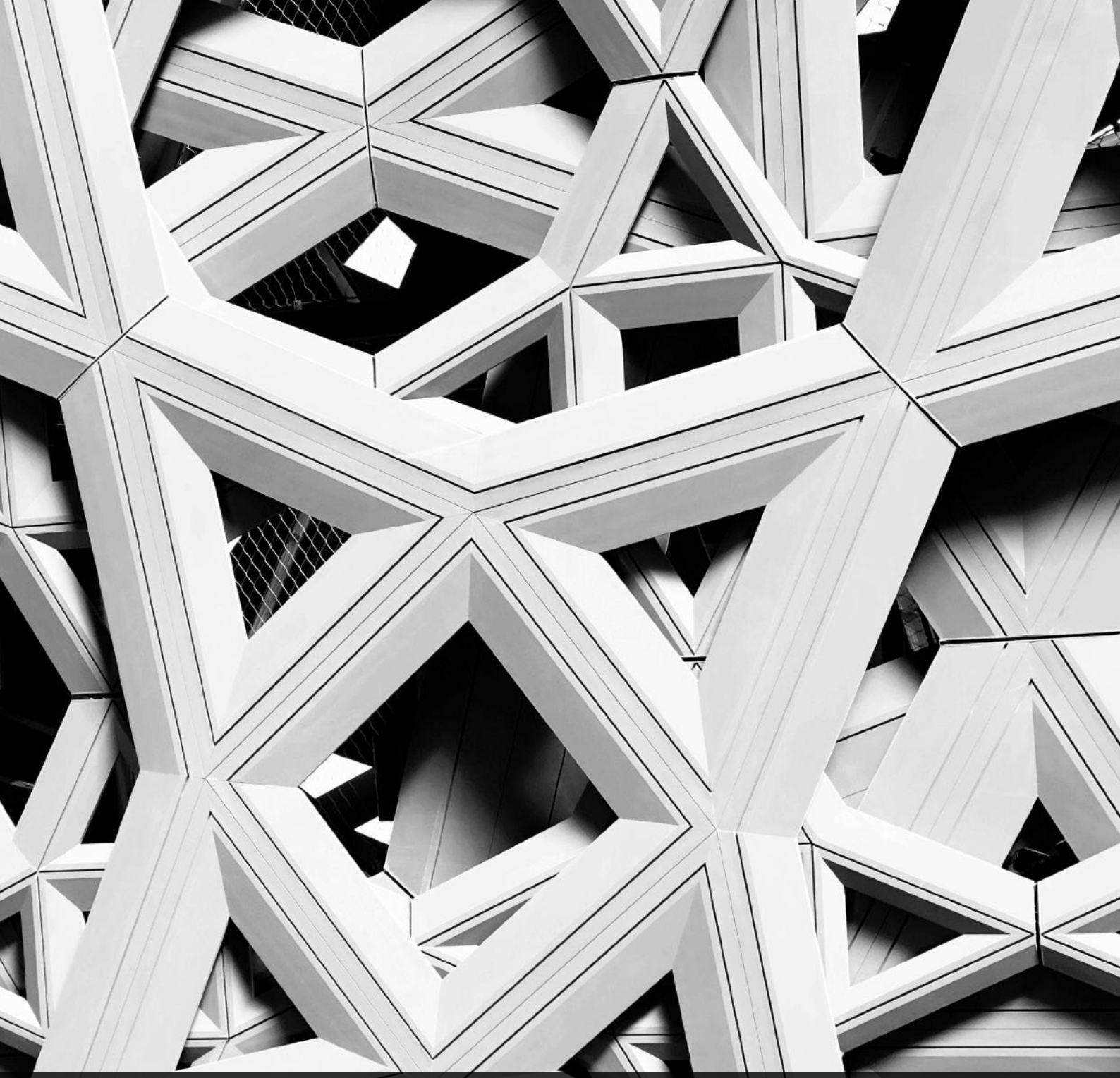


BCA Assessment Report

Kogarah Golf Club Redevelopment
Concept & Early Works SSDA (SSD-84467726)
13 – 19A Marsh St, Arncliffe

Prepared for:
Stockland Development Pty Ltd

Revision 1
30 April 2026

bmplusg.com.au

Executive Summary

The following comprises a summary of the key compliance issues identified under the assessment in this report that will be required to be addressed prior to the Certification Applications for the project.

A. Matters requiring additional information to demonstrate compliance:

	+ BCA (DtS) Clause	+ Description
1.	**C2D10, C2D14**	An External Wall Disclosure Statement is to be provided with the appropriate test reports and details of non-combustible external walls, including all ancillary elements.
2.	**Spec. 5**	Final FRL plans to demonstrate compliance with Spec. 5 (and future FER) are to be provided - compliance is readily achievable.
3.	**C3D13, C3D14**	See note above - Final FRL plans of any proposed Fire Separation of Equipment & Electrical infrastructure to be provided at CC Application stage.
4.	**D2D7, D2D8, D2D18 & F4D4**	The proposed population of the buildings are required to be confirmed by Stockland to facilitate an assessment of the overall required egress widths and sanitary facility requirements for each Block.
5.	**Part D4, F4D4**	A separate report will be required from an Access Consultant to outline the applicable requirements for the building. Specific details regarding the possible application of D4D5 to the various Class 7b & 8 portions of the building will also be required.
6.	**E1D15**	A Fire Control Room is to be nominated for each building and details demonstrating compliance with Spec. 19 are to be provided for review.
7.	**E1D17, E2D21**	Fire Services Designer, Hydraulic Engineer, Mechanical Engineer and Fire Engineer to confirm that the proposed fire services & smoke hazard management systems have the capability to address any additional hazard resulting from the Lithium-ion battery storage in Block 3C, where a Data Centre use is proposed.
8.	**Section J**	A Section J Compliance Report or JV3 Report will be required to be provided with the CC application.

B. Matters requiring fire safety engineered performance solutions:

	+ BCA (DtS) Clause	+ Description
1.	**Spec.5**	Rationalisation of FRLs applicable to the Class 7b portions of the building.
2.	**C3D4 / C4D5**	Non-compliant Perimeter Vehicular Access to the proposed Large Isolated Buildings (Blocks 3A, 3B, & 3C).
3.	**C4D15**	Rationalisation of the FRLs achieved by service penetrations through 4 hour FRL building elements and fire damper activation requirements.

+ BCA (DtS) Clause		+ Description
4.	**D2D5, D2D6**	The current plans indicate that exit travel distances, and distances between alternative exits within the building will not comply with D2D5 & D2D6.
5.	**D2D12**	- To allow the fire stairs to discharge inside the buildings. - Protection of the discharge path from the fire stairs on the ground floor levels.
6.	**D2D13**	Use of External exits stairs in lieu of fire isolated exits in buildings with an effective height that is greater than 25m (Blocks 3A, 3B, & 3C.
7.	**E1D2**	Hydrant Design to be the subject of a Performance Solution per Appendix C of AS 2419.1-2021 to the industrial buildings on the site.
8.	**E1D4**	To allow the sprinkler booster assembly to be not located in line of sight of the of all building entrances on the site and achieving compliance with AS 2419.1-2021.
9.	**E2D4, E2D6, E2D12**	Rationalised stair pressurisation to fire-isolated exits and zone pressurisation systems for buildings exceeding an effective height of 25m.

C. Other matters requiring performance solutions:

+ BCA (DtS) Clause		+ Description
1.	**F3P1**	A Performance Solution report is to be provided by the Architect / Façade Engineer to demonstrate how the external walls are designed to prevent the penetration of water into the building.
2.	**Section J**	A J1V3 Report may be required to be provided with the CC application.

Contents

Report Status

Date	30 April 2026
Revision	1
Status	Preliminary Assessment – Concept Plans
Author	Dean Goldsmith
Reviewed	Jack Nicolaou

Prepared by:

Dean Goldsmith
Director
BM+G
Building Surveyor-Unrestricted (NSW)
BDC No.: 0141

Reviewed by:

Jack Nicolaou
Building Surveyor
BM+G

Revision History

Revision	0	**Date**	08.12.2025
Status	Draft Preliminary Assessment – Concept Plans		

Revision	1	**Date**	30.04.2026
Status	Preliminary Assessment – Concept Plans		

1.0 Description of Project

1.1 Proposal

This BCA Report has been prepared for Stockland Development Pty Ltd to accompany a State Significant Development Application (SSDA) (SSD-84467726) for a Concept Masterplan and Early Works associated with the Kogarah Golf Club Redevelopment located on land identified as 13-19A Marsh Street, Arncliffe (the site).

The vision for the Kogarah Golf Club Redevelopment is to create a world-class precinct that leverages the site's strategic location adjacent to Sydney Airport and strong transport connections by delivering multi-level logistics development, trade-related enterprise and supporting uses with publicly accessible open space. It seeks to deliver state-of-the-art facilities that will redefine the logistics landscape in Australia, setting new benchmarks for scale, efficiency, sustainability and innovation.

The Concept & Early Works SSDA seeks consent for an overarching Concept Masterplan that establishes maximum building envelopes, Gross Floor Area (GFA), land uses, and other parameters through Urban Design Guidelines and technical reporting. It also seeks consent for the carrying out of Early Works to facilitate the initial site preparation and infrastructure works required to support future development and publicly accessible open space.

Site Description

The site is identified as 13-19A Marsh Street, Arncliffe within the Bayside Local Government Area (LGA). It is situated to the immediate west of the Cooks River and Sydney Airport, located approximately 6km west of Port 3 Botany and 10km south of the Sydney Central Business District (CBD). It includes frontages to Marsh Street, providing direct access to the M5 Motorway, Sydney Airport and St Peter's Interchange (via the Sydney Gateway).

It includes land associated with seven (7) allotments and a total area of approximately 32.5 hectares. The existing uses include the previous Kogarah Golf Club (vacated in March 2025) accessed via Levey Street and the temporary M6 Motorway Stage 1 construction compound accessed directly from Marsh Street.

The site is described in Table 2 below and depicted in Figure 2 following.

+ TABLE 2: SITE DESCRIPTION

Ref.	Lot & DP	Address	Ownership
1	Lot 31 DP 1231486	19 Marsh S, Arncliffe	Cook Cove Nominees No 1 Pty Ltd as trustee of Cook Cove Property Trust 1
2	Lot 100 DP 1231954	19A Marsh St, Arncliffe	Cook Cove Nominees No 2 Pty Ltd as trustee of Cook Cove Property Trust 2
3	Lot 60 DP1301057	13 Marsh Street, Arncliffe	Bayside Council
4	Lot 61 DP1301057	19 Marsh Street, Arncliffe	Bayside Council
5	Lot 62 DP 1301057	Marsh Street, Arncliffe	Transport for NSW
6	Lot 63 DP 1301057	Marsh Street, Arncliffe	Transport for NSW
7	Lot 12 DP570900	Marsh Street, Arncliffe	Transport for NSW
8	Lot 102 DP 1231954	Marsh Street, Arncliffe	Transport for NSW

+ TABLE 2: SITE DESCRIPTION			
9	Lot 103 DP 1231954	Marsh Street, Arncliffe	Transport for NSW

Figure 2 – Site Aerial Map (Source: Nearmap, edited by Ethos Urban)

Project Description

The Concept & Early Works SSDA seeks consent for the following:

+ **Concept Masterplan** to support the staged delivery of the Kogarah Golf Club Redevelopment, including:
  - Maximum building envelopes, including maximum building heights and minimum setbacks;
  - Maximum Gross Floor Area (GFA) up to 343,250m2, comprising:
    - 3,250m2 of GFA (FSR of 1.25:1) on Lot 31 DP 1231486; and
    - 340,000m2 of GFA on Lot 100 DP 1231954.
  - Conceptual primary land uses, including:

- Land uses, including the following primary uses:
  - Block 1 – Mixed use;
  - Block 2 – Logistics and Mixed use;
  - Block 3A – Logistics;
  - Block 3B – Logistics; and
  - Block 3C – Logistics and Data centres.
- Urban Design Guidelines to guide future development of the built form and public domain; and
- Strategies and mitigation measures to manage potential environmental impacts.

+ Early Works to support future delivery of built form and publicly accessible open space, including:
  - Site preparation works, comprising:
    - Demolition of existing structures;
    - Clearing of existing vegetation and removal of existing ponds;
    - Remediation works; and
    - Bulk earthworks, including ground improvement and flood mitigation works.
  - Site servicing and infrastructure works, including:
    - Construction of the Flora Street East extension consistent with Item 3 of the executed Voluntary Planning Agreement with Bayside Council;
    - Construction of stormwater infrastructure; and
    - Construction and augmentation of service and utility infrastructure as necessary.

For a detailed description, refer to the Environmental Impact Statement prepared by Colliers Urban Planning.

Indicative Reference Scheme

The Concept Masterplan is supported by Indicative Reference Schemes that present as 'proof of concepts' within the proposed planning framework. The schemes demonstrate suitable primary land use, built form and public domain outcomes that align with the vision for a world-class precinct that leverages the site's strategic location adjacent to Sydney Airport and strong transport connections.

The Indicative Reference Schemes consider different potential development outcomes enabled by the Concept Masterplan to support the delivery of the highest and best use at the time of redevelopment. This includes a Logistics scheme and Alternative Uses scheme, which facilitate the potential for four (4) different primary land use outcomes across the Site. The alternative land use outcomes enabled by the Concept Masterplan include an alternative mixed-use outcome on Block 2 and alternative data centre outcome on Block 3C.

The Indicative Reference Schemes are established in Error! Reference source not found., with the Logistics scheme and Alternative Uses scheme prepared by Grimshaw depicted in Error! Reference source not found. and Error! Reference source not found..

It is noted that the Indicative Reference Schemes are indicative only and the development of future built form and publicly accessible open space will be subject to future Development Applications. The Indicative Reference Schemes demonstrate the ability to support different potential outcomes, consistent with the proposed framework under the Concept Masterplan including Urban Design Guidelines.

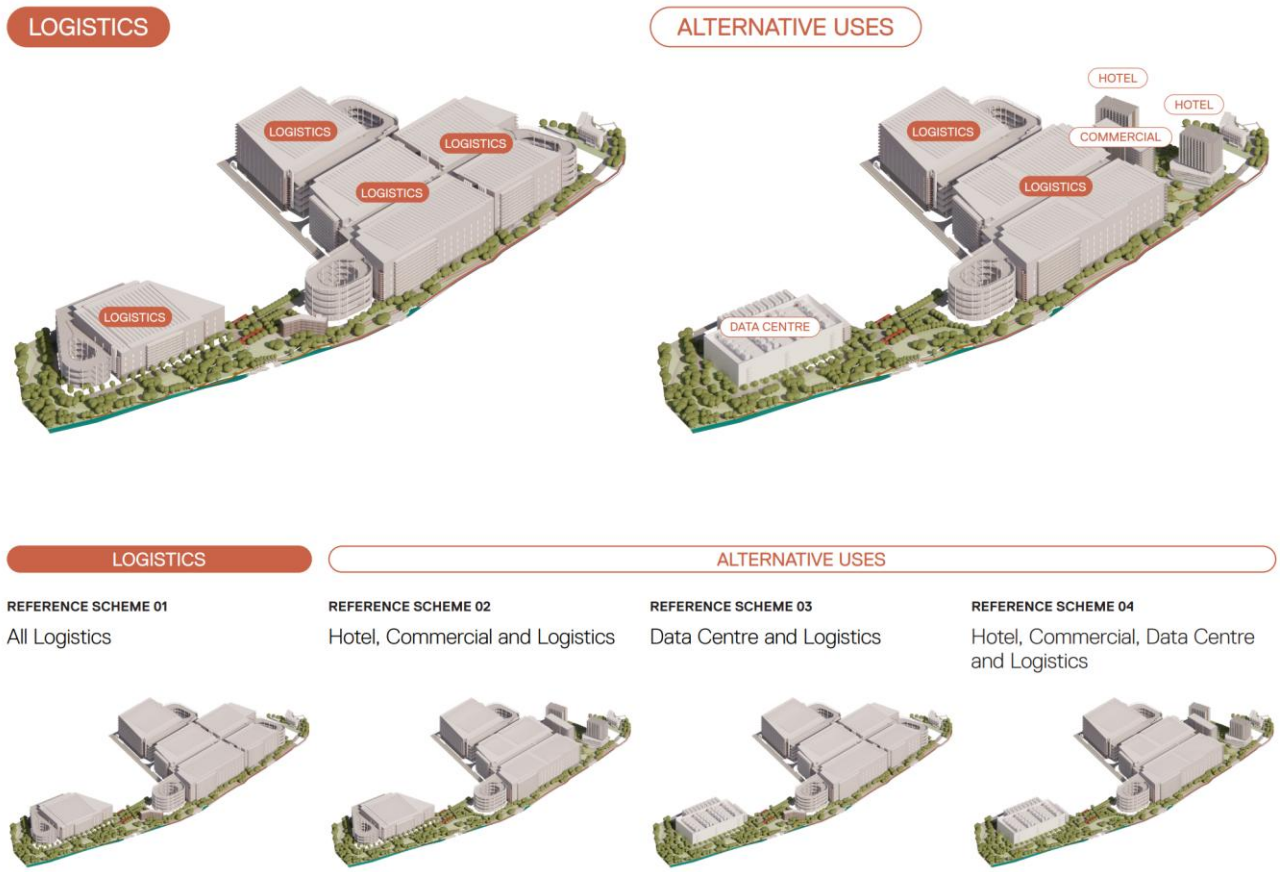


Figure 3 Indicative Reference Scheme – Logistics (Source: Grimshaw)

Figure 4 Indicative Reference Scheme – Logistics Scheme (Source: Grimshaw)

Figure 5 Indicative Reference Scheme – Alternative Uses (Source: Grimshaw)

Land Use Matrix

The development yield associated with each land use outcome under the Indicative Reference Schemes is presented in Error! Reference source not found. below.

+ TABLE 3: LAND USE MATRIX – INDICATIVE REFERENCE SCHEMES

Primary Land Use	Reference Scheme 1 Logistics	Reference Scheme 2 Logistics + Mixed-use	Reference Scheme 3 Logistics + Data Centre	Reference Scheme 4 Logistics + Mixed-use + Data Centre
Lot 31 DP1231486 (Block 1)				
Hotel	1,670m² (64 keys)			
Commercial	1,260m²			
F&B / Shops / Artisan F&B	320m²			
TOTAL	**3,250m²**			
Lot 100 DP1231954 (Block 2, 3A, 3B, 3C)				
Warehouse	336,200m²	293,000m²	276,200m²	231,600m²
F&B / Shops	1,950m²	10,000m²	1,850m²	10,000m²
Hotel	-	20,000m² (300 keys)	-	20,000m² (300 keys)
Commercial	1,850m²	17,000m²	1,850m²	17,000m²
Data Centre	-	-	25,400m² (80 MW)	25,400m² (80 MW)
TOTAL	**340,000m²**	**340,000m²**	**305,300m²**	**304,000m²**

1.2 Aim

The aim of this report is to:

- Undertake an assessment of the proposed development against the deemed-to-satisfy provisions of the BCA 2022 Amendment 2.
- Identify matters that require plan amendments in order to achieve compliance with the BCA 2022 Amendment 2.
- Identify matters that are to be required to be addressed by Performance Solutions.

1.3 Project Team

The following bm+g team members have contributed to this Report:

- **Dean Goldsmith** – Report Preparation (Director) | Building Surveyor-Unrestricted
- **Jack Nicolaou** – Peer Review (Building Surveyor)
- **Jackon Boyd** – Quality Assurance (Senior Building Surveyor)

1.4 Referenced Documentation

The following documentation has been reviewed, referenced and/or relied upon in the preparation of this report:

- Building Code of Australia 2022 (BCA) Amendment 2
- The Guide to the Building Code of Australia 2022
- Fire Safety Concept Strategy prepared by Core Engineering dated 21 October 2025
- Architectural Plans prepared by Grimshaw numbered:

+ Drawing No.	+ Revision	+ Date
A03 1001	P08	07.11.25
A03 1003	P08	07.11.25
A06 1001	P01	10.10.25
A07-SC1 1001	P03	11.10.25
A21 2001	P04	10.10.25

+ Drawing No.	+ Revision	+ Date
A21 2003	P04	10.10.25
A21 2010	P04	10.10.25
A99 7001	P04	03.10.25
A99 7002	P03	03.10.25
A99 7003	P03	03.10.25

1.5 Regulatory Framework

- Pursuant to Section 19(1) of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 all new building work must comply with the current BCA however the existing

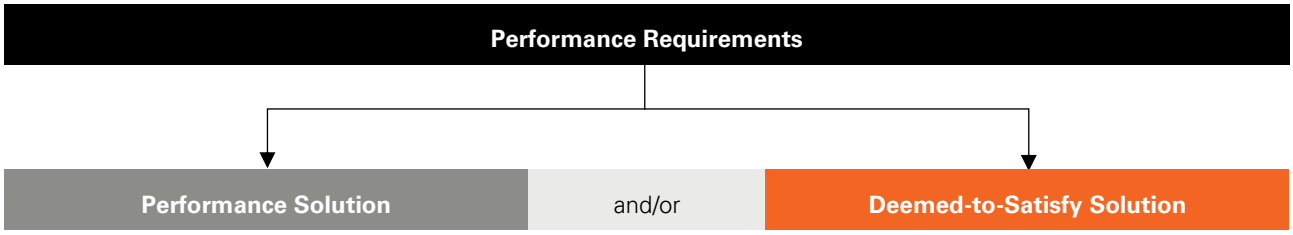
features of an existing building need not comply with the BCA unless upgrade is required by other clauses of the legislation.

+ The assessment has been undertaken in accordance with Clause 24 and 25 of the Building and Development Certifiers Regulation 2020. bm+g are the proposed Registered Certifier and the advice provided in this Report is limited to whether submitted documentation complies with the Building Code of Australia or a legislative requirement.

1.6 Relevant Version of the NCC Building Code of Australia

Pursuant to Section 19 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the day on which the application for the Construction Certificate is made. The current version of the BCA is BCA 2022 Amendment 2, with the next revision of the BCA has been deferred to coming into effect until 1 May 2027. As the final draft of the new revision BCA 2025 has not as yet been released the below assessment relates to BCA 2022 Amendment 2 provisions only.

1.7 Compliance with the National Construction Code



Compliance with the NCC is achieved by complying with:

+ the Governing Requirements of the NCC; and
+ the Performance Requirements.

Performance Requirements are satisfied by one of the following, as shown in the Figure below:

+ A Performance Solution.
+ A Deemed-to-Satisfy Solution.
+ A combination of the above two options.

1.8 Limitations and Exclusions

The limitations and exclusions of this report are as follows:

- This report is prepared in accordance with the Conflicts of Interest provisions of Part 4 of the Building and Development Certifiers Regulation 2020. bm+g confirm that this report is prepared specifically to address the requirements of Clause 25(5) and (9) of the Regulation with respect to the role of the Registered Certifier. This assessment report is not to be construed as extending any further into providing design advice, which would be contrary to the aims of this legislation.
- No assessment has been undertaken with respect to the Disability Discrimination Act 1992 (DDA). The building owner needs be satisfied that their obligations under the DDA have been addressed.
- Please note that whilst the BCA specifies a minimum standard of compliance with AS1428 (Parts 1-3) and Part D4 of the BCA for access and facilities for people with disabilities, compliance with such requirements may not necessarily preclude the possibility of a future complaint made under the DDA 1992. The DDA is a complaint based legislation and is presently not identified by the State Building Codes and Regulations. In this regard the building owner should be satisfied that their obligations under the DDA have been addressed.
- No assessment has been undertaken with respect to SEPP (Housing) 2021. It is understood that suitably qualified consultants will be engaged to determine the relevance of any Council planning requirements or SEPP requirements and provided detailed assessment reports where applicable.

  Where relevant to this development, it is assumed that these assessments will be undertaken by others.
- This report does not consider BCA Part G5 (Volume 1) which makes provision for construction of buildings in bushfire-prone areas, therefore no assessment has been undertaken in consideration of RFS, Planning for Bushfire Protection and AS 3959. Where Part G is applicable to the site, then it is required that assessment / due diligence is undertaken by a specialist consultant to verify compliance.
- This report does not constitute a detailed assessment of the architectural documentation against the requirements of Section J. It is understood that a suitably qualified consultant will be engaged to determine compliance in this regard.
- bm+g has not undertaken an assessment of any Performance Solution Reports at the time of the preparation of this report.
- The Report does not address matters in relation to the following Local Government Act and Regulations:
  - Work Health and Safety Act and Regulations.
  - Work Cover Authority requirements.
  - Water, drainage, gas, telecommunications and electricity supply authority requirements.
  - Disability Discrimination Act 1992.
- bm+g cannot guarantee acceptance of this report by Local Council, Fire & Rescue NSW or other approval authorities.
- This report is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.

1.9 Report Terminology

Building Code of Australia – Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.

Climatic Zone – Means an area defined in Figure 2 and in Table 2 (of BCA Schedule 3) for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.

Construction Certificate – Building Approval issued by the Certifying Authority pursuant to Part 6 of the EP&A Act 1979.

Construction Type – The construction type is a measure of a buildings ability to resist a fire. The minimum type of fire-resisting construction of a building must be that specified in Table C2D2 and Specification 5, except as allowed for:

- certain Class 2, 3 or 9c buildings in C2D6; and
- a Class 4 part of a building located on the top storey in C2D4(2); and
- open spectator stands and indoor sports stadiums in C2D8.

Note: *Type A construction is the most fire-resistant and Type C the least fire-resistant of the types of construction.*

Deemed-to-Satisfy (DtS) Provisions of the BCA – Means the prescriptive provisions of the BCA which are deemed to satisfy the performance requirements.

Effective Height – The vertical distance between the floor of the lowest storey included in the calculation 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).

Exit – Any, or any combination of the following if they provide egress to a road or open space:

- An internal or external stairway.
- A ramp.
- A fire-isolated passageway.
- A doorway opening to a road or open space.

Fire Compartment – The total space of the building; or when referred to in

- 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
- 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) – The grading periods in minutes for the following criteria:

- structural adequacy; and
- integrity; and
- insulation.

and expressed in that order.

Fire Source Feature (FSF) – The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

National Construction Code Series (NCC) – The NCC was introduced 1 May 2011 by the Council of Australian Governments (COAG). The BCA Volume One (Class 2 to 9 Buildings) is now referenced as the National Construction Code Series Volume One — BCA.

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

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

Occupation Certificate (OC) – Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 6 of the EPA Act 1979.

Open Space – Means a space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.

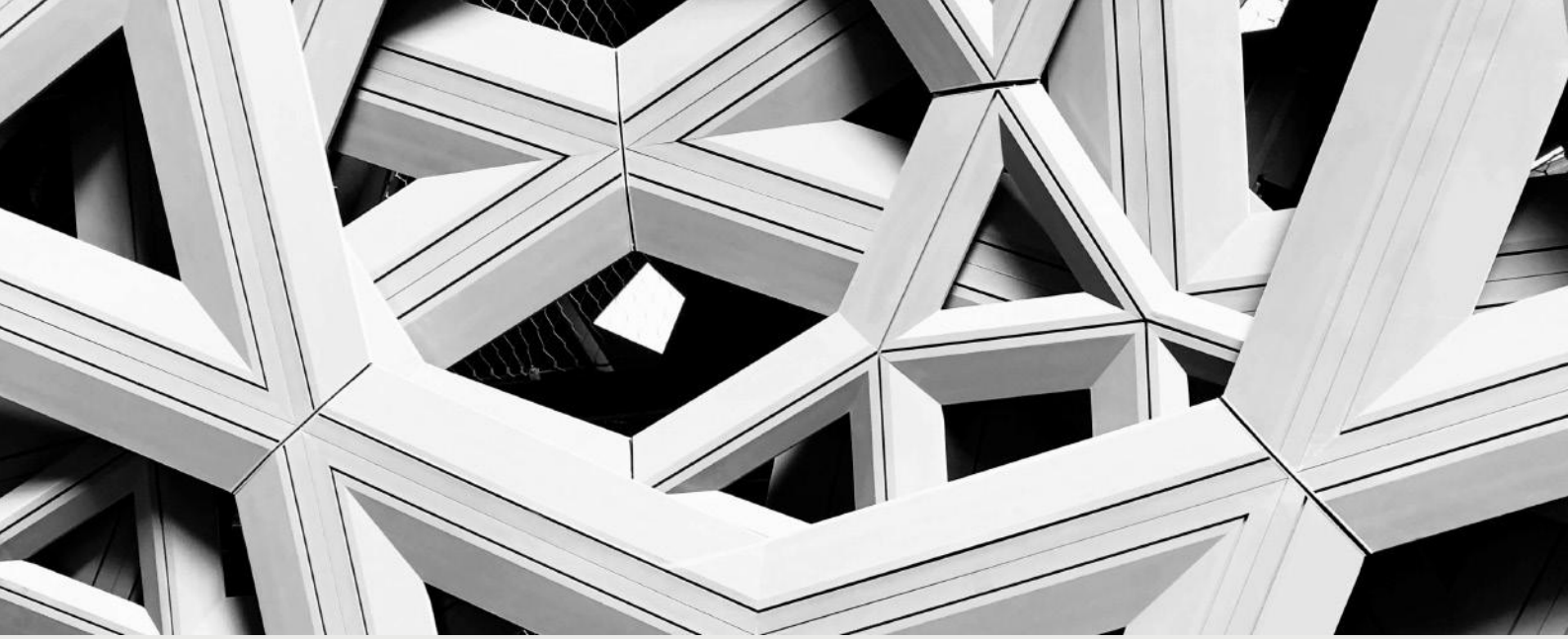
Performance-Based Design Brief – Means the process and the associated report that defines the scope of work for the performance-based analysis, the technical basis for analysis, and the criteria for acceptance of any relevant Performance Solution as agreed by stakeholders.

Performance Requirements of the BCA – A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must meet.

Compliance with the Performance Requirements can only be achieved by-

+ complying with the Deemed-to-Satisfy Provisions; or
+ formulating an Performance Solution which-
  - complies with the Performance Requirements; or
  - is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or
+ a combination of (a) and (b).

Performance Solution – Means a method of complying with the performance requirements other than by a Deemed-To-Satisfy Solution.



2.0 Building Characteristics

2.1 Proposed Development

The proposed development consists of a new concept multi-level staged industrial estate, which consists of the following:

- Block 1: Multi-storey Mixed Use Development including Hotel, Office & Retail
- Block 2: Multi-storey industrial building or
- Building 3A: Multi-storey industrial building with 6 industrial storeys, consisting of a shared central hardstand with ancillary offices (2 per warehouse storey), for a total rise in storeys of 12.
- Building 3B: Multi-storey industrial building with 6 industrial storeys, consisting of a shared central hardstand with ancillary offices (2 per warehouse storey), for a total rise in storeys of 12. This building may also incorporate a potential staging split.
- Building 3C: Multi-storey industrial building with 4 industrial storeys, consisting of a shared central hardstand with ancillary offices (2 per warehouse storey), for a total rise in storeys of 9, or multi-storey Data Centre
- A 5 storey retail/commercial building and adjacent single storey retail building that are ancillary to the adjoining Block 3B & 3C developments.

The buildings are classified as follows:

	Block 1 & 2	Block 3A, 3B, 3C	Retail Buildings
BCA Classifications:	Class 3 (Hotel) Class 5 (Office) Class 6 (Retail) Class 7a (Carpark)	Class 5 (Office) Class 7a (Carpark) Class 7b (Warehouse / Data Centre)	Class 5 (Office) Class 6 (Retail)
Rise in storeys:	Up to nineteen (19)	Twelve (12)	Up to Five (5)
Storeys Contained:	Nineteen (19)	Twelve (12)	Five (5)

	Block 1 & 2	Block 3A, 3B, 3C	Retail Buildings
+ Type of Construction:	Type A Construction	Type A Construction	Type A (multi-storey) & Type C (single storey)
+ Importance Level (Structural)	Level 2 (TBC by Structural Engineer)	Level 2 (TBC by Structural Engineer)	Level 2 (TBC by Structural Engineer)
+ Sprinkler Protected Throughout	Yes	Yes	Yes
+ Effective Height	Block 1: <25m Block 2: >50m	Block 3A & 3B: >50m Block 3C: >25m	TBC
+ Total Gross Floor Area	Block 1: 1,610m^2 Block 2: 18,009m^2	Block 3A: 21,849m^2 Block 3B: 44,930m^2 Block 3C: 21,986m^2	Retail: 735m^2
+ Climate Zone	Zone 5	Zone 5	Zone 5

Note**: Effective Height is a BCA defined term that is used to determine a number of egress and fire services requirements. Effective Height is measured from the lowest RL of the ground floor level to the RL of the highest occupied floor level of a building excluding a rooftop plantroom – it does not relate to the overall height of the building.

2.2 Fire Compartment Floor Area Limitations

Maximum size of fire compartment/atria permissible in Table C3D3 are listed below. *Note: Table C3D3 is not applicable to a Large Isolated Buildings.*

+ Classification		+ Type A	+ Type B	+ Type C
6, 7, 8 or 9a	Max. floor area	5,000m^2	3,500m^2	2,000m^2
	Max. volume	30,000m^3	21,000m^3	12,000m^2
5, 9b or 9c	Max. floor area	8,000m^2	5,000m^2	3,000m^2
	Max. volume	48,000m^3	48,000m^3	18,0000^2

2.3 Distance to Fire Source Features

Based upon a review of the plans, it is noted that each elevation of the building is located within the following distances from fire source features on the site.

Block 1:

+ Elevation	+ Fire Source Feature	+ Distance
North	Far side of the road	>3m
East	Side or rear boundary	>3m
West	Side or rear boundary	>3m
South	Side or rear boundary	>3m

Block 2:

+ Elevation	+ Fire Source Feature	+ Distance
North	Far side of the road	>3m
East	Side or rear boundary	>3m
West	Side or rear boundary	>3m
South	Side or rear boundary	>3m

Block 3A:

+ Elevation	+ Fire Source Feature	+ Distance
North	Far side of the road	>3m
East	Side or rear boundary	>3m
West	Side or rear boundary	>3m
South	Side or rear boundary	>3m

Block 3B:

+ Elevation	+ Fire Source Feature	+ Distance
North	Far side of the road	>3m
East	Side or rear boundary	>3m
West	Side or rear boundary	>3m
South	Side or rear boundary	>3m

Block 3C:

+ Elevation	+ Fire Source Feature	+ Distance
North	Far side of the road	>3m
East	Side or rear boundary	>3m
West	Side or rear boundary	>3m
South	Side or rear boundary	>3m

Retail Buildings:

+ Elevation	+ Fire Source Feature	+ Distance
North	Far side of the road	>3m
East	Side or rear boundary	>3m
West	Side or rear boundary	>3m
South	Side or rear boundary	>3m

***Note:** Fire Source Feature (FSF) – The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.*

3.0 BCA Assessment

The following BCA compliance assessment identifies key criteria (only) that are applicable to the Concept Plans for each of the proposed buildings and their proposed uses. Please note that this is not a full list of BCA clauses applicable to the proposed development, and a full assessment will be required on a per building basis at the CC Application stage (post issue of Development Consent).

3.1 Section B – Structure

Part B1

- New building works are to comply with the structural provisions of the BCA 2022 and the following referenced standards including:
  - AS 1170.0 – 2002 General Principles
  - AS 1170.1 – 2002, including certification for balustrades (dead and live loads)
  - AS 1170.2 – 2021, Wind loads
  - AS 1170.4 – 2007, Earthquake loads
  - AS 3700 – 2018, Masonry Structures
  - AS 3600 – 2018, Concrete Structures
  - AS 4100 – 1998, Steel Structures and/or
  - AS 4600 – 2018, Cold formed steel Structures
  - AS 2159 – 2009, Piling Design &Installation
  - AS 1720 – 2010, Design of Timber Structure
  - AS/NZS 1664.1 & 2 – 1997, Aluminium Structures
  - AS 2047 – 2014, Windows and External Glazed Doors in buildings
  - AS 1288 – 2006, Glass in buildings
  - AS 3660.1 – 2014, Termite control (or confirmation no primary building elements are timber).
- Design certification will also be required from the Architect and Services Consultants to confirm compliance with Section 8 of AS1170.4-2007 with regard to the design of non-structural parts and components and their fastenings for horizontal and vertical earthquake forces and inter-storey drift.
- In accordance with B1D3(a)(iv) a notional additional load of not less than 0.15kPa to support the addition of solar photovoltaic panels is to be applied to the roof structure for Class 7b industrial buildings.
- The Importance Level provisions of BCA (Section B) are to be acknowledged by the Structural Engineer and addressed to the degree necessary.

Comment: Structural design details and certification will be required at CC application stage. It is noted that an Importance Level 2 will be required to be confirmed by the Structural Engineer.

3.2 Section C – Fire Resistance

C2D2 & Spec 5

Type of Construction Required: The building is required to comply with the requirements of Type A Construction as stated within Specification 5. The table below provides an overview of

the FRL requirements and also refer to Table 4 of Appendix 1 for the FRL requirements of Type A Construction.

Type A Construction:

- All loadbearing external walls & loadbearing elements incorporated in or attached to an external wall are to achieve the required FRL per Table S5C11a.
- All non-loadbearing parts of external walls are to achieve the required FRL per Table S4C11b.
- All loadbearing external columns are to achieve the required FRL per Table S5C11c.
- Any Fire Walls that are proposed to separate different classifications per C3D9 above are to achieve the required FRL per Table S5C11d for Class 7b.
- Lift shafts are to achieve the required FRL per Table S5C11e (for loadbearing lift shafts) and S5C11f (for non-loadbearing lift shafts).
- Fire stair shafts are to achieve the required FRL per Table S5C11e (for loadbearing fire stairs) and S5C11f (for non-loadbearing fire stairs).
- Services shafts are to achieve the required FRL per Table S5C11e (for loadbearing service shafts) and S5C11f (for non-loadbearing service shafts).
- All loadbearing internal columns, walls, beams and trusses throughout are to achieve the required FRL per Table S5C11/ S5C11f.
- Floors are to achieve the required FRL per Table S5C11f and not less than the FRL of the classification with the highest FRLs in the storey below.
- The roof is required to achieve the required FRL per Table S5C11g or the coverings are required to be non-combustible in accordance with Clause S5C15.
- Where a part of the building required to have an FRL depends on direct vertical or lateral support from another part to maintain its FRL, that supporting part must achieve an FRL in accordance with Clause S5C3 of Spec. 5 and be non-combustible, unless one of the concessions in S5C3 (2) can be applied.

Comment: Type A Construction applies to the proposed other than the single storey stand-alone retail building that has no applicable FRL requirements. – see notes under Spec 5. below. Performance solution to rationalise FRLs only applies to fire walls in the Data Halls.

C2D3

Calculation of Rise in Storeys: The rise in storeys of a building 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 calculated in accordance with the requirements set out in this clause.

Comment: See Section 2.1 for the relevant Rise in storeys assessment of each oof the proposed buildings.

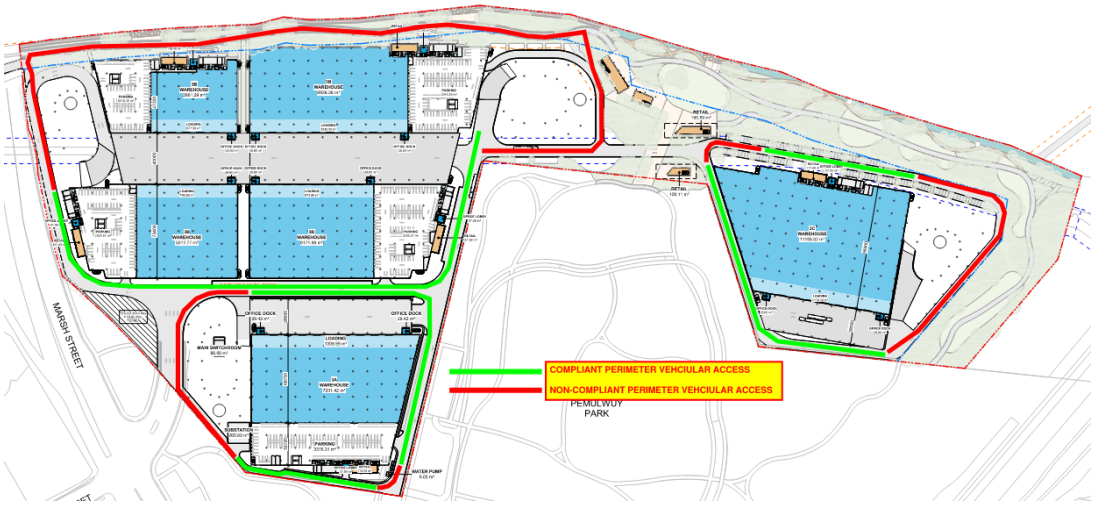
C2D10

Non-Combustible Building Elements & Ancillary Elements: All materials and or components incorporated in an external wall or fire-rated wall must be non-combustible. This includes but not limited to:

- Any external wall claddings.
- Any framing or integral formwork systems. I.e. timber framing, sacrificial formwork, etc.
- Any external linings or trims. I.e. external UPVC window linings, timber window blades, etc.
- Any sarking or insulation contained within the wall assembly.
- Internal non-load bearing fire rated walls.
- Architectural elements in the facades
- Signage

This is not an exhaustive list, and any element incorporated within any required non-combustible wall assembly must be identified and approved prior to the issue of a Construction Certificate.

Refer to Table 1 in Appendix 1 for the elements required to be non-combustible.

	Comment: Details are to be submitted with the CC applications for each building for assessment in an External Wall Disclosure Design Statement format to confirm compliance.
C3D3	**General Floor Area and Volume Limitations:** The building is required to achieve fire compartment sizes not in excess of the DtS requirements of this clause, as noted in Table C3D3 – see Section 2.2 above. **Comment:** The proposed industrial buildings in Blocks 3A, 3B, & 3C are Class 5 & 7b Large Isolated Buildings and as such the provisions for maximum fire compartment size under Table C3D3 do not apply. Refer to comments under C3D4 & C3D5 below in relation to the Large Isolated Building provisions applicable to the proposed development. The proposed hotel/retail/carpark buildings in Blocks 1 & 2 are capable of achieving compliance with the maximum compartment size limitations of Table C3D3 (as noted in Section 2.2 above).
C3D4	**Large Isolated Buildings:** A Large Isolated Building that contains Class 5, 6, 7, 8 or 9 parts, is required to be— + Protected throughout with a sprinkler system complying with Specification 17; and + Provided with a perimeter vehicular access complying with C3D5(2). **Comment:** The proposed industrial buildings (Blocks 3A, 3B, & 3C) are required to be sprinkler protected and provided with a 6m wide perimeter vehicular accessway in accordance with Clause C3D5(2) throughout (see notes in C3D5 below).
C3D5	**Requirements for Open Spaces and Vehicular Access:** Open space and vehicular access required by C3D4 must comply with the requirements of sub-clauses (a) & (b) of this Part whereby they must be 6m wide within 18m of the external walls of the building and of a suitable bearing capacity and unobstructed height to permit the operation and passage of FRNSW vehicles. **Comment:** The proposed Blocks 3A, 3B, & 3C do not comply with the provisions of C3D5 and thus the following non-compliance issues are required to be addressed as a Performance Solution by the Fire Engineer to demonstrate compliance with Performance Requirement C1P9 – see non-compliances identified in red in Figure 5 below. Particular attention is drawn to the use of the riverside pathway for perimeter vehicular access on the northern side of Block 3B.  *Figure 5 Perimeter Vehicular Access Assessment*
C3D9 & C3D10	**Separation of Classifications:** Separate classifications will either need to be separated by a fire wall achieving the higher FRL requirement between the two classes, or alternatively the higher FRL must apply to both areas subject to Spec 5. **Comment**: The compartments in each of the proposed buildings containing different classifications will have the higher FRLs applicable tyo each Class throughout; or Fire Walls will be required to separate these areas.
C3D11	**Separation of Lift Shafts:** The lift shaft/s are required to achieve a 4 hour FRL as they connect greater than 3 storeys.

	Comment: Fire rating plans will be required at the CC Application stage for each building – compliance is readily achievable.
C3D12	**Stairways and lifts in one shaft:** A stairway and a lift must not be in the same shaft if either the stairway or the lift is required to be in a fire resisting shaft. **Comment:** Fire rating plans will be required at the CC Application stage for each building – compliance is readily achievable.
C3D13 / C3D14	**Separation of Equipment:** Equipment & Electrical Infrastructure as listed below must be separated from the remainder of the building with construction that achieves an FRL of 120/120/120 (or that required by Spec. 5, whichever is greater) and doorways being self-closing -/120/30 fire doors: + Lift motors and lift control panels; or + Emergency generators used to sustain emergency equipment operating in emergency mode; or + Central smoke control plant; or + Boilers; or + A battery or battery system installed in the building that has a voltage of 12 volts or more and a storage capacity of 200kWh or more. + Substations + Main Electrical Switchboards and Conductors, that sustain Emergency Equipment **Comment:** Where appropriate, details demonstrating compliance are to be included in the CC Application plans.
C4D13	**Openings in Floors and Ceilings for Services:** This clause applies to the floors and ceilings in buildings of Types A, B & C Construction and sets out the methods required to limit the spread of fire though openings in these building elements, required to resist the spread of fire. **Comment:** See note below under C4D15 regarding the requirement for a Performance Solution for fire stopping in 240/240/240 FRL building elements.
C4D15	**Openings for Services Installations:** All opening for services installations in building elements required to be fire-resisting with respect to integrity and insulation must be protected in accordance with the provisions of Spec. 13. **Comment:** Any services penetrations through elements with a 240/240/240 FRL may require a Performance Solution, given the lack of tested systems for fire stopping that will achieve a 4hr insulation rating in accordance with this requirement. It is recommended that this be incorporated generically in any Fire Engineering Performance Solution to avoid non-compliance issues at OC stage.

3.3 Section D – Access and Egress

D2D3	**Number of Exits Required:** A building with an effective height of greater than 25m is required to be provided with 2 exits to each storey. **Comment:** Compliance with the requirements of this clause are readily achievable in each of the proposed buildings.
D2D4	**When Fire-Isolated Stairways and Ramps are Required:** This clause specifies the requirements for when fire isolated stairs or ramps are required in buildings based upon the number of storeys that they interconnect and the classification of the building. **Comment:** The exit stairs serving the hotel/retail buildings (Blocks 1 & 2) and the proposed industrial buildings (Blocks 3A, 3B, & 3C) connect more than 3 storeys in sprinkler protected buildings and as such are required to be fire isolated. Details demonstrating compliance with the FRL requirements of this clause are to be provided at CC application stage – compliance is readily achievable.

D2D5	**Exit Travel Distances:** This clause specifies the permitted travel distances allowable from Class 2 to Class 9 buildings. Sub-clauses (1) to (6) specify the maximum distances to be taken into account for the various uses in each Class of building. In a Class 5, 6, 7, 8 & 9 Buildings no point on a floor must be more than 20m for a single exit or to a point of choice to alternative exits; and no point on a floor must be more than 40m to an exit where 2 or more alternative exits are available for egress. **Comment:** A further updated assessment of egress distances will be required as the design develops, however, our assessment is noted below and there is non-compliance in most parts of the proposed industrial buildings (Blocks 3A, 3B & 3C). A Fire Engineered performance solution is necessary to allow extended exit travel distances as noted below: - Block 2 Hotel/Office: Up to 10m to a point of choice to alternative exits from the Class 3 Hotel levels and up to 30m to a point of choice to alternative exits from the Class 5 Office levels. - Block 3A: Up to 95m to the nearest exit in the warehouses, up to 70m to the nearest exit from the breezeway hardstands, and up to 60m to the nearest exit from the Ground Level Carpark. - Block 3B: Up to 95m to the nearest exit for the warehouse, up to 110m to the nearest exit from the breezeway hardstands, and up to 60m to the nearest exit from the Ground Level Carpark. - Block 3C: Up to 75m to the nearest exit for the warehouse, and up to 70m to the nearest exit from the breezeway hardstands Note: Travel distances are to approximations subject to final internal layouts in each building.
D2D6	**Distance Between Alternative Exits:** Exits required as alternative exits must be – + 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 + not less than 9m apart; and + not more than – 60m apart. + Located so that the alternative paths of travel do not converge such that they become less than 6m apart. **Comment:** A Fire Engineered performance solution is necessary to allow excessive travel distances listed below: - Block 3A: Up to 185m distance between exits in the warehouses, up to 145m distance between exits from the breezeway hardstands, and up to 115m distance between exits from the Ground Level Carpark. - Block 3B: Up to 180m distance between exits in the warehouses, up to 215m distance between exits from the breezeway hardstands, and up to 80m distance between exits from the Ground Level Carpark. - Block 3C: Up to 150m distance between exits in the warehouses, and up to 110m distance between exits from the breezeway hardstands. Note: Distances between exits are to approximations subject to final internal layouts in each building.
D2D7 – D2D11	**Dimensions of Paths of Travel to an Exit:** The minimum clear height through all egress paths is required to be no less than 2m, and a minimum of 1m wide (this width dimension is measured clear of any obstructions such as handrails and joinery). Aggregate exit widths must be achieved which are driven by occupancy numbers of each floor. **Comment:** Population numbers for the proposed building have been calculated based on the square metre rates listed in Table D2D18 to facilitate an assessment of the provisions of D2D7 to D2D11 – see D2D18 below. Compliance with D2D8 exit width requirements is considered to

	be readily achievable on each level of the proposed buildings, based on the population calculations below.
D2D12	**Travel via Fire Isolated Exits:** A fire isolated stairway is required to provide independent egress from each storey that it serves and discharge directly – + To a road open space; or + To a point – - In a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/3 of its perimeter; and - From which an unimpeded path of travel, not further than 20m, is available to a road or open space External walls and openings exposed to the discharge path of a fire-isolated stairway (within than 6m), measured perpendicular to the path of travel) must be protected with a 1-hour fire-rating for external walls, and C4D5 for openings. **Comment:** A Fire Engineered performance solution is likely be required to allow the fire stairs to discharge inside the building in Blocks 3A & 3B. Further details of the discharge path are to be provided to confirm whether compliance with D2D12(b) or (c) is achievable. In addition, the protection of the discharge paths from the Fire Stairs from each building may also require a Fire Engineered Performance Solution - TBC.
D2D13	**External Stairways or Ramps in Lieu of Fire-Isolated Stairways:** An external stairway or ramp may serve as a required exit in lieu of a fire-isolated exit serving a storey below an effective height of 25m provided that it is constructed in accordance with the following. + The external stair is to achieve a minimum FRL of 60/60/60 – when tested from the inside; + Stair to be non-combustible; + Exit doors to the stair is to be self-closing -/60/30 fire door; + No openings to occur in the external wall of the building within 3m for the exit. If openings are within 3-6m of the exit they are to be protected in accordance with BCA Clause C4D5 (if drenchers are used, they are to be located internally). Opens are restricted from being within 0-3m of the exit. **Comment:** It is noted that the design of Blocks 3A, 3B, & 3C include external exit stairs in lieu of fire isolated exits around the perimeter of each building. Given the effective heights of these buildings exceeds 25m the use of external exit stairs will require a Performance Solution for the Fire Engineer.
D2D15	**Discharge from Exits:** Requires that an exit must not be blocked at the point of discharge. Barriers such as bollards must be installed to prevent vehicles from blocking the discharge from exits. This clause also provides the methods of construction, location and separation, at exit discharge points for all building Classes. **Comments**: All exit discharge paths from each of the proposed buildings are required to be detailed on the site plans to confirm compliance with D2D15(3).
D2D18	**Number of Persons Accommodated:** Clause D2D18 and Table D2D18 are used to calculate the anticipated number of people in particular types of buildings so that minimum exit widths and the required number of sanitary and other facilities can be calculated. This clause and table are not to be used for non-BCA purposes. **Comment:** We note that occupant number calculations will be carried out when the design and use of each of the proposed buildings is confirmed.
Part D3	**Construction of Exits:** This part specifies the design requirements for stairs, exit doors, landings, balustrades, handrails and the like. **Comment:** Design details confirming compliance will be required to be provided at the CC Application stage for each building – compliance is readily achievable.
PartD4	**General Building Access Requirements:** Buildings and parts of building must be accessible for people with disabilities in accordance with AS 1428.1-2021 unless exempted by Clause D4D5.

	Access is required to and within all areas normally used by the occupants, for Class 3, 5, 6, 7b & 9b buildings and any levels in a Class 7a building containing accessible carparking spaces. **Comment:** Compliance readily achievable – refer to Access Consultant's Report.

3.4 Section E – Services and Equipment

E1D2	**Fire Hydrants:** + E1D2(1) – A fire hydrant system must be provided to serve a building having a total floor area greater than 500m² and where a fire brigade is available to attend a building fire. + E1D2(2) – Requires that the fire hydrant system must be installed in accordance with the provisions of AS2419.1-2021 and details where internal hydrants must be located. In accordance with Clause 8.6.1 of AS 2419.1-2021 a building with an effective height of greater than 25m or a designated as a Large Isolated Building per C3D4. + E1D2(3) – details concessions to AS 2419.1-2021 compliance associated with Class 8 Electricity Network Substations, and Hydrant Booster assembly locations where buildings are sprinkler protected. + E1D2(4) – states that internal fire hydrants must serve the level in which they are installed. **Comment:** The proposed buildings are all required to be served by a fire hydrant system designed in accordance with AS 2419.1-2021. The design of the hydrant systems serving the industrial buildings (Blocks 3A, 3B, & 3C) will be required to be the subject of a Performance Solution from the Fire Engineer in order to address Appendix C of AS 2419.1-2021.
E1D3	**Fire Hose Reels:** A fire hose reel system must be provided to serve a building where one or more internal fire hydrants are installed or in a building with a floor area greater than 500m². This clause requires that the fire hose reel system must be installed in accordance with AS 2441 and sets out the detail for location and uses of fire hose reels. **Comment:** The Class 6, 7a, and 7b parts of the proposed buildings required to be served by a compliant fire hose reel system – compliance is readily achievable.
E1D4, E1D5, E1D6 & E1D12	**Sprinklers:** A sprinkler system must be installed in a building or part of a building when required by Clauses E1D5 to E1D13 and comply with Specification 17. Specification 17 sets out requirements for the design and installation of sprinkler systems in Class 2-9 Buildings, and details the required design standards, including AS 2118.1-2017 and AS 2118.6-2012. **Comment:** The proposed buildings (including the Industrial buildings, and the Hotel / Retail / Commercial Buildings are required to be sprinkler protected throughout in accordance with Spec.17. The requirements for sprinkler protection in all proposed buildings are as a result of both the Large Isolated Building provisions (Blocks 3A, 3B & 3C) and the Effective Height being >25m in all buildings. In accordance with Clause 4.14.1 of AS2118.1-2017, sprinkler boosters are required to comply with the requirements of AS2419.1-2021 for a hydrant booster. We understand that a Fire Engineered Performance Solution will be required to address the departures from the standard.
E1D14	**Portable Fire Extinguishers:** To be provided and designed in accordance with Sections 1, 2 and 3 of AS 2444-2001. **Comment:** Fire extinguishers will be required to be installed in the proposed building in accordance with sub-clauses (1), (3) & (5) and AS 2444-2001.
E1D15	**Fire Control Centre:** A fire control centre is to be provided in accordance with Spec. 19, where the total building floor area exceeds 18,000m², or where the effective height is greater than 25m. The additional requirements of a Fire Control Room per Clauses S19C7 – S19C13 apply to a building where the effective height exceeds 50m. **Comment:** Where the effective height of the proposed buildings exceeds 50m (Blocks 2, 3A, 3B) a compliant Fire Control Room per Spec. 19 will be required to be provided in each building. In the

	propose Block 1 and 3C buildings where the effective height exceeds 25m a Fire Control Centre will be required to be provided in each building.
E1D17	**Provisions for Special Hazards:** Suitable additional provisions must be made for fire-fighting if unique problems could arise due to; + The nature or quantity of materials stored, displayed or used in a building on the allotment; or + The location of the building in relation to a water supply for firefighting purposed. **Comment:** Where a Data Centre is proposed in Block 3C and Lithium-Ion batteries (or equivalent) are proposed to be stored/utilised, an assessment will be required from both the fire systems designer and the fire engineer confirming that the proposed firefighting systems have the required capability to address the additional hazard resulting from the battery storage.
Part E2	**General Requirements:** In Class 2 to 9 buildings with an effective height of greater than 25m, smoke hazard management systems must provided to comply with the provisions of Clauses E2D4, E2D5, & E2D6, as identified below: + An Automatic Fire Detection System complying with Spec. 20 and AS 1670.1 – 2018. + Stairway Pressurisation complying with AS 1668.1 – 2015 to all Fire Stairs. + Zone Pressurisation complying with AS 1668.1 – 2015 to all Levels of the building. + Automatic shut-down of mechanical air handling systems upon fire trip in accordance with Section 5 and 6 of AS 1668.1. In a class 7a carpark, including a basement, a mechanical ventilation system that is compliant with AS 1668.2, and clause 5.5 of AS 1668.1. The details relating to the installation and operation of the systems are set out in Specifications 20, 21, & 22. **Comment:** It is understood that Fire Engineered Performance Solutions may be proposed to rationalise the smoke hazard management requirements in each of the proposed buildings.
E2D21	**Provisions for Special Hazards:** Additional smoke hazard management measures may be necessary due to the— + Special characteristics of the building; or + Special function or use of the building; or + Special type or quantity of material stored, displayed or used in a building; or + Special mix of classifications within a building or fire compartment, which are not addressed in E2D4 to E2D20. **Comment:** Where a Data Centre is proposed in Block 3C and Lithium-Ion batteries (or equivalent) are proposed to be stored/utilised an assessment from both the mechanical system designer and the fire engineer confirming that the proposed smoke hazard management systems have the required capability to address the additional hazard resulting from the battery storage will be required.
E3D5 (E3D3)	**Emergency Lifts:** An emergency lift must be installed in: + A building exceeds 25m in effective height; and + A class 9a building which has patient care areas located on a level that does not have direct egress to a road or open space. The emergency lifts must be contained within their own fire resisting shaft; must serve all levels served by passenger lifts. Where two or more passenger lifts are installed at least two emergency lifts must be provided to serve those storeys served by the passenger lifts and where the passenger lifts are in separate shafts, at least one emergency lift must be installed in each shaft. Each emergency lift must have the required dimensions for a stretcher lift per Clause E3D3 (600mm wide x 2000mm long x 1400mm high above the floor level). **Comment:** The proposed buildings exceed 25m in effective height and thus require emergency lifts. Compliance with this requirements is readily achievable in each building.

E4D4-E4D8	**Emergency Lighting & Exit Signs:** Emergency lighting and exit signs must be provided throughout the proposed buildings in accordance with AS 2293.1-2018. **Comment:** Electrical Consultant to note.
E4D9	**Emergency Warning and Intercom Systems (EWIS):** An Emergency Warning and Intercom System is required to be provided in accordance with AS 1670.4 – 2018 in a building with an effective height that is greater than 25m. **Comment:** As the proposed buildings exceed 25m, they are required to be served by an EWIS in accordance with AS 1670.4-2018.

3.5 Section F – Health and Amenity

F1D3	**Stormwater Drainage:** A roof balcony, podium or similar must have a system of stormwater drainage and the structural substrate must be graded with a minimum fall of 1:80 to a drainage outlet. **Comment:** Details of stormwater disposal are required to be prepared by a suitably qualified consultant and submitted with documentation for the CC Application.
F3D5	**Wall Cladding:** The following wall cladding materials are deemed to satisfy Performance Requirement F3P1: + Masonry, including masonry veneer, unreinforced and reinforced masonry, complying with AS 3700, + Autoclaved aerated concrete, complying with AS 5146.3, + Metal wall cladding, complying with AS 1562.1. **Comment:** Details are to be provided with the F3P1 Performance Solution Report, demonstrating compliance, prior to the issue of the CC.
F3P1 & F3D5	**Performance Requirement F3P1:** A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause + Unhealthy or dangerous conditions, or loss of amenity for occupants; and + Undue dampness or deterioration of building elements. Note 1: There are limited Deemed-to-Satisfy provisions for this Performance Requirement in respect to External Walls. DtS wall types include; masonry; autoclaved aerated concrete; and metal wall cladding only. Note 2: Refer to Clause F3D2 for roof coverings. **Comment:** A Performance Solution Report will be required to address the above, noting that the proposed design does not comprise of wholly DtS materials.
F4D4	**Facilities in Class 3 to 9 Buildings:** This clause provides the requirements for sanitary facilities to be installed in Class 3-9 buildings in accordance with Tables F4D4a – F4D4l. The requirements and variations are set out in sub-clauses (1)-(11). **Comment:** As noted above in D2D18, the population numbers will be assessed upon confirmation of the proposed design and use of each proposed building. The required sanitary facilities for the proposed development per Tables F4D4a and F4D4b will be calculated upon confirmation of Note 1: Where sanitary compartments are noted as Unisex on the floor plans they are required to be allocated as either Male or Female per Clause F2D4(1). Note 2: Where individual stand-alone sanitary compartments are they must be allocated for use by Males or Females only unless they are designed as a unisex accessible compartment per Clause F2D4(1).
F4D5	**Accessible Sanitary Facilities:** Accessible unisex sanitary compartments must be provided, in accordance with F4D6 and unisex showers must be provided in accordance with Table F4D7, in

	buildings or parts that are required to be accessible. The details for the provision of disable facilities and the standard, AS 1428.1, are set out in sub-clauses (a) to (i). **Comments:** Accessible toilet facilities and ambulant sanitary facilities are required to be provided to achieve compliance with the provisions of F4D5 and F4D6. Details demonstrating that the design of each facility complies with AS 1428.1 are to be provided at the CC application stage, however, compliance is readily achievable.
F5D2	**Height of Rooms and Other Spaces:** The ceiling heights in Class 2 to 9 buildings must not be less than required in sub-clauses (1) to (8) of this clause. The minimum ceiling heights for a Class 5, 6 & 7 building are as follows: + Corridor or Passage, Bathroom, Storeroom, etc. – 2.1m + Remainder – 2.4m. The minimum ceiling heights for a Class 9b building are as follows: + A part (including a corridor serving the part) that accommodates not more than 100 persons – 2.4m; A part (including a corridor serving the part) that accommodates more than 100 persons – 2.7m. **Comment:** Architect to ensure compliance. Ceiling heights are to be reviewed at the Construction Certificate state with the detailed section drawings.
F6D5	**Artificial Lighting:** Artificial lighting is required where it is necessary to minimise the hazard to occupants during an emergency evacuation. Sub-clauses (1) - (3) sets out the places where artificial lighting is always required in all classes of buildings and the standard to which it must be installed. **Comment:** Design certification to be submitted at CC Application.
F6D6	**Ventilation of Rooms:** A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have natural ventilation complying with F6D7 or a mechanical or air-conditioning system complying with AS1668.2 and AS/NZS 3666.1. **Comment:** Design certification to be submitted at CC Application.

3.6 Section J – Energy Efficiency

Part J4	**Building Fabric:** The provision of insulation of the building envelope will be required in the proposed Building, in accordance with Clauses J4D3 to J4D7, and the Tables therein, including Thermal Construction General, Roof and Ceiling Construction, Rooflights, Walls, and Floors. Design details and/or certification of design will be required to be provided in this regard. **Comment:** This section applies to the building envelope of any air-conditioned spaces proposed within the buildings. Design details and/or certification of building envelope design will be required to be submitted with the application for a Construction Certificate.
Part J5	**Building Sealing:** The provision of a compliant building sealing is required to all chimneys & flues, roof lights, windows & doors, Exhaust Fans, Ceilings Walls, & floors in accordance with Clauses J5D3 to J5D7. **Comment:** This section applies to any air-conditioned spaces proposed within the proposed buildings. Design details and/or certification of building envelope design will be required to be submitted with the application for a Construction Certificate. Refer to Section J Consultant's Report.
Part J6	**Airconditioning & Ventilation Systems:** Details and/or design certification which confirm that any proposed air-conditioning system or unit within the proposed building achieves compliance with the relevant requirements of Part J6 will be required to be provided from the mechanical engineer.

	Comment: Details or certification demonstrating compliance will need to be submitted with the application for a Construction Certificate. Refer to Section J Consultant's Report.
Part J7	**Artificial Light & Power:** Details and/or design certification which confirm that all artificial lighting, power control, and boiling/chilled water units within the proposed building achieves compliance with the relevant requirements of Part J7 will be required to be provided from the electrical engineer **Comment:** Consultant certification required at CC Application Stage. Refer to Section J Consultant's Report.
Part J8	**Hot Water Supply, & Swimming Pool & Spa Pool Plant:** Details and/or design certification which confirm that any proposed hot water supply system within the proposed building achieves compliance with the relevant requirements of Part J8 (Section 8 of AS 3500.4) will be required to be provided from the hydraulic engineer. **Comment:** Details and certification demonstrating compliance will need to be submitted with the application for a Construction Certificate. Refer to Section J Consultant's Report.
Part J9	**Facilities for Energy Monitoring:** Provision for monitoring of energy consumption must be provided to a building where the floor area exceeds 500m², and must be capable of recording the consumption of gas and electricity. In addition, where the floor area of the building exceeds 2,500m² the energy monitoring facilities must be capable of individually recording air-conditioning, lighting, appliance power, central hot water supply, lifts/escalators, and other ancillary plant and being connected to a single interface monitoring system. **Comment:** Details or certification demonstrating compliance with J9D3 for energy monitoring, J9D4 for provision for EV charging stations, and J9D5 for solar, will need to be submitted with the application for a Construction Certificate. Refer to Section J Consultant's Report.

4.0 Conclusion

This report contains an assessment of the referenced architectural documentation for the proposed Kogarah Golf Club Redevelopment Concept Plans against the Deemed-to-Satisfy provisions of the Building Code of Australia 2022 Amendment 2.

Arising from the assessment, key compliance issues have been identified that require further resolution, either by way of fire engineered Performance Solutions or plan amendments prior to the Construction Certificate stage.

Notwithstanding the above, it is considered that the proposed development can readily achieve compliance with the BCA subject to resolution of the matters identified in this report.

Appendices

+ Appendix 1 – References Tables

Table 1: Non-Combustibility Requirements

+ Building Element	+ Type A Construction
External wall	Non-combustible
Common wall	Non-combustible
Floor and floor framing of lift pit	Non-combustible
All loadbearing internal walls (including those of shafts)	Concrete, masonry or fire-protected timber
Loadbearing fire walls	Concrete, masonry or fire-protected timber
Non-loadbearing internal walls required to be fire-resistant	Non-combustible
Non-loadbearing lift, ventilating, pipe, garbage and the like shafts which do not discharge hot products of combustion.	Non-combustible (subject to conditions outlined in C2D10)

Table 2: Fire Hazard Properties Requirements – Floor Linings

+ Table S7C3 of Specification 7 Critical Radiant Flux of Floor Linings and Floor Coverings			
+ Class of Building	**Building Not Fitted with a Sprinkler System**	**Building Fitted with a Sprinkler System** (other than a FPAA101D or FPAA10H System)	**Fire-isolated Exits and Fire Control Rooms**
Class 2, 3, 5, 6, 7, 8 or 9b, excluding: + Class 3 accommodation for the aged; and + Class 9b	2.2 kW/m2	1.2 kW/m2	2.2 kW/m2

Table 3: Fire Hazard Properties Requirements – Wall and Ceiling Linings

+ Table S7C4 of Specification 7 – Wall and Ceiling Lining Materials (Materials Groups Permitted)				
Class of Building	**Fire-isolated Exits and Fire Control Rooms**	**Public Corridors**	**Special Areas**	**Other Areas**
Class 5, 6, 7, 8 or 9b schools, Unsprinklered	Walls: 1 Ceilings: 1	Walls: 1, 2 Ceilings: 1, 2	Walls: 1, 2, 3 Ceilings: 1, 2	Walls: 1, 2, 3 Ceilings: 1, 2, 3
Class 5, 6, 7, 8 or 9b schools, Sprinklered	Walls: 1 Ceilings: 1	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3

Table 4: Fire-Resisting Construction – Type A Construction

+ 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:				
For loadbearing parts:				
Less than 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3m	90/60/60	120/90/90	180/180/120	240/240/180
3m or more	90/60/30	120/60/30	180/120/90	240/180/90
For non-loadbearing parts:				
less than 1.5m	–/90/90	–/120/120	–/180/180	–/240/240
1.5 to less than 3m	–/60/60	–/90/90	–/180/120	–/240/180
3m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN - Not incorporated in an external wall				
For loadbearing columns	90/–/–	120/–/–	180/–/–	240/–/–
For non-loadbearing columns	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS	90/90/90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS				
Fire-resisting lift and stair shafts				
Loadbearing	90/90/90	120/120/120	180/120/120	240/120/120s
Non-loadbearing	–/90/90	–/120/120	–/120/120	–/120/120
Bounding public corridors, public lobbies and the like:				
Loadbearing	90/90/90	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/60/60	–/–/–	–/–/–	–/–/–
Between or bounding sole-occupancy units:				
Loadbearing	90/90/90	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/60/60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and the like shafts not used for the discharge of hot products of combustion:				
Loadbearing	90/90/90	120/90/90	180/120/120	240/120/120
Non-loadbearing	–/90/90	–/90/90	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES, AND:				
COLUMNS	90/–/–	120/–/–	180/–/–	240/–/–
FLOORS	90/90/90	120/120/120	180/180/180	240/240/240
ROOFS	90/60/30	120/60/30	180/60/30	240/90/60

Notes:

1. Any lightweight construction in a fire wall or an internal wall required to have an FRL is to comply with Specification 11.
2. A loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from; concrete or masonry.
3. Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part must typically achieve the same FRL. Where that part is also required to be non-combustible, the supporting part must also be non-combustible.
4. The method of attaching or installing a finish, lining, ancillary element, or service installation to a building must not reduce the fire-resistance of that element to below that required.
5. Fire rated shafts are required to be enclosed at the top and bottom by construction having an FRL of not less than what the shaft requires (in both directions)
6. The concession granted under S5C15 results in the roof of the building not being required to be fire rated (the building is provided throughout with sprinklers). Notwithstanding, the Atrium provisions override this general concession in BCA Specification 5.
7. Lift shafts are required to be enclosed at the top of the shaft with fire rated construction having an FRL of 120/120/120.
8. Fire isolated exits are to be provided with a fire rated "lid" that achieves an FRL of 120/120/120.
9. Where roof lights are proposed they are required to be located not less than 3 metres from a roof light in an adjoining fire separated part; and must not be more than 20% of the area of the roof.
10. Any loadbearing internal walls or loadbearing fire walls are to be masonry or concrete.
11. External walls must be non-combustible construction. Non-loadbearing parts of an external wall that are more than 3m from a fire source feature need not be fire rated.
12. Internal columns in this building (being less than 25m in effective height) that are in the storey immediately below the roof, can be constructed as follows:
    a. Building with a rise in storeys exceeding 3 – FRL 60/60/60
    b. Building with a rise in storeys not exceeding 3 – no FRL

+ Appendix 2 – Fire Safety Schedule

The following table is a list of the required fire safety measures within the building. These measures may be subject to further change pending the outcomes of the final Fire Safety Engineering Review to confirm the works are permissible.

Table 5: Fire Safety Schedule – Industrial Buildings

+ Statutory Fire Safety Measure	+ Design/Installation Standard	+ Required
Access Panels, Doors & Hoppers	BCA 2022 Clause C4D14 AS 1530.4 – 2014 & Manufacturer's Specifications	✓
Alarm Signalling Equipment	AS 1670.3 – 2018	✓
Automatic Fail-Safe Devices	BCA 2022 Clause D3D26	✓
Automatic Fire Detection & Alarm System	BCA 2022 Spec. 20 AS 1670.1 – 2018	✓
Automatic Fire Suppression Systems (Sprinklers)	BCA 2022 Spec. 17 AS 2118.1 – 2017	✓
Building Occupant Warning System activated by the Sprinkler System	BCA 2022 Spec. 17 Clause 8 and / or Clause 3.22 of AS 1670.1 – 2018	✓
Emergency Lifts (including Stretcher Lifts)	BCA 2022 Clause E3D5 AS 1735.2 – 2001	✓
Emergency Lighting	BCA 2022 Clause E4D2 & E4D4 AS 2293.1 – 2018	✓
Emergency Evacuation Plan	AS 3745 - 2010	✓
Emergency Warning & Intercommunication System (EWIS)	BCA 2022 Clause E4D9 AS 1670.4 - 2018	✓
Exit Signs	BCA 2022 Clauses E4D5, NSW E4D6 & E4D8 AS 2293.1 – 2018	✓
Fire Control Room (or Centre)	BCA 2022 Spec 19	✓
Fire Dampers	BCA 2022 Clause C4D15 AS 1668.1 – 2015 & AS 1682.1 & 2 – 2015 Manufacturer's Specification	✓
Fire Doors	BCA 2022 Clauses C3D13, C3D14, C4D9, C4D10, C4D11, & C4D14 AS 1905.1 – 2015 and Manufacturer's Specification	✓
Fire Hose Reels	BCA 2022 Clause E1D3 AS 2441 – 2005	✓
Fire Hydrant Systems	BCA 2022 Clause E1D2 AS 2419.1 – 2021	✓
Fire Seals	BCA 2022 Clause C4D15, AS 1530.4 – 2014 & AS 4072.1 – 2014 and Manufacturer's Specification	✓

+ Statutory Fire Safety Measure	+ Design/Installation Standard	+ Required
Lightweight Construction - TBC	BCA 2022 Clause C2D9 AS 1530.4 – 2014 and Manufacturer's Specification	✓
Mechanical Air Handling Systems (Automatic Shutdown)	BCA 2022 Clause E2D3 AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012	✓
Portable Fire Extinguishers	BCA 2022 Clause E1D14 AS 2444 – 2001	✓
Required Exit Doors (Power Operated)	BCA 2022 Clause D3D24(2)	✓
Smoke Hazard Management Systems: - Zone Pressurisation System - Stair Pressurisation System	BCA 2022 Part E2 AS/NZS 1668.1 –2015	✓
Warning & Operational Signs	BCA 2022 Clause D3D28, D4D7, & E4D4. AS 1905.1 – 2015 EP&A (DCFS) Regulations 2021 Section 108	✓
Fire Engineered Performance Solutions: TBC	TBC	✓

Table 6: Fire Safety Schedule – Hotel/Retail/Commercial Buildings

+ Statutory Fire Safety Measure	+ Design/Installation Standard	+ Required
Access Panels, Doors & Hoppers	BCA 2022 Clause C4D14 AS 1530.4 – 2014 & Manufacturer's Specifications	✓
Alarm Signalling Equipment	AS 1670.3 – 2018	✓
Automatic Fail-Safe Devices	BCA 2022 Clause D3D26	✓
Automatic Fire Detection & Alarm System	BCA 2022 Spec. 20 AS 1670.1 – 2018	✓
Automatic Fire Suppression Systems (Sprinklers)	BCA 2022 Spec. 17 AS 2118.1 – 2017	✓
Building Occupant Warning System activated by the Sprinkler System	BCA 2022 Spec. 17 Clause 8 and / or Clause 3.22 of AS 1670.1 – 2018	✓
Emergency Lifts (including Stretcher Lifts)	BCA 2022 Clause E3D5 AS 1735.2 – 2001	✓
Emergency Lighting	BCA 2022 Clause E4D2 & E4D4 AS 2293.1 – 2018	✓
Emergency Evacuation Plan	AS 3745 - 2010	✓
Emergency Warning & Intercommunication System (EWIS)	BCA 2022 Clause E4D9 AS 1670.4 - 2018	✓
Exit Signs	BCA 2022 Clauses E4D5, NSW E4D6 & E4D8 AS 2293.1 – 2018	✓
Fire Control Room or Centre	BCA 2022 Spec 19	✓

+ Statutory Fire Safety Measure	+ Design/Installation Standard	+ Required
Fire Dampers	BCA 2022 Clause C4D15 AS 1668.1 – 2015 & AS 1682.1 & 2 – 2015 Manufacturer's Specification	✓
Fire Doors	BCA 2022 Clauses C3D13, C3D14, C4D9, C4D10, C4D11, C4D12 & C4D14 AS 1905.1 – 2015 and Manufacturer's Specification	✓
Fire Hose Reels	BCA 2022 Clause E1D3 AS 2441 – 2005	✓
Fire Hydrant Systems	BCA 2022 Clause E1D2 AS 2419.1 – 2021	✓
Fire Seals	BCA 2022 Clause C4D15, AS 1530.4 – 2014 & AS 4072.1 – 2014 and Manufacturer's Specification	✓
Lightweight Construction - TBC	BCA 2022 Clause C2D9 AS 1530.4 – 2014 and Manufacturer's Specification	✓
Mechanical Air Handling Systems (Automatic Shutdown)	BCA 2022 Clause E2D3 AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012	✓
Portable Fire Extinguishers	BCA 2022 Clause E1D14 AS 2444 – 2001	✓
Required Exit Doors (Power Operated)	BCA 2022 Clause D3D24(2)	✓
Smoke Hazard Management Systems: - Zone Pressurisation System - Stair Pressurisation System	BCA 2022 Part E2 AS/NZS 1668.1 –2015	✓
Smoke and/or Heat Detectors (auto shutdown or smoke exhaust)	BCA 2022 Spec. 20 Clause S20C6 AS 1668.1 – 2015	✓
Warning & Operational Signs	BCA 2022 Clause D3D28, D4D7, & E4D4. AS 1905.1 – 2015 EP&A (DCFS) Regulations 2021 Section 108	✓
Fire Engineered Performance Solutions: TBC	TBC	✓