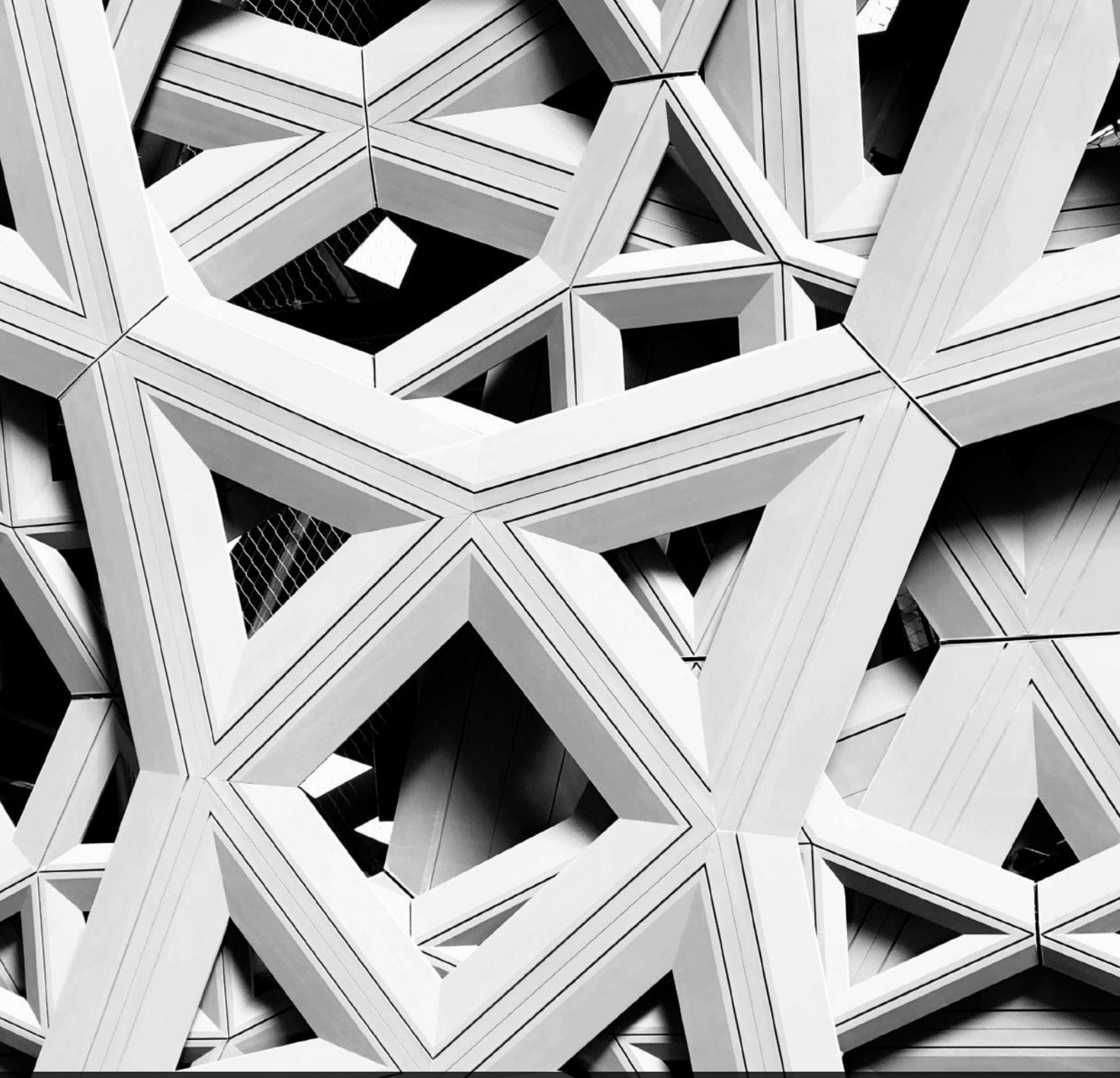

BCA & Access Assessment Report

88 Newton Road, Wetherill Park
Lot 1, DP1017259

Prepared for:
Centuria Capital

Revision 1
10th April, 2024
Reference: 230198

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 redesign or additional information at CC:

	+ BCA (DTS) Clause	+ Description
1.	**C3D13 / C3D14**	Details of any proposed Fire Separation of Equipment & Electrical infrastructure to be provided at CC Application stage.
2.	**D2D15 & Part D4**	A dedicated discharge path from the buildings exits to the street must be provided (included a pedestrian gate), details of which are to be included on the CC Application plans.
3.	**D3D14 – D3D22**	Detailed plans of all stairways, balustrades and handrails within the proposed development must be provided for review.
4.	**D3D24 – D3D26**	Details and certification demonstrating compliance are required to be provided at CC Application Stage for the proposed building.
5.	**D4D5**	Consideration to an exemption to the Warehouse areas may be appropriate on this project. Confirmation from the building owner stating where this would be applied and the reasons why it would be inappropriate for access for people with disabilities within the facility to be provided at CC application stage.
6.	**E1D17/E2D21**	Where applicable, details of additional fire services & smoke hazard management requirements to address additional hazard resulting from any proposed dangerous goods storage/use are to be provided at CC Application stage.
7.	**Section J**	A Section J Compliance Report or JV3 report will be required with the CC application

B. Matters requiring fire safety engineered performance solutions:

	+ BCA (DTS) Clause	+ Description
1.	**C3D4 / C3D5**	The Perimeter Vehicular Access is greater than 18m from the external wall of the building along the Southern side and around the Northeast, Northwest and Southwest corners of the building.
2.	**D2D5, D2D6 & G6D4**	The current plans indicate that exit travel distances, and distances between alternative exits within the building will not comply with D2D5, D2D6 & D6D4.
3.	**E1D2**	Design of the Hydrant System per AS 2419.1-2021 Appendix C, along with the location of the sprinkler boosters serving the site. Note: There is potential for limited hydrant coverage to some areas within the warehouse.

+	BCA (DTS) Clause	+ Description
4.	**E1D4**	Location of sprinkler booster does not comply with AS 2419.1-2021.
5.	**E2D3 – E2D10**	Confirmation is to be provided if a Performance Solution is proposed to rationalise the requirements associated with the required automatic smoke exhaust system.

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 & roof are designed to prevent the penetration of water into the building.
2.	**Section J**	A Section J Compliance Report or JV3 Report will be required with the CC application.

+ Contents

+ Report Status

+ Date	10.04.2024
+ Revision	1
+ Status	Updated Architectural Drawings
+ Author	Dean Goldsmith
+ Reviewed	Michael Potts

Prepared by:

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Director
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Building Surveyor-Unrestricted (NSW)
BDC No.: 0141

Reviewed by:

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BDC No.: 2516

+ Revision History

+ Revision	0	+ Date	28.03.2024
+ Status	Assessment Incorporating Single Level Design Scheme		
+ Revision	1	+ Date	10.04.2024
+ Status	Updated Architectural Drawings		

1.0 Description of Project

1.1 Proposal

bm+g have been commissioned by Centuria Capital to undertake an assessment of the proposed industrial Development at 88 Newton Road, Wetherill Park against the Building Code of Australia 2022 (BCA) and the Disability (Access to Premises – Buildings) Standards 2010.

The proposed development involves the demolition of existing buildings and structures, construction and operational use of a single storey warehouse with 2 storey office and carpark, amenities, on-site parking, landscaping and access, and other associated works including bulk earthworks, site preparation works and site clearance, as well as augmentation and construction of servicing utilities.

Figure 1: 3D Perspective, Source: SBA architects, Drawing No. DA 000, dated 03.04.2024, Revision (A)

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.
- Identify matters that require plan amendments in order to achieve compliance with the BCA.
- Identify matters that are to be required to be addressed by Performance Solutions.
- Enable the certifying authority to satisfy its statutory obligations under Clause 19(1) of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021.

1.3 Project Team

The following BM+G team members have contributed to this Report:

- **Jack Gunning** – Report Preparation (Cadet Building Surveyor)
- **Michael Potts** – Peer Review Access (Senior Access Consultant) | ACAA Member & Certificate IV in Access Consulting
- **Dean Goldsmith** – Peer Review (Director) | Building Surveyor-Unrestricted

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).
- AS 1428.1:2009 Design for access and mobility - General requirements for access - New building work.
- AS1428.2:1992 Design for access and mobility - Enhanced and additional requirements - Buildings and facilities.
- AS1428.4.1:2009 Design for access and mobility - Means to assist the orientation of people with vision impairment - Tactile ground surface indicators.
- HB198:2014 Guide to the specification and testing of slip resistance of pedestrian surfaces.
- Architectural Plans prepared by SBA Architects numbered:

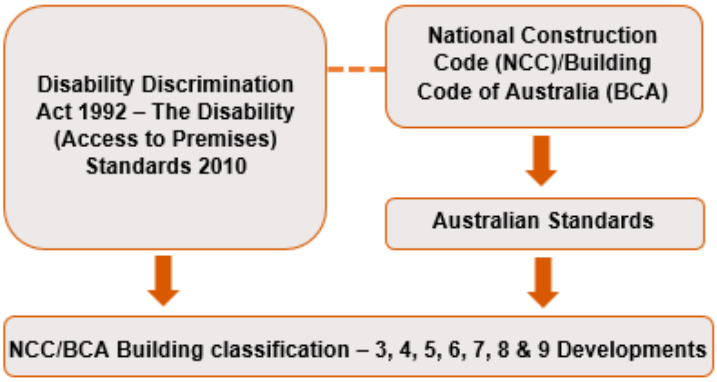
+ Drawing No.	+ Revision	+ Date
DA000	A	03.04.24
DA010	A	03.04.24
DA100	A	03.04.24
DA101	A	03.04.24
DA200	A	03.04.24
DA201	A	03.04.24

+ Drawing No.	+ Revision	+ Date
DA202	A	03.04.24
DA250	A	03.04.24
DA300	A	03.04.24
DA301	A	03.04.24
DA500	A	03.04.24
-	-	-

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.
- Pursuant to Section 60 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021, if a Certifier becomes aware of any significant fire safety issues in the process of determining a CDC, there are two options:
  - Address the significant fire safety issue in the proposed development, or
  - Notify Council of the significant fire safety issue (noting Council may potentially then issue a Fire Safety Order on the building compelling the building owner to rectify the issue).
  - will comply with such of the Category 1 fire safety provisions as are applicable to the new use.
- 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.

  The below figure represents the statutory framework addressing accessibility as noted in the below Act, Code and Standards.



The Disability Discrimination Act 1992 (DDA) is Commonwealth legislation enacted in 1993 that seeks to ensure that all new building infrastructure, refurbishments, services and transport projects provide independent and equitable access. The DDA is a complaints based legislation administered by the Australian Human Rights Commission (AHRC).

Subordinate to the DDA are the Disability Standards, which include; Disability (Access to Premises – Buildings) Standards 2010, Disability Standards for Education 2005, and the Disability Standards for Accessible Public Transport 2002. These Disability standards refer back to the AS 1428 suite of standards and Building Code of Australia.

Since 2011, the Building Code of Australia has adopted the key accessibility provisions of the Disability (Access to Premises – Buildings) Standards 2010, with compliance with AS 1428.1 – 2009, AS 1428.4.1 – 2009, and AS 2890.6 – 2009 becoming mandatory. As such, compliance with the relevant sections of the BCA ensures compliance with the Disability (Access to Premises – Buildings) Standards 2010 and vicariously the DDA.

With respect to existing works, there are statutory upgrade requirements within the Disability (Access to Premises – Buildings) Standards 2010 that apply to all building works which require consent (including Crown building work). This relates to the upgrade of any 'affected part' of the building, which includes;

+ The principal pedestrian entry (i.e. entry door and ramp), and
+ The pathway / corridor / lift / ramp which form an accessible path of travel to any area of new work (note: only one accessible path of travel is required to any new part under this requirement).

Section 23 of the Disability Discrimination Act DDA 1992 states;

It is unlawful for a person to discriminate against another person on the ground of the other person's disability:

- *By refusing to allow the other person access to, or the use of, any premises that the public or a section of the public is entitled or allowed to enter or use (whether for payment or not); or*
- *In the terms or conditions on which the first-mentioned person is prepared to allow the other person access to, or the use of, any such premises; or*
- *In relation to the provision of means of access to such premises.*

The DDA Act 1992 is a complaints-based legislation whilst compliance with The Disability (Access to Premises) Standards 2010 affords some certainty regarding the minimum compliance requirements it does not prevent a claim being made under the DDA Act 1992. Whilst implementing the minimum compliance requirements under the Disability (Access to Premises) Standards 2010 and BCA will satisfy the minimum compliance requirements there is nothing preventing a greater degree of access than those minimum requirements specified.

Note: The below report also includes recommendations for best practice/non mandatory items for consideration by the project team stakeholders and as applicable have been identified in the below report in *italics.*

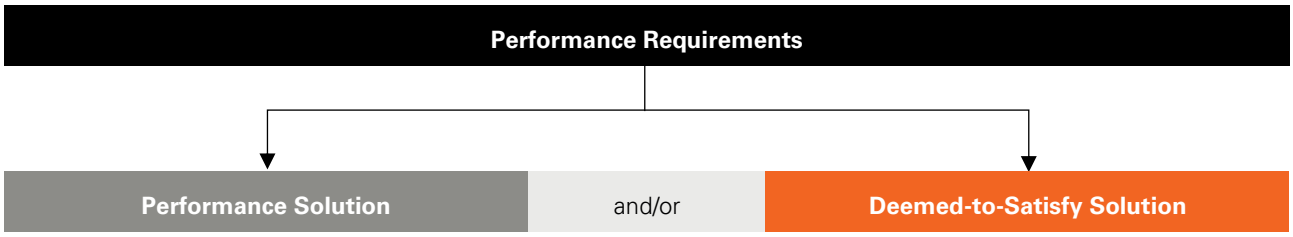
1.6 Relevant Version of the NCC Building Code of Australia

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, with the next revision of the BCA coming into effect 1 May 2025. As the Construction Certificate application will be lodged after 1 May 2023, this report assesses the design against compliance with the requirements of BCA 2022.

The following parts of the BCA are subject to transitional provisions:

- NCC 2022 Energy Efficiency provisions – 1 October 2023.
- NCC 2022 Condensation Management provisions under BCA Part F8 – 1 October 2023.

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.

Where a *Performance Requirement* is proposed to be satisfied by a *Performance Solution*, the following steps must be undertaken:

- Prepare a performance-based design brief in consultation with relevant stakeholders.
- Carry out analysis, using one or more of the Assessment Methods listed in A2G2(2), as proposed by the performance-based design brief.
- Evaluation the results against the acceptance criteria in the performance-based design brief.
- Prepare a final report that includes:
  - All Performance Requirements and/or Deemed-to-Satisfy provisions identified through A2G2(3) or A2G4(3) as applicable; and
  - Identification of all Assessment Methods used; and

- Details of steps (a) to (c); and
- Confirmation that the Performance Requirement has been met; and
- Details of conditions or limitations, if any exist, regarding the Performance Solution.

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.

+ 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.

+ No part of this document may be reproduced in any form or by any means without written permission from bm+g. This report is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.

+ Evacuation of occupants with a disability. No assessment has been undertaken to consider the equitable evacuation of all occupants. No assessment has been undertaken unless it explicitly relates to the Access to Premises Standard of Part D4 of the BCA.

+ 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.

1.9 Report Terminology

Access for People with Disabilities - Access to a building which is planned to minimise obstacles or hazard to disabled persons.

Accessible – Means having features to permit use by people with disabilities

Accessway – Means a continuous accessible path of travel to or within a building suitable for people with disabilities as defined in AS 1428.1

Braille – A system of touch reading for the blind, which employs raised dots that are evenly arranged in quadrangular letter spaces or cells.

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.

Hearing Augmentation – The communication of information for people who are deaf or hearing

impaired by using a combination of audio, visual, and tactile means

Luminance Contrast - The light reflected from one surface or component, compared to the light reflected from another surface or component.

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.

People with Ambulant Disabilities - People who have a mobility disability but are able to walk.

People with Ambulant Disabilities - People who have a mobility disability but are able to walk.

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-

a. complying with the Deemed-to-Satisfy Provisions; or

b. formulating an Alternative Solution which-
   - complies with the Performance Requirements; or
   - is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or

c. 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.

Sensory Impairment - Any significant loss of hearing or vision.

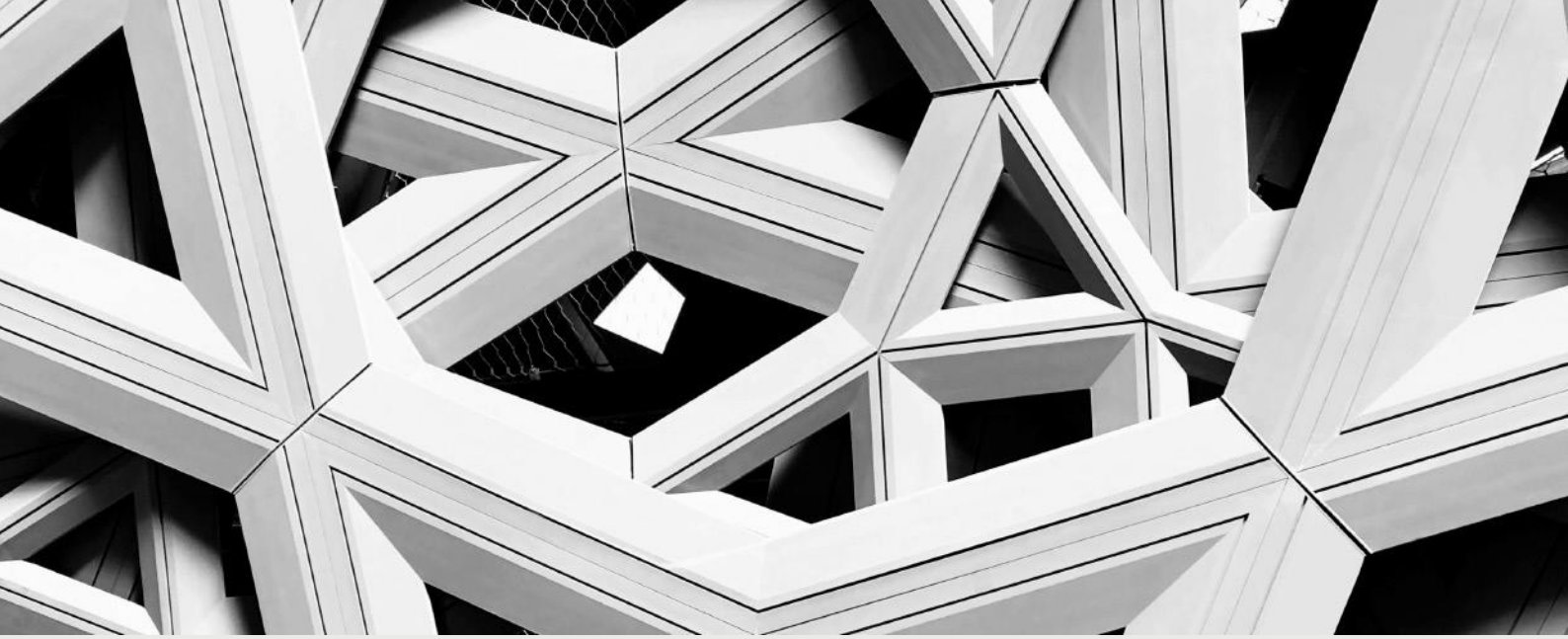
Shared Area (for carparking) – An area adjacent to a dedicated space provided for access or egress to or from a parked vehicle and which may be shared with any other purpose that does not involve other than transitory obstruction of the area, e.g. a walkway, a vehicular aisle, dual use with another adjacent dedicated space.

Slip Resistant – A property of a surface having a frictional force-opposing movement of an object across a surface.

Sole Occupancy Unit – means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and can include a dwelling and/or office suite.

Tactile Ground Surface Indicators (TGSIs) - Truncated cones and/or bars installed on the ground or floor surface, designed to provide pedestrians who are blind or vision-impaired with warning or directional orientation information.

Tactile Sign - Signage incorporating raised text, and/or symbols and Braille to enable touch reading by people who are blind or who are vision impaired.



2.0 Building Characteristics

2.1 Proposed Development

The proposed development involves the construction of a Single-storey warehouse building with ancillary 2 Storey office with on-grade docks, recessed loading docks, goods lift, loading area, carparking spaces, hardstand, and landscaping, with a site area of 51,453m².

The building is classified as follows:

+ BCA Classifications:	Class 5 (Office) Class 7a (Carpark) Class 7b (Warehouse)
+ Rise in storeys:	Two (2) – Refer to C2D3 below
+ Storeys Contained:	Two (2)
+ Type of Construction:	Type C Construction
+ Importance Level (Structural)	2 (TBC)
+ Sprinkler Protected Throughout	Yes
+ Effective Height	3.6m
+ Floor Area	~36,600m^2
+ Volume	>108,000m^3
+ Max. Permissible Fire Compartment	2,000m^2 & 12,000m^3 (Class 7a, 7b) & 3,000m^2 & 18,000m^3 (Class 5) – refer to Large Isolated Building provisions below
+ Climate Zone	Zone 6

2.2 Fire Compartment Floor Area Limitations

Maximum size of fire compartment/atria is:

+ Classification		+ Type A	+ Type B	+ Type C
7b	**Max. floor area**	5,000m^2	3,500m^2	2,000m^2
	Max. volume	30,000m^3	21,000m^3	12,000m^3
5	**Max. floor area**	8,000m^2	5,500m^2	3,000m^2
	Max. volume	48,000m^3	33,000m^3	18,000m^3

Note: Refer to Large Isolated Building provisions of Clause C3D4 below.

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.

+ Elevation	+ Fire Source Feature	+ Distance
North	**Allotment Boundary (& Newton Rd in part)**	>6m
East	**Newton Road**	>6m
South	**Side Boundary**	>6m
West	**Rear Boundary**	>6m

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

We note the following BCA compliance matters with relation to proposed building works are capable of complying with the BCA. Please note that this is not a full list of BCA clauses, they are the key requirements that relate to the proposed work and the below should be read in conjunction with the BCA.

3.1 Section B – Structure

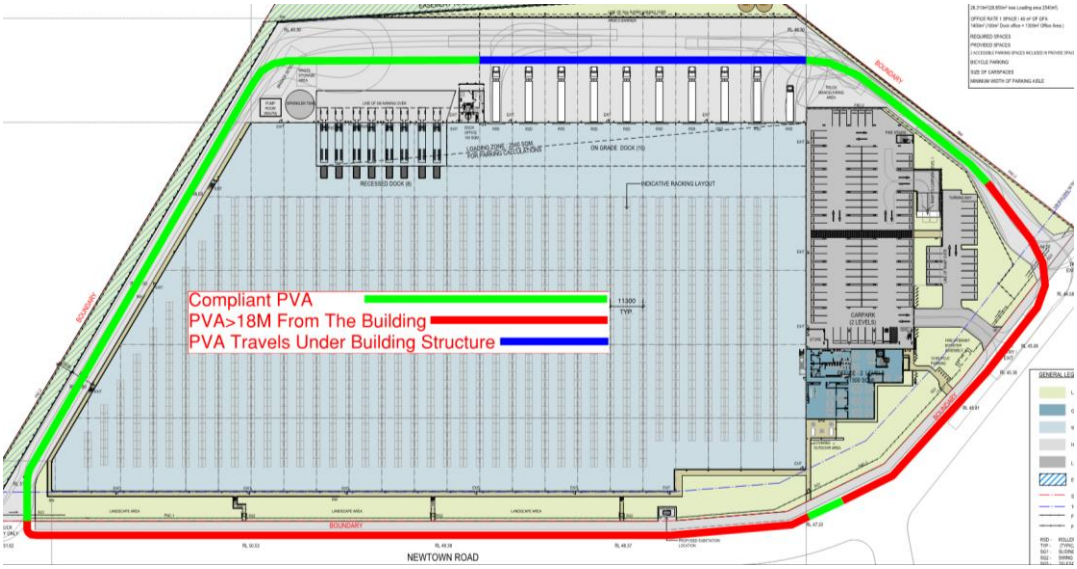
Part B1

- 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 – 2020, 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 – 2021, Glass in buildings
  - AS 3660.1 – 2014, Termite control (or confirmation no primary building elements are timber).
- The Importance Level provisions of B1D3 are to be acknowledged by the Structural Engineer and addressed to the degree necessary.
- 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.
- 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.

3.2 Section C – Fire Resistance

C2D2 / Spec 5	**Type of Construction Required:** The building is required to comply with the requirements of Type C Construction as stated within Specification 5. The table below provides an overview of the requirements of each. Refer to Table 3 of Appendix 1 for the FRL requirements of Type C Construction. **Type C Construction:** + External walls (and columns incorporated within) need not achieve an FRL if >3m from a boundary or separate building. Where required, external walls of Type C Construction only require an FRL from the outside and not in both directions. + Floors need not achieve an FRL, subject to Cl. S5C3. + Roofs need not achieve an FRL. + Internal columns need not achieve an FRL. **Comment:** The proposed development will be subject to compliance with the Type C Construction provisions of tables S5C24a to S5C24e.
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:** The proposed development has a rise in storeys of two (2).
C2D11 & Spec. 7	**Fire Hazard Properties:** A schedule of all wall, floor, and ceiling linings along with associated test reports are to be provided for review to ensure compliance with the fire hazard property requirements of the BCA. Noting: + Minimum Group Numbers apply to wall and ceiling linings. AS 5637 test reports must be provided to determine compliance. + Minimum Critical Radiant Flux values apply to floor linings. AS ISO 9239.1 test reports must be provided to determine compliance Refer to Table 2 and 3 in Appendix 1 below for the required fire hazard properties. **Comment** Design certification required at CC application stage and installation certification (including relevant test reports confirming the critical radiant flux of floor linings, group number of wall and ceiling linings; spread of flame index for insulation materials; and flammability index for sarking materials) are required at OC stage in the form of a detailed schedule.
C3D3	**General Floor Area and Volume Limitations:** The building is to achieve fire compartment sizes not in excess of the requirements of Table D3D3. **Comment**: The proposed building is a Class 5, 7a & 7b Large Isolated Building – 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.
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 Development is a class 5, 7a & 7b large isolated building and as such is required to be sprinkler protected throughout all areas of the building (including the multistorey carpark) and provided with a 6-metre wide perimeter vehicular access in accordance with Clause C3D5(2) throughout (see comments under C3D5 below). This designation allows for a fire compartment of unlimited size within the building.

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 building does 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. The below Markup also demonstrates the non-compliant PVA pathway areas around the development. + The furthest part of the Perimeter Vehicular Access path is greater than 18m from the external wall around the eastern and southern sides of the building. + The Perimeter Vehicular Access path necessitates travelling under the building awning along the northern side of the building. **Note 1:** Any proposed gates are to achieve no less than 6m unobstructed width or the reduced width will need to be included in the above Performance Solution. **Note 2:** The driveways providing vehicular perimeter access must be designed with adequate loading capacities, gradients and swept paths to accommodate a fire truck, having regard to the FRNSW Fire Safety Guideline – Access for Fire Brigade Vehicles and Firefighters. **Note 3**: The Trial Design for the Fire Engineered Performance Solution must take into consideration and detail the proposed security access to the site and how this may impact on FRNSW vehicular access.  Figure 2: Non-Compliant PVA around the development
C3D7	**Vertical Separation of Openings in External Walls:** In a building of Type A construction, any part of a window or other opening in an external wall is above another opening in the storey next below and its vertical projection falls no further than 450 mm outside the lower opening (measured horizontally), the openings must be separated by a fire-rated spandrel, or a horizontal fire-rated extension. Comment: The proposed development is not required to be protected with spandrels as it will be sprinkler protected throughout.
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. Note: Refer to C3D8 comments above in regards to structural elements crossing a fire wall at roof level. **Comment**: The provisions of C3D9(1)(a) can be applied to the Warehouse and Office parts on Ground Floor of the building, as the different classifications have the same FRL requirements under Spec. 5. (90/90/90 fire ratings per Type C Construction).

C3D11	**Separation of Lift Shafts:** Lift shafts are required to be fire rated to achieve the required FRL per Spec.5 where they connect greater than 3 storeys in a sprinkler protected building (or greater than 2 storeys in a non-sprinkler protected building). **Comment:** The lifts in the building are not required to be enclosed in fire rated shafts as they do not connect more than 3 storeys in a sprinkler protected building.
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:** The current design is compliant with the above requirement.
C3D13	**Separation of Equipment:** Equipment 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. Confirmation is required as to whether any of the above will be applicable to this development. **Comment:** Any of the above listed equipment located within the proposed building is required to be separated by construction having an FRL of not less than 120/120/120 and have a doorway protected with a self-closing fire door having an FRL of not less than -/120/30. Details demonstrating compliance will be required to be provided a the relevant CC Application(s) stage.
C3D14	**Electricity Supply System:** An electricity substation, electrical conductors & main switchboards which sustain 'emergency equipment' operating in the emergency mode, located within a building must– + Be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and + Having any doorway in that construction protected with a self-closing fire door having an FRL of not less then -/120/30 Electrical conductors which supply a substation or main switchboard sustaining emergency equipment operating in the emergency mode – + Have a classification in accordance with AS/NZS 3013 of not less than— o If located in a position that could be subject to damage by motor vehicles — WS53W; or o Otherwise — WS52W; or + Be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120. Where emergency equipment is required in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment switchgear must be separated from the non-emergency equipment switchgear by metal partitions designed to minimise the spread of fault from the non-emergency equipment switchgear. **Note:** For the purpose of this clause, 'emergency equipment' includes (but is not limited to) fire pumps, air handling systems for smoke control, emergency lifts, control & indicating equipment & EWIS. **Comment:** Any substations located within the building and any main switchboards which sustain emergency equipment operating in emergency mode are required to be separated from the remainder of the building by construction having an FRL of not less than 120/120/120 and have a doorway protected with a self-closing fire door having an FRL of not less than -/120/30.

C4D5	**Acceptable Methods of Protection** Where protection is required, doorways, windows and other openings must be protected as follows: + Doorways – o Internal or external wall- wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or o -/60/30 fire doors that are self-closing or automatic closing. + Windows – o Internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or o -/60/- automatic closing fire shutters. + Other openings – o Excluding voids – internal or external wall-wetting sprinklers, as appropriate; or o Construction having FRL not less than -/60/-. + Fire doors, fire windows and fire shutters must comply with Specification 12. **Comment**: Note – see comments under Clause C4D4D above & D2D12 below.
C4D9	**Openings in Fire-Isolated Exits:** Specifies that the doorways that open into fire-isolated exits must be protected by-/60/30 fire doors that are self-closing or automatic. This clause also details the deemed-to-satisfy methods of activation. This does not apply to doors opening to a road or open space. A window in the external walls of fire-isolated exits must be protected in accordance with C4D5 if it is within 6m of and exposed to a window or other opening in a wall of the same building other than in the same fire-isolated enclosure. **Comment:** Details confirming compliance with regards to the proposed fire stairs serving the multi-storey carpark are to be provided with the CC application plans. In this regard however, compliance is readily achievable.
Spec. 5	**Fire Resisting Construction:** The new building works are required to comply with the requirements detailed under Specification 5. The below details the FRL requirements for building elements for the proposed warehouse. **Comment**: The proposed building will be subject to compliance with the Type C Construction provisions of Tables S5C21a to S5C21g. In this regard there are no building elements that require any FRL in order to achieve compliance with Spec. 5.
Spec. 7	**Fire Hazard Properties:** As noted above this Specification sets out the requirements in relation to the fire hazard properties of linings, materials and assemblies in Class 2 to 9 buildings. Table S7C2 outlines the applicable requirements of Spec. 7 to the different types of Linings, Materials and Assemblies. Comment: Refer to comments under C2D11 above. Certification will be required to be provided at both CC and OC application stages.
Spec 8	**Performance of External Walls in Fire:** This specification contains measures to minimise in the event of fire the likelihood of external walls collapsing outwards as complete panels and the likelihood of panels separating from supporting members. **Comment:** Structural Design certification and details demonstrating compliance are required to be provided at CC Application Stage for the proposed warehouse.

3.3 Parts D – Access and Egress

D2D3	**Number of Exits Required:** The building is required to be provided with 2 exits to each storey. **Comment:** The current configuration of exits is compliant with the requirements of this clause.
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:** The exit travel distances in the proposed Warehouse building are non-compliant with the requirements of clause D2D5. In this regard the following non-compliance issues will be required to be addressed as a Performance Solution by the fire safety engineer to demonstrate compliance with Performance Requirements D1P4 & E2P2. + Warehouse– Up to 93m to an exit from the central warehouse area. + Ground Floor Office – Up to 24m to a point of choice to exits and up to 42m to an exit from the male toilets. + Ground Floor Carpark – Up to 58m to an exit from the Carpark + Level 1 Carpark – Up to 51m to an exit from the carpark.
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:** The distance between alternative exits is non-compliant within the warehouse areas of the building. In this regard the following non-compliance issues will be required to be addressed as a Performance Solution by the Fire Safety Engineer to demonstrate compliance with Performance Requirements D1P4 & E2P2. + Warehouse Ground Floor – Up to 186m between alternate exits from the central warehouse area. + Ground Floor Carpark – Up to 103m between alternate exits in the Carpark. + Level 1 Carpark – Up to 101m between alternate exits in the Carpark.
D2D7/ D2D8/ D2D9/ D2D10/ D2D11	**Height of Exits, Paths of Travel to Exits and Doorways:** 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 have been provided under D2D18 below in order to determine compliance with these clauses. Final details showing compliant dimensions of all exits (including minimum 1m wide clearances and min. clear height of 2.1m) from the building is to be confirmed on the CC Application plans. In this regard however, given the number of exits proposed and the nature of use of the facility it is considered that compliance with the provisions of D2D7 to D2D11 is readily achievable.

	Exit corridors and stairs and other paths of travel are to be a minimum 1m in width and 2m in height clear of any obstructions. The unobstructed height of any doorway may be reduced to not less than 1980mm and the width may be reduced by 250mm from the required exit dimensions listed below.
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**: Architect to note. A dedicated discharge path from the buildings exits to the street must be provided (included a pedestrian gate), details of which are to be included on the CC Application plans.
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:** The proposed population numbers for the development have been Confirmed by Centuria and are detailed below. Based on these population numbers compliance with Table D2D18 is readily achievable

Population Numbers as per Table D2D18		
Location	Ground Floor	Level 1
Dock Office	2	-
Office	52	52
Warehouse	228	-

D2D22	**Access to Lift Pits:** This clause provides the requirements for access to lift pits not more than 3m deep and the requirements of construction of access for lift pits that are more than 3m deep. The requirement for signage to lift pits is also set out. **Comments:** Lift Contractor to note. Details are to be provided with the construction certificate.
D3D3	**Fire-isolated Stairways & Ramps:** A stairway or ramp, including landings that are required to be within a fire-resisting shaft must be constructed of non-combustible materials to protect the structural integrity of the shaft. **Comment:** Certification will be required at CC application stage for the design of the proposed fired isolated exits.
D3D4	**Non-Fire Isolated Stairways and Ramps:** In a building with a rise in storeys of more than 2, required non-fire-isolated stairways and ramps must be either constructed of + Reinforced or prestressed concrete; or + Steel at least 6mm thick at all points; or + Timber that has a finished thickness of at least 44mm, has an average density of at least 800 kg/m3 at a moisture content of 12% and has not been joined by means of glue unless it has been laminated and glued with resorcinol/phenol formaldehyde; or + Non-combustible materials, and such that if there is a structural failure it will not cause damage to or impair the fire-resistance of the shaft in which the stair is located. **Comment:** The requirements of D3D4 apply to the proposed non-fire-isolated stairs serving the office. Refer to figure 3 above showing non-fire isolated stairs within the development.

D3D8	**Installations in Exits & Paths of Travel:** This clause restricts the installation of certain services in fire-isolated exits, non-fire-isolated exits and certain paths of travel to exits. Sub-clauses (1) to (6) prescribe which services shall not be installed as well as the circumstances in which certain services may be installed in fire-isolated and non-fire-isolated exits. **Comment:** This requirement applies to all cupboards containing electrical distribution boards or comms equipment that is located in a path of travel to an exit. In this regard, such cupboards are to be enclosed in non-combustible materials and are to be suitably sealed against the spread of smoke. Details demonstrating compliance are to be shown on the CC Application plans where applicable.
D3D9	**Enclosure of Space under Stairs and Ramps:** The space below a required, non-fire isolated stairway/ramp must not be enclosed to form a cupboard or other enclosed space, unless the cupboard is bound by construction achieving an FRL of at least 60/60/60, with a self-closing -/60/30 door. **Comment:** If the space under any of the required exit stairs are proposed to be enclosed to form a cupboard or the like, the enclosing walls and ceilings will need to achieve an FRL of 60 minutes and the doorway will need to be fitted with a self-closing -/60/30 fire door. Details demonstrating compliance are to be shown on the CC Application plans where applicable.
D3D14/ D3D15	**Stairways, Goings & Risers / Landings:** <u>Stairways:</u> + Stairway dimensions must comply with Table D3D14. + A stairway must have no more than 18, nor less than 2, risers in each flight. + Landings must be not less than 750mm in length. + Slip Resistance of stair nosings and landings must comply with Table D3D15. + In a Class 9b building, not more than 36 risers in consecutive flights without a change in direction of at least 30°. **Comment:** All stairs are to have dimensions that comply with Table D3D14, have solid risers, and are to have contrasting nosings and slip resistant surfaces throughout in accordance with clause 11 of AS 1428.1-2009. (See diagram in Part D4 below). Architect to note, details demonstrating compliance will be required to be included in the CC plans.
D3D17, D3D18, D3D19, D3D20, D3D21	**Balustrades or Other Barriers:** These clauses detail where balustrades are required to be provided and sets out in specific detail the construction requirements. Typically, the following will apply to this class of building: + Balustrades are required where the fall to the level below is more than 1m in height. The minimum height of a balustrade is 1m above the floor of the landing, walkway or the like; and 865mm above the floor of a stairway or a ramp. + For a fall of more than 4m to the surface level below, a window sill must be a minimum of 865mm in height above the height of the floor surface. + Where the floor is more than 4m above the surface beneath the balustrade any horizontal or near horizontal members between 150mm and 760mm above the floor must not facilitate climbing. + Balustrades must be constructed so as to not permit a sphere of 125mm diameter to pass through. The exception to this is within fire isolated exits within the building, or internal stairs within a Class 7b or 8 building, where the rails can be positioned a maximum of 460mm apart, so long as a bottom rail is located so a sphere of 150mm cannot pass through the opening between the nosing of the stair treads and the rail or between the floor of the landing, balcony or the like. + Note: any wire barriers must be complaint with D3D21 and tables D3D21(a) to D3D21(c). **Comment:** Details demonstrating compliance are to be submitted with the CC Application drawings for assessment against the above criteria.

D3D22	**Handrails:** This Clause sets out the requirements regarding the location, spacing and extent of handrails required to be installed in buildings. **Comment:** Architect to note, details demonstrating compliance will be required to be included in the CC plans. Handrails serving all stairs and ramps both internally and externally are required to comply with the accessibility requirements of Clause D4D4 and AS 1428.1-2009.
D3D23	**Fixed Platforms, Walkways, Stairways & Ladders:** A fixed platform, walkway, stairway, ladder, any going and riser, any balustrade or other barrier attached thereto may comply with AS1657 if it only serves a machinery or plant room. **Comment:** Details of where any AS 1657 compliant stairs or ladders are to be used for access/egress in the building are to be included on the CC Application plans. These provisions may be applied to any maintenance ladders or walkways used to access mechanical equipment in the warehouse areas.
D3D24	**Doorways and Doors:** This clause applies to all doorways that form an exit and refers to the types of doors that cannot be used in buildings of prescribed uses, the use of power operated doors and the force required to operate sliding doors. If an exit door is power operated, it must be opened manually under a force of not more than 110N if there is a malfunction or failure to the power source; and it must open automatically if there is a power failure to the door and upon the activation of a fire or smoke alarm anywhere in the fire compartment served by the door. **Comment:** It is noted that there is a power operated door in the level 1 Office adjacent to the kitchenette. As such this door will be required to automatically opened upon fire trip. Details demonstrating compliance will be required to be provided at CC Application stage.
D3D25/ D3D26	**Doors and Latching:** All egress doorways must swing in the direction of egress and must be readily openable without a key from the side that faces a person seeking egress, by a single handed downward or pushing action on a single device which is located between 900mm and 1100mm from the floor. **Comment:** The proposed egress doors providing access through the external walls of the building are all required to swing in the direction of egress. Based on the most current plans compliance is readily achievable and details confirming compliance are to be provided with the CC Application.
D3D28	**Signs on Doors:** It is a requirement that signs to alert persons that the operation of smoke doors, fire doors, and doors discharging from fire isolated exits, must not be impaired must be installed where they can be readily seen, and state "Fire Safety Door – Do Not Obstruct – Do Not Keep Open" or "Fire Safety Door – Do Not Obstruct" as applicable. **Comment:** Certification will be required at OC application stage. Any self-closing fire and/or smoke doors leading into the fire stair or forming part of a Horizontal Exit or smoke compartment are to be provided with signage as follows:  Any discharge door to the fire stairs and any new automatic closing fire and/or smoke doors which are held on hold open devices that leads into the fire stair or forming part of a Horizontal Exit or smoke compartment are to be provided with signage as follows: 
D4D2 & D4D3	**General Building Access Requirements** The extent of access required depends on the classification of the building. Buildings and parts of building must be accessible as set out in sub-clauses (1)-(10) unless exempted by Clause D4D5.

Access is required to and within all areas normally used by the occupants, for Class 5, 6, 7b & 9b buildings and any levels in a Class 7a building containing accessible carparking spaces.

Comment: Access is required throughout all areas in the warehouse in accordance with AS 1428.1-2009 with the exception of those areas subject to a D4D5 concession. Details demonstrating that the main entrance to the building is compliant with AS 1428.1-2009 are to be provided at CC application stage.

Refer to additional comments under D4D4 and D4D5 below.

D4D4

Parts of the Building to be Accessible

This clause specifies the requirements for accessways within buildings which must be accessible. In accordance with Clause D4D4; ramps & stairways must comply with Clause 10 & 11 of AS 1428.1-2009 (respectively), whilst fire isolated stairs must comply with Clauses 11.1(f) & (g) of AS 1428.1-2009 only. In addition, any storey with a floor area more than 200m² must be served by a passenger lift that is designed to comply with Part E4, and all accessways must include passing & turning spaces per AS 1428.1-2009.

Clause D4D4(g) and (h) requires that the pile height or pile thickness shall not exceed 11mm and the carpet backing thickness shall not exceed 4mm. Moreover, the carpet pile height or pile thickness dimension shall not exceed 11mm, the carpet backing thickness dimension shall not exceed 4mm and their combined dimension shall not exceed 15mm.

Comment: The following is a summary of key matters to be considered with respect to the above:

- An accessible path of travel complying with AS 1428.1 2009 is to be provided from the allotment boundary and from the accessible car spaces and is to be detailed on the Construction Certificate plans. Where a kerb is proposed, a kerb ramp is to be provided so the accessible path is free from steps.
- Every ramp, except a fire-isolated ramp, must comply with clause 10 in AS 1428.1-2009.
- Every stairway, except a fire-isolated stairway, must comply with clause 11 of AS 1428.1-2009.
- Every fire-isolated stairway must comply with clause 11.1(f) and (g) of AS 1428.1-2009.
- Every passenger lift must comply with clause E3D7 and E3D8.
- Accessways must have passing spaces complying with AS1428.1-2009 at a maximum 20m intervals on those parts of the accessway where a direct line of sight is not available and turning spaces complying with AS1428.1-2009 within 2m of the end of accessways and at a maximum 20m intervals along the accessway.
- Clause D4D4(g) and (h) requires that the pile height or pile thickness shall not exceed 11mm and the carpet backing thickness shall not exceed 4mm. Moreover, the carpet pile height or pile thickness dimension shall not exceed 11mm, the carpet backing thickness dimension shall not exceed 4mm and their combined dimension shall not exceed 15mm.
- The minimum width of an accessible doorway must have a clear opening width of not less than 850mm in accordance with AS 1428.1.
- All doorways on a continuous path of travel shall have a minimum luminance contrast of 30% provided between: door leaf and door jamb; or door leaf and adjacent wall; or architrave and wall; or door leaf and architrave; or door jamb and adjacent wall. The minimum width of the area of luminance contrast shall be 50mm.
- Circulation space to the doorways that are required to be accessible are to comply with Section 13 of AS1428.1-2009, as detailed below.
- Turning Spaces and Passing Spaces in all areas are required to be provided on each level of the building in accordance with Clauses 6.4 & 6.5 of AS 1428.1-2009.

<u>Stairways</u>

- Every common area stairway must be constructed in accordance with Clause 11 of AS 1428.1, except if they serve the areas in the building that a D4D5 Exemption has been applied to. Details will need to be confirmed on the plans for CC.
- Stairs shall have opaque risers (i.e. solid).

	+ Stair nosings shall comply with Figure 27 in AS 1428.1-2009, which achieve a colour contrast luminance of 30% to the background (tread). + Stairways are to be served by Tactile Ground Surface Indicators in accordance with AS 1428.4.1, except if they are within a fire isolated exit. <u>Handrails</u> + Handrails shall be installed along stairways as follows: o Shall be continuous through the flight and where practicable, around landings and have no obstruction on or above up to a height of 600mm, o Installed along both sides of the stairway (giving consideration also to 1m unobstructed width) + Shall have a compliant hand clearance in accordance with Figure 29 of AS 1428.1-2009.
D4D5	**Exemptions:** This clause provides details on buildings or parts of buildings not required to be accessible under the BCA where providing access would be inappropriate because of the nature of the area/use or the tasks undertaken. **Comment:** Any concessions to be applied under D4D5 will need to be the subject of an application by Centuria Capital with the CC application. Confirmation will be required that includes a request for concession, where this would be applied and the reasons why it would be inappropriate for access for people with disabilities within the specific area.
D4D6	**Accessible Parking:** This clause provides details of the number of accessible carparking spaces required in a carpark depending on the classification of the building. **Comment:** In the case of the Class 5 & 7b buildings 1 compliant accessible parking space is required for every 100 parking spaces or part thereof. In this regard, it is noted that there is currently only two (2) accessible parking spaces detailed out of a total of 216 spaces on the plans.
D4D7	**Signage:** Braille and tactile signage must be provided to required accessible sanitary facilities, spaces with hearing augmentation, ambulant sanitary facilities, pedestrian entrances that are not accessible, and to each door required by Clause E4D5 to be provided with an exit sign. The latter is to state EXIT and state the level eg. LEVEL 1. **Comment:** Signage will be required to identify exits, accessible facilities, an ambulant accessible facility, and the paths to accessible pedestrian entries (where required). Details demonstrating compliance will be required to be provided at CC Application stage.
D4D8	**Hearing Augmentation:** A hearing augmentation system must be provided where an inbuilt amplification system (excluding emergency warning systems) is present in the following areas: + In a room in a Class 9b + In an auditorium, conference room, meeting room, or judicatory room, + In a ticket office, teller's booth, reception area of the like where the public is screened by the service provider. A hearing augmentation system is required to comply in the following way: + An induction loop – it must serve >80% of the floor area of the spaced served by the inbuilt amplification system; or + A system requiring the use of receivers or the like. It must be available to not less than 95% of the floor of the space served and provide the applicable number of receivers; - 500 people – 1 receiver for every 25 persons and a minimum of 2 receivers; and - 500-1000 people – 20 receivers plus 1 receiver for every 33 people in excess of 500; and - 1000-2000 people – 35 receivers plus 1 receiver for every 50 people in excess of 1000; and - >2000 people – 55 receivers plus 1 receiver for every 100 people in excess of 2000. Any screen or scoreboard capable of displaying public announcements must be capable of supplementing any public address system.

	The below symbol shall be provided on a sign in ultramarine blue in accordance with clause 5.1 of AS 1428.5-2010  **Comments:** Details and design certification demonstrating compliance will be required to be included in the CC plans.
D4D9	**Tactile Indicators:** This clause provides for the installation of tactile indicators in buildings required to be accessible and must be provided to warn people who are blind or have a vision impairment that they are approaching a stairway, escalator, passenger conveyor, ramp, overhead obstruction or an accessway meeting a vehicular way, except for areas exempted by D4D5. **Comment:** Subject to D4D5 above, stairways and ramps serving the proposed building, any overhead projections less than 2m in height and any paths leading directly to a driveway or roadway without a kerb will need to be provided with Tactile Ground Surface Indicators in accordance with AS1428.4. Details and design certification demonstrating compliance will be required to be included in the CC plans.
D4D12	**Ramps:** Ramps may be used as part of an accessway where there is a change of level and must comply with the requirements set out in AS1428.1. **Comment:** Architect to note, details and design certification demonstrating compliance will be required to be included in the CC plans.
D4D13	**Glazing on an Accessway:** This part requires the provision of a contrasting strip, chair rail, handrail or transom across all frameless or fully glazed doorways and surrounding glazing capable of being mistaken for an opening. **Comment:** Glazing capable of being mistaken for an opening as listed above must be clearly marked for their full width with a solid, non-transparent contrasting line being not less than 75mm wide and the lower edge must be located between 900mm and 1000m above the plane of the finished floor level.

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. + 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 warehouse building is required to be served by a fire hydrant system, designed in accordance with AS 2419.1-2021 Appendix C. Due to the volume of the Warehouse exceeding 108,000m^3, a Performance Solution is required to facilitate the design of the system. Detailed plans showing the hydrant system layout (incl. the booster assembly and pumps) are to be provided with the relevant CC application(s). The plans must also demonstrate how coverage is achieved to all areas of the building including the multi-story carpark.
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 500m^2. 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 7b warehouse and 7a carpark areas must be provided with fire hose reels in accordance with this clause. Plans shall be provided with the construction certificate documentation together with a design certificate to AS2441-2005 that details the coverage provided by the fire hose reels on each level. It is noted that a Performance Solution by the Fire Engineer may be necessary if hose reels are to be deleted from the Class 7b portions of the building. Note: The Class 5 Office areas are subject to the concession in E1D3(1) and are not required to be provided with fire hose reel coverage.
NSW E1D4, E1D12, E1D13	**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 or 18. 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:** As the building is designated as a Large Isolated Building, it is required to be sprinkler protected throughout including the class 7a carpark. Details demonstrating compliance are required to be submitted with the CC application. Note: 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, and as the proposed sprinkler booster will not be located within sight of the main entry a Performance Solution will be required.
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 in the class 5 office areas.
E1D15	**Fire Control Centre:** A fire control centre is to be provided based on the total building floor area comprising more than 18,000m^2. A fire control centre must: + Be located in a building so that egress from any part of its floor to a public road or open space does not involve changes in level which in aggregate exceed 300mm. + Provide an area from which fire-fighting operations or other emergency procedures can be controlled. Must not be used for any other purpose. **Comment:** The proposed development exceeds 18,000m^2 and as such is required to be provided with a Fire Control Centre that complies with Clauses S19C2 to S19C5 of BCA Spec. 19. Details demonstrating compliance are to be included on the CC Application plans showing the location of the Fire Control Centre.
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: It is noted that if Dangerous Goods Storage or a Hazardous Use are proposed to be, details 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.
E2D3	**General Requirements:** Class 2 to 9 buildings must comply with the provisions of this Clause to remove smoke during a fire, to control the operation of air handling systems and to prevent the spread of smoke between compartments. Buildings must comply with the provisions of E2D4, as applicable to Class 2 to 9 buildings. It deals with the design and construction of air handling systems that are part of a smoke hazard management system and air handling system that are not part of a smoke hazard management system. The details relating to the installation and operation of the systems are set out in Specifications 20, 21, & 22. **Comment:** As the proposed development has been classified as a large isolated building an automatic smoke exhaust system (incorporating a smoke detection system) is required to be provided – see E2D10 below
E2D10	**Buildings <25m Effective Height: large Isolated Buildings:** This clause sets out the requirements for smoke hazard management systems for large isolated buildings with an effective height of less than 25m. **Comment:** As the floor volume of the building exceeds 108,000m^3 an automatic smoke exhaust system (incorporating a smoke detection system), complying with Spec. 21 is required to be provided to the warehouse and carpark area. Consideration to a Performance Solution addressing the required smoke hazard management systems may be appropriate. Such a Performance Solution would need to be prepared by the Fire Engineer, to demonstrate compliance with Performance Requirement E2P2. In addition, any air handling system which does not form part of a smoke hazard management system and which recycles air from one fire compartment to another fire compartment or operates in a way that may spread smoke between compartments (refer to the comments under cl. C3D9, regarding the possibility of Fire Walls to separate different classifications on each storey) must be designed to operate as a smoke control system in accordance with AS 1668.1-2015 OR incorporate smoke dampers where the ducts penetrate separating elements in the fire compartments and the mechanical system shutdown and the smoke dampers activate to close automatically by smoke detectors complying with Clause 7.5 of AS 1670.1-2018. Details and design certification shall be provided with the CC application.
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:** It is noted that if Dangerous Goods Storage or a Hazardous Use are proposed to be within the building, details will be required 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 in the building.
E3D3	**Stretcher Facilities in Lifts:** Stretcher facilities, complying with this clause, must be provided in lifts in at least one emergency lift as required by E3.4 or in building where lifts serve any storey above an effective height of 12m. A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600mm wide x 2000mmm long x 1400mm high above the floor level.

	Comment: The lifts within the building serve a building of an effective height of 12m and as such are required to be able to accommodate a stretcher in accordance with the requirements of this clause. Design certification required at CC application stage.
E3D4	**Warning Against use of Lifts in Fire:** Warning signs required be provided must be displayed where they can be readily seen and must comply with the details and dimensions of Figure E3D4. **Comment:** Lift Contractor to note.
E3D6	**Landings:** Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Parts D2 & D3. **Comment:** Compliance is readily achievable. Details to be confirmed with the documentation provided with the construction Certificate application.
E3D7	**Passenger Lift Types and their Limitations:** In an accessible building, every passenger lift must be one of the types identified in sub-clause (1) and not rely on a constant pressure device for its operation if the lift car is fully enclosed. **Comment:** Lift Contractor to note – Design Certification required at CC Application stage confirming compliance with E3D7.
E4D2 - E4D8	**Emergency Lighting and Exits Signs:** Emergency lighting and exit signage to be provided in accordance with E4D2 - E4D5 complying with AS 2293.1 – 2018. **Comments:** Emergency Lighting is required throughout the building in accordance with E4D2, E4D4 and AS/NZS 2293.1-2018.
E4D4	**Design & Operation of Emergency Lighting:** Every required emergency lighting system must comply with AS 2293.1-2018. **Comment:** Electrical Consultant to note. Design Certification required at CC Application stage.
E4D5	**Exit Signs:** An exit sign must be clearly visible to persons approaching the exit and must be installed on, above or adjacent to each door providing egress from a building. Sub-clauses (a) to (d) set out the situations where exit signs are required to be installed. **Comment:** Electrical Consultant to note. Details demonstrating compliance will be required to be included in the CC plans.
E4D6	**Direction Signs:** If an exit is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit. **Comment:** Electrical Consultant to note. Details demonstrating compliance will be required to be included in the CC plans.
E4D8	**Design & Operation of Exit Signs:** Every required exit sign must comply with AS 2293.1-2018 and be clearly visible at all times when the building is occupied by any person having the legal right of entry into the building. **Comment:** Details demonstrating compliance will be required to be included in the CC plans.

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.

F1D6	**Damp-Proofing** + This sub-clause requires that moisture from the ground must be prevented from reaching certain parts of buildings as listed. + This sub-clause requires that all damp-proofing materials and termite shields used as damp-proofing must comply with AS/NZS 2904 and AS 3660.1. + This sub-clause lists the buildings and parts of a building that do not need to comply with (a). **Comment:** Note.
F1D7	**Damp Proofing of Floors on the Ground:** If the floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870. Damp-proofing need not be provided if weatherproofing is not required or the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means. **Comment:** Note.
F2D3 & F2D4	**Wet Area Construction:** These clauses set out the construction requirements for wet areas in Class 2-9 Building, in relation to floor and wall materials, surface grading, floor wastes and drainage. **Comment:** Note – Design Certification required at CC Application Stage.
F3D2	**Roof Coverings:** This clause details the materials and appropriate standards, with which roofs must be covered with. The roofing requirements are set out in sub-clauses (a) to (g) which identifies the types of materials that may be used and the adopted Australian Standards that apply to their quality and installation. **Comment:** Note – Design Certification required at CC Application Stage.
F3D3	**Sarking:** Sarking-type materials used for weatherproofing of roofs must comply with AS/NZS 4200 parts 1 and 2. **Comment:** Note – Design Certification required at CC Application Stage.
F3D4	**Glazed Assemblies:** Glazed assemblies in an external wall must comply with AS2047 requirements for resistance to water penetration for windows, sliding doors with a frame, adjustable louvres, shop fronts and windows with one-piece framing **Comment:** Note – Design Certification required at CC Application Stage.
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:** Note – Design Certification required at CC Application Stage.
F3P1	**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 no Deemed-to-Satisfy provisions for this Performance Requirement in respect to External Walls. Note 2: Refer to Clause F3D2 for roof coverings. **Comment:** Design statement and a documented Performance Solution is to be provided with the Construction Certificate application for the development for any proposed façade or external wall systems not addressed by F3D5 above, either by using:

- The Verification Methods in Clause F2V1; or
- Other verification methods deemed acceptable by the Certifier; or
- Evidence to support that the use of the material or product, form of construction or design meets the Performance Requirements or the DTS provisions, such as a Certificate of Conformity (eg. CodeMark); or

By way of Expert Judgement.

F4D3

Calculation Of Number Of Occupants And Facilities: This clause sets out the requirements for the calculation of the number of occupants and the number of sanitary facilities required to be installed in Class 2 to 9 buildings. The parameters for the calculation are set out in sub-clauses (a) to (d).

Comment: Noted – refer to D2D18, confirmation of population numbers required.

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: Based on the population numbers provided under D2D18, the required sanitary facilities for the proposed development have been calculated as per Tables F4D4a and F4D4b and are as follows.

Occupancy Class as per F4D4								
		Closet Pans		Urinals		Washbasins		Complies
		Required	Proposed	Required	Proposed	Required	Proposed	Yes/No
Ground WH	114 Males	6	7	4	5	6	7	Yes
	114 Females	8	7	-	-	6	8	No
Ground Office	26 Males	2	2	2	2	1	2	Yes
	26 Females	2	2	-	-	1	2	Yes
Dock Office	1 Males	1	1	0	0	1	1	Yes
	1 Females	1	1	-	-	1	1	Yes
Level 1 Office	26 Males	2	2	2	1	1	2	No
	26 Females	2	2	-	-	1	2	Yes

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:** The accessible sanitary facilities provided throughout the building are considered to adequately achieve compliance with the requirements of F4D6 and F4D7, subject to the provision of an even number of left- and right-handed mirror facilities per F4D5(g) (with particular attention drawn to the Office levels). Design certification confirming compliance with the requirements of AS1428.1-2009 shall be provided with the documentation submitted with the CC application.
F4D8	**Construction of Sanitary Compartments:** Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend: + from floor level to the ceiling in the case of a unisex facility; or + a height of not less than 1.5m above the floor if primary school children are the principal users; or + 1.8m above the floor in all other cases. The door to a fully enclosed sanitary compartment must open outwards; or slide: or be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2m, measured in accordance with Figure F4D8 between the closet pan within the sanitary compartment and the doorway. **Comment:** The current configuration can achieve compliance with further details to be provided at CC application stage confirming compliance with the above requirements.
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.
F6D8	**Ventilation Borrowed from Adjoining Room:** Natural ventilation must consist of openings, windows, doors or other devices which can be opened— with a ventilating area not less than 5% of the floor area of the room required to be ventilated. Additionally, open to a suitably sized space open to the sky or an adjoining room in accordance with F6D8. **Comment:** Design certification to be submitted at CC Application.

3.6 Section G – Ancillary Provisions

G6D4	**Provision of Escape:** For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area. **Comment:** Note. BCA part D2 will be applicable to the topmost storey of the carpark. In this regard it is noted that the distance to an exit and between alternate exits are non-compliant with the requirements of D2D5 & D2D6 on both levels of the carpark. These non-compliances are listed under D2D5 & D2D6 above and will be required to be addressed a performance solution to demonstrate compliance with Performance Requirements D1P4 & E2P2.
G6D5	**Construction of Exits:** For the purposes of the Deemed-to-Satisfy Provisions of Part D3, a reference to a storey or room includes an occupiable outdoor area. **Comment:** Note. BCA part D3 will be applicable to the topmost storey of the carpark. Refer to comments under D3 above detailing the requirements for Construction of Exits. Details demonstrating compliance with the requirements of part D3 will be required to be provided at CC Application stage.
G6D6	**Fire Fighting Equipment:** Except for S17C7(2)(a), for the purposes of the Deemed-to-Satisfy Provisions of Part E1, a reference to a storey includes an occupiable outdoor area. **Comment:** Note. BCA Part E1 will be applicable to the proposed carpark. In this regard the following fire services will be required to be installed in the carpark. + Fire Hose Reels + Fire Extinguishers + Fire Hydrants + Sprinklers (ground only) Design certification demonstrating compliance with the respective requirements of BCA Part E1 to be provided at CC Application stage.
G6D8	**Visibility in an Emergency, Exit Signs and Warning Signs:** For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area. **Comment:** Note. BCA part E4 will be applicable to the proposed carpark. Exit signage in accordance with BCA Clauses E4D2 to E4D8 will be required to be installed throughout all areas of the carpark.

3.7 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 Warehouse building. 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 Warehouses. Design details and/or certification of building envelope design will be required to be submitted with the application for a Construction Certificate.
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.
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.
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.
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.

4.0 Conclusion

This report contains an assessment of the referenced architectural documentation for the proposed industrial development at 88 Newton Road, Wetherill Park against the deemed-to-satisfy provisions of the Building Code of Australia 2022.

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: 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 2: 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, 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 3: Fire-Resisting Construction – Type C 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	90/90/90	90/90/90	90/90/90
1.5 to less than 3m	–/–/–	60/60/60	60/60/60	60/60/60
3m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN - Not incorporated in an external wall				
Less than 1.5m	90/–/–	90/–/–	90/–/–	90/–/–
1.5 to less than 3m	–/–/–	60/–/–	60/–/–	60/–/–
3m or more	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS	90/90/90	90/90/90	90/90/90	90/90/90
INTERNAL WALLS				
Bounding public corridors, public lobbies and the like:	60/60/60	–/–/–	–/–/–	–/–/–
Between or bounding sole-occupancy units:	60/60/60	–/–/–	–/–/–	–/–/–
Bounding a stair if required to be rated:	60/60/60	60/60/60	60/60/60	60/60/60
ROOFS	–/–/–	–/–/–	–/–/–	–/–/–

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.

Table 4: Fire Safety Schedule

+ Statutory Fire Safety Measure	+ Design/Installation Standard	+ Proposed
Alarm Signalling Equipment	AS 1670.3 – 2018	✓
Automatic Fire Detection System	BCA 2022 Spec. 20 AS 1670.1 – 2018	✓
Automatic Fire Suppression Systems	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 Lighting	BCA 2022 Clause E4D2 & E4D4 AS 2293.1 – 2018	✓
Exit Signs	BCA 2022 Clauses E4D5, NSW E4D6 & E4D8 AS 2293.1 – 2018	✓
Fire Control Centre	BCA 2022 Spec 19	✓
Fire Doors (TBC)	BCA 2022 Clauses C3D13, C3D14 AS 1905.1 – 2015 and Manufacturer's Specification	✓
Fire Hose Reels	BCA 2022 Clause E1D3 AS 2441 – 2005	✓
Fire Hydrant System	BCA 2022 Clause E1D2 AS 2419.1 – 2021 Appendix C	✓
Fire Seals (TBC)	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	✓
Perimeter Vehicular Access	BCA 2022 Clause C3D5	✓
Portable Fire Extinguishers	BCA 2022 Clause E1D14 AS 2444 – 2001	✓
Smoke Hazard Management Systems + Smoke Exhaust.	BCA 2022 Part E2 Spec. 21 AS/NZS 1668.1 –2015	✓
Warning & Operational Signs	BCA 2022 Clause D4D7, E3D4 AS 1905.1 – 2015	✓
Fire Engineered Performance Solutions	TBC	TBC