 (Fire Alarm Monitoring)
18.	Emergency lighting	BCA2022 E4D2, E4D4 AS/NZS 2293.1:2018
19.	Exit signs	BCA2022 E4D55 (Exit Signs) BCA2022 E4D6 (Direction Signs) BCA2022 E4D8 (Design and Operation - Exits) AS/NZS 2293.1:2018
20.	System Monitoring	BCA2022 Specification S20C8 AS 1670.3:2018 Monitoring Required for any: + Any Sprinkler System + For smoke exhaust systems and smoke-and-heat vents
Hydraulic Services		
21.	Automatic fire suppression systems + General Sprinklers	BCA2022 E1D4, E1D12 BCA2022 Specification 17 AS 2118.1:2017 (Sprinklers)
22.	Fire hydrant systems + NSW Storz Couplings + Ring Main required (LIB)	BCA2022 E1D2 BCA2022 C3D13 (Separation of Equipment)

Item	Essential Fire and Other Safety Measures	Standard of Performance
	+ On-site water storage	AS 2419.1:2021 FRNSW Technical Sheet D15/45534.V9 issued 10.01.19, 'Compatible Hose Connections'
23.	Hose reel systems	BCA2022 E1D3 AS 2441:2005
Mechanical Services		
24.	1. Mechanical air handling systems 2. Smoke Exhaust System 3. Auto-shutdown of Air-handling System. + Any system that recycles air from one fire compartment to another, or operates in a manner that may spread smoke and does not operate as a smoke control system as per AS 1668.1:2015;	BCA2022 E2, Spec 20, Spec 21 AS 1668.1:2015 (Amdt 1)
E2D3 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, subject to (2), be designed and installed— a. to operate as a smoke control system in accordance with AS 1668.1; or b. such that it— i. incorporates smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and ii. is arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1670.1.		

7.0 Annexure C - Fire Resistance Levels

The following fire resistance levels (FRL's) are required for the various building elements, with a fire source feature being the far boundary of a road adjoining the allotment, a side or rear boundary or an external wall of another building on the allotment except a Class 10 structure.

Type C Construction

Table 5: Type C Construction

Table 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 1.5 m	90/90/90	90/90/90	90/90/90	90/90/90
1.5 to less than 3 m	-/-/-	60/60/60	60/60/60	60/60/60
3 m 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 1.5 m	90/-/-	90/-/-	90/-/-	90/-/-
1.5 to less than 3 m	-/-/-	60/-/-	60/-/-	60/-/-
3 m 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	-/-/-	-/-/-	-/-/-	-/-/-

Note: An external wall that is required to have an FRL need only be tested from the outside to satisfy the FRL requirement.

8.0 Annexure D - Detailed BCA 2022 Assessment

Outlined below is a detailed assessment of the design under the Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) including the State variations where applicable.

All Deemed-to-Satisfy clauses that are applicable to the subject building have been referred to below, including a comment adjacent to each clause of the proposal's ability to satisfy each respective clause.

The abbreviations outlined below have been used in the following table.

N/A	Not Applicable. The Deemed-to-Satisfy clause is not applicable to the proposed design.
Complies	The relevant provisions of the Deemed-to-Satisfy clause have been satisfied by the proposed design.
CRA – Refer Annexure F	'COMPLIANCE READILY ACHIEVABLE'. It is considered that there is not enough information included in the documentation to accurately determine strict compliance with the individual clause requirements. However, with further design development, compliance can readily be achievable. This item is to be read in conjunction with the BCA Specification included within Annexure F of this report.
FI	Further Information is necessary to determine the compliance potential of the building design.
PS	Performance Solution with respect to this Deemed-to-Satisfy Provision is necessary to satisfy the relevant Performance Requirements.
DNC	Does Not Comply.
Noted	BCA Clause simply provides a statement not requiring specific design comment or confirmation.
Base Building	A base building element and the proposed works do not unduly reduce the level of fire protection or structural adequacy of the existing.

Note: The previous clause reference from BCA2019 has been included in brackets (e.g. [2019: B1.0]) to provide assistance to the reader and to outline where clauses have been changed or added. The term [new to BCA2022] has been used where the requirements are new to the BCA.

Deemed to Satisfy Clause Assessment

Table 6: Deemed to Satisfy Clause Assessment

SECTION B: STRUCTURE

Section B: Structure			
Clause	Clause Requirements	Comment	Status
Part B1 – Structural Provisions Section B is a specialist area that outlines the design requirements for the building including loads, actions and relevant Australian Standards. Compliance with Section B generally requires detailed design by a combination of consultants which may include Geotechnical, Structural and Façade. Given the specialist nature of Section B, and the need for design by other consultants, it is not within the scope of this BCA Assessment Report.			
B1D1: Deemed-to-Satisfy Provisions [2019: B1.0]	Informational	Noted	Noted
B1D2: Resistance to actions [2019: B1.1]	The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions, where— (a) the most critical action effect on a building or structure is determined in accordance with B1D3 and the general design procedures contained in AS/NZS 1170.0; and (b) the resistance of a building or structure is determined in accordance with B1D4.	Structural Engineer to certify at CC stage.	CRA – Refer Annexure F

Section B: Structure			
Clause	Clause Requirements	Comment	Status
B1D3: Determination of individual actions [2019: B1.2]	The magnitude of individual actions must be determined in accordance with the following: (i) BCA Clause B1D3; and (ii) AS/NZS 1170.0; and (iii) AS/NZS 1170.1; and (iv) AS/NZS 1170.2 as appropriate; and (v) AS/NZS 1170.3 as appropriate; and (vi) AS 1170.4 as appropriate;	Structural Engineer to certify at CC stage.	CRA – Refer Annexure F
B1D4: Determination of structural resistance of materials and forms of construction [2019: B1.4]	The structural resistance of materials and forms of construction must be determined in accordance with Clause B1D4 and the referenced Australian Standards.	Structural Engineer to certify at CC stage.	CRA – Refer Annexure F
B1D5: Structural software [2019: B1.5]	(1) Structural software used in computer aided design of a building or structure, that uses design criteria based on the Deemed-to-Satisfy Provisions of the BCA, including its referenced documents, for the design of steel or timber trussed roof and floor systems and framed building systems, must comply with the ABCB Protocol for Structural Software.	Structural Engineer to certify at CC stage.	CRA – Refer Annexure F
B1D6 Construction of buildings in flood hazard areas [2019: B1.6]	(1) A building in a flood hazard area must comply with the ABCB Standard for Construction of Buildings in Flood Hazard Areas.	The building is not a Class 2, 3, 4, 9a or 9c building.	N/A

Section B: Structure			
Clause	Clause Requirements	Comment	Status
	(2) The requirements of (1) only apply to a Class 2 or 3 building, Class 9a health-care building, Class 9c building or a Class 4 part of a building.		
Specification 4 Design of Buildings in cyclonic areas	The design requirements for cyclonic areas to be considered by the structural engineer	Structural Engineer to certify at CC stage.	CRA – Refer Annexure F

SECTION C: FIRE RESISTANCE

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
Part C1 – Fire Resistance			
Part C1 contains the Objectives, Functional Statements, Performance Requirements and Verification methods applicable to that part.			Noted
Part C2 – Fire Resistance and Stability			
C2D1: Deemed-to-Satisfy Provisions [2019: C1.0]	Informational	Noted	Noted

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
C2D2: Type of construction required [2019: C1.1]	(1) The minimum Type of fire-resisting construction of a building must be determined in accordance with Table C2D2, except as allowed for— (a) certain Class 2, 3 or 9c buildings, in C2D6; and (b) a Class 4 part of a building located on the top storey, in C2D4(2); and (c) open spectator stands and indoor sports stadiums, in C2D8. (2) Each building element must comply with Specification 5 as applicable.	The buildings are required to be of Type C construction. Refer to Specification 5 at the end of this section for specific requirements.	CRA – Refer Annexure F
C2D3: Calculation of rise in storeys [2019: C1.2]	(1) 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. (2) A storey is not counted if— (a) it is situated at the top of the building and contains only heating, ventilating or lift equipment, water tanks, or similar service units or equipment; or (b) it is situated partly below the finished ground and the underside of the ceiling is not more than 1 m above the average finished level of the ground at the external	Warehouse 1 has a rise in storeys of two (2). Warehouse 2 has a rise in storeys of two (2).	Noted

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	wall, or if the external wall is more than 12 m long, the average for the 12 m part where the ground is lowest. (3) In a Class 7 or 8 building, a storey that has an average internal height of more than 6 m is counted as— (a) one storey if it is the only storey above the ground; or (b) 2 storeys in any other case. (4) For the purposes of calculating the rise in storeys of a building— (a) a mezzanine is regarded as a storey in that part of the building in which it is situated if its floor area is more than 200 m² or more than $\frac{1}{3}$ of the floor area of the room, whichever is the lesser; and (b) two or more mezzanines are regarded as a storey in that part of the building in which they are situated if they are at or near the same level and have an aggregate floor area more than 200 m² or more than $\frac{1}{3}$ of the floor area of the room, whichever is the lesser.		
C2D4: Buildings of multiple classification [2019: C1.3]	(1) In a building of multiple classifications, the Type of construction required for the building is the most fire-resisting Type resulting from the application of Table C2D2 on the basis that the classification applying to the top storey applies to all storeys.	Noted	Noted

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(2) In a building containing a Class 4 part on the top storey, for the purpose of (1), the classification applying to the top storey must be— (a) when the Class 4 part occupies the whole of the top storey, the classification applicable to the next highest storey; or (b) when the Class 4 part occupies part of the top storey, the classification applicable to the adjacent part.		
C2D5: Mixed Types of construction [2019: C1.4]	Not Applicable	This clause is not applicable to the subject building	NA
C2D6: Two Storey Class 2, 3 or 9c buildings [2019: C1.5]	Not Applicable	This clause is not applicable to the subject building	NA
C2D7: Class 4 Parts of building [2019: C1.6]	Not Applicable	This clause is not applicable to the subject building	NA
C2D8: Open spectator stands and indoor sports stadium [2019: C1.7]	Not Applicable	This clause is not applicable to the subject building	NA

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
C2D9: Lightweight construction [2019: C1.8]	(1) Lightweight construction must comply with Specification 6 if it is used in a wall system— (a) that is required to have an FRL; or (b) for a lift shaft, stair shaft or service shaft or an external wall bounding a public corridor including a non fire-isolated passageway or non fire-isolated ramp, in a spectator stand, sports stadium, cinema or theatre, railway station, bus station or airport terminal. (2) If lightweight construction is used for the fire-resisting covering of a steel column or the like, and if— (a) the covering is not in continuous contact with the column, then the void must be filled solid, to a height of not less than 1.2 m above the floor to prevent indenting; and (b) the column is liable to be damaged from the movement of vehicles, materials or equipment, then the covering must be protected by steel or other suitable material.	This is a design criterion required to be verified by manufacturers details / certification.	CRA – Refer Annexure F
C2D10: Non-combustible building elements [2019: C1.9]	Not Applicable	The external façade construction is not required to be non-combustible however confirmation that the proposed materials do not constitute non-conforming building products is required. The external façade construction has been nominated on the plans to comprise the following:	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
		+ Warehouse façade cladding – Colorbond steel sheeting. + Office façade cladding – Vitra Group metal cladding & Glazing + Roof Cladding – Lysaght steel sheeting & polycarbonate corrugated roof sheeting Further information is required to be provided in relation to the proposed Vitra Group metal cladding to determine whether the proposed product(s) are listed as non-conforming building products.	
C2D11: Fire hazard properties [2019: C1.10]	(1) The fire hazard properties of the following internal linings, materials and assemblies within a Class 2 to 9 building must comply with Specification 7: (a) Floor linings and floor coverings. (b) Wall linings and ceiling linings. (c) Air-handling ductwork. (d) Lift cars. (e) In Class 9b buildings used as a theatre, public hall or the like— (i) fixed seating in the audience area or auditorium; and (ii) a proscenium curtain required by Specification 32. (f) Escalators, moving walkways and non-required non fire-isolated stairways or pedestrian ramps subject to Specification 14.	Internal linings drawings & schedules have not been provided for review. It is noted that the proposed translucent roof sheeting (polycarbonate corrugated roof sheeting) that will be provided to the roof of each warehouse will exceed the maximum limitations imposed under (3)(i)(iv) & (3)(i)(v) of Clause C2D11 and be located within 1.5m of another roof light of the same construction. As such, the proposed translucent roof sheeting provided to the warehouse portions of the buildings must achieve a group number of 1, 2 or 3. Further review of the proposed materials and materials selections will be required as the design develops.	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(g) Sarking-type materials. (h) Attachments to floors, ceilings, internal walls, common walls, fire walls and to internal linings of external walls. (i) Other materials including insulation materials other than sarking-type materials. (2) Paint or fire-retardant coatings must not be used to achieve compliance with the required fire hazard properties. (3) The requirements of (1) do not apply to a material or assembly if it is— (a) plaster, cement render, concrete, terrazzo, ceramic tile or the like; or (b) a fire-protective covering; or (c) a timber-framed window; or (d) a solid timber handrail or skirting; or (e) a timber-faced door; or (f) an electrical switch, socket-outlet, cover plate or the like; or (g) a material used for— (i) a roof insulating material applied in continuous contact with a substrate; or		

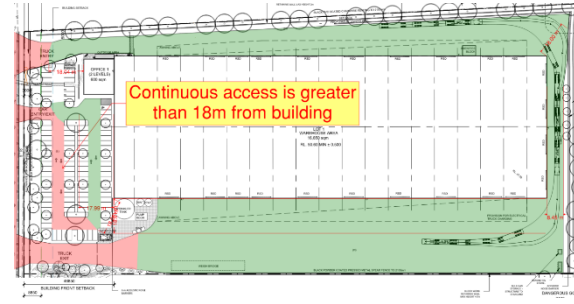
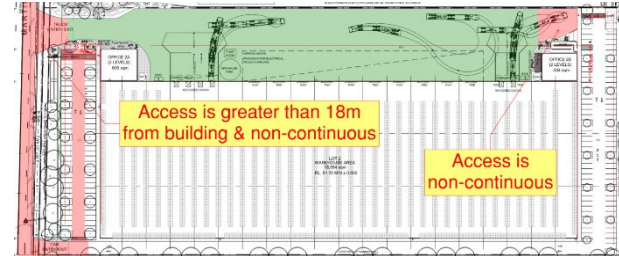
Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(ii) an adhesive; or (iii) a damp-proof course, flashing, caulking, sealing, ground moisture barrier, or the like; or (h) a paint, varnish, lacquer or similar finish, other than nitro-cellulose lacquer; or (i) a clear or translucent roof light of glass fibre-reinforced polyester if— (i) the roof in which it is installed forms part of a single storey building required to be Type C construction; and (ii) the material is used as part of the roof covering; and (iii) it is not closer than 1.5 m from another roof light of the same type; and (iv) each roof light is not more than 14 m² in area; and (v) the area of the roof lights per 70 m² of roof surface is not more than 14 m²; or (j) a face plate or neck adaptor of supply and return air outlets of an air handling system; or (k) a face plate or diffuser plate of light fitting and emergency exit signs and associated electrical wiring and electrical components; or (l) a joinery unit, cupboard, shelving, or the like; or		

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(m) an attached non-building fixture and fitting such as— (i) a curtain, blind, or similar decor, other than a proscenium curtain required by Specification 32; and (ii) a whiteboard, window treatment or the like; or (n) timber treads, risers, landings and associated supporting framework installed in accordance with D3D30 where the Spread-of-Flame Index and the Smoke-Developed Index of the timber does not exceed 9 and 8 respectively; or (o) any other material that does not significantly increase the hazards of fire.		
C2D12: Performance of external walls in fire [2019: C1.11]	Concrete external walls that could collapse as complete panels (e.g. tilt-up and pre-cast concrete), in a building having a rise in storeys of not more than 2, must comply with Specification 8.	The external walls of the warehouse parts of each building are proposed to be constructed using precast concrete panels that will extend to a minimum height of 2.4m. It is assumed that the panels will extend to a height of 3.0m where external hydrants are located for the purposes of providing shielding to the hydrants. These walls will be required to be installed to comply with C2D12. The drawings provided do not currently indicate compliance is achieved.	CRA – Refer Annexure F
C2D13: Fire-protected timber: Concession [2019: C1.13]	Not Applicable	This clause is not applicable to the subject building	NA
C2D14: Ancillary elements	Not Applicable	This clause is not applicable to the subject building	NA

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
[2019: C1.14]			
C2D15: Fixing of Bonded Laminated Cladding Panels [New for 2022]	Not Applicable	This clause is not applicable to the subject building	NA
Part C3 – Compartment and Separation			
C3D1: Deemed-to-Satisfy Provisions [2019: C2.0]	Informational	Noted	Noted
C3D2: Application of Part [2019: C2.1]	(1) 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. (2) C3D13(1)(e) does not apply to a Class 8 electricity network substation.	Noted	Noted
C3D3: General floor area and volume limitations [2019: C2.2]	(1) 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 and C3D6 except as permitted in C3D4. (2) A part of a building which contains only heating, ventilating, or lift equipment, water tanks, or similar service units is not counted in the floor area or volume of a fire compartment or atrium if it is situated at the top of the building.	The buildings exceed the limitations of Table C3D3 and are proposed to be designed to comply as a Large-Isolated Buildings.	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(3) In a building containing an atrium, the part of the atrium well bounded by the perimeter of the openings in the floors and extending from the level of the first floor above the atrium floor to the roof covering is not counted in the volume of the atrium for the purposes of this clause.		
C3D4: Large isolated buildings [2019: C2.3]	The size of a fire compartment in a building may exceed that specified in Table C3D3 where— (a) the building does not exceed 18 000 m² in floor area nor exceed 108 000 m³ in volume, if— (i) the building is Class 7 or 8 and— (A) contains not more than 2 storeys; and (B) is provided with open space complying with C3D5(1) not less than 18 m wide around the building; or (ii) the building is Class 5, 6, 7, 8 or 9 and is— (A) protected throughout with a sprinkler system complying with Specification 17; and (B) provided with a perimeter vehicular access complying with C3D5(2); or (b) the building is Class 5, 6, 7, 8 or 9 and exceeds 18 000 m² in floor area or 108 000 m³ in volume, if it is— (i) protected throughout with a sprinkler system complying with Specification 17; and	Warehouses 1 and 2 are provided with floor areas of 16,465m² and 18,564m² respectively. Noting that each warehouse will have a ceiling height of approximately 12.0m, both warehouses will exceed 108,000m³ and as such be required to be provided with vehicular perimeter access of 6m around each building and an AS2118.1 sprinkler system throughout each building.	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(ii) provided with a perimeter vehicular access complying with C3D5(2); or (c) there is more than one building on the allotment and— (i) each building complies with (a) or (b); or (ii) if the buildings are closer than 6 m to each other they are regarded as one building and collectively comply with (a) or (b).		
C3D5: Requirements for open spaces and vehicular access [2019: C2.4]	(1) An open space required by C3D4 must— (a) be wholly within the allotment except that any road, river, or public place adjoining the allotment, but not the farthest 6 m of it may be included; and (b) include vehicular access in accordance with (2); and (c) not be used for the storage or processing of materials; and (d) not be built upon, except for guard houses and service structures (such as electricity substations and pump houses) which may encroach upon the width of the space if they do not unduly impede fire-fighting at any part of the perimeter of the allotment or unduly add to the risk of spread of fire to any building on an adjoining allotment. (2) Vehicular access required by this Part—	Each building is required to be provided with perimeter vehicle access not less than 6m wide within 18m of all external walls of the building. It is noted that this is generally provided however for both warehouses, the vehicle access does not provide continuous access within 18m of the building and access to Lot 2 is not continuous. The proposed vehicular access provisions are required to be addressed under a fire engineered performance solution.	PS Refer Part 3.3

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(a) must be capable of providing continuous access for emergency vehicles to enable travel in a forward direction from a public road around the entire building; and (b) must have a minimum unobstructed width of 6 m with no part of its furthest boundary more than 18 m from the building and in no part of the 6 m width be built upon or used for any purpose other than vehicular or pedestrian movement; and (c) must provide reasonable pedestrian access from the vehicular access to the building; and (d) must have a load bearing capacity and unobstructed height to permit the operation and passage of fire brigade vehicles; and (e) must be wholly within the allotment except that a public road complying with (a), (b), (c) and (d) may serve as the vehicular access or part thereof.	 <i>Figure 5 - Warehouse 1 Vehicular Access</i>  <i>Figure 6 - Warehouse 2 Vehicular Access</i>	
C3D6: Class 9 Buildings [2019: C2.5]	Not Applicable	This clause is not applicable to the subject building	NA

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
C3D7: Vertical separation of openings in external walls [2019: C2.6]	Not Applicable	This clause is not applicable to the subject building	NA
C3D8: Separation by fire walls [C2.7 of BCA2019]	Not Applicable	This clause is not applicable to the subject building	NA
C3D9: Separation of classifications in the same storey [2019: C2.8]	(1) If a building has parts of different classifications located alongside one another in the same storey— (a) each building element in that storey must have the higher FRL prescribed in Specification 5 for that element for the classifications concerned; or (b) the parts must be separated in that storey by a fire wall.	The Class 5 and 7b parts of each warehouse will be constructed to achieve the same FRL and will not be required to be fire separated from one another.	CRA – Refer Annexure F
C3D10: Separation of classifications in different storeys [2019: C2.9]	Not Applicable	This clause is not applicable to the subject building	NA
C3D11: Separation of lift shafts [2019: C2.10]	(1) 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; and	Each office will be provided with a lift facility. The lifts are not required to be installed within fire-rated shafts as the lifts will not connect more than 2 storeys and the buildings will be sprinkler protected.	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(b) in a building required to be of Type B construction — the walls— (i) if loadbearing, have the relevant FRL prescribed by Table S5C21e; or (ii) if non-loadbearing, be of non-combustible construction. (4) Openings for lift landing doors and services must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C4.		
C3D12: Stairways and lifts in one shaft [2019: C2.11]	A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.	Not applicable, the lifts and stairs provided within each building will not be required to be fire-resisting.	NA
C3D13: Separation of equipment [2019: C2.12]	(1) Equipment other than that described in (2) and (3) must be separated from the remainder of the building with construction complying with (4), if that equipment comprises— (a) lift motors and lift control panels; or (b) emergency generators used to sustain emergency equipment operating in the emergency mode; or (c) central smoke control plant; or (d) boilers; or	The drawings provided do not indicate the provision of any comms rooms or EPS rooms that are required to be fire separated.	Complies

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(e) a battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more. (2) Equipment need not be separated in accordance with (1) if the equipment comprises— (a) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification 21; or (b) stair pressurising equipment installed in compliance with the relevant provisions of AS 1668.1; or (c) a lift installation without a machine-room; or (d) equipment otherwise adequately separated from the remainder of the building. (3) Separation of on-site fire pumps must comply with the requirements of AS 2419.1. (4) Separating construction must have— (a) except as provided by (b)— (i) an FRL as required by Specification 5, but not less than 120/120/120; and (ii) any doorway protected with a self-closing fire door having an FRL of not less than –/120/30; or (b) when separating a lift shaft and lift motor room, an FRL not less than 120/–/–.		

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
C3D14: Electricity supply system [2019: C2.13]	(1) 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. (2) 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. (3) Subject to (4), electrical conductors must— (a) have a classification in accordance with AS/NZS 3013 of not less than— (i) if located in a position that could be subject to damage by motor vehicles — WS53W; or (ii) otherwise — WS52W; or (b) be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120.	The drawings provided do not indicate the provision of electricity supply systems however it is assumed that an MSB will be provided within the building to support the smoke exhaust fans and as such will be required to be provided within an enclosure that achieves an FRL not less than 120/120/120 or be located externally.	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(4) The requirements of (3) only apply to electrical conductors located within a building that supply— (a) a substation located within the building which supplies a main switchboard covered by (2); or (b) a main switchboard covered by (2). (5) Where emergency equipment is required in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from the non-emergency equipment switchgear. (6) For the purposes of (5), emergency equipment includes but is not limited to the following: (a) Fire hydrant booster pumps. (b) Pumps for automatic sprinkler systems, water spray, chemical fluid suppression systems or the like. (c) Pumps for fire hose reels where such pumps and fire hose reels form the sole means of fire protection in the building. (d) Air handling systems designed to exhaust and control the spread of fire and smoke. (e) Emergency lifts. (f) Control and indicating equipment.		

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(g) Emergency warning and intercom systems.		
C3D15: Public corridors in Class 2 and 3 Buildings [2019: C2.14]	Not Applicable	This clause is not applicable to the subject building	NA
Part C4 – Protection of Openings			
C4D1: Deemed-to-Satisfy Provisions [2019: C3.0]	Informational	Noted	Noted
C4D2: Application of Part [2019: C3.1]	(1) The Deemed-to-Satisfy Provisions of this Part do not apply to the following: (a) Control joints, weep holes and the like in external walls of masonry construction and joints between panels in external walls of pre-cast concrete panel construction if, in all cases they are not larger than necessary for the purpose. (b) Non-combustible ventilators for subfloor or cavity ventilation, if each does not exceed 45 000 mm² in face area and is spaced not less than 2 m from any other ventilator in the same wall. (c) Openings in the vertical plane formed between building elements at the construction edge or perimeter of a balcony or verandah, colonnade, terrace, or the like.	Noted	Noted

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(d) In a carpark floor other than a floor that separates a part not used as a carpark, and subject to (e), the following openings in a carpark floor: (i) Service penetrations. (ii) Openings formed by a vehicle ramp. (e) The requirements of (d) only apply where the connected carpark levels comply as a single fire compartment for the purposes of all other requirements of the Deemed-to-Satisfy Provisions of Sections C, D and E. (2) For the purposes of the Deemed-to-Satisfy Provisions of this Part, openings in building elements required to be fire-resisting include doorways, windows (including any associated fanlight), infill panels and fixed or openable glazed areas that do not have the required FRL. (3) For the purposes of the Deemed-to-Satisfy Provisions of this Part, openings, other than those covered under (1)(c), between building elements such as columns, beams and the like, in the plane formed at the construction edge or perimeter of the building, are deemed to be openings in an external wall.		
C4D3: Protection of openings in external walls [2019: C3.2]	(1) Subject to (2), 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.	The external walls of the buildings are generally not exposed to fire source features due to the vehicular perimeter access provided around each building. The gatehouse provided to Warehouse 1 is located greater than 6m from the southern side of Warehouse 1 and will not	Complies

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(2) The requirements of (1) only apply 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. (3) Openings required to be protected under (1), must not occupy more than 1/3 of the area of the external wall of the storey in which they are located unless they are in a Class 9b building used as an open spectator stand.	require the external walls of either building to achieve an FRL.	
C4D4: Separation of external walls and associated openings in different fire compartments [2019: C3.3]	The distance between parts of external walls and any openings within them in different <i>fire compartments</i> separated by a <i>fire wall</i> must not be less than that set out in Table C4D4, unless— (a) those parts of each wall have an <i>FRL</i> not less than 60/60/60; and (b) any openings protected in accordance with C4D5. Table C4D4 DISTANCE BETWEEN EXTERNAL WALLS AND ASSOCIATED OPENINGS IN DIFFERENT FIRE COMPARTMENTS	Not applicable – each building forms a single fire compartment.	NA

Section C: Fire Resistance																	
Clause	Clause Requirements	Comment	Status														
	<table><tr><th>Angle between walls</th><th>Min. Distance</th></tr><tr><td>0° (walls opposite)</td><td>6 m</td></tr><tr><td>more than 0° to 45°</td><td>5 m</td></tr><tr><td>more than 45° to 90°</td><td>4 m</td></tr><tr><td>more than 90° to 135°</td><td>3 m</td></tr><tr><td>more than 135° to less than 180°</td><td>2 m</td></tr><tr><td>180° or more</td><td>Nil</td></tr></table>	Angle between walls	Min. Distance	0° (walls opposite)	6 m	more than 0° to 45°	5 m	more than 45° to 90°	4 m	more than 90° to 135°	3 m	more than 135° to less than 180°	2 m	180° or more	Nil		
Angle between walls	Min. Distance																
0° (walls opposite)	6 m																
more than 0° to 45°	5 m																
more than 45° to 90°	4 m																
more than 90° to 135°	3 m																
more than 135° to less than 180°	2 m																
180° or more	Nil																
C4D5: Acceptable methods of protection [2019: C3.4]	(1) Where protection is required, doorways, windows and other openings must be protected as follows: (a) Doorways— (i) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or (ii) –/60/30 fire doors that are self-closing or automatic closing. (b) Windows— (i) internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or (ii) –/60/– fire windows that are automatic closing or permanently fixed in the closed position; or (iii) –/60/– automatic closing fire shutters.	Noted	CRA – Refer Annexure F														

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(c) Other openings— (i) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or (ii) construction having an FRL not less than –/60/- (2) Fire doors, fire windows and fire shutters must comply with Specification 12.		
C4D6: Doorways in fire walls [2019: C3.5]	Not Applicable	This clause is not applicable to the subject building	NA
C4D7: Sliding fire doors [2019: C3.6]	Not Applicable	This clause is not applicable to the subject building	NA
C4D8: Protection of doorways in horizontal exits [2019: C3.7]	Not Applicable	This clause is not applicable to the subject building	NA
C4D9: Openings in fire-isolated exits [2019: C3.8]	Not Applicable	This clause is not applicable to the subject building	NA
C4D10: Service penetrations in fire-isolated exits [2019: C3.9]	Not Applicable	This clause is not applicable to the subject building	NA

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
C4D11: Openings in fire-isolated lift shafts [2019: C3.10]	Not Applicable	This clause is not applicable to the subject building	NA
C4D12: Bounding Construction: Class 2, 3 and 4 Buildings [2019: C3.11]	Not Applicable	This clause is not applicable to the subject building	NA
C4D13: Openings in floors and ceilings for services [2019: C3.12]	Not Applicable	This clause is not applicable to the subject building	NA
C4D14: Openings in shafts [2019: C3.13]	Not Applicable	This clause is not applicable to the subject building	NA
C4D15: Openings for service installations [2019: C3.15]	Where services pass through an element which is required to achieve an <i>FRL</i> (other than an external wall or roof), the service must be fire protected in accordance with BCA Clause C4D15. Note: contractors should check with PCA to confirm compliance with their proposed fire stopping method.	Noted – Services penetrating any fire-rated construction required under BCA Clauses C3D13 & C3D14 will be required to be provided in accordance with this clause.	CRA – Refer Annexure F
C4D16: Construction joints [2019: C3.16]	(1) 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—	Noted	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(a) identical with a prototype tested in accordance with AS 4072.1 and AS 1530.4 to achieve the required FRL; or (b) that differs from a prototype in accordance with Section 4 of AS 4072.1 and achieves the required FRL. (2) The determination of the required FRL must be confirmed in a report from an Accredited Testing Laboratory in accordance with Specifications 1 and 2. (3) The requirements of (1) do not apply where joints, spaces and the like between fire-protected timber elements are provided with cavity barriers in accordance with Specification 9.		
C4D17: Columns protected with lightweight construction to achieve an FRL [2019: C3.17]	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.	Noted	CRA – Refer Annexure F
Specification 5 – Fire-Resisting Construction			
S5C1: Scope [2019: Spec C1.1: 1]	This Specification contains requirements for the fire-resisting construction of building elements.	Noted	Noted
S5C2: Exposure to fire-source features	(1) A part of a building element is exposed to a fire-source feature if any of the horizontal straight lines between that	Noted	Noted

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
[2019: Spec C1.1: 2.1]	part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that— (a) has an FRL of not less than 30/—/—; and (b) is neither transparent nor translucent. (2) A part of a building element is not exposed to a fire-source feature if the fire-source feature is— (a) an external wall of another building that stands on the allotment and the part concerned is more than 15 m above the highest part of that external wall; or (b) a side or rear boundary of the allotment and the part concerned is below the level of the finished ground at every relevant part of the boundary concerned. (3) If various distances apply for different parts of a building element— (a) the entire element must have the FRL applicable to that part having the least distance between itself and the relevant fire-source feature; or (b) each part of the element must have the FRL applicable according to its individual distance from the relevant fire-source feature. (4) The requirements of (3) do not override or permit any exemption from S5C3.		
S5C3: Fire protection for a support of another part	(1) Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another	Noted	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
[2019: Spec C1.1: 2.2]	part to maintain its FRL, that supporting part, subject to (2), must— (a) have an FRL not less than that required by other provisions of this Specification; and (b) if located within the same fire compartment as the part it supports have an FRL in respect of structural adequacy the greater of that required— (i) for the supporting part itself; and (ii) for the part it supports; and (c) be non-combustible— (i) if required by other provisions of this Specification; or (ii) if the part it supports is required to be non-combustible. (2) The following building elements need not comply with (1)(b) and (1)(c)(ii): (a) An element providing lateral support to an external wall complying with S5C24(1)(b) or C2D12. (b) An element providing support within a carpark and complying with S5C19, S5C22 or S5C25. (c) A roof providing lateral support in a building— (i) of Type A construction if it complies with S5C15(a), (b) or (d); and		

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(ii) of Type B and C construction. (d) A column providing lateral support to a wall where the column complies with S5C6(1) and (2). (e) An element providing lateral support to a fire wall or fire-resisting wall, provided the wall is supported on both sides and failure of the element on one side does not affect the fire performance of the wall.		
S5C4: Lintels [2019: Spec C1.1: 2.3]	(1) A lintel must have the FRL required for the part of the building in which it is situated. (2) A lintel need not comply with (1) if it does not contribute to the support of a fire door, fire window or fire shutter, and— (a) it spans an opening in— (i) a wall of a building containing only one storey; or (ii) a non-loadbearing wall of a Class 2 or 3 building; or (b) it spans an opening in masonry which is not more than 150 mm thick and— (i) not more than 3 m wide if the masonry is non-loadbearing; or (ii) not more than 1.8 m wide if the masonry is loadbearing and part of a solid wall or one of the leaves of a cavity wall	Noted	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
S5C5: Attachments not to impair fire-resistance [2019: Spec C1.1: 2.4]	The method of attaching or installing a finish, lining, ancillary element or service installation to a building element must not reduce the fire-resistance of that element to below that required.	Noted	CRA – Refer Annexure F
S5C6: General concessions [2019: Spec C1.1:2.5]	(1) Steel columns — A steel column, other than one in a fire wall or common wall, need not have an FRL in a building that contains— (b) 2 storeys in some of its parts and 1 storey only in its remaining parts if the sum of the floor areas of the upper storeys of its 2 storey parts does not exceed the lesser of— (i) 1/8 of the sum of the floor areas of the 1 storey parts; or (ii) in the case of a building to which one of the maximum floor areas specified in Table C3D3 is applicable — 1/10 of that area; or (iii) in the case of a building to which two or more of the maximum floor area specified in Table C3D3 is applicable — 1/10 of the lesser of those areas. (3) Structures on roofs — A non-combustible structure situated on a roof need not comply with the other provisions of this Specification if it only contains— (a) lift motor equipment; or (b) one or more of the following: (i) Hot water or other water tanks.	Concession (1)(b)(i) applies to the buildings and permits steel columns within the warehouse portions of the buildings to achieve an FRL of -/-/-.	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
	(ii) Ventilating ductwork, ventilating fans and their motors. (iii) Air-conditioning chillers. (iv) Window cleaning equipment. (v) Other service units that are non-combustible and do not contain flammable or combustible liquids or gases.		
S5C7: Mezzanine floors: Concession [2019: Spec C1.1: 2.6]	Not Applicable	This clause is not applicable to the subject building	NA
S5C8: Enclosure of shafts [2019: Spec C1.1: 2.7]	Not Applicable	This clause is not applicable to the subject building	NA
S5C9: Carparks in Class 2 and 3 Buildings [2019: Spec C1.1: 2.8]	Not Applicable	This clause is not applicable to the subject building	NA
S5C10: Residential Aged Care building: Concession [2019: Spec C1.1:2.9]	Not Applicable	This clause is not applicable to the subject building	NA
Type C fire-resisting construction [2019: Spec C1.1: 5.0]	Type C fire-resisting construction is applicable to the development.	Refer to part 3 clauses below for the relevant Type C Construction requirements applicable to the project.	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
S5C24: Type C Fire-resisting Construction - Fire-resistance of building elements [2019: Spec C1.1:5.1]	(1) In a building required to be of Type C construction— (a) a building element listed in Tables S5C24a, S5C24b, S5C24c, S5C24d and S5C24e and any beam or column incorporated in it, must have an FRL not less than that listed in those Tables for the particular Class of building concerned; and (b) an external wall that is required by Table S5C24a to have an FRL need only be tested from the outside to satisfy the requirement; and (2) For the purposes of Table S5C24a and Table S5C24b, external wall includes any column and other building element incorporated within it or other external building element.	FRLs have not been indicated on the plans provided. The gatehouse provided to Warehouse 1 is located greater than 6m from the warehouse building and as such, fire separation between the warehouse and gatehouse will not be required. As such, the building elements will not be required to achieve an FRL in accordance with S5C24.	CRA – Refer Annexure F
S5C25: Type C Fire-resisting Construction - Carports [2019: Spec C1.1: 5.2]	Not Applicable	This clause is not applicable to the subject building	NA
Specification 6 – Structural Tests For Lightweight Construction			
This Specification describes tests to be applied to and criteria to be satisfied by a wall system of lightweight construction. The manufactures generally provide evidence of compliance to this specification.			Noted
Specification 7 – Fire Hazard Properties			
S7C1: Scope [2019: Spec C1.10: 1]	This Specification sets out requirements in relation to the fire hazard properties of linings, materials and assemblies in Class 2 to 9 buildings as set out in Table S7C2.	Noted	-

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
S7C2: Application [2019: Spec C1.10: 2]	Linings, materials and assemblies must comply with the appropriate requirement described in Table S7C2	Noted	Noted
S7C3: Floor linings and floor coverings [2019: Spec C1.10: 3]	A floor lining or floor covering must have— (a) a critical radiant flux not less than that listed in Table S7C3; and (b) in a building not protected by a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17, a maximum smoke development rate of 750 percent-minutes; and (c) a group number complying with S7C6(b), for any portion of the floor covering that is continued more than 150 mm up a wall.	All floor linings installed within each building must achieve a Critical Radiant Flux (CRF) not less than 2.2kW/m². Internal linings have not been indicated on the drawings provided. Further review will be completed as products are specified.	CRA – Refer Annexure F
S7C4: Wall and ceiling linings [2019: Spec C1.10: 4]	(1) A wall or ceiling lining system must comply with the group number specified in Table S7C4 and for buildings not fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 have— (a) a smoke growth rate index not more than 100; or (b) an average specific extinction area less than 250 m²/kg. (2) A group number of a wall or ceiling lining and the smoke growth rate index or average specific extinction area must be determined in accordance with AS 5637.1.	All wall and ceiling linings provided throughout the building must achieve a Group Number of 1, 2 or 3 when tested in accordance with AS5637.1. Ensure that any proposed translucent roof sheeting provided to the warehouse portions of the buildings achieve a group number of 1, 2 or 3. Internal linings have not been indicated on the drawings provided. Further review will be completed as products are specified.	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
S7C5: Air-handling ductwork [2019: Spec C1.10: 5]	Rigid and flexible ductwork in a Class 2 to 9 building must comply with the fire hazard properties set out in AS 4254.1 and AS 4254.2.	Internal linings have not been indicated on the drawings provided. Further review will be completed as products are specified.	CRA – Refer Annexure F
S7C6: Lift cars [2019: Spec C1.10: 6]	Materials used as— (a) floor linings and floor coverings must have a <i>critical radiant flux</i> not less than 2.2; and (b) wall and ceiling linings must be a Group 1 material or a Group 2 material in accordance with AS 5637.1:2015.	Internal linings have not been indicated on the drawings provided. Further review will be completed as products are specified.	CRA – Refer Annexure F
S7C7: Other materials [2019: Spec C1.10: 7]	Materials and assemblies not included in S7C3, S7C4, S7C5 or S7C6 must not exceed the indices set out in Table S7C7.	Internal linings have not been indicated on the drawings provided. Further review will be completed as products are specified.	CRA – Refer Annexure F
Specification 8 – Performance of External Walls in Fire			
This Specification contains measures to minimise, in the event of fire, the likelihood of external walls covered by S8C2 collapsing outwards as complete panels and the likelihood of panels separating from supporting members. Structural Engineer to consider this specification in their design.			Noted
Specification 12 – Fire Doors, Smoke Doors, Fire Window and Shutters			
S12C1 Scope [2019: Spec C3.4: 1]	This Specification sets out requirements for the construction of fire doors, smoke doors, fire windows and fire shutters.	Noted	Noted
S12C2 Fire doors [2019: Spec C3.4: 2]	Fire doorsets must comply with AS 1905.1:2015 and not fail by radiation through any glazed part during the period specified for integrity in the required <i>FRL</i> .	Noted	CRA – Refer Annexure F

Section C: Fire Resistance			
Clause	Clause Requirements	Comment	Status
S12C3 General Requirements for Smoke doors [2019: Spec C3.4: 3.1]	Not Applicable	This clause is not applicable to the subject building	NA
S12C4 Construction Deemed-to-Satisfy for smoke doors [2019: Spec C3.4: 3.2]	Not Applicable	This clause is not applicable to the subject building	NA
S12C5 Fire shutters [2019: Spec C3.4: 4]	Not Applicable	This clause is not applicable to the subject building	NA
S12C6 Fire windows [2019: Spec C3.4: 5]	Not Applicable	This clause is not applicable to the subject building	NA
Specification 13 – Penetration of Walls, Floors and Ceilings by Services			
This Specification prescribes materials and methods of installation for services that penetrate walls, floors and ceilings required to have an FRL. A detailed design for penetrations is required and not part of this report.			Noted

SECTION D: ACCESS AND EGRESS

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
Part D1 – Access and Egress			
Part D1 contains the Objectives, Functional Statements, Performance Requirements and Verification methods applicable to that part.			Noted
Part D2 – Provision for Escape			
D2D1: Deemed-to-Satisfy Provisions [2019: D1.0]	Informational	Noted	Noted
D2D2: Application of Part [2019: D1.1]	Not Applicable	This clause is not applicable to the subject building	NA
D2D3: Number of exits required [2019: D1.2]	(1) All buildings — Every building must have at least one exit from each storey. (7) Access to exits — Without passing through another sole-occupancy unit every occupant of a storey or part of a storey must have access to— (a) an exit; or (b) at least 2 exits if 2 or more exits are required.	Each building & tenancy is required to be provided with a minimum of 1 exit per storey. The plans provided indicate that this will be achieved.	Complies
D2D4: When fire-isolated stairways and ramps are required [2019: D1.3]	Not Applicable	This clause is not applicable to the subject building	NA

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
D2D5: Exit travel distances [2019: D1.4]	(3) Class 5, 6, 7, 8 or 9 buildings — Subject to (4), (5) and (6)— (a) 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; and (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 30 m.	The exit travel distances provided within each office building meet the requirements of the BCA. It is assumed that each warehouse will be provided with internal racking and an allowance for internal layouts have been made in this assessment. Based on the assumed layouts, it is anticipated that extended travel distances of up to 75m to the nearest of two exits will be present within the warehouse portion of each building. Note – an additional exit door may be required to be provided on the northern or southern sides of Lot 2 due to the proposed subdivision of the warehouse area into two separate tenancies. An assumed worst-case scenario will result in extended travel distances to the nearest exits that will exceed acceptable distances. These extended travel distances will be required to be addressed under a fire engineered performance solution.	PS Refer Part 3.3
D2D6: Distance between alternative exits [2019: D1.5]	Exits that are required as alternative means of egress must be— (a) distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas; and (b) not less than 9 m apart; and (c) not more than— (iii) in all other cases — 60 m apart; and	The separation between alternative exits provided within each office building meet the requirements of the BCA. Based on the assumed racking layouts within the warehouse portion of each building, it is anticipated that extended separation between alternative exits of up to 130m will be present within each building. Note – an additional exit door may be required to be provided on the northern or southern sides of Lot 2 due to the proposed subdivision of the warehouse area into two separate tenancies. An assumed worst-case scenario will result in extended separation between exits that will exceed acceptable distances.	PS Refer Part 3.3

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(d) located so that alternative paths of travel do not converge such that they become less than 6 m apart.	These extended travel distances will be required to be addressed under a fire engineered performance solution.	
D2D7: Height of Exits, Paths of Travel to Exits and Doorways [2019: D1.6(a)]	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	The drawings provided do not indicate the height of exit doors provided. Further review will be undertaken as the design develops.	CRA – Refer Annexure F
D2D8: Width of Exits and Paths of Travel to Exits [2019: D1.6(b), (c), (d) and (e)]	(1) The unobstructed width of each required exit or path of travel to an exit, except for ladders provided in accordance with D2D21, D3D23 or I3D5, and doorways, must be not less than— (a) 1 m; or (2) If the storey, mezzanine or open spectator stand accommodates more than 100 persons but not more than 200 persons, the aggregate unobstructed width of required exits or paths of travel to an exit, except for doorways, must be not less than— (a) 1 m plus 250 mm for each 25 persons (or part) in excess of 100; (3) If the storey, mezzanine or open spectator stand accommodates more than 200 persons, the aggregate unobstructed width of required exits or paths of travel to an exit, except for doorways, must be not less than— (a) 2 m plus 500 mm for every 60 persons (or part) in excess of 200 persons if egress involves a change in floor level by a stairway or ramp with a gradient steeper than 1 in 12; or	Internal layouts indicate that a minimum width of 1.0m is generally provided throughout the office spaces however the following areas are noted to fall short of this requirement: ✚ All non-fire-isolated stairs serving all offices – the clear width of landings measured between handrails are approximately 600mm to 800mm, in lieu of 1,000mm. The width between handrails is to be amended for each stair to achieve 1,000mm throughout each stairway. ✚ Lot 1 Office Ground Floor – female amenities lockers area reduces width in front of lockers to 910mm in lieu of 1,000mm. ✚ Lot 1 Office Level 1 – male amenities entry is reduced to 930mm by urinal screening. Adjust location of screening to achieve 1,000mm width. ✚ Lot 2 Office 2a Ground Floor – male lockers and female lockers areas achieve between 900mm and 760mm width. Areas are to be adjusted to achieve 1,000mm width.	DNC

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(b) in any other case, 2 m plus 500 mm for every 75 persons (or part) in excess of 200.	+ Lot 2 Office 2a Level 1 – male amenities entry is reduced to 930mm by urinal screening. Adjust location of screening to achieve 1,000mm width. + Lot 2 Office 2b Ground Floor – male urinals & female handbasins areas achieve approx. 810mm width. Areas are to be adjusted to achieve 1,000mm width. The floor plans are to be amended to ensure that a minimum width of 1m is provided throughout all paths of travel. Warehouse 1 is provided with approximately 7m of aggregate exit width allowing for a total building population of 950 persons. Warehouse 2 is provided with approximately 10m of aggregate exit width allowing for a total building population of 1,400 persons. The building population for each building is not anticipated to exceed the above allowances.	
D2D9: Width of Doorways in Exits or Paths of Travel to Exits [2019: D1.6(f)]	In a required exit or path of travel to an exit, the unobstructed width of a doorway must be not less than— (c) the unobstructed width of each exit provided to comply with D2D8(1), (2), (3) or (4), minus 250 mm; or (f) in any other case except where it opens to a sanitary compartment or bathroom — 750 mm wide.	The drawings provided do not indicate the width of exit doors provided. Further review will be undertaken as the design develops.	CRA – Refer Annexure F
D2D10: Exit width not to diminish in direction of travel	The unobstructed width of a required exit must not diminish in the direction of travel to a road or open space, except	Internal layouts do not indicate that the exit widths will diminish in the direction of egress.	Complies

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
[2019: D1.6(g)]	where the width is increased in accordance with D2D8(1)(b) or D2D9(a)(i).		
D2D11: Determination and measurement of exits and paths of travel to exits [2019: D1.6(h) and (i)]	For the purposes of D2D7 to D2D10 the following apply: (a) The required width of a stairway or ramp in a required exit or path of travel to an exit must— (i) be measured clear of all obstructions such as handrails, projecting parts of barriers and the like; and (ii) 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. (b) To determine the aggregate unobstructed width, the number of persons accommodated must be calculated according to D2D18.	Noted	Noted
D2D12: Travel via fire-isolated exits [2019: D1.7]	Not Applicable	This clause is not applicable to the subject building	NA
D2D13: External stairways or ramps in lieu of fire-isolated exits [2019: D1.8]	Not Applicable	This clause is not applicable to the subject building	NA

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
D2D14: Travel by non-fire-isolated stairways or ramps [2019: D1.9]	(1) A non-fire-isolated stairway or non-fire-isolated ramp 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. (3) In a Class 5, 6, 7, 8 or 9 building, 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. (5) In a Class 5 to 8 or 9b building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than— (a) 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 (b) 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.	Internal layouts indicate that the discharge locations of non-fire-isolated stairs and the total egress travel distances do not exceed the maximum allowances of D2D14.	Complies
D2D15: Discharge from exits [2019: D1.10]	(1) 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. (2) If a required exit leads to an open space, the path of travel to the road must have an unobstructed width throughout of not less than— (a) the minimum width of the required exit; or	Bollards are required to be provided to protect the exit doors provided to each building to ensure that they do not become blocked. The drawings provided do not indicate the provision of bollards.	DNC

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(b) 1 m, whichever is the greater. (3) If an exit discharges to open space that is at a different level than the public road to which it is connected, the path of travel to the road must be by— (a) a ramp or other incline having a gradient not steeper than 1:8 at any part, or not steeper than 1:14 if required by the Deemed-to-Satisfy Provisions of Part D4; or (4) The discharge point of alternative exits must be located as far apart as practical.		
D2D16: Horizontal exits [2019: D1.11]	Not Applicable	This clause is not applicable to the subject building	NA
D2D17: Non-required stairways, ramps or escalators [2019: D1.12]	Not Applicable	This clause is not applicable to the subject building	NA
D2D18: Number of persons accommodated [2019: D1.13]	For the purposes of the Deemed-to-Satisfy Provisions, the number of persons accommodated in a storey, room or mezzanine must be determined with consideration to the purpose for which it is used and the layout of the floor area by— (a) calculating the sum of the numbers obtained by dividing the floor area of each part of the storey by the	The buildings are anticipated to contain the following populations: Office 1 = 120 persons Warehouse 1 = 555 persons Office 2A = 120 persons	Noted

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	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 (b) reference to the seating capacity in an assembly building or room; or (c) any other suitable means of assessing its capacity.	Office 2B = 110 persons Warehouse 2 = 619 persons	
D2D19: Measurement of distances [2019: D1.14]	The nearest part of an exit means in the case of— (a) a fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp, the nearest part of the doorway providing access to them; and (b) a non-fire-isolated stairway, the nearest part of the nearest riser; and (c) a non-fire-isolated ramp, the nearest part of the junction of the floor of the ramp and the floor of the storey; and (d) a doorway opening to a road or open space, the nearest part of the doorway; and (e) a horizontal exit, the nearest part of the doorway.	Noted	Noted
D2D20: Method of Measurement	Informational	Noted	Noted

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
[2019: D1.15]			
D2D21: Plant rooms, lift motor rooms and electricity network substations: concession [2019: D1.16]	(1) A ladder may be used in lieu of a stairway to provide egress from— (a) a plant room with a floor area of not more than 100 m²; or (b) all but one point of egress from a plant room, a lift machine room or a Class 8 electricity network substation with a floor area of not more than 200 m². (2) A ladder permitted under (1)— (a) may— (i) form part of an exit provided that in the case of a fire-isolated stairway it is contained within the shaft; or (ii) discharge within a storey in which case it must be considered as forming part of the path of travel; and (b) for a plant room or a Class 8 electricity network substation, must comply with AS 1657; and (c) for a lift machine room, where access is provided from within a machine room to a secondary floor, a fixed rung type ladder complying with AS 1657 may be used, provided that— (i) the height between the floors is not more than 2800 mm; and	Noted	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(ii) the ladder is inclined at an angle to the horizontal not less than 65 degrees nor more than 75 degrees; and (iii) the distance between the front face of the ladder and any adjacent obstruction is not less than— (A) 960 mm, where the ladder is inclined 65 degrees to the horizontal; or (B) 760 mm, where the ladder is inclined 75 degrees to the horizontal; or (C) a distance that is determined by interpolating the values in (A) and (B), where the ladder is inclined at any angle between 65 degrees and 75 degrees to the horizontal; and (iv) a clear space not less than 600 mm exists between the foot of the ladder and any equipment.		
D2D22: Access to lift pits [2019: D1.17]	Access to lift pits must— (a) where the pit depth is not more than 3 m, be through the lowest landing doors.	It is assumed that the lift pits will be less than 3m below the lowest landing doors and as such, assess will be provided through the lowest landing doors.	CRA – Refer Annexure F
D2D23: Egress from primary schools [2019: D1.18]	Not Applicable	This clause is not applicable to the subject building	NA

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
Part D3 – Construction of Exits			
D3D1: Deemed-to-Satisfy Provisions [2019: D2.0]	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements D1P1 to D1P6, D1P8 and D1P9 are satisfied by complying with— (a) D2D2 to D2D23, D3D2 to D3D30 and D4D2 to D4D13; and (b) in a building containing an atrium, Part G3; and (c) in a building in an alpine area, Part G4; and (d) for a building containing an occupiable outdoor area, Part G6; and (e) for additional requirements for Class 9b buildings, Part I1; and (f) for public transport buildings, Part I2; and (g) for farm buildings and farm sheds, Part I3. (2) Where a Performance Solution is proposed the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable. (3) Performance Requirement D1P7 must be complied with if lifts are to be used to assist occupants to evacuate a building.	Noted	Noted
D3D2: Application of Part [2019: D2.1]	Not Applicable	This clause is not applicable to the subject building	NA

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
D3D3: Fire-isolated stairways and ramps [2019: D2.2]	Not Applicable	This clause is not applicable to the subject building	NA
D3D4: Non-fire-isolated stairways and ramps [2019: D2.3]	In a building having a rise in storeys of more than 2, required stairs and ramps (including landings and any supporting building elements) which are not required to be within a fire-resisting shaft, must be constructed according to D3D3, or only of— (a) reinforced or prestressed concrete; or (b) steel in no part less than 6 mm thick; or (c) timber that— (i) has a finished thickness of not less than 44 mm; and (ii) has an average density of not less than 800 kg/m³ at a moisture content of 12%; and (iii) has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.	The construction materials of non-fire-isolated stairs is not indicated on the drawings provided. Further review will be undertaken as the design develops.	CRA – Refer Annexure F
D3D5: Separation of rising and descending stair flights [2019: D2.4]	Not Applicable	This clause is not applicable to the subject building	NA

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
D3D6: Open access ramps and balconies [2019: D2.5]	Not Applicable	This clause is not applicable to the subject building	NA
D3D7: Smoke lobbies [2019: D2.6]	Not Applicable	This clause is not applicable to the subject building	NA
D3D8: Installations in exits and paths of travel [2019: D2.7]	(4) Except for in a fire-isolated exit specified in (1), services or equipment enclosed in accordance with (5) may be installed in a required exit, or in any corridor, hallway, lobby or the like leading to a required exit, where that service or equipment comprises— (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. (5) An enclosure for the purposes of (4) must be suitably sealed against smoke spreading from the enclosure and be— (a) non-combustible construction; or (b) a fire-protective covering.	Hydraulic or Electrical cupboards that are located within public corridors will be required to be protected in accordance with D3D8. Further review will be undertaken as the design develops.	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
D3D9: Enclosure of space under stairs and ramps [2019: D2.8]	Not Applicable	This clause is not applicable to the subject building The floor plans provided indicate that the spaces beneath non-fire isolated stairs will not be enclosed to form cupboards.	NA
D3D10: Width of stairways and ramps [2019: D2.9]	Not Applicable	This clause is not applicable to the subject building	NA
D3D11: Pedestrian ramps [2019: D2.10]	Not Applicable	This clause is not applicable to the subject building	NA
D3D12: Fire-isolated passageways [2019: D2.11]	Not Applicable	This clause is not applicable to the subject building	NA
D3D13: Roof as open space [2019: D2.12]	Not Applicable	This clause is not applicable to the subject building	NA
D3D14: Goings and risers [2019: D2.13]	(1) A stairway must have— (a) not more than 18 and not less than 2 risers in each flight; and (b) going (G), riser (R) and quantity (2R + G) in accordance with Table D3D14, except as permitted by (2) and (3); and	Detailed stair drawings have not been provided for review. Further review will be undertaken as the design develops.	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(c) constant goings and risers throughout each flight, except as permitted by (2) and (3), and the dimensions of goings (G) and risers (R) in accordance with (1)(b) are considered constant if the variation between— (i) adjacent risers, or between adjacent goings, is no greater than 5 mm; and (ii) the largest and smallest riser within a flight, or the largest and smallest going within a flight, does not exceed 10 mm; and (d) risers which do not have any openings that would allow a 125 mm sphere to pass through between the treads; and (e) treads which have— (i) a surface with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586; or (ii) a nosing strip with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586; and (h) in the case of a required stairway, no winders in lieu of a landing; and		
D3D15: Landings [2019: D2.14]	Landings must be not less than 750 mm long and have either a surface with a slip-resistance classification complying with Table D3D15 or a strip at the edge of the landing with a slip-resistance classification complying with	Detailed stair drawings & internal layouts have not been provided for review. Further review will be undertaken as the design develops.	CRA – Refer Annexure F

Section D: Access and Egress					
Clause	Clause Requirements		Comment	Status	
	Table D3D15 when tested in accordance with AS 4586:2013.				
		Surface Condition			
	Application	Dry			Wet
	Ramp steeper than 1:14	P4 or R11			P5 or R12
	Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10			P4 or R11
	Tread or landing surface	P3 or R10			P4 or R11
	Nosing or landing edge strip	P3			P4

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
D3D16: Thresholds [2019: D2.15]	The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless— (c) in a building required to be accessible by Part D4, the doorway— (i) opens to a road or open space; and (ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1; or (e) in other cases— (i) the doorway opens to a road or open space, external stair landing or external balcony; and (ii) the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.	Door thresholds have not been indicated on the drawings provided. As the office portions of each building & the gatehouse are required to be accessible, all doorways provided to these parts of the buildings must have level thresholds. Further review will be undertaken as the design develops.	CRA – Refer Annexure F
D3D17: Barriers to prevent falls [2019: D2.16(a) – (c)]	(1) A continuous barrier must be provided along the side of— (a) a roof to which general access is provided; and (b) a stairway or ramp; and (c) a floor, corridor, hallway, balcony, deck, verandah, mezzanine, access bridge or the like; and (d) any delineated path of access to a building,	Balustrade details have not been provided for review. Further review will be undertaken as the design develops.	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(e) if the trafficable surface is 1 m or more above the surface beneath. (2) The requirements of (1) do not apply to— (a) the perimeter of a stage, rigging loft, loading dock or the like; or (b) areas referred to in D3D23; or (c) a retaining wall, unless the retaining wall forms part of, or is directly associated with a delineated path of access to a building from the road, or a delineated path of access between buildings; or (d) a barrier provided to an openable window covered by D3D29. (3) A barrier required by (1) must be constructed in accordance with D3D18, D3D19, D3D20 and, if a wire barrier is used, D3D21.		
D3D18: Height of Barriers [2019: Table D2.16(a)]	(1) The height of a barrier required by D3D17 must be not less than the following: (a) For stairways or ramps with a gradient of 1:20 or steeper — 865 mm. (b) For landings to a stair or ramp where the barrier is provided along the inside edge of the landing and does not exceed 500 mm in length — 865 mm. (e) For all other locations — 1 m.	Balustrade details have not been provided for review. Further review will be undertaken as the design develops.	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(2) For a barrier provided under (1) — (a) barrier heights are measured vertically from the surface beneath, except that for stairways the height must be measured above the nosing line of the stair treads; and (b) a transition zone may be incorporated where the barrier height changes from 865 mm on a stair flight or ramp to 1 m at a landing or floor.		
D3D19: Openings in barriers [Table D2.16(a) of BCA2019]	(1) Except where allowed by (2), openings in a required barrier must not allow a 125 mm sphere to pass through. (3) In Class 7 (other than carpark) and Class 8 buildings, openings in a required barrier— (a) must not allow a 300 mm sphere to pass through; or (b) where rails are used— (i) a 150 mm sphere must not be able to pass through the opening between the nosing line of the stair treads and the rail or between the rail and the floor of the landing, balcony or the like; and (ii) the opening between the rails must not be more than 460 mm. (5) For a barrier provided under (1), the maximum 125 mm barrier opening for a stairway, such as a non fire-isolated stairway, is measured above the nosing line of the stair treads.	Balustrade details have not been provided for review. Further review will be undertaken as the design develops.	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(6) Where a required barrier is fixed to the vertical face forming an edge of a landing, balcony, deck, stairway or the like, the opening formed between the barrier and the face must not exceed 40 mm. (7) For the purposes of (6), the opening is measured horizontally from the edge of the trafficable surface to the nearest internal face of the barrier.		
D3D20: Barrier climbability [2019: Table D2.16(a)]	(1) A barrier required by D3D17, located on a floor more than 4 m above the surface beneath, must not incorporate horizontal or near horizontal elements that could facilitate climbing between 150 mm and 760 mm above the floor. (2) The requirements of (1) do not apply to— (a) fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, other than— (i) external stairways; and (ii) external ramps; and (b) Class 7 (other than carparks) and Class 8 buildings.	Balustrade details have not been provided for review. Further review will be undertaken as the design develops.	CRA – Refer Annexure F
D3D21: Wire barriers [2019: D2.16(d)]	Not Applicable	This clause is not applicable to the subject building	NA
D3D22: Handrails [2019: D2.17]	(1) Except for handrails referred to in D3D23, and subject to (2), handrails must—	Handrail details have not been provided for review. Further review will be undertaken as the design develops.	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(a) be located along at least one side of the ramp or flight; and (b) be located along each side if the total width of the stairway or ramp is 2 m or more; and (d) in any other case, be fixed at a height of not less than 865 mm; and (e) be continuous between stair flight landings and have no obstruction on or above them that will tend to break a hand-hold; and (f) in a required exit serving an area required to be accessible, be designed and constructed to comply with clause 12 of AS 1428.1, except that clause 12(d) does not apply to a handrail required by (1)(c)(ii). (2) The height required by (1)(c) and (d) is measured above the nosings of stair treads and the floor surface of the ramp, landing or the like. (4) Handrails required to assist people with a disability must be provided in accordance with D4D4.		
D3D23: Fixed platforms, walkways stairways and ladders [2019: D2.18]	A fixed platform, walkway, stairway, ladder and any going and riser, landing, handrail or barrier attached thereto may comply with AS 1657 in lieu of D3D14, D3D15, D3D17, D3D18, D3D19, D3D20, D3D21 and D3D22 if it only serves— (a) machinery rooms, boiler houses, lift-machine rooms, plant-rooms, and the like;	Noted	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
D3D24: Doorways and doors [2019: D2.19]	(2) A doorway serving as a required exit or forming part of a required exit, or a doorway in a patient care area of a Class 9a health-care building— (c) must not be fitted with a sliding door unless— (i) it leads directly to a road or open space; and (ii) the door is able to be opened manually under a force of not more than 110 N; and (d) if fitted with a door which is power-operated— (i) it must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source; and (ii) if 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. (3) A power-operated door in a path of travel to a required exit, except for a door in a patient care area of a Class 9a health-care building as provided in (2), must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source.	All exits appear to be provided as swing doors.	Complies
D3D25: Swinging doors [2019: D2.20]	(1) A swinging door in a required exit or forming part of a required exit— (a) must not encroach—	All swinging doors shown on the plans that form the exits from each part of each building are shown to swing in the direction of egress.	Complies

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(i) at any part of its swing by more than 500 mm on the required width (including any landings) of a required stairway, ramp or passageway if it is likely to impede the path of travel of the people already using the exit; and (ii) when fully open, by more than 100 mm on the required width of the required exit; and (b) must swing in the direction of egress unless— (i) it serves a building or part with a floor area not more than 200 m², 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; or (ii) it serves a sanitary compartment or airlock (in which case it may swing in either direction); or (c) must not otherwise impede the path or direction of egress. (2) The measurement of encroachment referred to in (1)(a) in each case is to include door handles or other furniture or attachments to the door.		
D3D26: Operation of latch [2019: D2.21]	(1) A door in a required exit, forming part of a required exit or in the path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by— (a) a single hand downward action on a single device which is located between 900 mm and 1.1 m from the	Detailed door schedules have not been provided for review. Further review will be undertaken as the design develops.	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	floor and if serving an area required to be accessible by Part D4— (i) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and (ii) have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35 mm and not more than 45 mm; or (b) a single hand pushing action on a single device which is located between 900 mm and 1.2 m from the floor. (2) Where the latch operation device referred to in (1)(b) is not located on the door leaf itself— (a) manual controls to power-operated doors must be at least 25 mm wide, proud of the surrounding surface and located— (i) not less than 500 mm from an internal corner; and (ii) for a hinged door, between 1 m and 2 m from the door leaf in any position; and (iii) for a sliding door, within 2 m of the doorway and clear of a surface mounted door in the open position; and (b) braille and tactile signage complying with S15C3 and S15C6 must identify the latch operation device.		

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(d) is fitted with a fail-safe device which automatically unlocks the door upon the activation of any sprinkler system (other than a FPAA101D system) complying with Specification 17 or smoke, or any other detector system deemed suitable in accordance with AS 1670.1 installed throughout the building, and is readily openable when unlocked;		
D3D27: Re-entry from fire-isolated exits [2019: D2.22]	Not Applicable	This clause is not applicable to the subject building	NA
D3D28: Signs on doors [2019: D2.23]	Not Applicable	This clause is not applicable to the subject building	NA
D3D29: Protection of openable windows [2019: D2.24]	(3) A barrier with a height not less than 865 mm above the floor is required to an openable window— (b) where the floor below the window is 4 m or more above the surface beneath if the window is not covered by (1). (4) A barrier covered by (3) except for (5) must not— (a) permit a 125 mm sphere to pass through it; and (b) have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that facilitate climbing. (5) A barrier required by (3) to an openable window in—	Window and Balustrade details have not been provided for review. Further review will be undertaken as the design develops.	CRA – Refer Annexure F

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
	(b) Class 7 (other than carpark) and Class 8 buildings and parts of buildings containing those classes, must not permit a 300 mm sphere to pass through it.		
D3D30: Timber stairways: concession [2019: D2.25]	Not Applicable	This clause is not applicable to the subject building	NA
D3D31: Doors in paths of travel to an entertainment venue [2019: NSW D2.101]	Not Applicable	This clause is not applicable to the subject building	NA

Section D: Access and Egress			
Clause	Clause Requirements	Comment	Status
Part D4 – Access for People with A Disability			
See separate Access Report for details. Part D4 does not form part of this report.			

SECTION E: SERVICES AND EQUIPMENT

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
Part E1 – Fire Fighting Equipment			
E1D1: Deemed-to-Satisfy Provisions [2019: E1.0]	Informational	Noted	Noted
E1D2: Fire hydrants [2019: E1.3]	(1) A fire hydrant system must be provided to serve a building— (a) having a total floor area greater than 500 m²; 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. (2) The fire hydrant system must be installed in accordance with AS 2419.1. (4) Where internal fire hydrants are provided, they must serve only the storey on which they are located except that a sole-occupancy unit— (b) of not more than 2 storeys in a Class 5, 6, 7, 8 or 9 building may be served by a single fire hydrant located at the level of egress from that sole-occupancy unit	The drawings provided do not indicate the locations of fire hydrant services within the buildings however it is assumed that external hydrants will be provided beneath external awnings as part of the required ring-main hydrant system provided to each building. It is proposed to permit the hydrants that are located beneath awnings to be considered as 'external' hydrants for the purposes of coverage within the buildings. It is assumed that the booster assembly for each site will be provided at the vehicle entrances and within sight of the main building entrances that are accessed via Martin Road however, it is noted that due to the location of the main entrance to Office 2B, the booster assembly for Lot 2 will not be within sight of the main entrance to the building. It is proposed to allow the booster assembly for Lot 2 to be located out of sight of the main entrance to Office 2B / Warehouse 2B. It is noted that both buildings will exceed 108,000m³ and as such, AS 2419.1-2021 does not apply to these buildings. It is proposed to permit the use of this standard within the buildings under a fire engineered performance solution.	PS Refer Part 3.3

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	provided the fire hydrant can provide coverage to the whole of the sole-occupancy unit.	Further information is to be provided to confirm that compliance fire hydrant coverage provisions are installed to service both buildings.	
E1D3: Fire hose reels [2019: E1.4]	(1) E1D3 does not apply to— (a) a Class 2, 3 or 5 building or Class 4 part of a building; or (2) A fire hose reel system must be provided— (a) to serve the whole building where one or more internal fire hydrants are installed; or (b) where internal fire hydrants are not installed, to serve any fire compartment with a floor area greater than 500 m². (3) The fire hose reel system must— (a) have fire hose reels installed in accordance with AS 2441; and (b) provide fire hose reels to serve only the storey at which they are located, except a sole-occupancy unit of not more than 2 storeys in a Class 6, 7, 8 or 9 building may be served by a single fire hose reel located at the level of egress from that sole-occupancy unit provided the fire hose reel can provide coverage to the whole of the sole-occupancy unit. (4) Fire hose reels must be located internally, externally or in combination, to achieve the system coverage specified in AS 2441.	Fire Hose Reels (FHRs) are required to be provided throughout the warehouse portions of each building. The plans provided do not indicate the locations of FHRs, further review will be undertaken to confirm compliance as the design develops.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(5) In achieving system coverage, one or a combination of the following criteria for individual internally located fire hose reels must be met in determining the layout of any fire hose reel system: (a) Fire hose reels must be located adjacent to an internal fire hydrant (other than one within a fire-isolated exit), except that a fire hose reel need not be located adjacent to every fire hydrant, provided system coverage can be achieved. (b) Fire hose reels must be located within 4 m of an exit, except that a fire hose reel need not be located adjacent to every exit, provided system coverage can be achieved. (c) Where system coverage is not achieved by compliance with (a) and (b), additional fire hose reels may be located in paths of travel to an exit to achieve the required coverage. (6) Fire hose reels must be located so that the fire hose will not need to pass through doorways fitted with fire or smoke doors, except— (b) doorways in walls referred to in C3D13 or C3D14 separating equipment or electrical supply systems; and (7) Where the normal water supply cannot achieve the flow and pressures required by AS 2441, or is unreliable— (a) a pump; or (b) water storage facility; or		

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(c) both a pump and water storage facility, must be installed to provide the minimum flow and pressures required by clause 6.1 of AS 2441.		
E1D4: Sprinklers [2019: E1.5]	A sprinkler system must— (a) be installed in a building or part of a building when required by E1D5 to E1D13 as applicable; and (b) comply with Specification 17 and Specification 18 as applicable.	Noted	CRA – Refer Annexure F
E1D5: Where sprinklers are required: all classifications [2019: Table E1.5]	Not Applicable	This clause is not applicable to the subject building	NA
E1D6: Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings. [2019: Table E1.5]	Not Applicable	This clause is not applicable to the subject building	NA
E1D7: Where sprinklers are required: Class 3 building used as a residential care buildings. [2019: Table E1.5]	Not Applicable	This clause is not applicable to the subject building	NA

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Clause	Clause Requirements	Comment	Status
E1D8: Where sprinklers are required: Class 6 building. [2019: Table E1.5]	Not Applicable	This clause is not applicable to the subject building	NA
E1D9: Where sprinklers are required: Class 7a building other than an open deck carpark. [2019: Table E1.5]	Not Applicable	This clause is not applicable to the subject building	NA
E1D10: Where sprinklers are required: Class 9a health care building used as a residential care building, Class 9c buildings. [2019: Table E1.5]	Not Applicable	This clause is not applicable to the subject building	NA
E1D11: Where sprinklers are required: Class 9b buildings. [2019: Table E1.5]	Not Applicable	This clause is not applicable to the subject building	NA
E1D12: Where sprinklers are required: additional requirements. [2019:Table E1.5]	(1) For sprinkler requirements for atriums, see Part G3. (2) For sprinkler requirements for large isolated buildings, see C3D4.	The buildings are required to be provided with sprinkler protection throughout as they are large-isolated buildings that exceed 108,000m ³ . Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
E1D13: Where sprinklers are required: occupancies of excessive hazard. [2019: Table E1.5]	(1) In occupancies of excessive hazard, sprinklers are required in fire compartments where either of the following apply: (a) A floor area of more than 2 000 m². (b) A volume of more than 12 000 m³. (2) For the purposes of (1), occupancies of excessive fire hazard comprise buildings which contain— (a) hazardous processes or storage including the following: (i) Aircraft hangars. (ii) Cane furnishing manufacture, processing and storage. (iii) Fire-lighter and fireworks manufacture and warehousing. (iv) Foam plastic and foam plastic goods manufacture, processing and warehousing e.g. furniture factory. (v) Hydrocarbon based sheet product, manufacture, processing and warehousing e.g. vinyl floor coverings. (vi) Woodwool and other flammable loose fibrous material manufacture.	The buildings will be provided with sprinkler protection which will enable the storage of goods at a height exceeding 4.0m.	Noted

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(b) combustible goods with an aggregate volume exceeding 1000 m³ and stored to a height greater than 4 m including the following: (i) Aerosol packs with flammable contents. (ii) Carpets and clothing. (iii) Electrical appliances. (iv) Combustible compressed fibreboards (low and high density) and plywoods. (v) Combustible cartons, irrespective of content. (vi) Esparto and other fibrous combustible material. (vii) Furniture including timber, cane and composite, where foamed rubber or plastics are incorporated. (viii) Paper storage (all forms of new or waste) e.g. bales, sheet, horizontal or vertical rolls, waxed coated or processed. (ix) Textiles raw and finished, e.g. rolled cloth, clothing and manchester. (x) Timber storage including sheets, planks, boards, joists and cut sizes. (xi) Vinyl, plastic, foamed plastic, rubber and other combustible sheets, offcuts and random pieces		

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	and rolled material storage, e.g. carpet, tar paper, linoleum, wood veneer and foam mattresses. (xii) All materials having wrappings or preformed containers of foamed plastics.		
E1D14: Portable fire extinguishers [2019: E1.6]	(1) Portable fire extinguishers must be— (a) provided as listed in (3) and (4); and (b) for a Class 2, 3 or 5 building or Class 4 part of a building, provided— (i) to serve the whole Class 2, 3 or 5 building or Class 4 part of a building where one or more internal fire hydrants are installed; or (ii) where internal fire hydrants are not installed, to serve any fire compartment with a floor area greater than 500 m², and for the purposes of this clause, a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building is considered to be a fire compartment; and (c) subject to (2), selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444. (3) In Class 2 to 9 buildings (except within sole-occupancy units of a Class 9c building), portable fire extinguishers must be provided as follows: (a) To cover Class AE or E fire risks associated with emergency services switchboards.	The locations of portable fire extinguishers have not been shown on the drawings provided. Further review will be undertaken as the design develops. Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(c) To cover Class B fire risks in locations where flammable liquids in excess of 50 litres are stored or used (not including that held in fuel tanks of vehicles). (d) To cover Class A fire risks in normally occupied fire compartments less than 500 m² not provided with fire hose reels (excluding open-deck carparks). (f) To cover Class A fire risks associated with a Class 2, 3 or 5 building or Class 4 part of a building. (5) For the purposes of (3) and (4): (a) Fire risks are defined in accordance with AS 2444. (b) An emergency services switchboard is one which sustains emergency equipment operating in the emergency mode. (c) Additional extinguishers may be required to cover fire risks in relation to special hazards provided for in E1D17.		
E1D15: Fire control centres [2019: E1.7]	A fire control centre facility in accordance with Specification 19 must be provided for— (a) a building with an effective height of more than 25 m; and (b) a Class 6, 7, 8 or 9 building with a total floor area of more than 18 000 m².	A fire control centre is required to be provided to Warehouse 2 as the building will exceed a floor area of 18,000m². It is assumed that the FIPs will be installed within the Ground Floor entry airlocks of each office within each warehouse however these are not indicated on the drawings. Further review will be completed as the design develops.	CRA – Refer Annexure F
E1D16: Fire precautions during construction	In a building under construction—	Noted	Noted

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
[2019: E1.9]	(a) 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;		
E1D17: Provision for special hazards [2019: E1.10]	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.	It is noted that PV (Solar) panels have been added to the roof of both buildings which represent a special hazard and are required to be assessed by the project fire engineer.	PS Refer Part 3.3

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
Specification 17 – Fire Sprinkler Systems			
S17C1 Scope	This Specification sets out requirements for the design and installation of fire sprinkler systems.	Noted	Noted
S17C2 Application of automatic fire sprinkler standards	An automatic fire sprinkler system shall comply with AS2118 as relevant to the building classification and the design of the hydraulic consultant. Where the building is residential class 2 or 3 then refer to Specification 18 for specific design requirements and concessions.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
S17C3 Separation of sprinklered and non-sprinklered areas	Where a part of a building is not protected with sprinklers, the sprinklered and non-sprinklered parts must be fire-separated with a wall or floor which must— (a) comply with any specific requirement of the Deemed-to-Satisfy Provisions of the BCA; or (b) where there is no specific requirement, comply with the relevant part of AS 2118, FPAA101D or FPAA101H.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S17C4 Protection of openings	Any openings, including those for service penetrations, in construction separating sprinklered and non-sprinklered parts of a building, including the construction separating the areas nominated for omitted protection in AS 2118.1, must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C4.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S17C5 Quick response sprinklers	Quick response sprinklers may be installed only if they are suitable for the type of application proposed and it is demonstrated that the sprinkler system is designed to accommodate their use.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S17C6 Sprinkler valve enclosures	(1) Sprinkler alarm valves must be located in a secure room or enclosure which has direct egress to a road or open space. (2) All sprinkler valve rooms and enclosures must be secured with a system suitable for use by the fire brigade.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S17C7 Water supply	(1) A required sprinkler system must be provided with at least one water supply.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

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Clause	Clause Requirements	Comment	Status
	(2) A required sprinkler system in a building greater than 25 m in effective height must be provided with a dual water supply except that a secondary water supply storage capacity of 25,000 litres may be used if— (a) the storage tank is located at the topmost storey of the building; and (b) the building occupancy is classified as no more hazardous than Ordinary Hazard 2 (OH2) under AS 2118.1; and (c) an operational fire brigade service is available to attend a building fire.		
S17C8 Building occupant warning system	A required sprinkler system, except a FPAA101D sprinkler system, must be connected to and activate a building occupant warning system complying with S20C7.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S17C9 Connection to Other Systems	Where a smoke hazard management system is installed and is actuated by smoke detectors, the sprinkler system must, wherever practicable, be arranged to also activate the smoke hazard management system.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S17C10 Anti-tamper Devices	(1) Where a sprinkler system is installed— (a) over any stage area in a theatre, public hall or the like, visual and audible status indication of sprinkler valves must be provided at the location normally used by the stage manager; or (b) in a space housing lift electrical and control equipment (including machine rooms, secondary floors	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	and sheave rooms), any valves provided to control sprinklers in these spaces must be located adjacent to the space. (2) Any valves provided to control sprinklers required by (1) must be fitted with anti-tamper monitoring devices connected to a monitoring panel.		
S17C11 Sprinkler Systems in Carparks	Not Applicable	This clause is not applicable to the subject building	NA
S17C12 Residential Care Buildings	Not Applicable	This clause is not applicable to the subject building	NA
S17C13 Sprinkler systems in lift installations	(1) Where sprinklers are installed in a space housing lift electrical and control equipment, including machine rooms, secondary floors and sheave rooms, sprinklers in these spaces must— (a) have heads protected from accidental damage by way of a guard that will not impair the performance of the head; and (b) be capable of being isolated and drained, either separately or collectively, without isolating any other sprinklers within the building. (2) Valves provided to control sprinklers referred to in (1) must be installed in accordance with S17C10(2).	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S17C14 Early childhood centres	Not Applicable	This clause is not applicable to the subject building	NA

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Clause	Clause Requirements	Comment	Status
Specification 19 – Fire Control Centres			
S19C1 Scope	(1) This Specification describes the construction and content of required fire control centres and rooms. (2) A fire control room is a fire control centre in a dedicated room with additional specific requirements	Noted	Noted
S19C2 Application	(1) S19C3 to S19C6 apply to fire control centres (including fire control rooms). (2) S19C7 to S19C13 apply additional requirements to fire control rooms.	Warehouse 2 is required to be provided with a Fire Control Centre, Clauses S19C7 to S19C13 <u>do not</u> apply.	Noted
2S19C3 Purpose and content of fire control rooms	A fire control centre must— (a) provide an area from which fire-fighting operations or other emergency procedures can be directed or controlled; and (b) contain controls, panels, telephones, furniture, equipment and the like associated with the required fire services in the building; and (c) not be used for any purpose other than the control of— (i) fire-fighting activities; and (ii) other measures concerning the occupant safety or security.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

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Clause	Clause Requirements	Comment	Status
S19C4 Location of fire control centre	A fire control centre must be so located in a building that egress from any part of its floor, to a road or open space, does not involve changes in level which in aggregate exceed 300 mm.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S19C5 Equipment not permitted within a fire control centre	An internal combustion engine, pumps, sprinkler control valves, pipes and pipe fittings must not be located in a fire control centre but may be located in rooms accessed through the fire control centre.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S19C6 Ambient sound level of fire control centre	(1) The ambient sound level within the fire control centre measured when all fire safety equipment is operating in the manner in which it operates in an emergency must not exceed 65 dB(A). (2) The measurement must be taken for a sufficient time to characterise the effects of all sound sources. (3) Where there is not a great variation in noise level, a measurement time of 60 seconds may be used.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S19C7 Construction of a fire control room	Not Applicable	This clause is not applicable to the subject building	NA
S19C8 Protection of openings in a fire control room	Not Applicable	This clause is not applicable to the subject building	NA
S19C9 Doors to a fire control room	Not Applicable	This clause is not applicable to the subject building	NA
S19C10 Size and content of a fire control room	Not Applicable	This clause is not applicable to the subject building	NA

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Clause	Clause Requirements	Comment	Status
S19C11 Ventilation and power supply for a fire control room	Not Applicable	This clause is not applicable to the subject building	NA
S19C12 Sign for a fire control room	Not Applicable	This clause is not applicable to the subject building	NA
1S19C13 Lighting for a fire control room	Not Applicable	This clause is not applicable to the subject building	NA

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
Part E2 – Smoke Hazard Management			
E2D1: Deemed-to-Satisfy Provisions [2019:E2.0]	Informational	Noted	Noted
E2D2: Application of Part [2019: E2.1]	Informational	Noted	Noted
E2D3: General requirements [2019: E2.2]	(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	Mechanical & Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

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Clause	Clause Requirements	Comment	Status
	from one fire compartment to another fire compartment must, subject to (2), be designed and installed— (a) to operate as a smoke control system in accordance with AS 1668.1; or (b) such that it— (i) incorporates smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and (ii) is arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1670.1.		
E2D4 Fire-isolated exits [2019: Table E2.2a]	Not Applicable	This clause is not applicable to the subject building	NA
E2D5 Buildings more than 25m in effective height: Class 2 and 3 buildings and Class 4 part of a building. [2019: Table E2.2a]	Not Applicable	This clause is not applicable to the subject building	NA
E2D6 Buildings more than 25m in effective height: Class 5, 6, 7b, 8 or 9b buildings [2019:E2.2a]	Not Applicable	This clause is not applicable to the subject building	NA

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Clause	Clause Requirements	Comment	Status
E2D7 Buildings more than 25m in effective height: Class 9a buildings [2019:E2.2a]	Not Applicable	This clause is not applicable to the subject building	NA
E2D8 Buildings not more than 25m in effective height: Class 2 and 3 buildings and class 4 part of a building [2019:E2.2a]	Not Applicable	This clause is not applicable to the subject building	NA
E2D9 Buildings not more than 25m in effective height: Class 5, 6, 7b, 8 and 9b buildings [2019:E2.2a]	Not Applicable	This clause is not applicable to the subject building	NA
E2D10 Buildings not more than 25 m in effective height: large isolated buildings subject to C3D4 [2019:E2.2a]	(1) In a Class 5, 6, 7, 8 or 9 building of not more than 25 m in effective height, and which exceeds 18 000 m² in floor area or 108 000 m³ in volume, the building must be provided with— (a) if the ceiling height of the fire compartment is not more than 12 m— (i) an automatic smoke exhaust system in accordance with Specification 21; or (ii) automatic smoke-and-heat vents in accordance with Specification 22; or	Both warehouses are noted to exceed 108,000m³ have a ceiling height of approximately 12m. It is assumed that both warehouses will be provided with an automatic smoke exhaust system complying with Specification 21 throughout however, it is proposed to alter the systems provided as follows: - Rationalise the required smoke exhaust rates achieved by the smoke exhaust fans, in lieu of complying with Figure S21C2. - Omit the provision of smoke baffles to provide a single smoke reservoir per warehouse.	PS Refer Part 3.3

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Clause	Clause Requirements	Comment	Status
	(b) if the ceiling height of the fire compartment is more than 12 m, an automatic smoke exhaust system in accordance with Specification 21. (2) For the purposes of (1), reference to 'the building' being provided with specified measures, means to the nominated classes within the building.	The proposed alterations to the smoke exhaust systems provided are required to be addressed under a fire engineered performance solution.	
E2D11 Buildings not more than 25 m in effective height: Class 9a and 9c buildings [2019:E2.2a]	Not Applicable	This clause is not applicable to the subject building	NA
E2D12 Class 7a Buildings [2019:E2.2a]	Not Applicable	This clause is not applicable to the subject building	NA
E2D13 Basements (other than Class 7a buildings) [2019:E2.2a]	Not Applicable	This clause is not applicable to the subject building	NA
E2D14 Class 6 buildings – in fire compartments more than 2000 m ² : Class 6 building (not containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit) [2019:E2.2b]	Not Applicable	This clause is not applicable to the subject building	NA

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
E2D15 Class 6 buildings – in fire compartments more than 2000 m ² : Class 6 building (containing an enclosed common walkway or mall) [2019:E2.2b]	Not Applicable	This clause is not applicable to the subject building	NA
E2D16 Class 9b – assembly buildings: nightclubs, discotheques and the like [2019:E2.2b]	Not Applicable	This clause is not applicable to the subject building	NA
E2D17 Class 9b – assembly buildings: exhibition halls [2019:E2.2b]	Not Applicable	This clause is not applicable to the subject building	NA
E2D18 Class 9b – assembly buildings: theatres and public halls [2019:E2.2b]	Not Applicable	This clause is not applicable to the subject building	NA
E2D19 Class 9b – assembly buildings: theatres and public halls (not listed in E2D18) including lecture theatres and cinema/auditorium complexes [2019:E2.2b]	Not Applicable	This clause is not applicable to the subject building	NA

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
E2D20 Class 9b assembly buildings: other assembly buildings (not listed in E2D16 to E2D19) [2019:E2.2b]	Not Applicable	This clause is not applicable to the subject building	NA
E2D21 Provisions for special hazards [2019: E2.3]	Not Applicable	This clause is not applicable to the subject building	NA

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
Specification 20 – Smoke Detection and Alarm System			
S20C1 Scope	This Specification describes the installation and operation of automatic smoke detection and alarm systems.	Noted	Noted
S20C2. Type of system	A required automatic smoke detection and alarm system must be provided in accordance with the following: (c) Class 5, 6, 7, 8, 9b and 9c buildings — a smoke detection system complying with S20C4	Noted	CRA – Refer Annexure F
S20C3 Smoke alarm system	Not Applicable	This clause is not applicable to the subject building	NA

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
S20C4 Smoke detection system	(1) In all Class 2 to 9 buildings provided with a smoke detection system, the following applies: (a) A smoke detection system must— (i) subject to (2), (3) and (4), comply with AS 1670.1; and (ii) activate a building occupant warning system in accordance with S20C7. (b) In kitchens and other areas where the use of the area is likely to result in smoke detectors causing spurious signals, subject to (c)— (i) any other detector deemed suitable in accordance with AS 1670.1 may be installed provided that smoke detectors are installed elsewhere in the sole-occupancy unit in accordance with the requirements for alarms in S20C3(2)(a) and (2)(b); or (ii) an alarm acknowledgement facility may be installed. (c) Where a kitchen or other area referred to in (b) is in a building protected with a sprinkler system complying with Specification 17 (other than a FPAA101D or FPAA101H system), detectors need not be installed in the kitchen or other areas likely to result in spurious signals.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S20C5 Combined smoke alarm and smoke detection system	Not Applicable	This clause is not applicable to the subject building	NA

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
S20C6. Smoke detection for smoke control system	(2) Smoke detectors required to activate— (a) automatic shutdown of air-handling systems in accordance with E2D16, E2D17 or E2D19; or (b) a smoke exhaust system in accordance with Specification 21, must comply with the requirements of (3). (3) Smoke detectors referred to in (2) must— (a) be spaced— (i) not more than 20 m apart and not more than 10 m from any wall, bulkhead or smoke curtain; and (ii) in enclosed malls and walkways in a Class 6 building not more than 15 m apart and not more than 7.5 m from any wall, bulkhead or curtain; and (b) have a sensitivity— (i) in accordance with AS 1670.1 in areas other than a multi-storey walkway and mall in a Class 6 building; and (ii) not exceeding 0.5% smoke obscuration per metre with compensation for external airborne contamination as necessary, in a multi-storey walkway and mall in a Class 6 building. (4) Smoke detectors provided to activate a smoke control system must—	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(a) either— (i) form part of a building fire or smoke detection system complying with AS 1670.1; or (ii) be a separate dedicated system incorporating control and indicating equipment complying with AS 1670.1; and (b) activate a building occupant warning system complying with S20C7, except that smoke detectors provided solely to initiate automatic shutdown of air-handling systems in accordance with (2)(a) need not activate a building occupant warning system.		
S20C7 Building occupant warning system	Subject to E4D9, a building occupant warning system provided as part of a smoke hazard management system must comply with clause 3.22 of AS 1670.1 to sound through all occupied areas.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S20C8 System Monitoring	The following installations must be connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre in accordance with AS 1670.3: (d) Smoke detection in accordance with S20C6 provided to activate— (i) a smoke exhaust system in accordance with Specification 21;	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
Specification E21 – Smoke Exhaust System			
S21C1 Scope	This Specification describes the requirements for mechanical smoke exhaust systems.	Noted	Noted
S21C2 Smoke exhaust capacity	(1) Smoke exhaust fans must have a sufficient capacity to contain the smoke layer— (a) within a smoke reservoir formed in accordance with S21C4 and not less than 2 m above the highest floor level; and (b) above the top of any openings interconnecting different smoke reservoirs. (2) Exhaust rates must be determined in accordance with Figure S21C2, with the height measurement taken from the lowest floor level to the underside of the smoke layer and the fire load determined in accordance with Table S21C2.	It is assumed that both warehouses will be provided with an automatic smoke exhaust system complying with Specification 21 throughout however, it is proposed to alter the systems provided as follows: Rationalise the required smoke exhaust rates achieved by the smoke exhaust fans, in lieu of complying with Figure S21C2. The proposed alterations to the smoke exhaust systems provided are required to be addressed under a fire engineered performance solution.	PS Refer Part 3.3
S21C3 Smoke exhaust fans	Each smoke exhaust fan, complete with its drive, flexible connections, control gear and wiring must— (a) be constructed and installed so that it is capable of continuous operation (exhausting the required volumetric flow rate at the installed system resistance) at a temperature of 200°C for a period of not less than 1 hour; and (b) in a building not fitted with a sprinkler system, be capable of continuous operation at a temperature of 300°C for a period of not less than 30 minutes; and	Mechanical Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(c) be rated to handle the required volumetric flow rate at ambient temperature to be capable of exhausting cool smoke during the early stages of a fire and to allow routine testing; and (d) have any high temperature overload devices installed, automatically overridden during the smoke exhaust operation.		
S21C4 Smoke reservoirs	(1) A fire compartment must be divided at ceiling level into smoke reservoirs formed by smoke baffles/curtains of non-combustible and non-shatterable construction. (2) The horizontal area of a smoke reservoir must not exceed 2000 m² and in enclosed walkways and malls of a Class 6 building must not exceed 60 m in length. (3) Smoke reservoirs must be of sufficient depth to contain the smoke layer and must not be less than 500 mm below an imperforate ceiling or roof. (4) Within a multi-storey fire compartment— (a) a non-combustible bulkhead or smoke baffle/curtain must be provided around the underside of each opening into a building void to minimise the spread of smoke to other storeys; and (b) the depth of the bulkhead or smoke baffle must be not less than the depth of the smoke reservoir provided under (3) plus an additional 400 mm.	It is assumed that both warehouses will be provided with an automatic smoke exhaust system complying with Specification 21 throughout however, it is proposed to alter the systems provided as follows: Omit the provision of smoke baffles to provide a single smoke reservoir per warehouse. The proposed alterations to the smoke exhaust systems provided are required to be addressed under a fire engineered performance solution.	PS Refer Part 3.3

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
S21C5 Smoke exhaust fan and vent location	Smoke exhaust fans and vents must be located— (a) such that each smoke reservoir is served by one or more fans with the maximum exhaust rate at any one point limited to avoid extracting air from below the smoke layer; and (b) to prevent the formation of stagnant regions resulting in excessive cooling and downward mixing of smoke; and (c) at natural collection points for the hot smoky gases within each smoke reservoir having due regard to the ceiling geometry and its effect on the migratory path of the smoke; and (d) away from the intersection of walkways or malls; and (e) to ensure that any voids containing escalators and/or stairs commonly used by the public are not used as a smoke exhaust path; and (f) to discharge directly to outdoor with a velocity of not less than 5 m/s, at a suitable point not less than 6 m from any air intake point or exit.	Mechanical Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
S21C6 Make-up air	(1) Low level make-up air must be provided either automatically or via permanent ventilation openings to replace the air exhausted so as to minimise— (a) any disturbance of the smoke layer due to turbulence created by the incoming air; and	Mechanical Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(b) the risk of smoke migration to areas remote from the fire due to the effect of make-up air on the air balance of the total system. (2) The velocity of make-up air through doorways must not exceed 2.5 m/s. (3) Within a multi-storey fire compartment, make-up air must be provided across each vertical opening from a building void to the fire-affected storey at an average velocity of 1 m/s so as to minimise the spread of smoke from the fire-affected storey to other storeys.		
S21C7 Smoke exhaust system control	(1) Each smoke exhaust fan must be activated sequentially by smoke detectors complying with Specification 20 and arranged in zones to match the smoke reservoir served by the fan(s). (2) Subject to (3) and (4), an air handling system (other than individual room units less 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 must be automatically shut down on the activation of the smoke exhaust system. (3) In a single storey fire compartment, air handling systems in all non fire-affected zones may operate on 100% outdoor air to provide make-up air to the fire-affected zone. (4) Within a multi-storey fire compartment, air handling systems in all non fire-affected zones and storeys must	Mechanical Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	operate at 100% outdoor air to provide make-up air to the fire-affected storey via building voids connecting storeys. (5) Manual override control and indication together with operating instructions for use by emergency personnel must be provided adjacent to the fire indicator panel in accordance with the requirements of clauses 4.11 and 4.13 of AS 1668.1. (6) Manual control for the smoke exhaust system must also be provided at a location normally used by the stage manager in a theatre. (7) Power supply wiring to exhaust fans together with detection, control, and indication circuits (and where necessary to automatic make-up air supply arrangements) must comply with AS 1668.1.		
S21C8 Smoke detection	A smoke detection system must be installed in accordance with Specification 20 to activate the smoke exhaust system.	Fire Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
Part E3 – Lift Installations			
E3.0: Deemed-to-Satisfy Provisions [2019: E3.0]	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements E3P1 to E3P4 are satisfied by complying with—	Noted	Noted

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(a) E3D2 to E3D12; and (b) for a building containing an occupiable outdoor area, Part G6; and (2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.		
E3D2: Lift installations [2019: E3.1]	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification 24	Noted	CRA – Refer Annexure F
E3D3: Stretcher facility in lifts [2019: E3.2]	(1) A stretcher facility in accordance with (2) 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. (2) 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.	Stretcher facilities are not required to be provided to lifts as neither building will have an effective height exceeding 12m.	CRA – Refer Annexure F
E3D4: Warning against use of lifts in fire [2019: E3.3]	(1) A warning sign must be displayed where it can be readily seen near every call button for a passenger lift or group of lifts throughout a building.	Vertical Transport Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(2) The requirements of (1) do not apply to a small lift such as a dumb-waiter or the like that is for the transport of goods only. (3) Each warning sign required by (1) must comply with the details and dimensions of Figure E3D4 and consist of— (a) incised, inlaid or embossed letters on a metal, wood, plastic or similar plate securely and permanently attached to the wall; or (b) letters incised or inlaid directly into the surface of the material forming the wall.		
E3D5: Emergency lifts [2019: E3.4]	Not Applicable	This clause is not applicable to the subject building	NA
E3D6: Landings [2019: E3.5]	Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Parts D2, D3 and D4.	Internal layouts indicate that accessible landing areas are provided in front of lift doors as required.	Complies
E3D7: Passenger lifts and their limitations [2019: E3.6]	(1) In an accessible building, every passenger lift must be one of the following lift types, subject to the limitations (if any) of each lift type: (a) There are no limitations on the use of electric passenger lifts, electrohydraulic passenger lifts or inclined lifts. (2) A passenger lift referred to in (1) must not rely on a constant pressure device for its operation if the lift car is fully enclosed.	Vertical Transport Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
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 mandatory handrail in AS 1735.12 for all lifts except— (i) a stairway platform lift; and (ii) a low-rise platform lift. (c) Lift floor dimensions of not less than 1100 mm wide x 1400 mm deep for all lifts which travel not more than 12 m, except a stairway platform lift. (e) Minimum clear door opening complying with AS 1735.12 for all lifts except a stairway platform lift. (f) Passenger protection system complying with AS 1735.12 for all lifts with power-operated doors. (g) Lift landing doors at the upper landing for all lifts except a stairway platform lift. (h) Lift car and landing control buttons complying with AS 1735.12 for all lifts except— (i) a stairway platform lift; and (ii) a low-rise platform lift. (i) Lighting in accordance with AS 1735.12 for all enclosed lift cars. (j) For all lifts serving more than 2 levels—	Vertical Transport Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(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. (k) 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, for all lifts except a stairway platform lift.		
E3D9: Fire service controls [E3.7 of BCA2019]	Not Applicable	This clause is not applicable to the subject building	NA
E3D10 Residential care buildings [E3.8 of BCA2019]	Not Applicable	This clause is not applicable to the subject building	NA
E3D11: Fire service recall switch [E3.9 of BCA2019]	Not Applicable	This clause is not applicable to the subject building	NA
E3D12: Lift car service drive control switch [E3.10 of BCA2019]	Not Applicable	This clause is not applicable to the subject building	NA

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
Part E4 – Visibility In An Emergency, Exit Signs And Warning Systems			
E4D1: Deemed-to-Satisfy Provisions [2019: E4.0]	Informational	Noted	Noted
E4D2: Emergency lighting requirements [2019: E4.2]	An emergency lighting system must be installed— (a) in every fire-isolated stairway, fire-isolated passageway or fire-isolated ramp; and (b) in every storey of a Class 5, 6, 7, 8 or 9 building where the storey has an area more than 300 m²— (i) in every passageway, corridor, hallway, or the like, that is part of the path of travel to an exit; and (ii) in any room having a floor area more than 100 m² that does not open to a corridor or space that has emergency lighting or to a road or open space; and (iii) in any room having a floor area more than 300 m²; and (d) in every required non-fire-isolated stairway; and (e) in a sole-occupancy unit in a Class 5, 6 or 9 building if— (i) the floor area of the unit is more than 300 m²; and	Emergency lighting is required to be provided throughout each building. Electrical Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(ii) an exit from the unit does not open to a road or open space or to an external stairway, passageway, balcony or ramp, leading directly to a road or open space; and (i) in every required fire control centre.		
E4D3: Measurement of distance [2019: E4.3]	Informational	Noted	Noted
E4D4: Design and operation of emergency lighting [2019: E4.4]	Every required emergency lighting system must comply with AS/NZS 2293.1.	Electrical Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
E4D5: Exit signs [E4.5 of BCA2019]	An exit sign must be clearly visible to persons approaching the exit, and must be installed on, above or adjacent to each— (a) door providing direct egress from a storey to— (i) an enclosed stairway, passageway or ramp serving as a required exit; and (ii) an external stairway, passageway or ramp serving as a required exit; and (iii) an external access balcony leading to a required exit; and	Exit Signage is required to be provided throughout each building. It is assumed that exit signs will be provided above a height of 2.7m to prevent damage from forklifts and the like. The location of exit and directional signs above 2.7m will be required to be addressed under a fire engineered performances solution. Electrical Specification Certification to be provided confirming compliance.	PS Refer Part 3.3 CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(b) door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space; and (d) door serving as, or forming part of, a required exit in a storey required to be provided with emergency lighting in accordance with E4D2.		
E4D6: Direction signs [2019: E4.6]	If an exit is not readily apparent to persons occupying or visiting the building, then exit signs must be installed— (a) in appropriate positions in corridors, hallways, lobbies, foyers, auditoria, and the like, indicating the direction to a required exit; and (b) in a Class 9b building used as an entertainment venue — in any external egress path to a road where the exit does not open directly onto a road.	Directional Exit Signage is required to be provided throughout the building. It is assumed that directional signs will be provided above a height of 2.7m to prevent damage from forklifts and the like. The location of exit and directional signs above 2.7m will be required to be addressed under a fire engineered performances solution. Electrical Specification Certification to be provided confirming compliance.	PS Refer Part 3.3 CRA – Refer Annexure F
E4D7: Class 2 and 3 buildings and Class 4 Parts: Exemptions [2019: E4.7]	Not Applicable	This clause is not applicable to the subject building	NA
E4D8: Design and operation of exit signs [2019: E4.8]	Every required exit sign must— (a) comply with— (i) AS/NZS 2293.1; or (ii) for a photoluminescent exit sign, Specification 25; and	Electrical Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section E: Services and Equipment			
Clause	Clause Requirements	Comment	Status
	(b) be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.		
E4D9: Emergency warning and intercom systems [2019: E4.9]	Not Applicable	This clause is not applicable to the subject building	NA

SECTION F: HEALTH AND AMENITY

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
Part F1 – Surface water management, rising damp and external waterproofing			
F1D1: Deemed-to-Satisfy Provisions [2019: F1.0]	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements F1P1 to F1P4 are satisfied by complying with F1D2 to F1D8. (2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable	Noted	Noted
F1D2: Application of part	(1) F1D4 and F1D5 do not apply to a roof with a covering complying with F3D2(a) to (d).	Noted	Noted

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
	(2) F1D3 to F1D5 do not apply to a balcony, podium or similar horizontal surface part of a building— (a) where the flooring is of timber decking or other perforated flooring; or (b) which is located directly above ground.		
F1D3: Stormwater drainage [2019: F1.1]	Stormwater drainage must be designed and constructed in accordance with AS/NZS 3500.3.	Hydraulic Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
F1D4 Exposed joints	Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must— (a) be protected in accordance with Section 2.9 of AS 4654.2; and (b) not be located beneath or run through a planter box, water feature or similar part of the building.	Hydraulic Services Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
F1D5: External above ground membranes [2019: F1.4]	A roof, balcony, podium or similar horizontal surface part of a building must be provided with a waterproofing membrane— (a) consisting of materials complying with AS 4654.1; and (b) designed and installed in accordance with AS 4654.2.	Architectural Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
F1D6: Damp-proofing [2019: F1.9]	(1) Except for a building covered by (3), moisture from the ground must be prevented from reaching— (a) the lowest floor timbers and the walls above the lowest floor joists; and (b) the walls above the damp-proof course; and (c) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. (2) Where a damp-proof course is provided, it must consist of— (a) a material that complies with AS/NZS 2904; or (b) impervious sheet material in accordance with AS 3660.1. (3) The following buildings need not comply with (1): (a) A Class 7 or 8 building where in the particular case there is no necessity for compliance. (b) A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes. (c) An open spectator stand or open-deck carpark.	Architectural Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
F1D7: Damp-proofing of floors on the ground [2019: F1.10]	(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 vapour barrier in accordance with AS 2870.	Architectural Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
	(2) The requirements of (1) do not apply where— (a) weatherproofing is not required; or (b) the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means.		
F1D8 Subfloor Ventilation [F1.12 of BCA 2019]	Not Applicable	This clause is not applicable to the subject building.	NA
Part F2 – Wet areas and overflow protection			
F2D1 Deemed-to-satisfy Provisions [New for 2022]	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements F2P1 and F2P2 are satisfied by complying with F2D2 to F2D4. (2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.	Noted	Noted
F2D2 Wet area construction [2019: F1.7]	(2) In a Class 5, 6, 7, 8 or 9 building, building elements in a bathroom or shower room, a slop hopper or sink compartment, a laundry or sanitary compartment must— (a) be water resistant or waterproof in accordance with Specification 26; and (b) comply with AS 3740, as if they were in a Class 2 or 3 building or a Class 4 part of a building.	Architectural Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
F2D3 Rooms containing urinals [2019: F1.7]	(2) Where a wall hung urinal is installed— (a) the wall must be surfaced with impervious material extending from the floor to not less than 50 mm above the top of the urinal and not less than 225 mm on each side of the urinal; and (b) the floor must be surfaced with an impervious material and be graded to a floor waste. (3) In a room with timber or steel-framed walls and containing a urinal— (a) the wall must be surfaced with an impervious material extending from the floor to not less than 100 mm above the floor surface; and (b) the junction of the floor surface and the wall surface must be impervious.	The drawings provided do not indicate the falls to the floor beneath urinals or the locations of floor wastes. Further review will be undertaken as the design develops.	CRA – Refer Annexure F
F2D4 Floor wastes	Not Applicable	This clause is not applicable to the subject building.	NA
Part F3 – Roof and wall cladding			
F3D1 Deemed-to-satisfy provisions	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement F3P1 is satisfied by complying with F3D2 to F3D5. (2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable	Informative	Noted

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
F3D2: Roof coverings [2019: F1.5]	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.	The roof covering for each warehouse will be constructed with steel roof sheeting and polycarbonate plastic sheet. These roofing materials must be designed and installed in accordance with the requirements of AS1562.1-2018 and AS1562.3-2006 respectively. Architectural Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
F3D3: Sarking [2019: F1.6]	Sarking-type material used for weatherproofing of roofs and walls must comply with AS 4200.1 and AS 4200.2.	Architectural Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
F3D4: Glazed Assemblies [2019: F1.13]	(1) Subject to (2) and (3), the following glazed assemblies in an external wall, must comply with AS 2047 requirements for resistance to water penetration: (a) Windows. (b) Sliding and swinging glazed doors with a frame, including French and bi-fold doors with a frame. (c) Adjustable louvres. (d) Shopfronts.	Architectural Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
	(e) Window walls with one piece framing. (2) The following buildings need not comply with (1): (a) A Class 7 or 8 building where in the particular case there is no necessity for compliance. (b) A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, sanitary compartment or the like contributes to the weatherproofing of the other part of the building. (c) An open spectator stand or open-deck carpark. (3) The following glazed assemblies need not comply with (1): (a) All glazed assemblies not in an external wall. (b) Revolving doors. (c) Fixed louvres. (d) Skylights, roof lights and windows in other than the vertical plane. (e) Sliding and swinging glazed doors without a frame. (f) Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047. (g) Second-hand windows, re-used windows and recycled windows.		

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
	(h) Heritage windows.		
F3D4: Wall Cladding [New for 2022]	(1) 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. (2) The following buildings need not comply with (1): (a) A Class 7 or 8 building where in the particular case there is no necessity for compliance. (b) A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, sanitary compartment or the like contributes to the weatherproofing of another part of the building that is required to be weatherproofed. (c) An open spectator stand or open deck carpark.	The external walls are to be constructed from precast concrete panels, steel sheeting & Vitra Group metal panels. The weatherproofing performance of each material is required to be demonstrated to determine compliance. Further review will be undertaken as the design develops. Architectural Specification Certification to be provided confirming compliance.	CRA – Refer Annexure F
Part F4 – Sanitary and Other Facilities			
F4D1: Deemed-to-Satisfy Provisions	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements F4P1 to F4P6 are satisfied by complying with— (a) F4D2 to F4D12; and	Noted	Noted

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
[2019: F2.0]	(b) for public transport buildings, Part I2; and (c) for farm sheds, Part I3. (2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.		
F4D2: Facilities in residential buildings (including Table F2.1) [2019: F2.1]	Not Applicable	This clause is not applicable to the subject building.	NA
F4D3: Calculation of number of occupants and facilities [2019: F2.2]	(1) The number of persons accommodated must be calculated according to D2D18 if it cannot be more accurately determined by other means. (2) Unless the premises are used predominantly by one sex, sanitary facilities must be provided on the basis of equal numbers of males and females. (3) In calculating the number of sanitary facilities to be provided under F4D2 and F4D4, a unisex facility required for people with a disability (other than a facility provided under F4D12) may be counted once for each sex. (4) For the purposes of this Part, a unisex facility comprises one closet pan, one washbasin and means for the disposal of sanitary products.	Noted the assumed maximum populations for each building are as follows: Office 1 = 120 persons Warehouse 1 = 555 persons Office 2A = 120 persons Office 2B = 110 persons Warehouse 2 = 619 persons Please confirm the anticipated populations for each warehouse portion of the buildings as it is understood that the above populations will not be accurate for warehouse use.	FI
F4D4: Facilities in Class 3 to 9 buildings (including Table F2.3)	(1) Except where permitted by (3), (4), (7), F4D5(a), F4D5(b) and F4D12(1), separate sanitary facilities for males and females must be provided for Class 3, 5, 6, 7, 8	The following facilities are required within each office portion of building based on the above populations:	CRA – Refer Annexure F

Section F: Health and Amenity																																																			
Clause	Clause Requirements	Comment	Status																																																
[2019: F2.3]	or 9 buildings in accordance with Tables F4D4a, F4D4b, F4D4c, F4D4d, F4D4e, F4D4f, F4D4g, F4D4h, F4D4i, F4D4j, F4D4k and F4D4l, as appropriate. (2) In Tables F4D4a, F4D4b, F4D4c, F4D4d, F4D4e, F4D4f, F4D4g, F4D4h, F4D4i, F4D4j, F4D4k and F4D4l — (a) 'Number' means the number of facilities required; and (b) '>' means greater than; and (c) a hyphen means no data (refer to the row above for the highest value applicable); and (d) 'N/A' means not applicable; and (e) a reference to— (i) 'employees' includes owners and managers using the building; and (ii) 'add 1 per 100 or 150, 250, 500, etc.' includes any part thereof of that number. (3) If not more than 10 people are employed, a unisex facility may be provided instead of separate facilities for each sex. (4) If the majority of employees are of one sex, not more than 2 employees of the other sex may share toilet facilities if the facilities are separated by means of walls, partitions and doors to afford privacy. (6) Adequate means of disposal of sanitary products must be provided in sanitary facilities for use by females.	<table border="1"> <thead> <tr> <th>Office 1</th><th>Pans</th><th>Urinals</th><th>Basins</th></tr> </thead> <tbody> <tr> <td>Male</td><td>3</td><td>2</td><td>1</td></tr> <tr> <td>Female</td><td>3</td><td>-</td><td>1</td></tr> <tr> <td>Accessible</td><td>1</td><td>-</td><td>1</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Office 2A</th><th>Pans</th><th>Urinals</th><th>Basins</th></tr> </thead> <tbody> <tr> <td>Male</td><td>3</td><td>2</td><td>1</td></tr> <tr> <td>Female</td><td>3</td><td>-</td><td>1</td></tr> <tr> <td>Accessible</td><td>1</td><td>-</td><td>1</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Office 2B</th><th>Pans</th><th>Urinals</th><th>Basins</th></tr> </thead> <tbody> <tr> <td>Male</td><td>3</td><td>2</td><td>1</td></tr> <tr> <td>Female</td><td>3</td><td>-</td><td>1</td></tr> <tr> <td>Accessible</td><td>1</td><td>-</td><td>1</td></tr> </tbody> </table> The amenities indicated on the plans provided allow for the following populations	Office 1	Pans	Urinals	Basins	Male	3	2	1	Female	3	-	1	Accessible	1	-	1	Office 2A	Pans	Urinals	Basins	Male	3	2	1	Female	3	-	1	Accessible	1	-	1	Office 2B	Pans	Urinals	Basins	Male	3	2	1	Female	3	-	1	Accessible	1	-	1	
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Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
	(11) Not less than one washbasin must be provided where closet pans or urinals are provided.	Warehouse 1 + Warehouse = 60 males & 15 females + Office = 60 males & 60 females Warehouse 2A + Warehouse = 20 males & 15 females + Office = 60 males & 60 females Warehouse 2B + Warehouse = 40 males & 15 females + Office = 60 males & 60 females The above allowances will meet the anticipated office populations for each. The anticipated populations within each warehouse portion of each building are to be confirmed to determine the required facilities for use by warehouse staff.	
F4D5: Accessible sanitary facilities (including Table F2.4) [2019: F2.4]	In a building required to be accessible— (a) accessible unisex sanitary compartments must be provided in accessible parts of the building in accordance with F4D6; and (b) accessible unisex showers must be provided in accordance with F4D7; and (c) at each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, not less than one	Each bank of amenities must include an accessible facility and each male and female facility must also include an ambulant facility. Internal layouts indicate that this is generally achieved.	Complies

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
	sanitary compartment suitable for a person with an ambulant disability for use by males and not less than one sanitary compartment suitable for a person with an ambulant disability for use by females, each in accordance with AS 1428.1, must be provided; and (d) an accessible unisex sanitary compartment must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary products; and (e) the circulation spaces, fixtures and fittings of all accessible sanitary facilities provided in accordance with F4D6 and F4D7 must comply with the requirements of AS 1428.1; and (f) an accessible unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only; and (g) where two or more of each type of accessible unisex sanitary facility are provided, the number of left and right handed mirror image facilities must be provided as evenly as possible; and (h) where male sanitary facilities are provided at a separate location to female sanitary facilities, accessible unisex sanitary facilities are only required at one of those locations; and (i) an accessible unisex sanitary compartment or an accessible unisex shower need not be provided on a storey or level that is not required by D4D4(f) to be provided with a passenger lift or ramp complying with AS 1428.1.		

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
F4D6: Accessible unisex sanitary compartments [2019: Table F2.4a]	(1) Where required by F4D5(a), the minimum number of accessible unisex sanitary compartments for each class of building is as follows: (d) For Class 5, 6, 7, 8 or 9 buildings, where F4D4 requires closet pans— (i) 1 on every storey containing sanitary compartments; and (ii) where a storey has more than 1 bank of sanitary compartments containing male and female sanitary compartments, at not less than 50% of those banks.	Internal layouts indicate that this is generally achieved.	Complies
F4D7 Accessible unisex showers [2019: Table F2.4(b)]	Not Applicable	This clause is not applicable to the subject building. It is noted that accessible showers are provided to the ground floor accessible amenity within each office in each warehouse.	NA
F4D8: Construction of sanitary compartments [2019: F2.5]	(1) Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend— (a) from floor level to the ceiling in the case of a unisex facility; or (b) to a height of not less than 1.5 m above the floor if primary school children are the principal users; or (c) 1.8 m above the floor in all other cases.	Lift-off hinges are to be provided to the female ambulant cubicles provided on Level 1 of each office.	CRA – Refer Annexure F

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
	(2) Unless there is a clear space of at least 1.2 m, measured in accordance with Figure F4D8, between the closet pan within the sanitary compartment and the doorway, the door to a fully enclosed sanitary compartment must— (a) open outwards; or (b) slide; or (c) be readily removable from the outside of the sanitary compartment.		
F4D9: Interpretation: urinals and washbasins [2019: F2.6]	(1) A urinal may be— (a) an individual stall or wall-hung urinal; or (b) each 600 mm length of a continuous urinal trough; or (c) a closet pan used in place of a urinal. (2) A washbasin may be— (a) an individual basin; or (b) a part of a hand washing trough served by a single water tap.	Noted	Noted
F4D10 Microbial (legionella) control [2019: F2.7]	This clause has deliberately been left blank. F4D10 does not apply in NSW as the installation of hot water, warm water and cooling water systems (and their	This clause is not applicable to the subject building.	NA

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
	operation and maintenance) is regulated in the Public Health Regulation 2012, under the Public Health Act 2010.		
F4D11: Waste Management [2019: F2.8]	Not Applicable	This clause is not applicable to the subject building.	NA
F4D12: Accessible adult change facilities [F2.9 of BCA2019]	Not Applicable	This clause is not applicable to the subject building.	NA

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
Part F5 – Room Heights			
F5D1 Deemed-to-Satisfy Provisions [2019: F3.0]	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement F5P1 is satisfied by complying with— (a) F5D2; and (b) for farm sheds, Part I3.	Noted	Noted

Section F: Health and Amenity			
	(2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.		
F5D2: Height of rooms and other spaces [2019: F3.1]	(3) The height of rooms and other spaces in a Class 5, 6, 7 or 8 building must be not less than— (a) except as allowed in (b) and (8) — 2.4 m; and (b) for a corridor, passageway, or the like — 2.1 m. (8) The height of rooms and other spaces in any building must be not be less than— (a) for a bathroom, shower room, sanitary compartment, other than an accessible adult change facility, airlock, tea preparation room, pantry, store room, garage, car parking area, or the like — 2.1 m; and (c) above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like; and (d) for a required accessible adult change facility — 2.4 m.	Reflected ceiling heights and building sections have not been provided for review. Further review is required to confirm compliance.	CRA – Refer Annexure F
Part F6 – Light and Ventilation			
F6D1: Deemed-to-Satisfy Provisions [2019: F4.0]	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements F6P1 to F6P5 are satisfied by complying with— (a) F6D2 to F6D12; and	Noted	Noted

Section F: Health and Amenity			
	(b) for a building containing an occupiable outdoor area, Part G6; (2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.		
F6D2: Provision of natural light [2019: F4.1]	Not Applicable	This clause is not applicable to the subject building.	NA
F6D3: Methods and extent of natural lighting [2019: F4.2]	Not Applicable	This clause is not applicable to the subject building.	NA
F6D4: Natural light borrowed from adjoining room [2019: F4.3]	Not Applicable	This clause is not applicable to the subject building.	NA
F6D5: Artificial Lighting [2019: F4.4]	(1) Artificial lighting must be provided— (a) in required stairways, passageways, and ramps; and (b) if natural light of a standard equivalent to that required by F6D3 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency, in— (iii) Class 3, 5, 6, 7, 8 and 9 buildings — to all rooms that are frequently occupied, all spaces	Electrical specification certificate to be provided confirming compliance.	CRA – Refer Annexure F

Section F: Health and Amenity			
	required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. (2) The artificial lighting system must comply with AS/NZS 1680.0.		
F6D6: Ventilation of rooms [2019: F4.5]	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— (a) natural ventilation complying with F6D7; or (b) a mechanical ventilation or air-conditioning system complying with AS 1668.2.	It is assumed that a combination of mechanical and natural ventilation will be provided to each building (mechanical within office parts and natural within warehouse parts). Further review will be undertaken as the design develops.	CRA – Refer Annexure F
F6D7: Natural ventilation [2019: F4.6]	(1) Natural ventilation provided in accordance with F6D6(a) must consist of openings, windows, doors or other devices which can be opened— (a) with a ventilating area not less than 5% of the floor area of the room required to be ventilated; and (b) open to— (i) a suitably sized court, or space open to the sky; or (ii) an open verandah, carport, or the like; or (iii) an adjoining room in accordance with F6D8. (2) The requirements of (1)(a) do not apply to a Class 8 electricity network substation.	It is assumed that the warehouse portions of each building will be provided with natural ventilation. It is assumed that this will be provided through either: • Perforated roller shutter doors; or • A horizontal gap between the top of tilt-up panels and metal wall sheeting; or • Louvres within the external walls; or • A combination of the above. Confirmation of the proposed ventilation systems that will be implemented are to be provided. Further review of the ventilation provisions will be undertaken as the design develops.	CRA – Refer Annexure F

Section F: Health and Amenity			
F6D8: Ventilation borrowed from adjoining room [2019: F4.7]	Not Applicable	This clause is not applicable to the subject building.	NA
F6D9: Restriction on position of water closets and urinals [2019: F4.8]	A sanitary compartment must not open directly into— (e) a workplace normally occupied by more than one person.	Internal layouts indicate the amenities generally open into airlocks or corridors as required however the following accessible facilities are noted to open into workplaces that may normally be occupied by more than one person: + Office 1 Ground Floor (accessible facility) + Office 1 Level 1 (accessible facility) + Office 2A Ground Floor (accessible facility) + Office 2A Level 1 (accessible facility) + Office 2B Level 1 (accessible facility) The above rooms are required to be provided with an airlock or screened from view and provided with a mechanical exhaust system.	DNC
F6D10: Airlocks [2019: F4.9]	If a sanitary compartment is prohibited under F6D9 from opening directly to another room— (b) in a Class 5, 6, 7, 8 or 9 building (which is not an early childhood centre, primary school or open spectator stand)— (i) access must be by an airlock, hallway or other room with a floor area of not less than 1.1 m² and fitted with self-closing doors at all access doorways; or	Internal layouts indicate the amenities generally open into airlocks or corridors, the floor areas of the airlocks provided exceed 1.1m ² .	Complies

Section F: Health and Amenity			
	(ii) the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.		
F6D11: Carparks [2019: F4.11]	Not Applicable	This clause is not applicable to the subject building.	NA
F6D12: Kitchen local exhaust ventilation [2019: F4.12]	Not Applicable	This clause is not applicable to the subject building.	NA

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
Part F7 – Sound Transmission and Insulation			
Part F7 is only applicable to Class 2, 3 and 9c buildings. as such, it is not applicable to the subject building.			

Section F: Health and Amenity			
Clause	Clause Requirements	Comment	Status
Part F8 – Condensation Management			
Part F8 is only applicable to Class 2 and 4 buildings. as such, it is not applicable to the subject building.			

SECTION G: ANCILLARY PROVISIONS

Section G: Ancillary Provisions			
Clause	Clause Requirements	Comment	Status
Part G1 – Minor Structures and Components			
G1D1: Deemed-to-Satisfy Provisions [2019: G1.0]	(1) Performance Requirement G1P1 must be complied with. (2) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements G1P2 to G1P5 are satisfied by complying with G1D2 to G1D4. (3) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.	Noted	Noted
G1D2: Swimming pools [2019: G1.1]	Not Applicable	This clause is not applicable to the subject building.	NA
G1D3: Refrigerated chambers, strong-rooms and vaults	Not Applicable	This clause is not applicable to the subject building.	NA

Section G: Ancillary Provisions			
Clause	Clause Requirements	Comment	Status
[2019: G1.2]			
G1D4: Outdoor play spaces [2019: G1.3]	Not Applicable	This clause is not applicable to the subject building.	NA
NSW G1D5: Provision for cleaning windows [2019: NSW G1.101]	Not Applicable	This clause is not applicable to the subject building.	NA

Section G: Ancillary Provisions			
Clause	Clause Requirements	Comment	Status
Part G2 – Boilers, Pressure Vessels, Heating Appliances, Fireplaces, Chimneys and Flues			
The building is not proposed to contain any of the above items, therefore Part G2 is not applicable to the subject building.			

Section G: Ancillary Provisions			
Clause	Clause Requirements	Comment	Status
Part G3 – Atrium Construction			
There is no atrium indicated in the proposal, therefore Part G3 is not applicable to the subject building.			

Section G: Ancillary Provisions			
Clause	Clause Requirements	Comment	Status
Part G4 – Construction in Alpine Areas			
The subject building is not located in an alpine area therefore Part G4 is not applicable.			

Section G: Ancillary Provisions			
Clause	Clause Requirements	Comment	Status
Part G5 – Construction in Bushfire Prone Areas			
The subject building is not located within a bushfire area therefore the provisions of part G5 are not applicable.			

Section G: Ancillary Provisions			
Clause	Clause Requirements	Comment	Status
Part G6 – Occupiable Outdoor Areas			
G6.1: Application of part [2019: G6.1]	(1) The Deemed-to-Satisfy Provisions of this Part apply to buildings containing an occupiable outdoor area in addition to the other Deemed-to-Satisfy Provisions of NCC Volume One. (2) The Deemed-to-Satisfy Provisions of this Part take precedence where there is a difference to the Deemed-to-Satisfy Provisions of Sections C, D, E, F and G. (3) Except for G6D2, the Deemed-to-Satisfy Provisions of this Part do not apply to— (a) an occupiable outdoor area of a sole-occupancy unit in a Class 2 or 3 building, Class 9c building or Class 4 part of a building; or (b) an occupiable outdoor area with an area less than 10m².	Noted	Noted
G6D2: Fire hazard properties [2019: G6.2]	(1) Subject to (2), a lining, material or assembly in an occupiable outdoor area must comply with C2D11 as for an internal element. (2) The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C2D11: (a) Average specific extinction area. (b) Smoke-Developed Index.	Noted	CRA – Refer Annexure F

Section G: Ancillary Provisions			
Clause	Clause Requirements	Comment	Status
	(c) Smoke development rate. (d) Smoke growth rate index (SMOGR _{ARC}).		
G6D3: Fire Separation [2019: G6.3]	For the purposes of the Deemed-to-Satisfy Provisions of C3D8, C3D9 and C3D10, a reference to a storey includes an occupiable outdoor area, however a <i>fire wall</i> cannot be used to separate an occupiable outdoor area into different <i>fire compartments</i> .	Noted	CRA – Refer Annexure F
G6D4: Provision for escape [2019: G6.4]	For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area.	Noted	CRA – Refer Annexure F
G6D5: Construction of exits [2019: G6.5]	For the purposes of the Deemed-to-Satisfy Provisions of Part D3, a reference to a storey or room includes an occupiable outdoor area.	Noted	CRA – Refer Annexure F
G6D6: Fire fighting equipment [2019: G6.6]	Except for S17C7(2)(a), for the purposes of the Deemed-to-Satisfy Provisions of Part E1, a reference to a storey includes an occupiable outdoor area.	Noted	CRA – Refer Annexure F
G6D7: Lift installations [2019: G6.7]	For the purposes of the Deemed-to-Satisfy Provisions of Part E3, a reference to a storey includes an occupiable outdoor area.	Noted	CRA – Refer Annexure F
G6D8: Visibility in an emergency, exit signs and warning systems [2019: G6.8]	For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area.	Noted	CRA – Refer Annexure F

Section G: Ancillary Provisions			
Clause	Clause Requirements	Comment	Status
G6D9: Light and ventilation [2019: G6.9]	For the purposes of the Deemed-to-Satisfy Provisions of F6D5, F6D9 and F6D10, a reference to a room includes an occupiable outdoor area.	Noted	CRA – Refer Annexure F
G6D10: Fire orders [2019: G6.10]	Not Applicable	This clause is not applicable to the subject building.	NA

SECTION I: SPECIAL USE BUILDINGS

Section I: Special Use Buildings			
Clause	Clause Requirements	Comment	Status
Part I1 – Class 9b Buildings			
The building is not a Class 9b building therefore the provisions of part I1 are not applicable.			

Section I: Special Use Buildings			
Clause	Clause Requirements	Comment	Status
Part I2 – Public Transport Buildings			
The building is not a public transport building therefore the provisions of part I2 are not applicable.			
Section I: Special Use Buildings			
Clause	Clause Requirements	Comment	Status
Part I3 – Farm Building and Farm Sheds			
The building is not a farm building or shed therefore the provisions of Part I3 are not applicable.			
Section I: Special Use Buildings			
Clause	Clause Requirements	Comment	Status
NSW Parts I4, I5 and I6 – Entertainment Venues, Temporary Structures and Drive In Theatres			
The building is not a special use building under the NSW variations therefore Parts I4, I5 and I6 are not applicable.			

SECTION J: ENERGY EFFICIENCY

Section J: Energy Efficiency (Class 3, 5, 6, 7b, 8, 9)

Section J is a specialist area that addresses the building fabric, building sealing, mechanical ventilation, lighting and building management systems. Compliance with Section J generally requires detailed design by a combination of consultants which may include Energy consultants, Façade Engineers and Mechanical and electrical engineers.

Given the specialist nature of Section J, and the need for design by other consultants, it is not within the scope of this BCA Assessment Report.

9.0 Annexure E - Definitions

Average specific extinction area

Average specific extinction area means the average specific extinction area for smoke as determined by AS 5637.1:2015.

Critical radiant flux

Critical radiant flux (CRF) means the critical heat flux at extinguishment (CHF in kW/m²) as determined by AS ISO 9239.1:2003.

Designated bushfire prone area

Designated bushfire prone area means land which has been designated under a power of legislation as being subject, or likely to be subject, to bushfires.

Effective height

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

Envelope

Envelope, for the purposes of Section J in Volume One, means the parts of a building's fabric that separate a conditioned space or habitable room from—

1. the exterior of the building; or
2. a non-conditioned space including—
 - a. the floor of a rooftop plant room, lift-machine room or the like; and
 - b. the floor above a carpark or warehouse; and
 - c. the common wall with a carpark, warehouse or the like.

Exit

Exit means –

1. Any, or any combination of the following if they provide egress to a road or open space—
 - a. An internal or external stairway.
 - b. A ramp.
 - c. A fire-isolated passageway.
 - d. A doorway opening to a road or open space.
 - e. A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

Fire compartment

Fire compartment means –

1. the total space of a building; or
2. when referred to in—
 - a. the Performance Requirements — any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or
 - b. the Deemed-to-Satisfy Provisions — any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to Satisfy Provisions of the relevant Part.

Fire-resistance level (FRL)

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with Specification A2.3, for the following criteria—

1. structural adequacy; and
2. integrity; and
3. insulation,

and expressed in that order.

Note: A dash means that there is no requirement for that criterion. For example, 90/–/– means there is no requirement for an FRL for integrity and insulation, and –/–/– means there is no requirement for an FRL.

Fire-source feature

1. the far boundary of a road, river, lake or the like adjoining the allotment; or
2. a side or rear boundary of the allotment; or
3. an external wall of another building on the allotment which is not a Class 10 building.

Fire wall

Fire wall means a wall with an appropriate resistance to the spread of fire that divides a storey or building into fire compartments.

Flammability index

Flammability Index means the index number as determined by AS 1530.2:1993.

Group number

Group number means the number of one of 4 groups of materials used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining, or attachment to a wall or ceiling.

Horizontal exit

Horizontal exit means a required doorway between 2 parts of a building separated from each other by a fire wall.

Loadbearing

Intended to resist vertical forces additional to those due to its own weight.

Non-combustible

Non-combustible means—

1. applied to a material — not deemed combustible as determined by AS 1530.1:1994 — Combustibility Tests for Materials; and
2. applied to construction or part of a building — constructed wholly of materials that are not deemed combustible.

Occupiable outdoor area

Occupiable outdoor area means a space on a roof, balcony or similar part of a building—

1. that is open to the sky; and
2. to which access is provided, other than access only for maintenance; and
3. that is not open space or directly connected with open space.

Open space

Open space means a space on the allotment, or a roof or similar part of a building adequately protected from fire, open to the sky and connected directly with a public road.

Performance Requirement

Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

Performance Solution

Performance Solution means a method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.

Sarking-type material

Sarking-type material means a material such as a reflective insulation or other flexible membrane of a type normally used for a purpose such as waterproofing, vapour management or thermal reflectance.

Smoke developed index

Smoke developed index means the index number for smoke as determined by AS/NZS 1530.3.

Smoke development rate

Smoke development rate means the development rate for smoke as determined by testing flooring materials in accordance with AS ISO 9239.1.

Smoke growth rate index

Smoke growth rate index (SMOGRA RC) means the index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.

Sole-occupancy unit

Sole-occupancy unit means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes—

1. a dwelling; or
2. a room or suite of rooms in a Class 3 building which includes sleeping facilities; or
3. a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or
4. a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.

10.0 Annexure F - BCA Compliance Specification

The following BCA matters (including any applicable NSW variations) are to be addressed by specific BCA Design Certificate to be issued by the relevant architectural, services and engineering consultants at the Construction Certificate Stage and to satisfy their obligations under the Design and Building Practitioners Act 2020 within their individual design compliance declarations.

This schedule should be forwarded to all consultants to obtain verification that these items have and will be included in the design documentation / specifications:

Architectural Design Certification

1. Lightweight construction used to achieve required fire resistance levels will comply with Specification C2D9 of the BCA.
2. Building elements must be non-combustible in accordance with C2D10 of the BCA.
3. Materials, floor and wall linings/coverings, surface finishes and air-handling ductwork used in the works will comply with the fire hazard properties of Clause C2D11 and Specification 7 of the BCA.
4. Any concrete external walls that could collapse as complete panels (e.g. tilt-up and pre-cast concrete), in a building having a rise in storeys of not more than 2, will comply with Specification C2D12.
5. Any fire-protected timber proposed will comply with Clause C2D13 of the BCA.
6. Any ancillary elements fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible will comply with Clause C2D14 of the BCA.
7. The large isolated building will be in accordance with Clause C3D4 of BCA.
8. Vehicular access to a large isolated building will be in accordance with Clause C3D5 of the BCA.
9. Class 9 buildings will be separated in accordance with Clause C3D6 of the BCA.
10. Vertical separation will be provided to the new openings in the external walls in accordance with Clause C3D7 of the BCA. It is noted that no spandrel separation is required in the stairway or to a void.
11. The fire walls proposed to separate buildings and/or fire compartments will comply with Clause C3D8 of the BCA.
12. The parts of different classifications located alongside one another in the same storey will be separated in accordance with Clause C3D9 and Specification 5 of the BCA.
13. Floors separating storeys of different classifications will comply with BCA Clause C3D10 of the BCA.
14. Equipment will be separated in accordance with Clause C3D13 of the BCA.
15. The electricity substation, any main switch room sustaining emergency equipment required to operate in emergency mode, will be separated from the remaining building with construction having an FRL 120/120/120 and provided with self-closing -/120/130 fire doors in accordance with Clause C3D14 of the BCA.
16. The public corridors will be divided into intervals of not more than 40m in length with smoke proof walls in accordance with Clause C3D15, and S11C2 of the BCA.
17. Openings in the external walls that are required to have an FRL will be in located in accordance with Clause C4D3 and C4D4 of the BCA or protected in accordance with Clause C4D5 of the BCA.
18. The external walls and openings of separate fire compartments will be protected in accordance with Clause C4D4.

19. Doorways in any fire walls separating fire compartments will be protected in accordance with Clause C4D6 of the BCA.
20. Sliding fire doors in a fire wall which is open when the building is use will be installed in accordance with Clause C4D7 of the BCA.
21. Doorways in horizontal exits will be protected in accordance with Clause C4D8 of the BCA.
22. Doors in a fire-isolated exit will be self-closing or automatic closing fire doors with an FRL of not less than -/60/30 in accordance with Clause C4D9 of the BCA.
23. Fire-isolated stairways will not be penetrated by services other than those permitted by Clause C4D10 of the BCA.
24. Services penetrating elements required to possess an FRL including the floor slabs, walls, shafts, etc. will be protected in accordance with Clause C4D13, C4D14. and C4D15 and Specification 13 of the BCA.
25. Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation will be protected in accordance with BCA Clause C4D16.
26. The lift doors will be -/60/- fire doors complying with AS 1735.11:1986 in accordance Clause C4D11 of the BCA.
27. Doorways and other openings in internal walls required to have an FRL will be protected in accordance with Clause C4D12 of the BCA.
28. Columns protected by light weight construction will achieve an FRL not less than the FRL for the element it is penetrating, in accordance with Clause C4D17 of the BCA.
29. A lintel will have the FRL required for the part of the building in which it is situated, unless it does not contribute to the support of a fire door, fire window or fire shutter, and it spans an opening in masonry which is not more than 150 mm thick and is not more than 3m wide if the masonry is non- loadbearing; or not more than 1.8m wide if the masonry is loadbearing and part of a solid wall or one of the leaves of a cavity wall, or it spans an opening in a non-loadbearing wall of the Class 2 or 3 building, in accordance with S5C4 of the BCA.
30. All attachments to the external façade of the building will be fixed in a way that does not affect the fire resistance of that element in accordance with S5C6 of the BCA.
31. The top and bottom of the riser shafts will achieve an FRL not less than the FRL required for the walls of the shaft in accordance with S5C8 of the BCA.
32. Smoke-proof walls and doorways required in the health care or aged care building will be in accordance with Specification 11 of the BCA.
33. Fire doors will comply with AS 1905.1:2015 and Specification 12 of the BCA.
34. Smoke doors will be constructed so smoke will not pass from one side of the doorway to the other in accordance with Specification 12 of the BCA.
35. Fire shutters and fire windows will be in accordance with Specification 12 of the BCA.
36. The number of exits provided to the building will be in accordance with Clause D2D3 of the BCA.
37. The required exits will be fire-isolated in accordance with Clause D2D4 of the BCA.
38. Travel distances to exits will be in accordance with Clause D2D5 of the BCA.

39. The alternative exits will be distributed uniformly around the storey and will not be less than 9m apart, and not more than 45m apart in the residential portion or patient care areas in the health-care building or 60m, in accordance with Clause D2D6 of the BCA.
40. The dimensions of exits and paths of travel to exits, including the height, width, and width of doorways will be provided in accordance with D2D7 to D2D10 of the BCA.
41. The fire-isolated exits will be in accordance with Clause D2D12 of the BCA.
42. The external stairway or ramp serving as a required exit will be in accordance with Clause D2D13 of the BCA.
43. Smoke separation will be provided between the exit stairs at the level of discharge in accordance with Clause D2D14 of the BCA.
44. Discharge from exits will be in accordance with Clause D2D15 of the BCA.
45. Horizontal exits will be in accordance with Clause D2D16 of the BCA.
46. The non-required stairways, ramps and escalators will be in accordance with Clause D2D17 of the BCA.
47. The ladder from the plant, lift machine rooms, and electricity network substation in lieu of a stairway will be in accordance with Clause D2D21 of the BCA.
48. Access to the lift pit will be in accordance with Clause D2D22 of the BCA.
49. The stairway or ramp within the fire-isolated shaft is to be non-combustible, and if there is a local failure will not cause structural damage or impair the fire resistance of the shaft, in accordance with Clause D3D3 of the BCA.
50. The non-fire isolated stairs will be constructed in accordance with Clause D3D5 of the BCA.
51. The construction separating rising and descending stairs in the fire-isolated exit stairway will be non-combustible and smoke proof, in accordance with Clause D3D5 of the BCA.
52. The ramp or balcony provided for smoke hazard management requirements will be in accordance with Clause D3D6 of the BCA.
53. The smoke lobby to the fire-isolated exit will be constructed in accordance with Clause D3D7 of the BCA.
54. The construction of EDB's and telecommunications distribution boards will be in accordance with Clause D3D8 of the BCA with the enclosure bounded by non-combustible construction or fire protective covering and smoke seals provided around the perimeter of the non-combustible doors and any openings sealed with non-combustible mastic to prevent smoke spreading from the enclosure.
55. The enclosing walls and ceiling under the non-fire-isolated stairway will achieve an FRL of 60/60/60 and have a self-closing -/60/30 fire door, in accordance with Clause D3D9 of the BCA.
56. New pedestrian ramps will comply with AS 1428.1:2009, Clause D3D11 and Part D4 of the BCA. The floor surface of a ramp must have a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013.
57. The fire-isolated passageway will be in accordance with Clause D3D12 of the BCA.
58. The roof of the building where the exit discharges will have an FRL of 120/120/120 and will not have roof lights or openings within 3m of the path of travel in accordance with Clause D3D13 of the BCA.
59. Stair geometry will be in accordance with Clause D3D14 of the BCA. Stair treads are to have a surface with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013.

60. Landings and door thresholds throughout the development will be provided in accordance with Clause D3D15 and D3D16 of the BCA. Landings will have either a surface with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013.
61. The handrails and balustrades to all stairs and throughout the building will be in accordance with D3D17 to D3D22 of the BCA.
62. The fixed platform, walkway, stairway and ladder and any associated going and riser, landing handrail, balustrade, located within the machinery room, boiler house, lift-machine room, plant-room, or non-habitable attic/storeroom within the sole occupancy unit will comply with AS 1657:2018 or Part D3 of the BCA.
63. The doorways and doors will be in accordance with Clause D3D24 and D3D25 of the BCA.
64. Door latching mechanisms will be in accordance with Clause D3D26 of the BCA.
65. Re-entry doors from the fire-isolated exits will be in accordance with Clause D3D27 of the BCA.
66. Signage will be provided on fire and smoke doors in accordance with Clause D3D28 of the BCA.
67. The openable portion of a window in a 9b early childhood centre or a bedroom of a Class 2, 3, 4 building will be protected with a restricting device or secure screen that does not allow a 125mm sphere to pass through the opening or screen and resist an outward horizontal action of 250N in accordance with Clause D3D29 of the BCA. In addition to window protection, and for other openable windows 4 meters or more above the ground below, a barrier with a height not less than 865mm above the floor will be installed to the openable window.
68. The new works will be accessible in accordance with Clause D4D1 to D4D4 of the BCA, and with AS 1428.1:2009, with particular note to door circulation spaces, accessway widths, turning spaces and floor coverings, in accordance with Part D4 of the BCA.
69. Accessible carparking will be in accordance with Clause D4D6 of the BCA.
70. Braille and tactile signage will in accordance with Clause D4D7, and Specification 15 of the BCA.
71. Hearing augmentation system will be provided in accordance with Clause D4D8 of the BCA.
72. Tactile ground surface indicators will be provided in accordance with Clause D4D9 of the BCA and AS/NZS 1428.4.1:2009.
73. Fixed wheelchair seating will be in accordance with Clause D4D10, and Table D4D10 of the BCA.
74. The entry/exit to the swimming pool will be in accordance with Clause D4D11, and Specification 16 of the BCA.
75. The ramps associated with the accessway will not have a combined vertical rise of more than 3.6m and a landing for a step ramp will not overlap a landing for another step ramp of ramp in accordance with Clause D4D12 of the BCA.
76. On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, will be clearly marked in accordance with AS 1428.1:2009 and Clause D4D13 of the BCA.
77. The fire control centre will be in accordance with Specification 19 of the BCA.
78. Fire precautions whilst the building is under construction will be in accordance with Clause E1D16 of the BCA.

79. Additional provisions will be made in accordance with Clause E1D17 of the BCA, due to the special hazards associated with the building works or the location of the building works.
80. Non-illuminated exit signage will be installed in accordance with Clause E4D7, and of the BCA.
81. External above ground waterproofing membranes will comply with Clause F1D5 of the BCA and AS 4654 Parts 1 & 2:2012.
82. The new roof covering will be in accordance with Clause F3D1 of the BCA.
83. Any sarking proposed will be installed in accordance with Clause F3D2 of the BCA.
84. Waterproofing of all wet areas to the building will be carried out in accordance with Clause F2D2 of the BCA and AS 3740:2010.
85. Damp proofing of the proposed structure will be carried out in accordance with Clause F1D6 and F1D7 of the BCA.
86. Floor wastes will be installed to bathrooms and laundries above sole-occupancy units or public space in accordance with Clause F2D4 of the BCA.
87. Sub-floor ventilation will be provided in accordance with Clause F1D8 of the BCA.
88. All new glazing will be in accordance with Clause F3D4 of the BCA and AS 1288:2021 / AS 2047:2014 (incorporating amendments 1 and 2).
89. Sanitary facilities will be provided in the building in accordance with Clause F4D1, and F4D2 to F4D8 of the BCA.
90. Accessible sanitary facilities will be provided in the building in accordance with Clause F4D5 and F4D6 of the BCA and AS 1428.1:2009.
91. The construction of the sanitary facilities will be in accordance with Clause F4D8 of the BCA.
92. A slop-hopper will be provided in accordance with Clause F4D11 of the BCA.
93. An adult change facility is to be provided in accordance with clause F4D12 and Specification 27.
94. Ceiling heights will be in accordance with Clause F5D2 of the BCA.
95. Natural light will be provided in accordance with Clause F4.1, F4.2, and F4.3 of the BCA.
96. Natural ventilation will be provided in accordance with Clause F6D6, F6D7, and F6D8 of the BCA.
97. Water closets and urinals will be located in accordance with Clause F6D9 of the BCA.
98. The sanitary compartments will either be provided with mechanical exhaust ventilation or an airlock in accordance with Clause F6D10 of the BCA.
99. Pliable building membranes installed in external walls will comply with Clause F6.2 of the BCA and where a pliable building membrane is not installed in an external wall, the primary water control layer will be separated from water sensitive materials by a drained cavity.
100. Every storey of the carpark will be provided with an adequate system of permanent natural or mechanical ventilation in accordance with Clause F6D11 of the BCA.
101. A safe manner for cleaning of windows located 3 or more storeys above ground level will be provided in accordance with the Work Health & Safety Act 2011 and regulations made under that Act in accordance with NSW G1D5 of the BCA.
102. The swimming pool associated with the new building will comply with Clause G1D2 of the BCA and AS 1926 parts 1 and 2. (Note: Excludes NSW. See NSW G11D2 Variation below)

103. The refrigerated or cooling chamber, strongroom or vault will be in accordance with Clause G1D3.
104. Outdoor play spaces associated with the early childhood centre will be in accordance with Clause G1D4 of the BCA.
105. The stoves, heaters or similar appliances installed in the building will be in accordance with AS/NZS 2918:2018 and Clause G2D2 of the BCA.
106. Boilers and pressure vessels shall be installed in accordance with Specification 30 of the BCA.
107. Open fireplaces or fuel-burning appliances with an open fuel-burning compartment will be in accordance with Clause G2D3 of the BCA.
108. The incinerator room including hoppers will be in accordance with Clause G2D4 of the BCA.
109. The atrium will be in accordance with Part G3, and Specification 31 of the BCA.
110. The building is within an Alpine area and therefore will be in accordance with Part G4 of the BCA.
111. The building is within a bushfire prone area and therefore will be in accordance with Part G5 of the BCA. (Note: See NSW G5D3 Variation below)
112. The occupiable outdoor area is to comply with the requirements of Part G6 of the BCA.
113. The building is a theatre, stage, and public hall therefore will be in accordance with Part I1 of the BCA of the BCA.
114. The building is a public transport building therefore will be in accordance with Part I2 of the BCA.
115. The construction of the residential portions of the development will be undertaken in accordance with the relevant BASIX commitments that form part of the Development Consent approval.
116. Essential fire or other safety measures will be maintained and certified on an ongoing basis, in accordance with the provisions of the Environmental Planning and Assessment Regulation, 2000.
117. Building Fabric and Thermal Construction will be in accordance with Part J1 of the BCA.
118. Glazing will be in accordance with Part J1 of the BCA.
119. Building sealing will be in accordance with Part J3 of the BCA.
120. Facilities for Energy Monitoring will be provided in accordance with Clause J8.3 of the BCA.

Electrical Services Design Certification:

121. A smoke detection and alarm system will be installed throughout the building in accordance with Part E2 of the BCA.
122. Emergency lighting will be installed throughout the development in accordance with Clause E4D2 and E4D4 of the BCA and AS/NZS 2293.1:2018.
123. Exit signage will be installed in accordance with Clause E4D5, E4D7 and E4D8 of the BCA and AS/NZS 2293.1:2018.
124. An emergency warning and intercom system (EWIS) will be provided to the building in accordance with Clause E4D9 of the BCA.
125. Artificial lighting will be installed throughout the development in accordance Clause F6D5 of the BCA and AS/NZS 1680.0:2009.
126. Lighting power and controls will be installed in accordance with Part J6 of the BCA.

127. Electrical conductors located within the building that supply a main switchboard that sustains emergency equipment will comply with Clause C3D14 of the BCA.

Hydraulic Services Design Certification:

128. Storm water drainage will be provided in accordance with Clause F1D3 of the BCA and AS/NZS 3500.3:2018
129. Fire hydrant system will be installed in accordance with Clause E1D2 of the BCA and AS 2419.1:2021 as required.
130. Fire hose reels will be installed in accordance with Clause E1D3 of the BCA and AS 2441:2005.
131. A sprinkler system will be installed in accordance with Clauses E1D4 to E1D13 of the BCA as applicable, and, Specification 17 and appropriate part(s) of AS 2118.
132. A sprinkler system will be installed in accordance with Clause E1D6 of the BCA, Specification 18 and appropriate part(s) of AS2118, FPAA101D and FPAA101H.
133. Portable fire extinguishers will be installed in accordance with Clause E1D14 of the BCA and AS 2444:2001.
134. The heated water supply systems will be designed and installed to NCC Volume Three – Plumbing Code and Clause J7.2 of the BCA.

Mechanical Services Design Certification:

135. An air-handling system which does not form part of a smoke hazard management system will be installed in accordance with Clause E2D3 of the BCA, and AS 1668.1:2015.
136. Stair pressurisation will be installed in the building in accordance with Clause E2D4 of the BCA and AS 1668.1:2015.
137. Zone pressurisation will be installed in the building in accordance with Clause E2D6 of the BCA and AS1668.1:2015.
138. A smoke exhaust system will be installed in the building in accordance with Clause E2D10, and Specification 21 of the BCA.
139. Smoke and heat vents will be installed in the building in accordance with Clause E2D10, and Specification 21 of the BCA.
140. Where not naturally ventilated the building will be mechanically ventilated in accordance with Clause F6D6 of the BCA and AS 1668.2:2012.
141. Every storey of the car park will be ventilated in accordance with Clause F6D11 of the BCA and where not naturally ventilated it will be mechanically ventilated in accordance with AS 1668.2:2012 as applicable.
142. The commercial kitchen will be provided with a kitchen exhaust system in accordance with Clause F6D12 of the BCA, and AS 1668.1:2015 and AS 1668.2:2012.
143. Exhaust systems installed in a kitchen, bathroom, sanitary compartment or laundry of a Class 2 or 4 *sole-occupancy unit* will have a minimum flow rate and discharge location in accordance with Clause F8D4 of the BCA.
144. Where exhaust discharges directly or via shaft into a roof space of a Class 2 or 4 *sole-occupancy unit*, ventilation of the roof space will comply with Clause F8D5 of the BCA.

145. The air-conditioning and ventilations systems will be designed and installed in accordance with Part J5 of the BCA

146. Rigid and flexible ductwork will comply with the fire hazard properties set out in AS 4254 Parts 1 and 2.

Structural Engineers Design Certification:

147. The material and forms of construction for the proposed works will be in accordance with Clause B1D2, B1D3 and B1D4 of the BCA as follows:

- a. Dead and Live Loads – AS/NZS 1170.1:2002 (incorporating amendments 1 and 2)
- b. Wind Loads – AS/NZS 1170.2:2021
- c. Earthquake actions – AS 1170.4:2007
- d. Masonry – AS 3700:2018
- e. Concrete Construction – AS 3600:2018
- f. Steel Construction AS 4100:1998
- g. Aluminium Construction – AS/NZS 1664.1 or 2:1997
- h. Timber Construction – AS 1720.1:2010
- i. ABCB Standard for Construction of Buildings in Flood Hazard Areas.

148. The FRL's of building elements for the proposed works have been designed in accordance with Tables S5C11a to S5C11g of the BCA for a building of Type A Construction, Tables S5C21a to S5C21f of the BCA for a building of Type B Construction and Tables S5C24a to S5C24e of the BCA for a building of Type C Construction.

149. The lift shaft will have an FRL in accordance with S5C8 of the BCA.

150. Lightweight construction used to achieve required fire resistance levels will comply with Specification 6 of the BCA.

151. The construction joints to the structure will be in accordance with Clause C4D16 of the BCA to reinstate the FRL of the element concerned.

152. The concrete panel external walls will be in accordance with Specification C2D12 of the BCA.

153. Upon completion of the works, a structural engineer will be able to certify that local failure will be in accordance with Clause D3D3 of the BCA for the fire isolated stairs.

Lift Services Design Certification:

154. The lifts throughout the development will be provided with stretcher facilities in accordance with Clause E3D3 of the BCA and will be capable of accommodating a stretcher with a patient lying horizontally by providing a clear space not less than 600mm wide x 2000mm long x 1400mm high above the floor level.

155. Warning signage in accordance with Clause E3D4 of the BCA will be provided to advise not to use the lifts in a fire.

156. An emergency lift will be provided in the building in accordance with Clause E3D5 of the BCA.

157. A fire service recall control switch is to be installed on a landing at a location nominated by the appropriate authority in accordance with Clause E3D11.

158. A lift car fire service drive control switch is to be installed within the lift car in accordance with Clause E3D9.

- 159. Access and egress to the lift landings will comply with the Deemed-to-Satisfy Provisions of D4 of the BCA and will be suitable to accommodate disabled persons.
- 160. The type of lifts will be suitable to accommodate persons with a disability in accordance with Clause E3D8 and will have accessible features in accordance with that clause.
- 161. The lifts will comply with AS 1735.12:1999 in accordance with Clause E3D8 of the BCA.
- 162. All electric passenger lifts and electrohydraulic passenger lifts shall comply with Specification 24 of the BCA.

Acoustic Services Design Certification:

- 163. The sound transmission and insulation of the residential portions of the development will comply with Part F75 of the BCA.

NSW Specification Design Certificate:

- 164. Materials, floor and wall linings/coverings, surface finished and air-handling ductwork used in the works will comply with the fire hazard properties in accordance with Clause C2D11, NSW Clause C2D11, Specification 7 and NSW Specification 7 of the BCA.
- 165. The building will be separated in accordance with Clause C3D6, and NSW Clause C3D6 of the BCA.
- 166. Doorways and other openings in internal walls required to have an FRL will be protected in accordance with Clause C4D12, and NSW Clause C4D12 (4) and (5) of the BCA.
- 167. The number of exits provided to the building will be in accordance with Clause D2D3 and NSW Clause D2D3(4) of the BCA.
- 168. The discharge points of exits will be in accordance with Clause D2D15, and NSW Clause D2D15(6) of the BCA.
- 169. The width of doorways in exits and paths of travel to exits will be provided in accordance with Clause D2D96, and NSW Clause D2D9(a) to (g) of the BCA.
- 170. Stair geometry to the new stairways will be in accordance with Clause D3D14, and NSW Clause D3D14(1) of the BCA. Stair treads are to have a surface with a slip-resistance classification complying with Table D3D154 when tested in accordance with AS 4586:2013 or a nosing strip with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013.
- 171. Landings and door thresholds throughout the development will be provided in accordance with Clause D3D15 and D3D162.15, and NSW Clause D3D16(a) to (e) of the BCA. Landings to have either a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D3D15 when tested in accordance with AS 4586:2013 where the edge leads to a flight below.
- 172. The height of barriers is to be in accordance with D3D18 and NSW D3D18(1) of the BCA.
- 173. The doorways and doors will be in accordance with Clause D3D24, NSW Clause D23D24(2) of the BCA.
- 174. The door latching mechanisms to the proposed required exit doors will be in accordance with Clause D3D26 and NSW Clause D3D26(5) and (6) of the BCA.
- 175. The swimming pool associated with the new building will comply with Clause G1D2 and NSW G1D2 of the BCA, Swimming Pools Act 1992, Swimming Pools Regulation 2018 and AS 1926.1:2012. AS 1926.2:2007 and AS 1926.3:2010.

176. The building is within a bushfire prone area therefore will be in accordance with Part G5, and NSW Part G5D3 of the BCA.
177. The building is a class 9b building and therefore will be in accordance with NSW Part I1.
178. The building is an Entertainment Venue and will be in accordance with NSW Part I4 of the BCA.
179. The temporary structure will be in accordance with NSW Part I5.
180. The development consists of a drive-in theatre therefore it is to comply with NSW Part I6.
181. Insulation will be in accordance with AS/NZS 4859.1:2018 and will be installed as required by NSW Part J1 of the BCA.
182. The building is a class 9b building and is required to have a smoke hazard management system in accordance with NSW E2D16 to E2D19 as appropriate.