Building Code of Australia 2019 Amendment 1

BCA ASSESSMENT REPORT

Bringelly Road Warehouse Facility
5 Skyline Crescent, Horningsea Park NSW 2171

Prepared for: ESR Developments (Australia) Pty Ltd | Issue date: 06 Apr 2022

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Authorisation

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1	Issued for DA	31.03.2022		
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			--	BDC2335

Revision History

Revision	Comment / Reason for Issue	Issue Date	Prepared By
1	Issued for DA	31.03.2022	Henry Beard

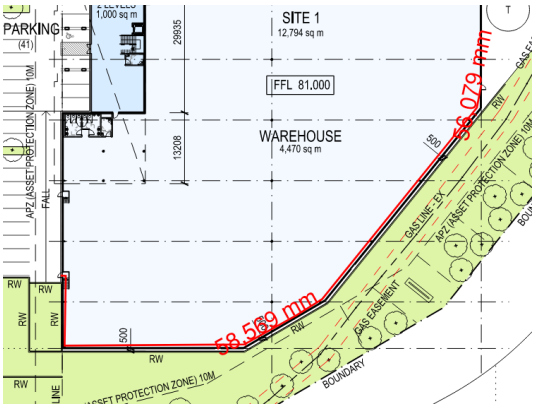
Commercial in Confidence

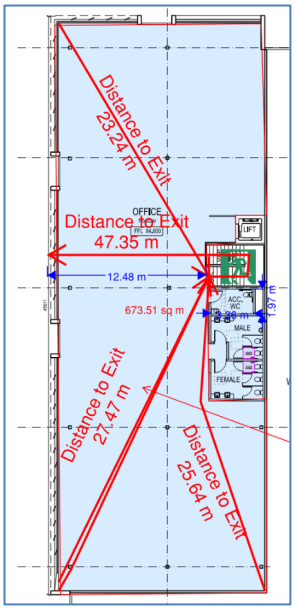
1 Executive Summary

MBC Group have reviewed architectural design documents prepared by SBA Architects (refer appendix A) for compliance with the National Construction Code - Building Code of Australia Volume One 2019 Amendment 1.

1.1 Performance Solutions - Fire & Life Safety

The assessment of the design documentation has revealed that the following areas are required to be assessed against the relevant Performance Requirements of the BCA. The submission for a Construction Certificate will need to include verification from a Certifier – Fire Safety, where determined permissible under A2.1 of the BCA, for the following aspects: -

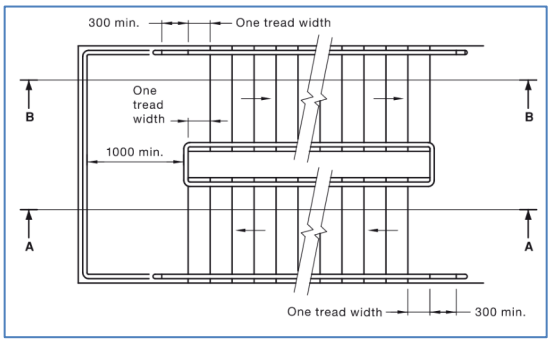
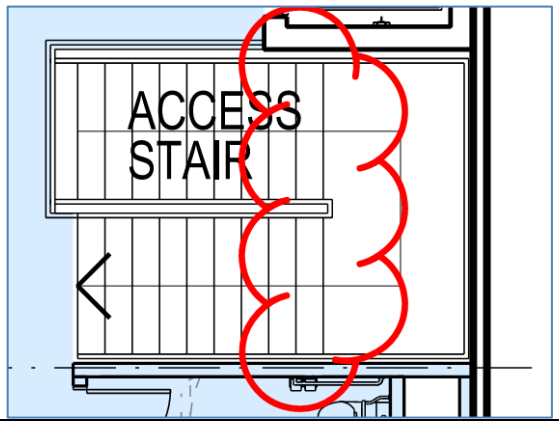
DTS Clause	Description of Non-Compliance	Performance Requirement
C2.4	**Requirements for open spaces and vehicular access** Access for emergency vehicles is not provided within 18m to the building to all elevations. A Performance Solution addressing the Performance Requirement from a Certifier – Fire Safety is proposed to permit the non-continuous vehicular access.	CP9
D1.4	**Extended travel distance to an exit** Occupants are required to travel up to 60m to the closest exit in lieu of 40m. A Performance Solution addressing the Performance Requirement from a Certifier – Fire Safety is proposed to permit the extended travel distances.  	DP4, EP2.2

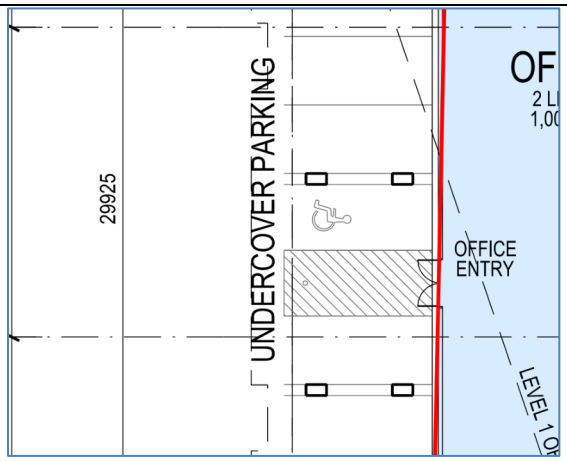
D1.4	**Extended travel distance to an exit** The Level 1 office portion requires occupants to travel up to 30m to a single exit in lieu of 20m. Any future furniture layout is restricted to accommodate a travel distance of not more than 30m to the first noising of the egress stair. A Performance Solution addressing the Performance Requirement from a Certifier – Fire Safety is proposed to permit the extended travel distances.  	
D1.5	**Extended travel distance between alternative exits** Occupants are required to travel up to 120m between alternative exits through the point of choice in lieu of 60m. Any future racking layout is restricted to accommodate a travel distance between alternative exits of not more than 100m. A Performance Solution addressing the Performance Requirement from a Certifier – Fire Safety is proposed to permit the extended travel distances between alternative exits.	DP4, EP2.2

Any Performance Solution relating to category 2 items (CP9 & EP2.2) will be subject to consultation and approval by Fire and Rescue NSW as part of the Construction Certificate process.

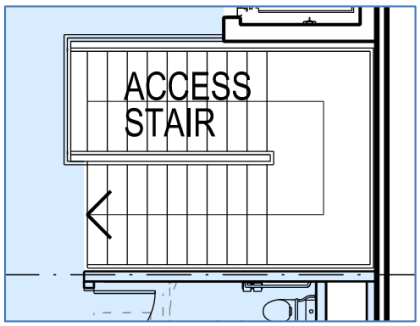
1.2 Design Details Required

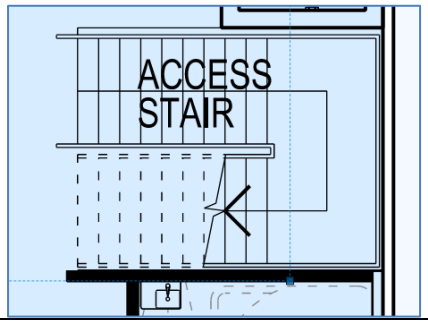
The assessment of the design documentation has revealed that the following areas require further details to demonstrate compliance with the prescriptive provisions of the BCA

DTS Clause	Description
D2.17	**Handrails** Stairways are to be offset by one tread width at the mid landing to ensure that handrails have no vertical sections and shall follow the angle of the stairway nosings in accordance with AS1428.1-2009 (refer to extract below).  
D3.5	**Accessible Carparking** Dedicated accessible parking space to have a white symbol of access in accordance with AS1428.1-2009 between 800 and 1000mm high placed on a blue rectangle with no side more than 1200mm in the centre of the space between 500mm and 600mm from its entry point.

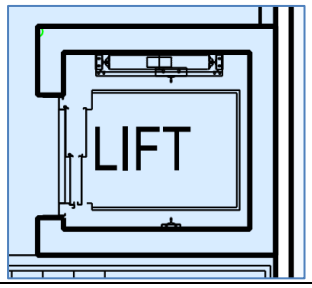


D3.7	**Hearing Augmentation** Hearing augmentation system to be provided for any meeting rooms within the office portion of the building that have an in-built amplification system.
D3.8	**Tactile Indicators** Provide TGSI to top and bottom of stairway in accordance with AS1428.1-2009. Tactiles to be 600mm deep, set back 300mm from the top nosing and bottom riser.





E1.3	**Fire Hydrants**

	Fire hydrant system to be installed for a building with a floor area greater than 500m2 in accordance with AS2419.1-2005. Please show proposed hydrant locations on plans.
E1.3 & AS2419.1-2005	**Fire Hydrant Booster** Should the fire hydrant booster assembly not be located within site of the main entry of each building, the hydrant booster location will be required to be addressed against the Performance Requirements of the BCA and in consultation with Fire and Rescue NSW
E1.3 & AS2419.1-2005	**External Hydrant System** Should hydrants be located under awnings to each building, the hydrant locations will be required to be addressed against the Performance Requirements of the BCA and in consultation with Fire and Rescue NSW.
E1.4	**Fire Hose Reels** Fire hose reels to be installed for a building with a floor area greater than 500m2 in accordance with AS2441-2005. Please show proposed fire hose reel locations on plans.
E1.4 & AS2441-2005	**Fire Hose Reels** Should 50m fire hose reels be proposed to be utilised to the warehouse areas in lieu of 36m fire hose reels, the hose reels will be required to be addressed against the Performance Requirements of the BCA and in consultation with Fire and Rescue NSW.
E1.5 & AS2118.1-2017	**Sprinkler Booster Location** Should sprinkler booster and suction valves not be located at the main entry to the site and adjacent to the fire hydrant booster, the sprinkler booster and suction valve location will be required to be addressed against the Performance Requirements of the BCA and in consultation with Fire and Rescue NSW.
E3.1	**Lift Installations** Please provide details of the lift proposed to be installed including design certification from a suitably qualified engineer. 

E4.5 & AS2293.1-2005	**Exit Signs** Should illuminated exit signs be proposed to be mounted greater than 2.7m from the FFL, the signs will be required to be addressed against the Performance Requirements of the BCA and in consultation with Fire and Rescue NSW.
F1.1	**Stormwater Drainage** Stormwater drainage shall comply with AS3500.3-2018. Details of the proposed Stormwater Management System shall be provided. This detail shall be certified by a suitably qualified and Chartered Engineer
F2.3	**Sanitary Facilities in Warehouse** Sanitary facilities must be provided to accommodate for 150 occupants. Occupant numbers are based on a floor area calculation under table D1.13. (4,400m2 / 30m2 per person = 150 occupants) The current design has a shortfall of 1 male urinal.
Part J	Part J Report to be provided by Architect or ESD Consultant. ESD Consultant or Architect to certify CC Plans achieve compliance with Part J.

The documentation will need further detailing such as door hardware, construction specifications, services design and manufacturer's details.

The application for Construction Certificate shall be assessed under the relevant provisions of the Environmental Planning & Assessment Act 1979 (As Amended), Environmental Planning & Assessment Regulation 2021 and the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021.

2 Introduction

MBC Group have been engaged by ESR Developments (Australia) to prepare a BCA Report for the Bringelly Road Warehouse Facility. This report is based upon a desktop review of architectural details (as listed in Appendix A), presently ready for DA submission, against the applicable provisions of the National Construction Code - Building Code of Australia Volume One 2019 Amendment 1.

2.1 Purpose

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy (DtS) provisions of the BCA.

2.2 Methodology

The methodology applied in undertaking this assessment has included: -

- A desktop review of architectural plans, as listed in Appendix A
- Detailed assessment of Sections C, D, E, F, & G of the BCA
- Discussions with the design development team to gain an understanding of the development proposed.

2.3 Limitations

This report does not include or imply any detailed assessment for design, compliance or upgrading for:

- the structural adequacy or design of the building;
- the inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and
- the design basis and/or operating capabilities of any proposed
    - electrical
    - mechanical
    - hydraulic
    - fire protection services.

This report does not include, or imply compliance with:

- the National Construction Code – Plumbing Code of Australia Volume 3
- the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to)
- The deemed to satisfy provisions of Part D3 and F2.4 of BCA 2019 Amendment 1
- The deemed to satisfy provisions of Section J of BCA 2019 Amendment 1
- Demolition Standards not referred to by the BCA;
- Work Healthy and Safety Act 2011;
- An out of cycle change to the Building Code of Australia.

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

This report has been prepared by MBC in the capacity as the appointed Certifier for the proposed development. This report is an assessment of the proposed development against the DtS provisions of the applicable BCA.

2.4 Current Legislation

The applicable legislation governing the design of buildings in NSW is the Environmental Planning and Assessment Act 1979.

Applicable Building Code of Australia (BCA)

The proposed development will be subject to compliance with the relevant requirements of the BCA as in force at the time that the application for the Construction Certificate is made.

In this regard it is assumed that the Construction Certificate application will be made prior to the 1st September 2022, as such this report is based upon the Deemed-to-Satisfy provisions of BCA 2019 amendment 1.

Should the application for Construction Certificate be made after 1st September 2022, this report will be required to be updated to reflect any changes made and now required by the BCA.

Should an *out of cycle* change occur to the Building Code of Australia, then this report is required to be updated to reflect any applicable changes made and now required by the BCA.

3 Development Description & Assessment Information

3.1 Proposed Development

The proposed development comprises construction of a new warehouse facility with ancillary office.

3.2 Location and Description

The site is located at 5 Skyline Crescent, Horningsea Park, NSW 2171 (Lot 1, DP 1266533)

Figure 1 – Building Location

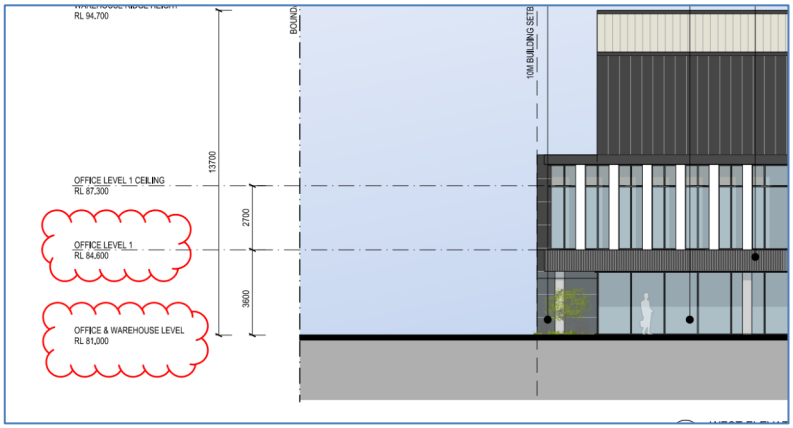
3.3 BCA Classification (Clause A3.2)

The proposed development shall contain the following classifications: -

- Class 5: being an office building or part
- Class 7b: being a warehouse building or part

3.4 Rise in Storeys (Clause C1.2)

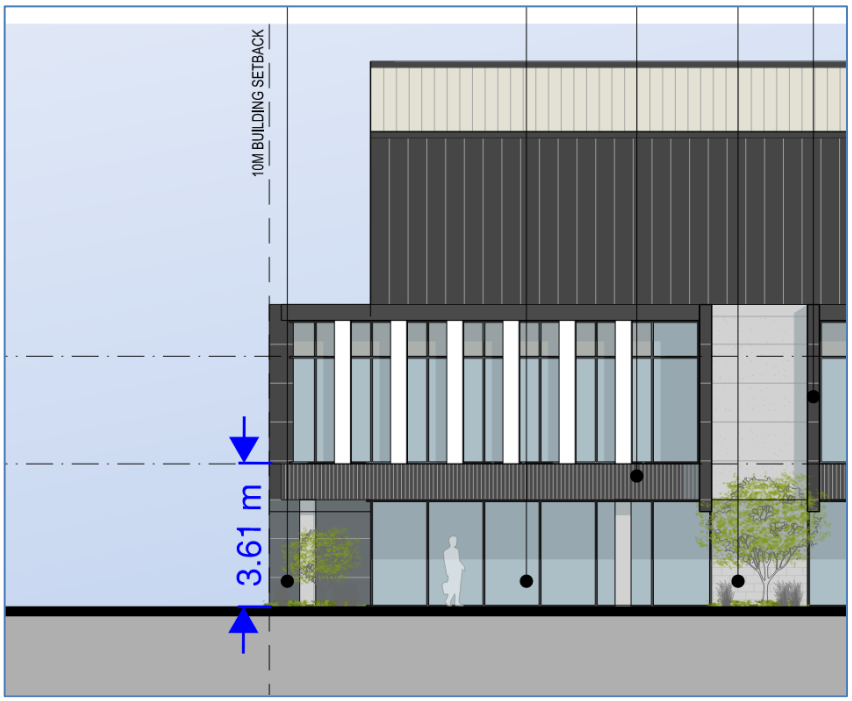
The proposed development has been assessed to have a *rise in storeys* of 2.



Western Elevation demonstrating rise in storeys of 2

3.5 Effective Height (Clause A1.1)

The proposed development has been assessed to have an *effective height* of less than 12m. This is measured from Ground Floor to floor level 1.



Western Elevation demonstrating EH of less than 12m

Please note the definition of effective height of a building was changed 1 May 2016. The BCA now defines effective height as: -

"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)."

3.6 Type of Construction Required (Clause C1.1 / Table C1.1)

The proposed development is required to be Type C Construction. Specification C1.1 outlines the fire resistance required by certain building elements. This has also been provided in Appendix B.

3.7 large Isolated Building Requirements (Clause C2.3)

The size of a fire compartment in a building may exceed that in Table C2.2 where (a) the building does not exceed 18 000m^2 in floor area nor exceed 108 000m^3 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 C2.4(a) 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 E1.5; and
(B) provided with a perimeter vehicular access complying with C2.4(b

3.8 Building Data Summary

Part of Development	Use	Class	Floor Area (approx.) m^2	Volume (approx.) m^3	Population (using D1.13)
Warehouse	Storage	7b	4,400	42,800	118
Office	Office	5	940	2,800	76
TOTAL			5,340m^2	45,600	194

Notes:

- The above populations have been based on the floor areas and calculations in accordance with Table D1.13 of the BCA.
- The floor areas have been adjusted to account for ancillary areas such as sanitary facilities, corridors, shelving and / or racking layouts in storage areas by a factor of 0.8
- The Carpark areas have been considered ancillary to the use for the purposes of population numbers

Summary of Construction and Building	
Use(s)	Warehouse
Classification(s)	5, 7b
Number of Storeys contained	2

Summary of Construction and Building	
Rise in Storeys	2
Type of Construction	C (Large Isolated Building)
Effective Height	<12m
Importance Level	Architect confirm importance level
Climate Zone	6

4 Proposed Fire Safety Schedule

The following is a draft Fire Safety Schedule for the proposed building, listing the likely measures and standards of performance required, this schedule shall be subject of further development and review as part of the Performance Solutions assessment: -

Fire Safety Schedule

Section 78 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021

Premises: Bringelly Road Business Hub
Address: 5 Skyline Crescent, Horningsea Park, NSW 2171

The following essential fire safety measures shall be implemented in the whole of the building premises and each of the fire safety measures must satisfy the standard of performance listed in the schedule which, for the purposes of Clause 168 of the Environmental Planning and Assessment Regulation 2000, is deemed to be the current fire safety schedule for the building.

SCHEDULE – Base Building BCA Year 2019-Amendment 1
Type of Construction C
Effective height = <12m

	Measure	Status	Performance Standard
1.	Automatic fire suppression system	N	BCA 2019 Amd. 1 Clause E1.5, Spec. E1.5, AS 2118.1-2017
2.	Emergency lighting	N	BCA 2019 Amd. 1 Clause E4.2, E4.3 E4.4, AS 2293.1-2018
3.	Exit and directional signage	N	BCA 2019 Amd. 1 Clause E4.5, NSW E4.6 & E4.8, Spec E4.8 AS 2293.1-2018
4.	Fire hose reel systems	N	BCA 2019 Amd. 1 Clause E1.4, AS 2441-2005

	Measure	Status	Performance Standard
5.	Fire hydrant systems	N	BCA 2019 Amd. 1 Clause E1.3, AS 2419.1-2005,
6.	Fire seals (protecting openings and service penetrations in fire resisting components of the building)	N	BCA 2019 Amd. 1 Clause C3.15, Spec C3.15, AS 4072.1-2005, AS 1530.4-2014, Manufacturer's specifications
7.	Portable fire extinguishers	N	BCA 2019 Amd. 1 Clause E1.6, AS 2444-2001
8.	Performance Solution - Perimeter vehicle access for emergency vehicles	N	Performance Solution Report XXXXX, prepared by XXXX dated XXXX
9.	Performance Solution - Extended travel distances within warehouse. Up to 50m to an exit and up to 100m between alternative exits	N	Performance Solution Report XXXXX, prepared by XXXX dated XXXX
10.	Performance Solution – Extended travel distances within office. Up to 30m to a single exit.	N	Performance Solution Report XXXXX, prepared by XXXX dated XXXX

Notes
* Indicate whether the measure is new (N), existing (E) or Modified (M)

5 BCA Assessment – Clause by Clause

BCA Clause	Compliance Provisions	Status	Assessment commentary
Part B - Structural			
B1 – Structural Provisions			
B1.0	Deemed-to-Satisfy Provisions	Noted	Part B1 is applicable
B1.1	Resistance to Action	Noted	The resistance of a building or structure shall be greater than the most critical action effect determined by B1.2 of the BCA, AS/NZS 1170.0-2002 and B1.4 of the BCA.
B1.2	Determination of individual Actions	Compliance Readily Achievable	The structural design of the building is required to be determined in accordance with the varying "actions" considerations contained within this clause (i.e. permanent actions, imposed actions, wind / snow / earthquake actions).
B1.4	Determination of Structural resistance of materials and form of construction	Noted	The structural resistance of materials and forms of construction shall be determined in accordance with the following: (i) Masonry - AS3700-2018 (ii) Concrete construction - AS3600-2018 (iii) Footings and slabs – AS2870-2011 (iv) Steel construction - AS4100-1998 or AS/NZS 4600-2005 (v) Termite Risk Management - AS3660.1-2014 (vi) Piling - AS2159-2009 (vii) Glazed assemblies - AS2047-2014- amendments 1 & 2 (external), and/or AS1288-2006 (internal)
B1.6	Construction of buildings in flood hazard areas	Noted	Not within a flood zone
Part C – Fire Resistance			
C1 - Fire Resistance			
C1.1	Type of Construction Required	Noted	Type of Construction shall comply with Spec C1.1 **Table C** for a building of Type C construction
C1.2	Calculation of Rise in storeys	Noted	Building has a rise in storeys of 2
C1.3	Buildings of Multiple classification	Noted	Warehouse is Class 7b, while office portion is Class 5. FRL of building elements for Class 7b and Class 5 construction is consistent.

BCA Clause	Compliance Provisions	Status	Assessment commentary
C1.8	Lightweight Construction	Compliance Readily Achievable	Any light weight construction must comply to Specification C1.8 provisions within the BCA. Please provide details to confirm compliance to this clause.
C1.10 & *NSW Variation*	Fire Hazard Properties	Compliance Readily Achievable	All floor, wall and ceiling lining materials shall comply with C1.10 and Specification C1.10. Design Compliance Statement to be provided by relevant architect prior to issue of CC.
C1.11	Performance of external walls in fire	Further Details Required	Concrete external walls that could collapse as complete panels, in a building having a rise in storeys of not more than 2, must comply with Specification C1.11. **Architect/structural engineer to provide a design compliance statement that demonstrates compliance with this clause**
C2 - Compartmentation and Separation			
C2.1	Application of Part	Noted	This part is applicable
C2.2	General Floor area and volume limitations	Further Details Required	Proposed structure is a large isolated building. Compliance to be achieved in accordance with C2.3 and C2.4. Fire compartments drawings and sections are required to be detailed prior to issuance of CC.
C2.3	Large isolated buildings	Compliance Readily Achievable	The building is a large isolated building, with fire compartments which exceed those listed in C2.2. (a) The building does not exceed 18,000m2 (FA) or 108,000m3 in volume and must: (ii) be protected throughout with a sprinkler system complying with Spec E1.5 and be provided with a perimeter vehicular access complying with C2.4(b)

BCA Clause	Compliance Provisions	Status	Assessment commentary
C2.4	Requirements for open spaces and vehicular access	Performance Solution Proposed	(b) Vehicular access required by this part - (i) 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 (ii) must have a minimum unobstructed width of 6m with no part of its furthest boundary more than 18m from the building and in no part of the 6m width be built upon or used for any purpose other than vehicular or pedestrian movement; and (iii) must provide reasonable pedestrian access from the vehicular access to the building; and (iv) must have load bearing capacity and unobstructed height to permit the operation and passage of fire brigade vehicles; and (v) must be wholly within the allotment except that a public road complying with (i), (ii), (iii) and (iv) may serve as the vehicle access or part thereof. **Performance solution to be provided for non-continuous vehicular access around the building**
C2.8	Separation of classifications in the same storey	Compliance Readily Achievable	In a Type C building, Classes 5 and 7b share the same FRL for building elements. As such, a fire wall is not required
C2.10	Separation of Lift Shafts	Compliance Readily Achievable	Lift shaft is not required to be fire rated under Table C in Spec C1.1.
C2.12	Separation of equipment	Compliance Readily Achievable	The following equipment must be separated from the remainder of the building - (i) lift motors and lift control panels; or (ii) emergency generators used to sustain emergency equipment operating in the emergency mode; or (iii) central smoke control plant; or (iv) boilers; or (v) 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. Separation of on-site fire pumps must comply with the requirements of AS 2419.1 Separating construction must have— (i) except as provided by (ii)— (A) an FRL as required by Specification C1.1,

BCA Clause	Compliance Provisions	Status	Assessment commentary
			but not less than 120/120/120; and (B) any doorway protected with a self-closing fire door having an FRL of not less than –/120/30; or (ii) when separating a lift shaft and lift motor room, an FRL not less than 120/–/–. Electrical substations, main switchboards etc., must be separated from the remainder of the building by construction achieving an FRL of 120/120/120, with any doorway in that construction protected with a self-closing fire door having an FRL of not less than -/120/30 Electrical conductors located within a building that supply— (i) a substation located within the building which supplies a main switchboard covered by (b); or (ii) a main switchboard covered by (b), must— (iii) have a classification in accordance with AS/NZS 3013 of not less than— (A) if located in a position that could be subject to damage by motor vehicles — WS53W; or (B) otherwise — WS52W; or (iv) be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120.
C3 – Protection of Openings			
C3.1	Application of Part	Noted	This part is applicable
C3.8	Openings in fire-isolated exits	Noted	Doorways in fire-isolated exits must be protected by --/60/30 fire doors which are self-closing or automatic closing (detection activation).

BCA Clause	Compliance Provisions	Status	Assessment commentary
C3.9	Service penetrations in fire-isolated exits	Noted	Fire-isolated exits must not be penetrated by any services other than— (a) electrical wiring permitted by D2.7(e) to be installed within the exit; or (b) ducting associated with a pressurisation system if it— (i) is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and (ii) does not open into any other part of the building; or (c) water supply pipes for fire services.
C3.15	Openings for service installations	Compliance Readily Achievable	Any penetrations through building elements that are required to have an FRL must comply with provisions of C3.15 and Spec. C3.15. At CC stage a detailed schedule of every penetration is required to be produced.
C3.16	Construction joints	Compliance Readily Achievable	Any proposed joint construction is to comply with the provisions of C3.16 and in accordance to AS 1530.4
C3.17	Columns protected with lightweight construction to achieve an FRL	Compliance Readily Achievable	Any lightweight construction must be with a method and materials identical with a tested prototype which has achieved the required FRL. Details to be submitting demonstrating compliance prior to CC.
Part D - Access and Egress			
D1 - Provision for Escape			
D1.0	Deemed-to-Satisfy Provisions	Noted	Noted
D1.1	Application of Part	Noted	This part is applicable
D1.2 & *NSW Variation*	Number of exits required	Compliance Readily Achievable	The building shall have at least one exit from each storey.

BCA Clause	Compliance Provisions	Status	Assessment commentary
D1.4	Exit travel distances	Performance Solution Proposed	Travel distance permitted by the DtS provisions of the BCA are: **Class 5, 6, 7, 8 or 9 portions:** - 20m to a point of choice - 40m total distance to an exit -30m to a single exit serving a storey at the level of egress to the road or open space for a class 5 and / or 6 portion **The following areas exceed the maximum permitted travel distance:** Office Level 1 - Up to 30m to a single exit in lieu of 20m. Warehouse – Up to 60m to an exit in lieu of 40m This may be addressed under a performance solution from a fire engineer
D1.5	Distance between alternative exits	Performance Solution Proposed	Exits must not be less than 9m apart; and not more than 60m apart for the classes concerned; and Located so that alternative paths of travel do not converge such that they become less than 6 m apart. **The following areas exceed the maximum permitted travel distance:** Warehouse - Up to 120m between alternative exits in lieu of 60m. This may be addressed under a performance solution from a fire engineer

BCA Clause	Compliance Provisions	Status	Assessment commentary
D1.6 & *NSW Variation*	Dimensions of exits and paths of travel to exits	Compliance Readily Achievable	Dimensions of exits and paths of travel appear compliant with provisions in D1.6 of the BCA. 1m in width of an exit or path of travel to an exit is required. The unobstructed height of throughout must also not be less than 2m (1980mm at doorways). Aggregate exit width caters for the proposed number of occupants on each level as determined by D1.13 of the BCA.
D1.9	Travel by non-fire-isolated stairways or ramps	Compliance Readily Achievable	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. 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— (i) 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 (ii) 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.
D1.10 & *NSW Variation*	Discharge from exits	Compliance Readily Achievable	Exits must not be obstructed by potential vehicle blockage by placement of bollards. Where 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 ramp or other incline having a gradient not steeper than 1:8 at any part. **This applies to the egress doors along the South-West external wall**

BCA Clause	Compliance Provisions	Status	Assessment commentary
D1.13 & *NSW Variation*	Number of persons accommodated	Noted	Population for **warehous**e area is calculated by 3,500m^2 / 30m^2 per person in a showroom = 120 occupants **Office Ground Floor:** 216m^2 / 10m^2 per person in an office = 22 occupants **Office Level 1:** 540m^2 / 10m^2 per person in an office = 54 occupants
D1.16	Plant rooms, lift machine rooms and electricity network substations: Concession	Compliance Readily Achievable	Ladders may be provided to plants rooms and the like if not more than 100m2. Plant room stairways to achieve compliance with AS 1657.
D1.17	Access to lift pits	Compliance Readily Achievable	Where the pit depth is not more than 3 m, access to lift pits must be through the lowest landing doors; or where greater than 3m be through specific access complying with D1.17.
D2 – Construction of Exits			
D2.0	Deemed-to-Satisfy Provisions	Noted	Noted
D2.1 & NSW Variation	Application of Part	Noted	This part is applicable
D2.7	Installations in exits and paths of travel	Compliance Readily Achievable	Services or equipment comprising— (i) electricity meters, distribution boards or ducts; or (ii) central telecommunications distribution boards or equipment; or (iii) electrical motors or other motors serving equipment in the building, may be installed in— (iv) a required exit, except for fire-isolated exits specified in (a); or (v) in any corridor, hallway, lobby or the like leading to a required exit, if the services or equipment are enclosed by non-combustible construction or a fire protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure.

BCA Clause	Compliance Provisions	Status	Assessment commentary
D2.8	Enclosure of space under stairs and ramps	Compliance Readily Achievable	If the space below a required fire-isolated stairway or fire-isolated ramp is within the fire-isolated shaft, it must not be enclosed to form a cupboard or similar enclosed space. The space below a required non fire-isolated stairway (including an external stairway) or non fire-isolated ramp must not be enclosed to form a cupboard or other enclosed space unless— i) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and ii) any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door.
D2.13 & NSW Variation	Goings and risers	Compliance Readily Achievable	Risers and goings must comply with D2.13 and have slip resistance as per table D2.14. Architect to cover in Design Compliance Statement.
D2.14	Landings	Compliance Readily Achievable	750mm landings to be provided at bottom and top of stairs as per D2.14 and landings and stairs nosings throughout to have a slip resistance as per table D2.14. Architect to cover in Design Compliance Statement.
D2.15 & *NSW Variation*	Thresholds	Compliance Readily Achievable	No steps are to be located closer to the doors threshold then the width of the door unless to the door leads to open space; a step ramp compliant with AS1428.1-2009 can be incorporated.
D2.16 & *NSW Variation*	Barriers to prevent falls	Compliance Readily Achievable	Compliant balustrades not less than 1m high with no climbable features between 150mm and 760mm are to be provided wherever it is possible to fall 1m or more. Architect to cover in Design Compliance Statement.
D2.17	Handrails	Compliance Readily Achievable	Handrails are to be provided to either side of stairs (one side in fire isolated stairs) in accordance with AS1428.1-2009. Handrail extensions to be provided. Architect to cover in Design Compliance Statement.
D2.18	Fixed platforms, walkways, stairways and ladders	Compliance Readily Achievable	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 D2.13, D2.14, D2.16 and D2.17 if it only serves: (a) machinery rooms, boiler houses, lift-

BCA Clause	Compliance Provisions	Status	Assessment commentary
			machine rooms, plant-rooms, attics and the like
D2.19 & *NSW Variation*	Doorways and doors	Compliance Readily Achievable	Doors serving as required exits or forming part of required exits must be swinging or power operated. If fitted with a door which is power-operated— (A) 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 (B) 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.
D2.20.	Swinging doors	Compliance Readily Achievable	Doors must swing in the direction of egress unless serving a ground floor tenancy that is less than 200m2 and incorporates a hold-open device.
D2.21 & *NSW Variation*	Operation of latch	Compliance Readily Achievable	Doors shall be readily openable without a key from the side that a person may seek egress by a single handed downward action on a single device located between 900mm and 1100mm. Alternatively door must be readily openable on activation of a fail-safe device.

BCA Clause	Compliance Provisions	Status	Assessment commentary
D2.25	Timber stairways: Concession	Further Details Required	Please confirm whether internal office stairway is of timber construction. If so, D2.25 is applicable. Notwithstanding D2.2(a), timber treads, risers, landings and associated supporting framework which— (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%, may be used within a required fire-isolated stairway or fire-isolated passageway constructed from fire-protected timber in accordance with C1.13 subject to— (iii) the building being protected throughout by a sprinkler system (other than a FPAA101D system) complying with Specification E1.5 which extends to within the fire-isolated enclosure; and (iv) fire protection being provided to the underside of stair flights and landings located immediately above a landing level which— (A) is at or near the level of egress; or (B) provides direct access to a carpark. Fire protection required by (a) must be not less than one layer of 13 mm fire-protective grade plasterboard fixed in accordance with the system requirements for a fire-protective covering.
D3 – Access for People with a Disability			
D3.0	Deemed-to-Satisfy Provisions	Noted	Noted
D3.1	General building access requirements	Compliance Readily Achievable	Access is required to all areas of the class 5 and 7b portions of the building. Access consultant shall provide a design compliance statement prior to the issuance of a CC..

BCA Clause	Compliance Provisions	Status	Assessment commentary
D3.2	Access to buildings	Compliance Readily Achievable	(a) An accessway must be provided to a building required to be accessible— (i) from the main points of a pedestrian entry at the allotment boundary & (ii) from another accessible building connected by a pedestrian link; and (iii) from any required accessible carparking space on the allotment. Access consultant to update report based upon detailed review of CC plans.
D3.3	Parts of buildings to be accessible	Compliance Readily Achievable	Access is to be provided to and within all areas normally used by occupants in accordance with AS 1428.1-2009. Access consultant to update report based upon detailed review of CC plans.
D3.4	Exemptions	Noted	The following areas are not required to be accessible: (a) An area where access would be inappropriate because of the particular purpose for which the area is used. (b) An area that would pose a health or safety risk for people with a disability. (c) Any path of travel providing access only to an area exempted by (a) or (b).
D3.5	Accessible carparking	Further Details Required	Accessible carparking is to be provided for class 5 & 7b buildings. This requires: 1 space for every 100 carparking spaces or part thereof or as stipulated by development consent (DA). Accessible carparking spaces are to be in accordance with AS2890.6-2009. **Dedicated accessible parking space to have a white symbol of access in accordance with AS1428.1-2009 between 800 and 1000mm high placed on a blue rectangle with no side more than 1200mm in the centre of the space between 500mm and 600mm from its entry point.**
D3.6	Signage	Compliance Readily Achievable	To be provided throughout in accordance with details in D3.6. i.e. tactile and braille indicating levels, sanitary facilities etc.

BCA Clause	Compliance Provisions	Status	Assessment commentary
D3.7	Hearing augmentation	Further Details Required	A hearing augmentation system must be provided where an inbuilt amplification system, other than one used only for emergency warning, is installed— (i) in a room in a Class 9b building; or (ii) in an auditorium, conference room, meeting room or room for judicatory purposes; or (iii) at any ticket office, teller's booth, reception area or the like, where the public is screened from the service provider. **Hearing augmentation system to be provided in any meeting rooms within the office where an inbuilt amplification system is proposed**
D3.8	Tactile indicators	Further Details Required	To be provided in accordance with AS 1428 throughout: (i) a stairway, other than a fire-isolated stairway (iv) a ramps, step ramp, kerb ramp TGSI are also required in the absence of suitable barrier to protect from over head obstructions or an accessway meeting a vehicular way adjacent to an pedestrian entrance to a building. **TGSI to be provided to office access stairway and stairways leading to warehouse exit doors**
D3.12	Glazing on an access way	Compliance Readily Achievable	Glazing to be provided visual indicators in accordance with AS1428.1-2009 when able to be confused for a doorway
Specifications			
Spec D1.12	Non-Required Stairways, Ramps and Escalators	Compliance Readily Achievable	This Specification contains the requirements to allow non-required stairways, ramps or escalators to connect any number of storeys in a Class 5 or 6 building. This specification shall be understood in detail should it be utilised in the design of a non-required stairway, ramp or escalator.

BCA Clause	Compliance Provisions	Status	Assessment commentary
			A compliance statement shall be provided by the architect prior to the issuance of the CC.
Spec D3.6	Braille and Tactile Signs	Compliance Readily Achievable	This Specification sets out the requirements for the design and installation of braille and tactile signage as required by D2.21, D3.6 and Specification F2.9. A compliance statement shall be provided by the architect prior to the issuance of the CC.
Part E – Services and Equipment			
E1 – Fire Fighting Equipment			
E1.0	Deemed-to-Satisfy Provisions	Choose an item.	Noted
E1.3	Fire hydrants	Further Details Required	A fire hydrant system shall be provided in accordance with Clause E1.3, and AS2419.1-2005. Engineering Details of the proposed fire hydrant system shall be provided. This detail shall be certified by a suitably qualified Accredited Practitioner - Fire Safety. **Please demonstrate proposed hydrant locations on the plans**
E1.4	Fire hose reels	Further Details Required	A fire hose reel (FHR) system shall be provided in accordance with Clause E1.4, and AS2441-2005. Engineering Details of the proposed FHR system shall be provided. This detail shall be certified by a suitably qualified Accredited Practitioner - Fire Safety. **Please demonstrate proposed FHR locations on the plans**

BCA Clause	Compliance Provisions	Status	Assessment commentary
E1.5 & *NSW Variation*	Sprinklers	Further Details Required	A sprinkler system shall be provided in accordance with Clause E1.5, Spec E1.5, and AS 2118.1-2017. Engineering Details of the proposed sprinkler system shall be provided. This detail shall be certified by a suitably qualified Accredited Practitioner - Fire Safety. **Large isolated building is required to be provided with sprinkler protection in accordance with clause C2.3**. **Note that a warehouse is considered to be an Occupancy of Excessive Hazard where it contains combustible goods with an aggregate volume exceeding 1000m^3 and stored to a height greater than 4m.**
E1.6	Portable fire extinguishers	Further Details Required	Portable fire extinguishers shall be provided in accordance with Clause E1.6, and AS 2444-2001. Details of the type of portable fire extinguishers proposed and their location shall be provided. This detail shall be certified by a suitably qualified person
E1.9	Fire precautions during construction	Noted	Suitable fire extinguishers shall be located adjacent to exits on each storey while the building is under construction.
E2 – Smoke Hazard Management			
E2.0	Deemed-to-Satisfy Provisions	Noted	Noted
E2.1	Application of Part	Noted	This part is applicable
E2.2 & NSW Variation	General requirements	Not Applicable	Smoke hazard management system is not applicable to a LIB less than 18,000m^2 and 108,000m^3 and is not more than 2 storeys.
Specifications			
E3 – Lift Installations			
E3.0	Deemed-to-Satisfy Provisions	Choose an item.	Noted
E3.1	Lift installations	Further Details Required	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification E3.1. Please provide details of the lifts proposed to be installed including design certification from a suitably qualified engineer.

BCA Clause	Compliance Provisions	Status	Assessment commentary
E3.3	Warning against use of lifts in fire	Compliance Readily Achievable	Warning signs must be displayed; "DO NOT USE LIFTS IF THERE IS A FIRE". No less than 10mm high that are incised, inlaid or embossed on a metal, wood, plastic or similar plate securely & permanently attached to the wall or provided directly into the surface material of the wall. These shall be near every call button for a passenger lift or group throughout the building. Details demonstrating compliance shall be provided
E3.5	Landings	Compliance Readily Achievable	Access and egress to and from lift landings shall comply with Section D of the BCA. Details demonstrating compliance shall be provided
E3.6	Passenger lifts	Compliance Readily Achievable	In an accessible building, every passenger lift shall comply with the limitations of Table E3.6a of the BCA, be provided accessible features as required by Table E3.6b of the BCA and not rely upon a constant pressure device for its operation if the lift car is fully enclosed. Details demonstrating compliance shall be provided
Specifications			
Spec E3.1	Lift Installations	Noted	Refer to specification
E4 – Emergency Lighting, Exit Signs and Warning Systems			
E4.0	Deemed-to-Satisfy Provisions	Noted	Noted
E4.2	Emergency lighting requirements	Compliance Readily Achievable	Emergency Lighting & Exit Signage to be provided to the building in accordance with E4 and AS 2293.1-2005. Design Certification to be provided prior to CC.
E4.3	Measurement of distance	Noted	Distances, other than vertical rise, must be measured along the shortest path of travel whether by straight lines, curves or a combination of both.
E4.4	Design and operation of emergency lighting	Compliance Readily Achievable	Emergency Lighting & Exit Signage to be provided to the building in accordance with E4 and AS 2293.1-2005. Design Certification to be provided prior to CC.
E4.5	Exit signs	Compliance Readily Achievable	Emergency Lighting & Exit Signage to be provided to the building in accordance with E4 and AS 2293.1-2005. Design Certification to be provided prior to CC.

BCA Clause	Compliance Provisions	Status	Assessment commentary
E4.6 & *NSW Variation*	Direction signs	Compliance Readily Achievable	Emergency Lighting & Exit Signage to be provided to the building in accordance with E4 and AS 2293.1-2005. Design Certification to be provided prior to CC.
E4.8	Design and operation of exit signs	Compliance Readily Achievable	Emergency Lighting & Exit Signage to be provided to the building in accordance with E4 and AS 2293.1-2005. Design Certification to be provided prior to CC.
Part F – Health and Safety			
F1 – Damp and Weatherproofing			
F1.1	Stormwater drainage	Further Details Required	Stormwater drainage shall comply with AS 3500.3-2018. Details of the proposed Stormwater Management System shall be provided. This detail shall be certified by a suitably qualified and Chartered Engineer
F1.4	External above ground membranes	Compliance Readily Achievable	Waterproofing membranes for external above ground use must comply with AS 4654.1-2012 and AS 4654.2-2012. Details demonstrating compliance shall be provided
F1.5	Roof coverings	Compliance Readily Achievable	The roof must be covered with one of the following materials, concrete roof tiles, terracotta roof tiles, cellulose cement corrugated sheeting, metal sheet roofing, plastic sheet roofing or shingles made of terracotta, fibre cement, timber or slate. Compliance with fire resisting construction and non-combustible construction of Part C must also be achieved as applicable. Where none of the above materials is proposed, a Performance Solution addressing Performance Requirements FP1.4 will be required Roof covering needs to be non combustible unless the pre-finished metal sheeting has a combustible surface finish not exceeding 1mm thickness and where the spread of flame index of the product is not greater than 0.

BCA Clause	Compliance Provisions	Status	Assessment commentary
F1.6	Sarking	Compliance Readily Achievable	Sarking-type material used for weatherproofing of roof and walls must comply with AS4200.1-2017 and AS4200.2-2017 and be non-combustible unless the sarking type material does not exceed 1mm thickness and have a flammability index not greater than 5. Previously, we noted that sarking needed to be non-combustible
F1.7	Waterproofing of wet areas in buildings	Compliance Readily Achievable	Waterproofing of wet areas shall comply with the requirements of Table F1.7 and AS 3740-2010. Details demonstrating compliance shall be provided
F1.9	Damp-proofing	Compliance Readily Achievable	Moisture from the ground must be prevented from reaching the structure of the building. Where a damp-proof course is provided it must comply with AS 2904-1995 or impervious sheet material in accordance with AS3660.1-2014. Details demonstrating compliance shall be provided
F1.10	Damp-proofing of floors on the ground	Compliance Readily Achievable	Floors laid on ground shall be provided a vapour barrier in accordance with AS 2870-2011. Details demonstrating compliance shall be provided
F1.12	Subfloor ventilation	Compliance Readily Achievable	Subfloor spaces must be provided with openings in external walls and internal subfloor walls in accordance with Table F1.12. Details demonstrating compliance shall be provided
F1.13	Glazed assemblies	Compliance Readily Achievable	Glazed assemblies in an external wall shall comply with AS 2047-2014. The following glazed assemblies need not comply revolving doors, fixed louvres, skylights / roof lights, sliding and swinging doors without a frame, heritage windows or second hand windows, windows constructed onsite which are not design tested. Details demonstrating compliance shall be provided
F2 – Sanitary and Other Facilities			
F2.0	Deemed-to-Satisfy Provisions	Noted	Noted

BCA Clause	Compliance Provisions	Status	Assessment commentary
F2.2	Calculation of number of occupants and facilities	Noted	Where it cannot be more accurately determined, the number of occupants shall be determined by the application of Clause D1.10 of the BCA. Population for **warehous**e area is calculated by 3,500m^2 / 30m^2 per person in a showroom = 120 occupants **Office Ground Floor:** 270m^2 / 10m^2 per person in an office = 22 occupants **Office Level 1:** 670m^2 / 10m^2 per person in an office = 54 occupants
F2.3	Facilities in Class 3 to 9 buildings	Does Not Comply	Facilities in accordance with Table F2.3 shall be provided for the classification and use concerned. Separate sanitary facilities for males and females shall be provided except as permitted by the exemptions of Clause F2.4 (b), (c), or (f). Adequate means of disposal of sanitary products must be provided in sanitary facilities for females. Details demonstrating compliance shall be provided WAREHOUSE **Where it cannot be determined otherwise, the BCA allows the calculation of occupant numbers to be determined using Table D1.13. Sanitary facilities must be provided to accommodate for 118 occupants. Occupant numbers are based on a floor area calculation under table D1.13. (4,400m2x0.8) / 30m per person = 118 occupants)** **The current design has a shortfall of 1 male urinal** **OFFICE** **Under a holistic assessment of Ground Floor and Level 1, the proposed number of sanitary facilities accommodate occupant numbers within the office portion.**

BCA Clause	Compliance Provisions	Status	Assessment commentary
F2.4	Accessible sanitary facilities	Compliance Readily Achievable	Accessible sanitary facilities compliant with AS 1428.1-2009 shall be provided in accordance with Clause F2.4 and Table F2.4 for the classification and use concerned. Details demonstrating compliance shall be provided.
F2.5	Construction of sanitary compartments	Compliance Readily Achievable	Sanitary compartments shall have doors and partitions that separate adjacent compartments and extend from the floor level to the ceiling in the case of a unisex facility or 1.8m above the floor in all other cases. The door to a fully enclosed sanitary compartment that does not have 1.2m clear space from pan to door swing shall open outwards or slide or be readily removable from the outside.
F2.6	Interpretation: Urinals and washbasins	Compliance Readily Achievable	A closet pan may be used in lieu of a urinal. A urinal is any of the following, individual stall, wall hung unit, 600mm length of a continuous trough A washbasin may be an individual basin or part of a hand washing trough served by a single water tap
Specifications			
F3 – Room Heights			
F3.0	Deemed-to-Satisfy Provisions	Noted	Noted
F3.1	Height of rooms and other spaces	Compliance Readily Achievable	Floor to ceiling heights compliant with Clause F3.1 of the BCA shall be achieved throughout the development. Details demonstrating compliance shall be provided
F4 – Light and Ventilation			
F4.0	Deemed-to-Satisfy Provisions	Choose an item.	Noted
F4.4	Artificial lighting	Compliance Readily Achievable	Artificial lighting shall be provided to required stairways, passageways and ramps. Artificial lighting shall comply
F4.5 & *NSW Variation*	Ventilation of rooms	Compliance Readily Achievable	Natural ventilation or mechanical ventilation to be provided. Mechanical Engineer to confirm compliance with F4.5 and AS 3666.1. If compliance with DtS not achievable a Performance Solution demonstrating compliance with FP4.3 and FP4.4 may be more appropriate.

BCA Clause	Compliance Provisions	Status	Assessment commentary
F4.6	Natural ventilation	Noted	Natural ventilation provided in accordance with F4.5(a) must consist of openings, windows, doors or other devices which can be opened— (i) with a ventilating area not less than 5% of the floor area of the room required to be ventilated; and (ii) open to— (A) a suitably sized court, or space open to the sky; or (B) an open veranda, carport, or the like; or (C) an adjoining room in accordance with F4.7. (b) The requirements of (a)(i) do not apply to a Class 8 electricity network substation.
F4.7	Ventilation borrowed from adjoining room	Compliance Readily Achievable	Natural ventilation to a room may come through a window, opening, door or other device from an adjoining room (including an enclosed verandah) if both rooms are within the same sole-occupancy unit or the enclosed verandah is common property, and— (b) in a Class 5, 6, 7, 8 (except a Class 8 electricity network substation) or 9 building— (i) the window, opening, door or other device has a ventilating area of not less than 10% of the floor area of the room to be ventilated, measured not more than 3.6 m above the floor; and (ii) the adjoining room has a window, opening, door or other device with a ventilating area of not less than 10% of the combined floor areas of both rooms; and (c) the ventilating areas specified in (a) and (b) may be reduced as appropriate if direct natural ventilation is provided from another source.

BCA Clause	Compliance Provisions	Status	Assessment commentary
F4.8	Restriction on location of sanitary compartments	Compliance Readily Achievable	Sanitary compartments must not open directly into— (a) a kitchen or pantry; or (b) a public dining room or restaurant; or (c) a dormitory in a Class 3 building; or (d) a room used for public assembly (which is not an early childhood centre, primary school or open spectator stand); or (e) a workplace normally occupied by more than one person.
F4.9	Airlocks	Compliance Readily Achievable	If a sanitary compartment is prohibited under F4.8 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 (ii) the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.
Part G – Ancillary Provisions			
G1 – Minor Structures and Components			
G1.0	Deemed-to-Satisfy Provisions	Noted	Noted
G1.2	Refrigerated chambers, strong-rooms and vaults	Further Details Required	Any refrigerated or cooling chamber, or the like which is of sufficient size for a person to enter must— (a) have adequate means of communicating with or alerting other occupants in the building in the case of an emergency; and (b) have a door which is— (i) of adequate dimensions to allow occupants to readily escape; and (ii) openable from inside without a key at all times. **Applicable for any proposed cool rooms**

BCA Clause	Compliance Provisions	Status	Assessment commentary
Part J – Energy Efficiency			
J0.0	Deemed-to-Satisfy Provisions	Further Details Required	Part J Report to be provided by Architect or ESD Consultant for the installation of the passenger lift. ESD Consultant or Architect to certify CC Plans achieve compliance with Part J.

6 Appendix A – Architectural Plans Reviewed

The following documentation, prepared by SBA Architects was used in the assessment and preparation of this report: -

Drawing No.	Title	Date	Drawn By	Revision
DA01	COVER SHEET	05 Apr 2022	SBA Architects	P3
DA03	SITE PLAN	05 Apr 2022	SBA Architects	P6
DA04	WAREHOUSE PLAN	05 Apr 2022	SBA Architects	P6
DA05	WAREHOUSE ROOF PLAN	05 Apr 2022	SBA Architects	P4
DA06	OFFICE FLOOR PLANS	05 Apr 2022	SBA Architects	P4
DA07	WAREHOUSE ELEVATIONS	05 Apr 2022	SBA Architects	P4
DA08	OFFICE ELEVATIONS	05 Apr 2022	SBA Architects	P4
DA09	WAREHOUSE SECTION	05 Apr 2022	SBA Architects	P3

7 Appendix B – Table 5 of Specification C1.1

Below is an abridged version of Table 5 of Specification C1.1. These are the Deemed to Satisfy requirements and do not take into consideration any reduction in FRL's sought via a performance-based solution or any concessions afforded by Part 5 of Specification C1.1

7.1 Table 5 Type C construction; FRL of building elements

Building element	Class of building — FRL: (in minutes) Structural adequacy/Integrity/Insulation			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any fire-source feature to which it is exposed is—				
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	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN				
Less than 1.5 m	90/–/–	90/–/–	90/–/–	90/–/–
1.5 to less than 3 m	–/–/–	60/–/–	60/–/–	60/–/–
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—				
All	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
INTERNAL WALLS—				
Bounding public corridors, public lobbies and the like—				
All	60/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding sole-occupancy units—				
All	60/ 60/ 60	–/–/–	–/–/–	–/–/–
Bounding a stair if required to be rated—				
All	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
OTHER LOADBEARING INTERNAL WALLS and COLUMNS—				
ROOFS				
Any	–/–/–	–/–/–	–/–/–	–/–/–

7.2 Table 5.2 Requirements for carparks

Building element	FRL (not less than) Structural adequacy/Integrity/Insulation ESA/M (not greater than
Wall	
(a) external wall	
(i) less than 1.5 m from a fire-source feature to which it is exposed:	
Loadbearing	60/60/60
Non-loadbearing	-/60/60
(ii) 1.5 m or more from a fire-source feature to which it is exposed	–/–/–
(b) Internal wall	
	–/–/–
(c) Fire wall	
(i) from the direction used as a carpark	60/60/60
(ii) from the direction not used as a carpark	90/90/90
Column	
(a) steel column less than 1.5 m from a fire-source feature	60/–/– or 26 m2/tonne
(b) any other column less than 1.5 m from a fire-source feature	60/–/–
(c) any other column not covered by (a) or (b)	--/–/–
Beam	
(a) less than 1.5 m from a fire-source feature:	
(i) steel floor beam in continuous contact with a concrete floor slab	60/–/– or 30 m2/tonne
(ii) any other beam	60/–/–
(b) 1.5 m or more from a fire-source feature	–/–/–
Roof, floor slab and vehicle ramp	
	–/–/–

8 Appendix C – Occupancy Calculations

The floor area estimations have been based on a review of the plans outlined in Appendix A.

	Bringelly Road Warehouse Facility				
Subject Area	Occupancy Use	D1.13 Density	Floor Area (approx.)	Volume (approx.)	Population Determined (using table D1.13)
Warehouse	Storage	30m^2 / person	3,500m^2	42,800m^3	120
Office (Ground Floor)	Office	10m^2 / person	220m^2	1,000m^3	22
Office (Level 1)	Office	10m^2 / person	540m^2	1,800m^3	54
		TOTAL	4,260m^2	45,600m^3	196

9 Appendix D – Aggregate Egress Width Calculations

The following has been determined from the submitted details from SBA Architects:

Aggregate Egress Widths					
Part of Development	Population	Egress Width Required	Means of Egress	Egress Width Provided	Status
Warehouse	150	1.5m	Exit door	6.5m	Compliant
Office (Ground Floor)	30	1.0m	Exit door	2.6m	Compliant
Office (Level 1)	70	1.0m	Internal stairway	1.5m	Compliant

10 Appendix E – Sanitary Facilities Calculations

The following has been determined from the submitted details from SBA Architects:

Sanitary Facility Calculations												
Description of building or part	Occupant Number	Population No.		Required			Provided			Difference		
				WC	U	B	WC	U	B	WC	U	B
Warehouse	120	Male	60	3	3	3	3*	2	3*	0	-1	0
		Female	60	4		3	4*		3*	0		0
Office (Ground Floor and Level 1)	76	Male	36	2	2	2	4**	2	4**	2	0	2
		Female	36	3		2	5**		4**	1		2

Key - * signifies a unisex accessible sanitary facility was added to this facility
` signifies a pan was counted as a urinal or vice versa
Red numbers signify a deficiency in facilities

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BCA DESIGN COMPLIANCE REPORT