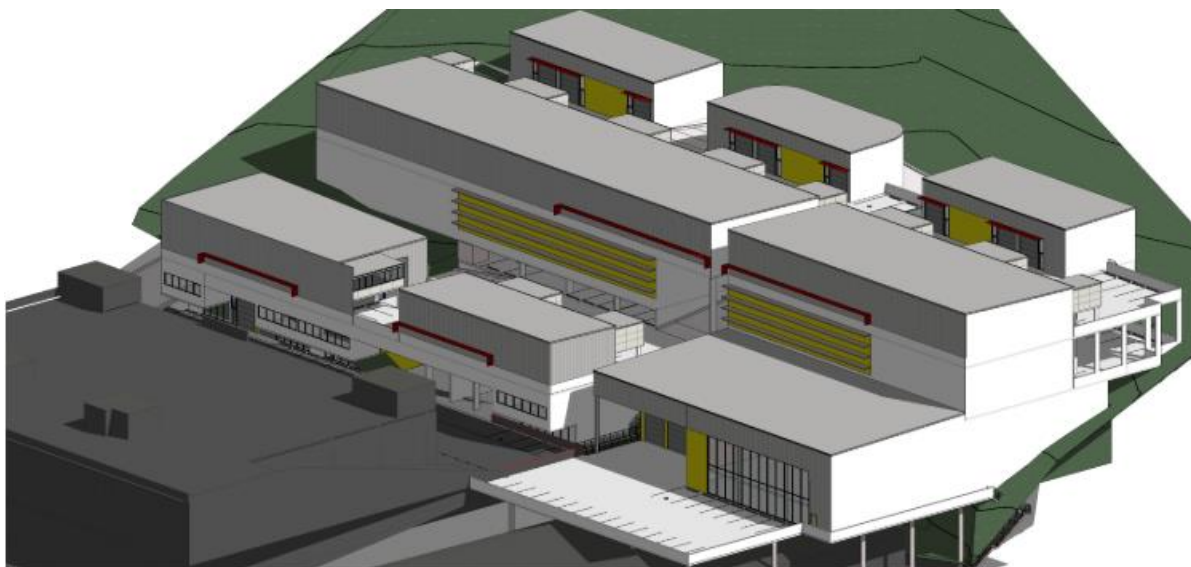


BUILDING CODE OF AUSTRALIA 2016

INDICATIVE COMPLIANCE REPORT

FOR DA LODGEMENT

130-140 OLD PITTWATER ROAD, BROOKVALE



Prepared for:	Leech Harmon Architects
Project No.:	18/0577
Date:	08/02/2019
Status:	Issue 1.0 (Final for DA lodgement)



TABLE OF CONTENTS

1.0. DOCUMENT HISTORY AND DRAWING SCHEDULE	3
1.1. DOCUMENT HISTORY	3
1.2. DRAWING SCHEDULE	3
2.0. INTRODUCTION	4
2.1. LOCATION AND DESCRIPTION	4
2.2. REPORT PURPOSE.....	4
2.3. BASIS OF REPORT.....	4
2.4. REFERENCED DOCUMENTS	5
2.5. LIMITATIONS AND EXCLUSIONS.....	5
2.6. LEGISLATIVE FRAMEWORK.....	6
2.7. TERMINOLOGY	7
BUILDING DESCRIPTION – PROPOSED DEVELOPMENT	8
2.8. BUILDING CODE OF AUSTRALIA DESCRIPTION	8
2.9. RISE IN STOREYS (RIS) (CLAUSE C1.2).....	8
2.10. BUILDING CLASSIFICATIONS (CLAUSE A3.2).....	8
2.11. EFFECTIVE HEIGHT (CLAUSE A1.1).....	9
2.12. TYPE OF CONSTRUCTION (TABLE C1.1).....	10
2.13. FLOOR AREA AND VOLUME LIMITATIONS (TABLE C2.2)	10
2.14. FIRE AND RESCUE NSW REFERRAL.....	10
3.0. FIRE SAFETY SCHEDULES	11
3.1. PROPOSED FIRE SAFETY SCHEDULE.....	11
3.2. CERTIFICATION OF ESSENTIAL FIRE SAFETY MEASURES	13
4.0. CONCLUSION	14
APPENDIX A – FIRE RESISTANCE LEVELS.....	15
APPENDIX B: BCA REQUIREMENTS - CLAUSE BY CLAUSE ASSESSMENT	16
4.1. TABLE 4.1 – BCA 2016 CLAUSE BY CLAUSE ASSESSMENT	17



1.0. DOCUMENT HISTORY AND DRAWING SCHEDULE

1.1. Document History

Date	Issue	Status	Prepared by	Reviewed by
09.10.2018	Issue 0.1	Draft for client review	Wesley Vos BPB 0744	Robin Howard BPB 0802
08.02.2019	Issue 0.1	Final for DA lodgement No changes from Draft	Wesley Vos BPB 0744	Robin Howard BPB 0802

1.2. Drawing Schedule

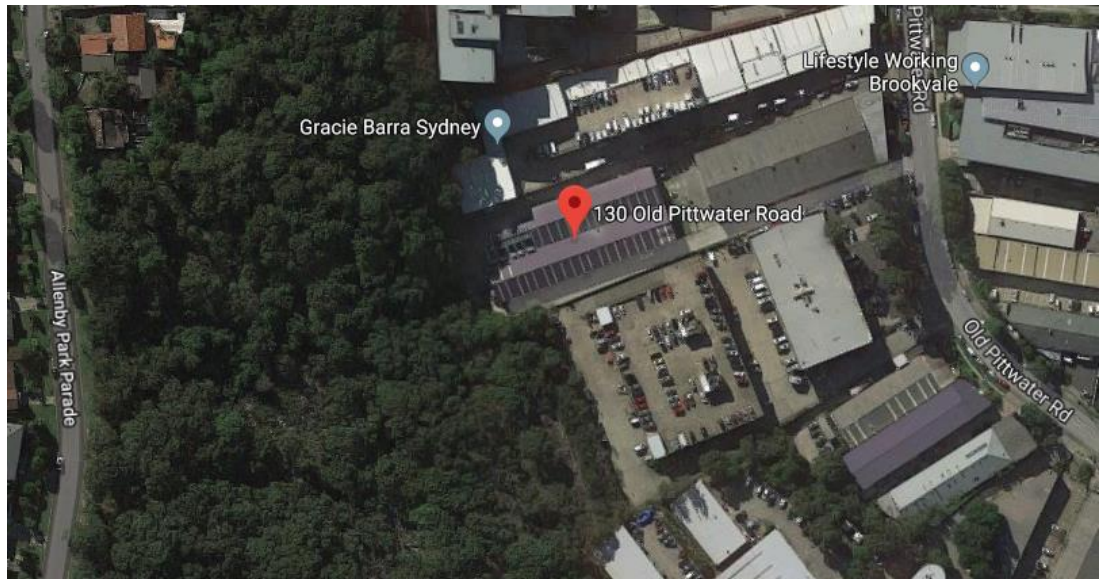
Drawing By	Project No.	Drawing No.	Sheet Name	Revision	Date
Leech Harmon Architects	570	DA01	SITE PLAN	Unspecified	20 September 2018
Leech Harmon Architects	570	DA03	LEVEL 1 FLOOR PLAN	Unspecified	20 September 2018
Leech Harmon Architects	570	DA04	LEVEL 1 MEZZANINE FLOOR PLAN	Unspecified	20 September 2018
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Leech Harmon Architects	570	DA06	LEVEL 2 MEZZANINE FLOOR PLAN	Unspecified	20 September 2018
Leech Harmon Architects	570	DA07	LEVEL 2A FLOOR PLAN	Unspecified	20 September 2018
Leech Harmon Architects	570	DA08	LEVEL 3 FLOOR PLAN	Unspecified	20 September 2018
Leech Harmon Architects	570	DA09	LEVEL 3 MEZZANINE FLOOR PLAN	Unspecified	20 September 2018
Leech Harmon Architects	570	DA10	ROOF PLAN	Unspecified	20 September 2018
Leech Harmon Architects	570	DA11	ELEVATIONS – SHEET 1	Unspecified	20 September 2018
Leech Harmon Architects	570	DA12	ELEVATIONS – SHEET 2	Unspecified	20 September 2018
Leech Harmon Architects	570	DA13	ELEVATIONS – SHEET 3	Unspecified	20 September 2018
Leech Harmon Architects	570	DA14	SECTIONS – SHEET 1	Unspecified	20 September 2018
Leech Harmon Architects	570	DA15	SECTIONS – SHEET 2	Unspecified	20 September 2018
Leech Harmon Architects	570	DA16	3D VIEWS – SHEET 1	Unspecified	20 September 2018
Leech Harmon Architects	570	DA17	3D VIEWS – SHEET 2	Unspecified	20 September 2018
Leech Harmon Architects	570	DA18	PERSPECTIVES	Unspecified	20 September 2018



2.0. INTRODUCTION

2.1. Location and Description

The development being the subject of this Report is located at 130-140 Old Pittwater Road, Brookvale. The subject property is bounded by adjacent properties to the north and south, Old Pittwater Road to the east, and bushland to the west.



The proposed development incorporates the construction of storage warehouses with associated office spaces and carparking. As proposed, the building spans over two (2) separate properties (numbers 130 and 140). However, these properties are proposed to be consolidated into one (1) allotment so the assessment outlined in this Report is of the development as a single building on a single property.

2.2. Report Purpose

This Report has been prepared by Building Certificates Australia Pty Ltd as an indicative Building Code of Australia 2016 (BCA) compliance review of the proposed development. The assessment has been undertaken against the Deemed-To-Satisfy (DTS) provisions of the BCA relating to Parts C, D, E and F only. This review is provided to assist Council consider whether the proposal can comply with the BCA without significant modification.

2.3. Basis of Report

This Report is based upon:

- A desktop review of the documentation submitted for assessment (refer to drawing schedule section 1.2); and
- The Deemed-to-Satisfy provisions of Sections C, D, E, and F of the BCA only.

2.4. Referenced Documents

The following documentation was relied upon when preparing this Report:

- The performance and deemed-to-satisfy provisions of the National Construction Code (NCC), 2016, Amendment 1, Volume One, Building Code of Australia, Class 2 to Class 9 Buildings (the “BCA”);
- Guide to NCC Volume One 2016, Amendment 1, Building Code of Australia, Class 2 to Class 9 Buildings;
- Disability (Access to Premises — Buildings) Standards 2010;
- Environmental Planning & Assessment Act 1979; and
- Environmental Planning & Assessment Regulation 2000.

2.5. Limitations and Exclusions

The limitations and exclusions of this Report are as follows:

- This Report is based on a review of the referenced documents only.
- No assessment has been undertaken with respect to the Disability Discrimination Act 1992 (DDA). Separate advice from an appropriately qualified access consultant should be obtained by the client to be satisfied that their obligations under the DDA have been addressed.

Please note that whilst the BCA specifies a minimum standard of compliance with AS1428.1 and Part D3 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 Disability Discrimination Act 1992 (DDA). The DDA is a complaint-based legislation and is presently not identified by the State Building Codes and Regulations. In this regard the client should be satisfied that their obligations under the DDA have been addressed.

- This Report does not address issues in relation to the following:
 - a) The structural adequacy of the building including the Fire Resistance Levels (FRL’s) of any existing building elements (unless specifically referred to).
 - b) The design, maintenance or operation of any existing electrical, mechanical, hydraulic or fire protection services.
 - c) Environmental Planning and Assessment Act and Regulations.
 - d) Local Government Act and Regulations.
 - e) Occupational Health and Safety Act and Regulations.
 - f) WorkCover Authority requirements.
 - g) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Sydney Water, Electricity Supply Authority, RTA, Council and the like.
 - h) Disability Discrimination Act.
 - i) Construction Safety Act.
 - j) Any previous conditions of Development Consent issued by the relevant Local Council.



- Building Certificates Australia Pty Ltd cannot guarantee acceptance of this Report by the Local Council, NSW Fire Brigades or other approval authorities.
- No part of this document may be reproduced in any form or by any means without written permission from Building Certificates Australia Pty Ltd.. This Report is based solely on client instructions, therefore, should not be used by any third party without prior knowledge of such instructions.

2.6. Legislative Framework

Section 79C of the Environmental Planning and Assessment Act provides the matters of consideration that the consent authority must take into account in the determination of a development application.

Pursuant to Clause 145 of the Environmental Planning and Assessment Regulations 2000, once development consent is granted a certifying authority must not issue a Construction Certificate (CC) for building work unless:

- (a1) *the plans and specifications for the building include such matters as each relevant BASIX certificate requires, and*
- (a) *the design and construction of the building (as depicted in the plans and specifications and as described in any other information furnished to the certifying authority under clause 140) are not inconsistent with the development consent, and*
- (b) *the proposed building (not being a temporary building) will comply with the relevant requirements of the Building Code of Australia (as in force at the time the application for the construction certificate was made).*

Compliance with the BCA

The BCA is a performance-based document whereby compliance can be achieved by satisfying the Deemed-To-Satisfy (DTS) requirements, or by formulating a Performance Solution (PS) to address the relevant Performance Requirements (or a combination of both).

As specified above, the Environmental Planning and Assessment Regulation 2000 requires all new building work to comply with the relevant requirements of the BCA (as in force at the time the application for the CC is made). This means that the plans and documentation submitted with the CC application must demonstrate full compliance with the relevant provisions of the BCA.

Disability (Access to Premises — Buildings) Standards 2010

The Disability (Access to Premises — Buildings) Standard 2010 does not specifically apply to this building as it is entirely new. Rather, disabled access is dealt with under BCA Part D3.



2.7. Terminology

- *Building Code of Australia* - Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & associated Regulation.
- *Fire-Resistance Level (FRL)* - means the grading periods in minutes tested in accordance with AS 1530.4-2005 for the following criteria -
 - (a) structural adequacy;
 - (b) integrity; and
 - (c) insulation,and expressed in that order (e.g. 90/90/90).
- *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.
- *Open space* - means a space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.
- *Performance 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 achieve.

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-
 - (i) complies with the Performance Requirements; or
 - (ii) is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or
 - (c) a combination of (a) and (b).
- *Sole Occupancy Unit (SOU)* - 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.

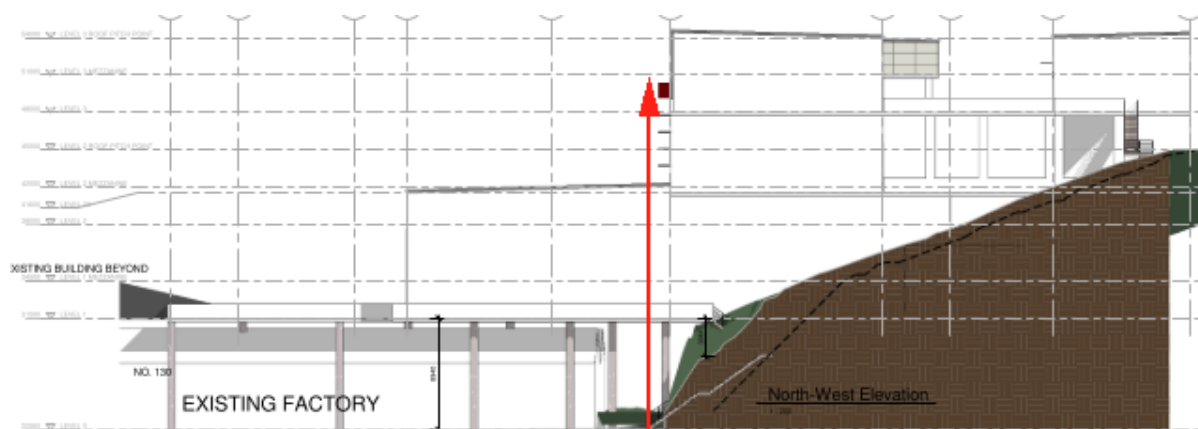
BUILDING DESCRIPTION – PROPOSED DEVELOPMENT

2.8. Building Code of Australia Description

For the purposes of the National Construction Code, otherwise known as the Building Code of Australia 2016 (BCA), the proposed development is described in the following sections.

2.9. Rise in Storeys (RIS) (Clause C1.2)

The building has an overall Rise In Storeys (RIS) of nine (9). This is specified on the basis that the existing factory must be considered as having two (2) storeys because it is a Class 8 with an average internal height that exceeds 6m. All other storeys that incorporate an average internal height of greater than 6m already include a mezzanine story that is counted in the RIS.



Further information could identify that the building has a RIS of eight (8) rather than nine (9). This information would have to be in the form of a peer review from a suitably qualified BCA consultant outlining a detailed assessment of the RIS of the proposed development based on further information than is currently available. It would likely hinge on whether the Level 3 Mezzanine storeys are in the same vertical projection as the under-croft area of the new building that incorporates the Existing Factory and, if not, the point at which the RIS of the development is at its greatest.

2.10. Building Classifications (Clause A3.2)

The building has been classified in accordance with the table below.

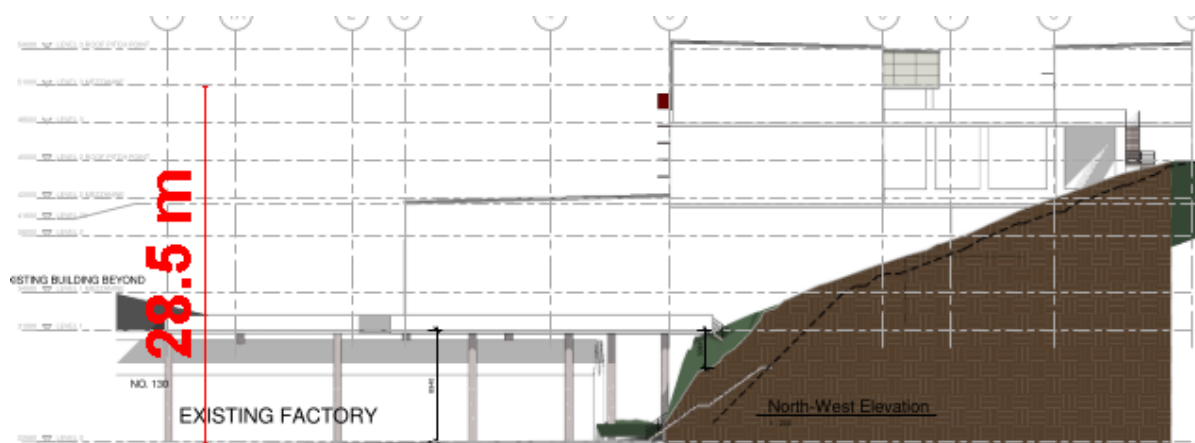
BUILDING LEVELS	PROPOSED CLASSIFICATION
Level 0	Class 8 (factory)
Level 1	Class 7b (storage warehouse); and Class 7a (carpark)
Level 1 Mezzanine	Class 5 (office building)



Level 2	Class 7b (storage warehouse); and Class 7a (carpark)
Level 2 Mezzanine	Class 5 (office building)
Level 2A	Class 7b (storage warehouse); and Class 7a (carpark)
Level 3	Class 7b (storage warehouse); and Class 7a (carpark)
Level 3 Mezzanine	Class 5 (office building)

2.11. Effective Height (Clause A1.1)

Based on the information currently available, the effective height of the building is greater than 25m (approximately 28.5m). The following BCA assessment is provided on the basis that the building has an effective height of greater than 25m.



It should be noted that, as with the RIS of the building, further information could identify that the building has an effective height of less than 25m. This information would have to be in the form of a peer review from a suitably qualified BCA consultant outlining a detailed discussion of the interpretation of both “Rise in storeys” and “Effective height”. It would likely hinge on the fact that the “Rise in storeys” of the building is taken from the point that the number of storeys is at its greatest when calculated in accordance with BCA clause C1.2 (not from the lowest storey to the topmost storey), and the fact that the “Effective height” calculation is dependent on the lowest storey included in the calculation of “Rise in storeys”.



2.12. Type of Construction (Table C1.1)

The building is required to be of Type 'A' Construction.

Table C1.1 TYPE OF CONSTRUCTION REQUIRED

Rise in storeys	Class 2, 3 or 9 building	Class 5, 6, 7 or 8 building
4 or more	A	A
3	A	B
2	B	C
1	C	C

2.13. Floor Area and Volume Limitations (Table C2.2)

The building must be separated into fire compartments that do not exceed the maximum floor area and volume limitations imposed by BCA clause C2.2 (see BCA Table C2.2 below).

Table C2.2 MAXIMUM SIZE OF FIRE COMPARTMENTS OR ATRIA

Classification		Type of construction of building		
		Type A	Type B	Type C
5, 9b or 9c <i>aged care building</i>	max floor area—	8 000 m ²	5 500 m ²	3 000 m ²
	max volume—	48 000 m ³	33 000 m ³	18 000 m ³
6, 7, 8 or 9a (except for <i>patient care areas</i>)	max floor area—	5 000 m ²	3 500 m ²	2 000 m ²
	max volume—	30 000 m ³	21 000 m ³	12 000 m ³

Note: See C2.5 for maximum size of compartments in *patient care areas* in Class 9a *health care buildings*.

2.14. Fire and Rescue NSW referral

A referral to Fire and Rescue NSW will be required for the building if its design incorporates any Performance Solutions proposed to achieve compliance with BCA Performance Requirements CP9, EP1.3, EP1.4, EP1.6, EP2.2, or EP3.2. This is because the building incorporates a single fire compartment with a floor area exceeding 2,000m², and the whole building has a floor area exceeding 6,000m².

See cl 144 of the Environmental Planning and Assessment Regulation 2000.



3.0. FIRE SAFETY SCHEDULES

3.1. Proposed Fire Safety Schedule

As a result of the works proposed under this development application, the **DRAFT** fire safety schedule for the site will be as follows. The final fire safety schedule is to be prepared for issue with the Construction Certificate.

Essential Fire and Other Safety Measures	Standard of Performance	Proposed
Fire rated access panels & doors/hoppers	BCA C3.13 (Openings in Shafts) BCA Spec C3.4 AS 1905.1 -2005 (Fire Resistant Doorsets) AS 1905.2 -2005 (Fire Resistant roller shutters)	✓
Automatic fire suppression systems <ul style="list-style-type: none"> - General Sprinklers - Residential only - Combined Sprinklers and Hydrant - Gaseous Suppression 	BCA E1.5 AS 2118.1 – 1999 (Sprinklers) AS 2118.4 – 2012 (Residential not exceeding 4 storey) AS 2118.6 – 1995 (Combined Sprinklers/Hydrant) AS 4214 (Gaseous Suppression)	✓
Emergency lighting	BCA E4.2, E4.4 AS/NZS 2293.1 –2005	✓
Sound System and Intercom Systems for Emergency Purposes (SSISEP) (EWIS or SSISEP) <ul style="list-style-type: none"> - Building with an effective height of more than 25m 	BCA E4.9 AS1670.4 – 2004 (SSISEP)	✓
Exit signs	BCA E4.5 (Exit Signs) BCA E4.6 (Direction Signs) BCA E4.8 (Design and Operation - Exits) AS/NZS 2293.1 –2005	✓
Evacuation Training	AS3745 - 1995	
Fire control centres & rooms <ul style="list-style-type: none"> - Building with an effective height of more than 25m 	BCA E1.8, Spec E1.8 (Fire Control Centres)	✓
Fire dampers	BCA E2.2, Spec E2.2a, BCA C3.15, Spec C3.15 AS 1668.1 – 2015	✓
Fire doors	BCA C2.12 (Separation of Equipment) BCA C2.13 (Electricity Supply Systems) BCA C3.5 (Doors in Fire Walls) BCA C3.6 (Sliding Fire Doors) BCA C3.8 (Openings in Fire Isolated Exits) BCA C3.13 (Opening in Shafts) BCA D2.8 (Enclosure of Space under Stairs) Spec E1.8 (Fire Control Rooms) Spec C3.4 AS/NZS 1905.1 – 2015	✓
Fire hydrant systems <ul style="list-style-type: none"> - NSW Storz Couplings 	BCA E1.3 BCA C2.12 (Separation of Equipment) AS 2419.1 – 2005	✓
Fire seals	BCA C3.15, BCA C3.16, BCA Spec C3.15 AS4072.1-2005	✓
Construction Joints	BCA C1.1, Spec C1.1	✓



	BCA C3.16 AS1530.4 - 2005	
Hose reel systems	BCA E1.4 AS 2441 – 2005	✓
Lightweight construction - ...	BCA C1.1, Spec. C1.1 BCA C1.8, Spec C1.8 BCA C2.7 (Fire Walls) BCA C2.8 (Separation – same storey) AS1530.4 – 2005	✓
Mechanical air handling systems 1. Zone Smoke Control System/Smoke Exhaust System 2. Mechanical ventilation to carpark. (Including system in accordance with AS1668.2 and complying with clause 5.5 of AS1668.1. This is to enable manual control by authorized fire personnel, each fan shall be provided with an ON-AUTO-OFF control device installed in the FFCP in compliance with Clause 4.13.2. 3. Auto-shutdown of Air-handling System. • Any >1,000ls	BCA E2.2, Table E2.2a, Spec E2.2a AS/NZS 1668.1 – 2015	✓
Path of travel for stairways, passageway and ramps	EP&A Reg. 2000 Clauses 184-186	✓
Portable fire extinguishers	BCA E1.6 AS 2444 – 2001	✓
Portable fire blankets	AS 2444 – 2001	✓
Smoke dampers (An air-handling system which does not form part of a smoke hazard management system in accordance with Table E2.2a or Table E2.2b and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must— (i) be designed and installed to operate as a smoke control system in accordance with AS/NZS 1668.1; or (ii) (A) incorporate smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and (B) be arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1670.1; and for the purposes of this provision, each sole-occupancy unit in a Class 2 or 3 building is treated as a separate fire compartment. Miscellaneous air-handling systems covered by Sections 5 and 6 of AS/NZS 1668.1 serving more than one fire compartment (other than a carpark ventilation system) and not forming part of a smoke hazard management system must comply with that Section of the Standard. A smoke detection system must be installed in accordance with Clause 5 of Specification E2.2a to operate AS/NZS 1668.1 systems that are provided for zone smoke control and automatic air pressurisation for fire-isolated exits.	BCA C2.5 and Spec C2.5 BCA E2.2, Spec E2.2a AS/NZS 1668.1 – 1998	✓



Smoke detectors & heat detectors 1. Zone Smoke Control System 2. Auto-shutdown of Air-handling System. a. Any >1,000ls	BCA E2.2, Spec E2.2a AS1668.1 – 1998	✓
System Monitoring	BCA E2.2 , Table E2.2a, Spec E2.2a AS 1670.3 - 2004 Monitoring Required for any: - Sprinkler System - Smoke detectors for any Smoke Control systems	✓
Warning & operational signs	BCA C3.6 (Sliding Fire Doors) BCA D2.23 (Signs on Fire Doors) BCA Spec E1.8 (Fire Control Room) EP&A Regs 2000, Clause 183	✓
Performance Solution(s)	TBA	TBA

3.2. Certification of Essential Fire Safety Measures

Pursuant to Section 169 of the Environmental Planning and Assessment Regulations 2000, it will be necessary for the owner of the building, on completion of work to furnish a Final Fire Safety Certificate with regard to each essential fire safety measure identified in the proposed Fire Safety Schedule listed above.

The final fire safety certificate must state that each essential fire safety measure specified in the fire safety schedule for the building to which the certificate relates:

- (a) has been assessed by a properly qualified person, and
- (b) was found, when it was assessed, to be capable of performing to at least the standard required by the current fire safety schedule for the building for which the certificate is issued.

Every year, the owner(s) will need to sign and submit an Annual Fire Safety Statement to the Local Council and the NSW Fire Brigade, which confirms that all essential fire safety measures have been tested and maintained and perform to the original design and installation standard. A copy of the Annual Fire Safety Statement must also be displayed in a prominent area of the building (i.e. the main entrance foyer).



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Building Regulations, Certification & Fire Safety Consultants
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4.0. CONCLUSION

Although demonstrating full compliance with the BCA at DA assessment stage is not a prescribed head of consideration under Section 79C of the Environmental Planning & Assessment Act 1979, Council has an obligation to consider whether the proposal can comply with the BCA without significant modification. In this instance, we believe any modification and/or advancement in the level of detail required to satisfy the requirements of the BCA will **not** necessitate the need for any significant design changes that would trigger a requirement to lodge an application under Section 96 of the Environmental Planning and Assessment Act 1979.

We draw Council's attention to the requirements of clause 145 of the Environmental Planning & Assessment Regulation 2000 and advise that detailed and specific BCA compliance matters will be addressed, to the satisfaction of the appointed Certifying Authority, prior to the issue of a Construction Certificate.

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APPENDIX A – FIRE RESISTANCE LEVELS

Table 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building – FRL: (in minutes)			
	Structural adequacy/Integrity/Insulation			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any fire-source feature to which it is exposed is—				
For loadbearing parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 60	120/ 90/ 90	180/180/120	240/240/180
3 m or more	90/ 60/ 30	120/ 60/ 30	180/120/ 90	240/180/ 90
For non-loadbearing parts—				
less than 1.5 m	–/ 90/ 90	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/ 60/ 60	–/ 90/ 90	–/180/120	–/240/180
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN not incorporated in an external wall—				
For loadbearing columns—				
	90/–/–	120/–/–	180/–/–	240/–/–
For non-loadbearing columns—	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS—				
Fire-resisting lift and stair shafts—				
Loadbearing	90/ 90/ 90	120/120/120	180/120/120	240/120/120
Non-loadbearing	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding public corridors, public lobbies and the like—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding sole-occupancy units—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like shafts not used for the discharge of hot products of combustion—				
Loadbearing	90/ 90/ 90	120/ 90/ 90	180/120/120	240/120/120
Non-loadbearing	–/ 90/ 90	–/ 90/ 90	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES and COLUMNS—				
	90/–/–	120/–/–	180/–/–	240/–/–
FLOORS	90/ 90/ 90	120/120/120	180/180/180	240/240/240
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30	240/ 90/ 60

Note: Under Spec C1.1, there are many individual additional requirements and concessions which need to be assessed and read in conjunction with this Specification. Your engineer is to confirm compliance with all required Fire Rated Elements.

General Requirements:

- Exposure to Fire-source features
- Fire Protection for a supporting of another part
- Lintels
- Attachments not to impair fire-resistance
- General concessions

Fire-resistance of building elements:

In a building required to be of Type 'A' construction

(a) each building element listed in Table 3 and any beam or column incorporated in it, must have an FRL not less than that listed in the Table for the particular Class of building concerned; and

(b) external walls, common walls and the flooring and floor framing of lift pits must be non-combustible; and

(c) any internal wall required to have an FRL with respect to integrity and insulation must extend to;

(i) the underside of the floor next above; or

(ii) the underside of a roof complying with Table 3; or

(iii) if under Clause 3.5 the roof is not required to comply with Table 3, the underside of the non-combustible roof covering and, except for roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or

(iv) a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes; and

(d) a loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be of concrete or masonry; and

(e) a non-loadbearing

(i) internal wall required to be fire-resisting; and

(ii) lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, must be of non-combustible construction; and

(f) the FRLs specified in Table 3 for an external column apply also to those parts of an internal column that face and are within 1.5 m of a window and are exposed through that window to a fire-source feature.

APPENDIX B: BCA REQUIREMENTS - CLAUSE BY CLAUSE ASSESSMENT

Noting that the current level of documentation is for assessment purposes related to the development application stage, an indicative compliance assessment of the referenced documents identified in section 1.2 of this report has been undertaken against the Deemed-to-Satisfy Provisions of the National Building Code of Australia 2016 (BCA).

In Table 4.1 below is a summary of the Deemed-to-Satisfy Provisions of the BCA. All Deemed-to-Satisfy clauses that are applicable to the subject building have been referred to below, including a comment adjacent to each clause of the proposal's ability to satisfy each respective clause.

The abbreviations outlined below have been used in the following tables:

N/A	The Deemed-to-Satisfy clause does not apply to the subject Building.
Complies	The relevant provisions of the Deemed-to-Satisfy clause have been demonstrated by the proposed design and existing building features.
CRA	'Compliance Readily Achievable'. It is considered that the level of detail included in the CC documentation will not determine strict compliance with the individual BCA clause requirements. Further certification will be required prior to the issue of the Construction Certificate.
FI	Further information is necessary to determine the compliance potential of the building design.
PS	Preparation of a Performance Solution with respect to this Deemed-To-Satisfy Provision is possible to satisfy the relevant BCA Performance Requirements.
DNC	Does Not Comply.



4.1. Table 4.1 – BCA 2016 Clause by Clause Assessment

Clause	Description	Status	Comments
SECTION C – FIRE RESISTANCE			
Part C1 – Fire Resistance and Stability			
C1.1	Type of construction required	CRA	The building must be constructed in accordance with the Type A fire-resisting construction requirements outlined in BCA Specification C1.1, and any external cladding must be non-combustible.
C1.2	Calculation of rise in storeys	Noted	The building has an overall rise in storeys of nine (9). This is specified on the basis that the existing factory must be considered as having two (2) storeys because it is a Class 8 with an average internal height that exceeds 6m. See detailed discussion of this in Section 2.9 of this Report.
C1.3	Buildings of multiple Classification	Noted	Top storey of building is Class 5.
C1.4	Mixed types of Construction	N/A	
C1.5	Two storey Class 2,3 or 9c buildings	N/A	
C1.6	Class 4 parts of buildings	N/A	
C1.7	Open spectator stands and indoor sports stadiums	N/A	
C1.8	Lightweight construction	CRA	Lightweight construction used in a wall system must comply with BCA Specification C1.8.
C1.9	Non-combustible building elements	CRA	<p>(a) In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible:</p> <ul style="list-style-type: none"> (i) External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation. (ii) The flooring and floor framing of lift pits. (iii) Non-loadbearing internal walls where they are required to be fire-resisting. <p>(b) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction in—</p> <ul style="list-style-type: none"> (i) a building required to be of Type A construction; and (ii) a building required to be of Type B construction, subject to C2.10, in— <ul style="list-style-type: none"> (A) a Class 2, 3 or 9 building; and



Clause	Description	Status	Comments
			<p>(B) a Class 5, 6, 7 or 8 building if the shaft connects more than 2 storeys.</p> <p>(c) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1.</p> <p>(d) The requirements of (a) and (b) do not apply to gaskets, caulking, sealants and damp-proof courses.</p> <p>(e) The following materials may be used wherever a non-combustible material is required:</p> <ul style="list-style-type: none"> (i) Plasterboard. (ii) Perforated gypsum lath with a normal paper finish. (iii) Fibrous-plaster sheet. (iv) Fibre-reinforced cement sheeting. (v) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. (vi) Bonded laminated materials where— <ul style="list-style-type: none"> (A) each lamina, including any core, is non-combustible; and (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and (C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.
C1.10	Fire hazard properties	CRA	The fire hazard properties of all floor linings and floor coverings, wall linings, and ceiling linings must comply with BCA Specification C1.10.
C1.11	Performance of external walls in fire	N/A	Building has a rise in storeys that exceeds two (2).
C1.12	This clause has deliberately been left blank	Noted	
C1.13	Fire-protected timber: Concession	N/A	Building incorporates numerous classifications other than Class 5 and is currently considered to have a rise in storeys of greater than 25m.
C1.14	Ancillary elements	CRA	Any ancillary elements attached to the internal parts or external face of an external wall must be non-combustible unless it listed as having an exemption under BCA clause C1.14.
Part C2 – Compartmentation and Separation			
C2.1	Application of Part	Noted	Clauses C2.2, C2.3 and C2.4 do not apply to a sprinkler protected carpark, open deck carpark or open spectator stand.
C2.2	General floor area limitations	CRA	The building must be separated into fire compartments that do not exceed the maximum floor area and volume limitations



Clause	Description	Status	Comments
			imposed by BCA clause C2.2. This can be achieved by incorporating fire walls where required.
C2.3	Large isolated buildings	N/A	
C2.4	Requirements for open spaces and vehicular access	N/A	
C2.5	Class 9a and 9c Buildings	N/A	
C2.6	Vertical separation of openings in external walls	CRA	<p>All openings in external walls must be protected by a spandrel, slab, or other horizontal construction that complies with the requirements outlined in BCA clause C2.6. It should be noted that these requirements do not apply to a building which has a sprinkler system complying with Specification E1.5 installed throughout.</p> <div data-bbox="895 983 1410 1545" data-label="Image"> </div>



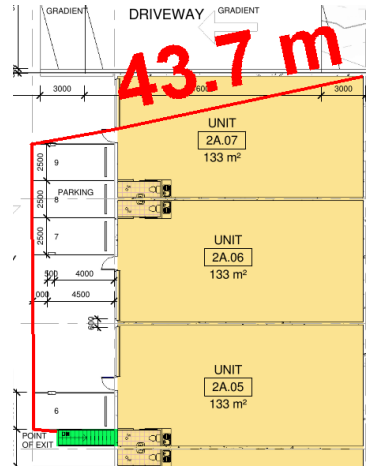
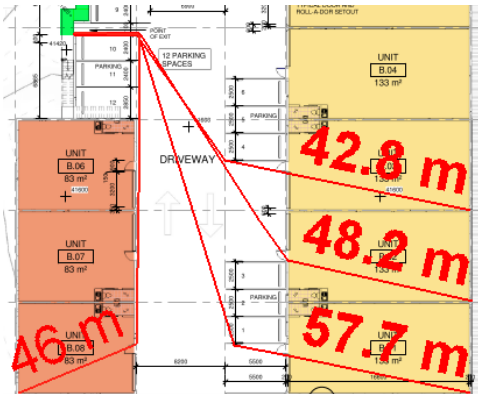
Clause	Description	Status	Comments
			<p>Figure C2.6(2) EXAMPLE SHOWING USE OF SLAB OR HORIZONTAL CONSTRUCTION TO SEPARATE EXTERNAL WINDOW OPENINGS</p> <p>(a) Section</p> <p>(b) Elevation</p>
C2.7	Separation by fire walls	CRA	If fire walls are required, they must be constructed in accordance with the requirements of this clause.
C2.8	Separation of classifications in the same storey	CRA	Each individual classification must be fire-separated from an adjoining part in the same storey with a different classification, or the storey must be constructed to the higher FRLs applicable to the parts.
C2.9	Separation of classifications in different storeys	CRA	The floors separating storeys containing different classifications in each storey must achieve the FRL applicable for a floor according to the Class within the lower storey, or an FRL equal to that of any wall/floor it is supporting.
C2.10	Separation of lift shafts	N/A	No lifts.
C2.11	Stairways and lifts in one shaft	N/A	No lifts.
C2.12	Separation of equipment	CRA	<p>If the building contains any of the equipment specified in BCA clause C2.12(a) it must be enclosed by construction having a FRL of no less than that specified in BCA Specification C1.1 with reference to the relevant classification (except it cannot be any less than 120/120/120), and have any doorway protected by a self-closing fire door having a FRL of no less than -/120/30.</p> <p>Any room located within the building required to enclose an on-site fire pump must be constructed to achieve a FRL of no less than 120/120/120 and have any doorway protected by a self-closing fire door having a FRL of no less than -/120/30.</p>
C2.13	Electricity supply system	CRA	If the building contains any of the electricity supply system equipment specified in BCA clause C2.13, that equipment must be separated from any other part of the building by

Page 21 of 42

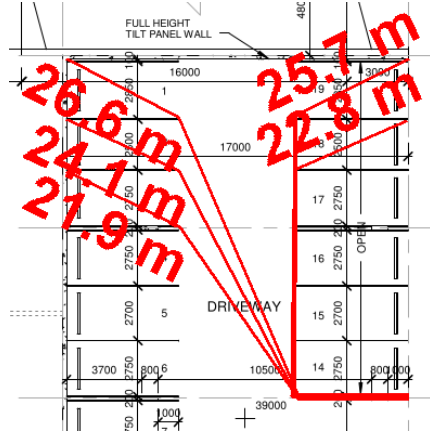
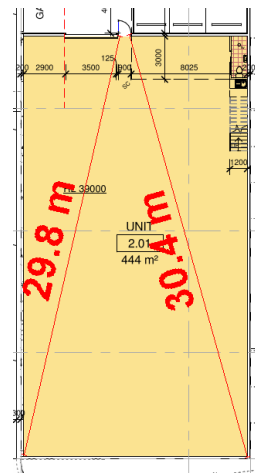
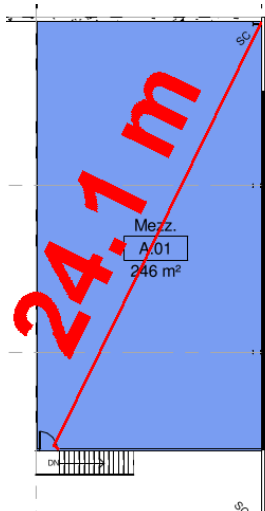


Clause	Description	Status	Comments
C3.5	Doorways in fire walls	CRA	If required.
C3.6	Sliding fire doors	CRA	If required.
C3.7	Protection of doorways in horizontal exits	N/A	No horizontal exits proposed.
C3.8	Openings in fire-isolated exits	CRA	The doorways opening into fire-isolated exits (not including doorways opening from a fire-isolated exit to a road or open space) must be protected by –/60/30 fire doors that are self-closing, or automatic-closing.
C3.9	Service penetrations in fire isolated exits	N/A	Fire-isolated exits must not be penetrated by any services other than— (a) electrical wiring permitted by BCA clause D2.7(e) to be installed within the exit; or (b) ducting associated with a pressurisation system if it— (i) is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and (ii) does not open into any other part of the building; or (c) water supply pipes for fire services.
C3.10	Openings in fire-isolated lift shafts	N/A	No lifts.
C3.11	Bounding construction: Class 2 and 3 buildings and Class 4 parts	N/A	
C3.12	Openings in floors for services	CRA	Services passing through floors must be placed within fire resisting shafts or protected in accordance with BCA clause C3.15.
C3.13	Openings in shafts	CRA	Any opening in a wall providing access to a ventilating, pipe, garbage or other service shaft must be protected by a self-closing –/60/30 fire door or hopper; or an access panel having an FRL of not less than –/60/30.
C3.14	This clause has deliberately been left blank	N/A	
C3.15	Openings for service installation	CRA	Methods and materials used to protect openings for service installations are to be identical to tested prototypes, compliant with AS4072.1 and AS1530.4, and must achieve the required FRL or resistance to the incipient spread of fire or other specified method.
C3.16	Construction Joints	CRA	Construction joints are to be installed in accordance with a tested prototype compliant with AS 1530.4.
C3.17	Columns protected with lightweight construction	Noted	Columns must be protected in accordance with the identical tested prototype.

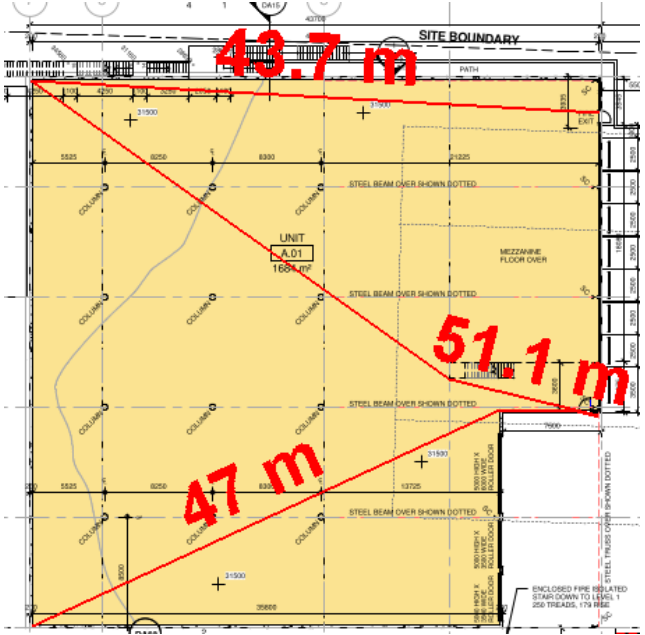
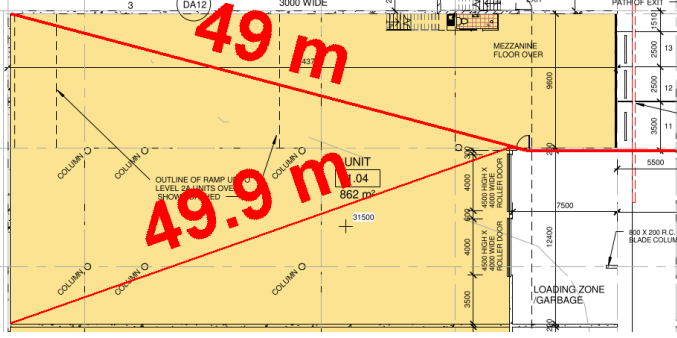
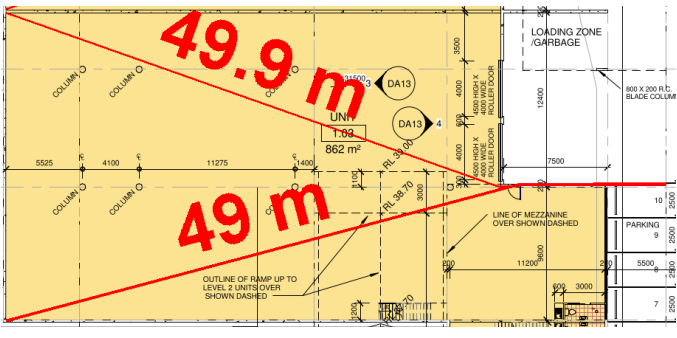


Clause	Description	Status	Comments
SECTION D – ACCESS AND EGRESS			
Part D1 – Provision for Escape			
Clause	Description	Status	Comments
D1.1	Application of Part	Noted	The Deemed to Satisfy provisions of this part do not apply to the internal parts of a sole occupancy unit in a Class 2, 3 or 4 building.
D1.2	Number of exits required	PS	The building is identified as having an effective height greater than 25m and there are parts of storeys that do not have access to two (2) exits. The design team have advised that this matter will be resolved via a Performance Solution prepared by a suitably qualified fire safety engineer.
D1.3	When fire-isolated exits are required	PS	<p>The stairway located on gridline G passes by three (3) storeys (Level 2, Level 2 Mezzanine, and Level 2A), therefore, is required to be fire-isolated.</p> <p>The design team have advised that this matter will be resolved via a Performance Solution prepared by a suitably qualified fire safety engineer.</p>
D1.4	Exit travel distances	PS	<p>The exit travel distances from within Unit 2A.07 exceed 40m to one of the exits available.</p>  <p>The exit travel distances from within Unit B.01, Unit B.02, Unit B.03 and Unit B.08 exceed 40m to one of the exits available.</p> 

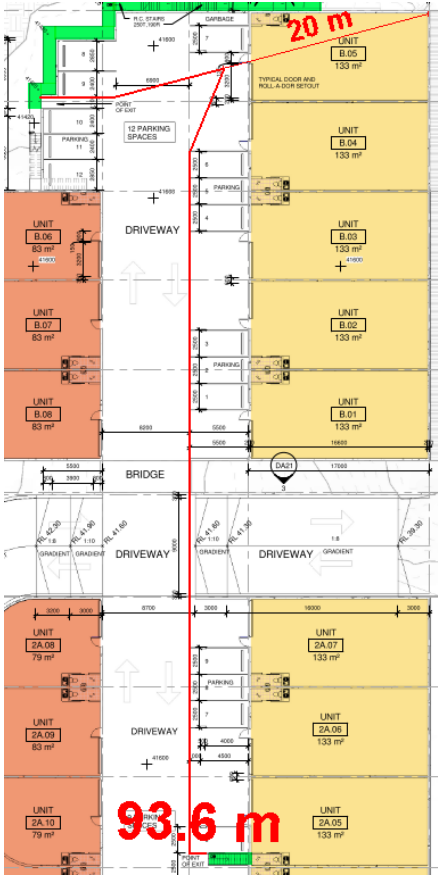


Clause	Description	Status	Comments
			<p>The exit travel distances within the 19 space carparking area on Level 2 exceed 20m to a single exit.</p>  <p>The exit travel distances within Unit 2.01 exceed 20m to a single exit.</p>  <p>The exit travel distances within Mezzanine A.01 exceed 20m to a single exit.</p> 

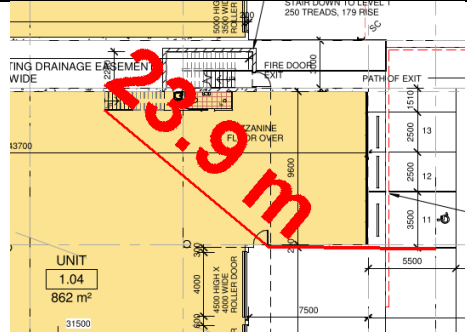
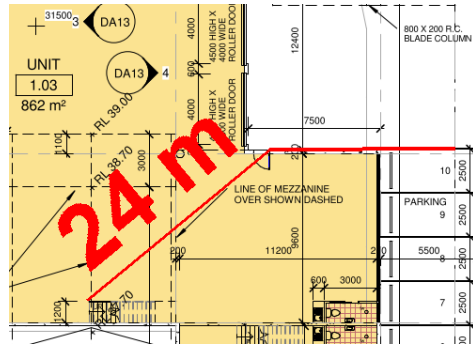


Clause	Description	Status	Comments
			<p>The exit travel distances within Unit A.01 exceed 40m to one of the exits available.</p>  <p>The exit travel distances within Unit 1.04 exceed 20m to a single exit.</p>  <p>The exit travel distances within Unit 1.03 exceed 20m to a single exit.</p>  <p>The design team have advised that these issues will be resolved via preparation of Performance Solutions by a suitably qualified fire safety engineer.</p>



Clause	Description	Status	Comments
D1.5	Distance between alternative exits	PS	<p>The alternative exits serving Level 2A are greater than 60m apart.</p>  <p>The design team have advised that this matter will be resolved via preparation of a Performance Solution by a suitably qualified fire safety engineer.</p>
D1.6	Dimensions of exits and paths of travel to exits	CRA	<p>All stairways and ramps in the path of travel to an exit or serving as an exit must have an unobstructed width of no less 1,000mm, measured clear of any obstructions (handrails, etc.).</p>
D1.7	Travel via fire-isolated exits	PS	<p>The exit stairway on gridline G is required to be fire-isolated but the discharge cannot comply with the requirements of this clause.</p> <p>The design team have advised that this matter will be resolved via preparation of a Performance Solution by a suitably qualified fire safety engineer.</p>
D1.8	External stairways in lieu of fire-isolated exits	N/A	
D1.9	Travel by non-fire-isolated stairways or ramps	PS	<p>The non-fire-isolated stairway serving the Level 1 Mezzanine of Unit 1.04 discharges into the lower storey at a point more than 20m from an exit.</p>



Clause	Description	Status	Comments
			 <p>The non-fire-isolated stairway serving the Level 1 Mezzanine of Unit 1.03 discharges into the lower storey at a point more than 20m from an exit.</p>  <p>The design team have advised that these matters will be resolved via preparation of a Performance Solution by a suitably qualified fire safety engineer.</p>
D1.10	Discharge from exits	CRA	<p>Access to and discharge from exits must be protected from being blocked by vehicles via the installation of appropriate barriers.</p> <p>Also, if an exit discharges to open space that is at a different level than the public road to which it is connected, the path of travel to the road must be by -</p> <ul style="list-style-type: none"> (i) a ramp or other incline having a gradient not steeper than 1:8 at any part; or (ii) a stairway complying with the Deemed-to-Satisfy Provisions of the BCA.
D1.11	Horizontal exits	N/A	
D1.12	Non-required stairs, ramps or escalators	PS	<p>The driveway ramps are in a fire compartment that includes more than just carpark areas (units assumed not to be fire separated from carpark areas) and connects more than two (2) storeys (Level 2, Level 2 Mezzanine, and Level 2A).</p> <p>The design team have advised that this matter will be resolved via preparation of a Performance Solution by a suitably qualified fire safety engineer.</p>
D1.13	Number of persons Accommodated	Noted	



Clause	Description	Status	Comments
D1.14	Measurement of distance	Noted	
D1.15	Method of measurement	Noted	
D1.16	Plant rooms and lift machine rooms: Concession	N/A	
D1.17	Access to lift pits	CRA	
Part D2 – Construction of Exits			
D2.1	Application of Part	Noted	Except for— D2.13, D2.14(a), D2.16, D2.17(d), D2.17(e), D2.18 and D2.24 , the Deemed-to-Satisfy Provisions of this Part do not apply to the internal parts of a sole-occupancy unit in a Class 2 building or Class 4 part of a building.
D2.2	Fire-isolated stairs or ramps	CRA	If the stairway on gridline G remains required to be fire-isolated it must be constructed of non-combustible materials, and so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft they are located within.
D2.3	Non-fire-isolated stairways and ramps	CRA	The non-fire-isolated stairways must be constructed of non-combustible materials, and so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft they are located within; or only of: (a) reinforced or prestressed concrete; or (b) steel in no part less than 6 mm thick; or (c) timber that - (i) has a finished thickness of not less than 44 mm; and (ii) has an average density of not less than 800 kg/m ³ at a moisture content of 12%; and (iii) has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.
D2.4	Separation of rising and descending stair flights	Complies	Only applicable if the stairway on gridline G remains required to be fire-isolated.
D2.5	Open access ramps and balconies	N/A	
D2.6	Smoke lobbies	N/A	
D2.7	Installations in exits and paths of travel	CRA	Electrical distribution boards and other services or equipment must be located wholly within, and enclosed by, non-combustible construction, or have a fire-protective covering, with the doorway suitably sealed against smoke spreading from the enclosure.



Clause	Description	Status	Comments
D2.8	Enclosure of space under stairs and ramps	CRA	<p>The space beneath the fire-isolated stairway (if requirement to fire-isolate remains) must not be enclosed to form a cupboard.</p> <p>If the space beneath any of the non-fire-isolated stairways (internal or external) is enclosed, the enclosing construction must have an FRL of no less than 60/60/60 and any doorway protected with a self-closing -/60/30 fire door.</p>
D2.9	Width of stairways	N/A	
D2.10	Pedestrian ramps	CRA	All ramps must comply with the slip-resistance provisions of BCA Table D2.14 and AS 4586-2013.
D2.11	Fire-isolated passageways	CRA	<p>(a) The enclosing construction of a fire-isolated passageway must have an FRL when tested for a fire outside the passageway in another part of the building of—</p> <ul style="list-style-type: none"> (i) if the passageway discharges from a fire-isolated stairway or ramp — not less than that required for the stairway or ramp shaft; or (ii) in any other case — not less than 60/60/60. <p>(b) Notwithstanding (a)(ii), the top construction of a fire-isolated passageway need not have an FRL if the walls of the fire-isolated passageway extend to the underside of—</p> <ul style="list-style-type: none"> (i) a non-combustible roof covering; or (ii) a ceiling having a resistance to the incipient spread of fire of not less than 60 minutes separating the roof space or ceiling space in all areas surrounding the passageway within the fire compartment.
D2.12	Roof as open space	CRA	Wherever the roof serves as an area of open space it must have an FRL of no less than 120/120/120.
D2.13	Goings and risers	CRA	The stairways throughout the building must be designed in accordance with BCA clause D2.13, including the provision of slip-resistance in accordance with BCA Table D2.14 and AS 4586-2013.
D2.14	Landings	CRA	Landings must comply with the requirements of BCA clause D2.14.
D2.15	Thresholds	Complies	
D2.16	Barriers to prevent falls	CRA	Barriers compliant with BCA clause D2.16 must be provided to protect any fall of 1,000mm or more.
D2.17	Handrails	CRA	All stairways throughout both buildings must be provided with handrails compliant with BCA clause D2.17. This requires having a tread width extension at the base of each flight of stairs to enable the handrail to maintain a consistent height throughout all flights and landings within a stairway.



Clause	Description	Status	Comments
			<p>(a) Plan</p>
D2.18	Fixed platforms walkways, stairways and ladders	N/A	
D2.19	Doorways and doors	Complies	
D2.20	Swinging doors	DNC	<p>All doors serving A.01, Unit 1.04, and Unit 1.03 on Level 1 must swing in the direction of egress from the building.</p> <p>The exit door on gridline 3 serving Unit A.01 must be relocated or the adjacent path increased in width such that the door, during any part of its swing, does not encroach by any more than 500mm on the required width of the exit pathway.</p>



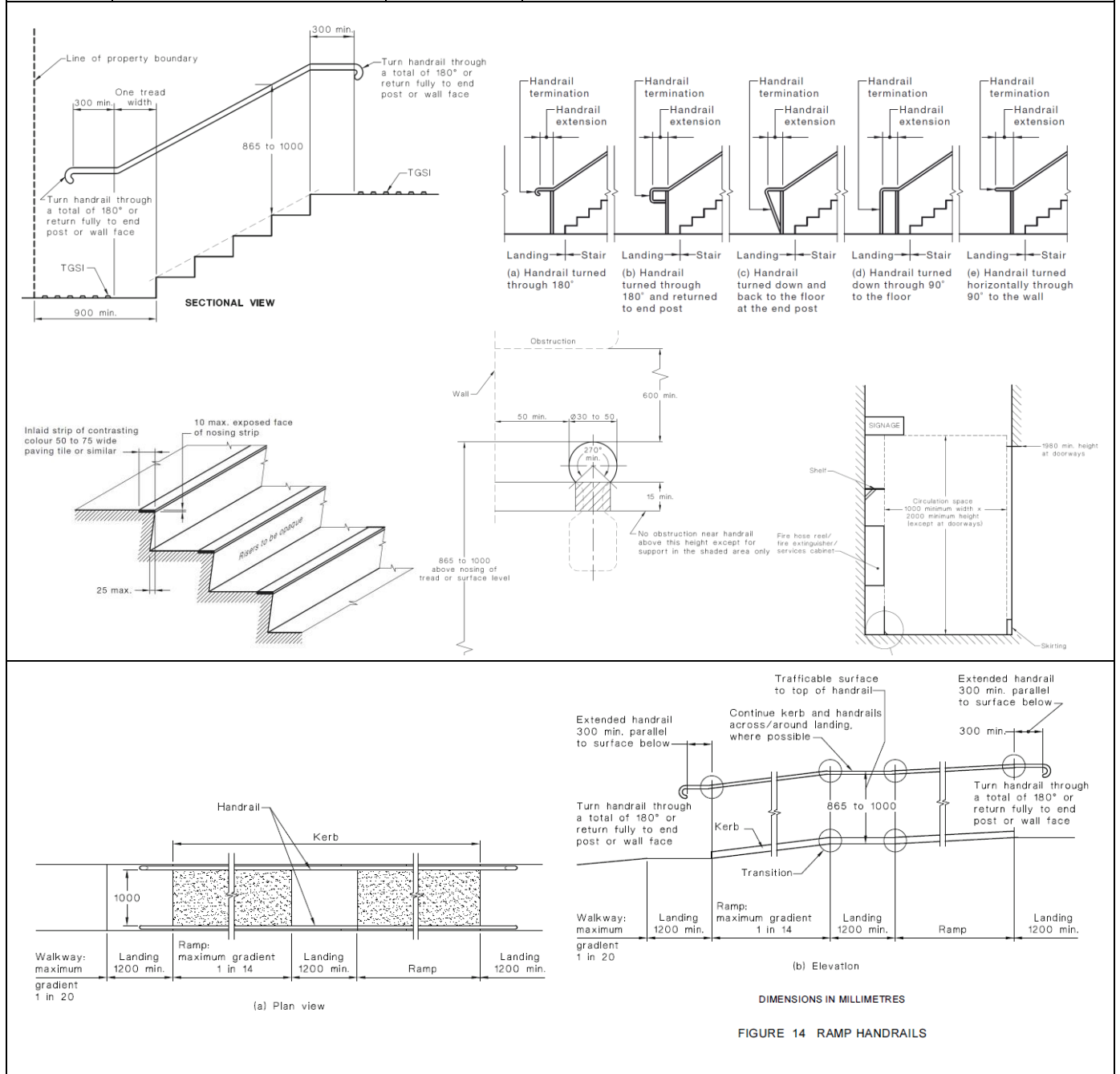
Clause	Description	Status	Comments
		CRA	All unit doors that do not swing in the direction of egress on Levels 2A and 3 must be fitted with a device for holding them in the open position.
D2.21	Operation of latch	CRA	<p>A door in a required exit, forming part of a required exit or in the path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by—</p> <ul style="list-style-type: none"> (i) a single hand downward action on a single device which is located between 900 mm and 1.1 m from the floor and if serving an area required to be accessible by Part D3— <ul style="list-style-type: none"> (A) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and (B) have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35 mm and not more than 45 mm; or (ii) a single hand pushing action on a single device which is located between 900 mm and 1.2 m from the floor.
D2.22	Re-entry from fire-isolated exits	N/A	The only exit that is required to be fire-isolated (but is likely to not be required to be fire-isolated by a Performance Solution) does not serve a storey above an effective height of 25m.
D2.23	Signs on doors	CRA	<ul style="list-style-type: none"> (a) A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to, a— <ul style="list-style-type: none"> (i) <ul style="list-style-type: none"> (A) required fire door providing direct access to a fire-isolated exit, except a door providing direct egress from a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building; and (B) required smoke door, <p>on the side of the door that faces a person seeking egress and, if the door is fitted with a device for holding it in the open position, on either the wall adjacent to the doorway or both sides of the door; and</p> (ii) <ul style="list-style-type: none"> (A) fire door forming part of a horizontal exit; and (B) smoke door that swings in both directions; and (C) door leading from a fire isolated exit to a road or open space, on each side of the door. (b) A sign referred to in (a) must be in capital letters not less than 20 mm high in a colour contrasting with the background and state— <ul style="list-style-type: none"> (i) for an automatic door held open by an automatic hold-open device— “FIRE SAFETY DOOR—DO NOT OBSTRUCT”; or (ii) for a self-closing door— “FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN”; or

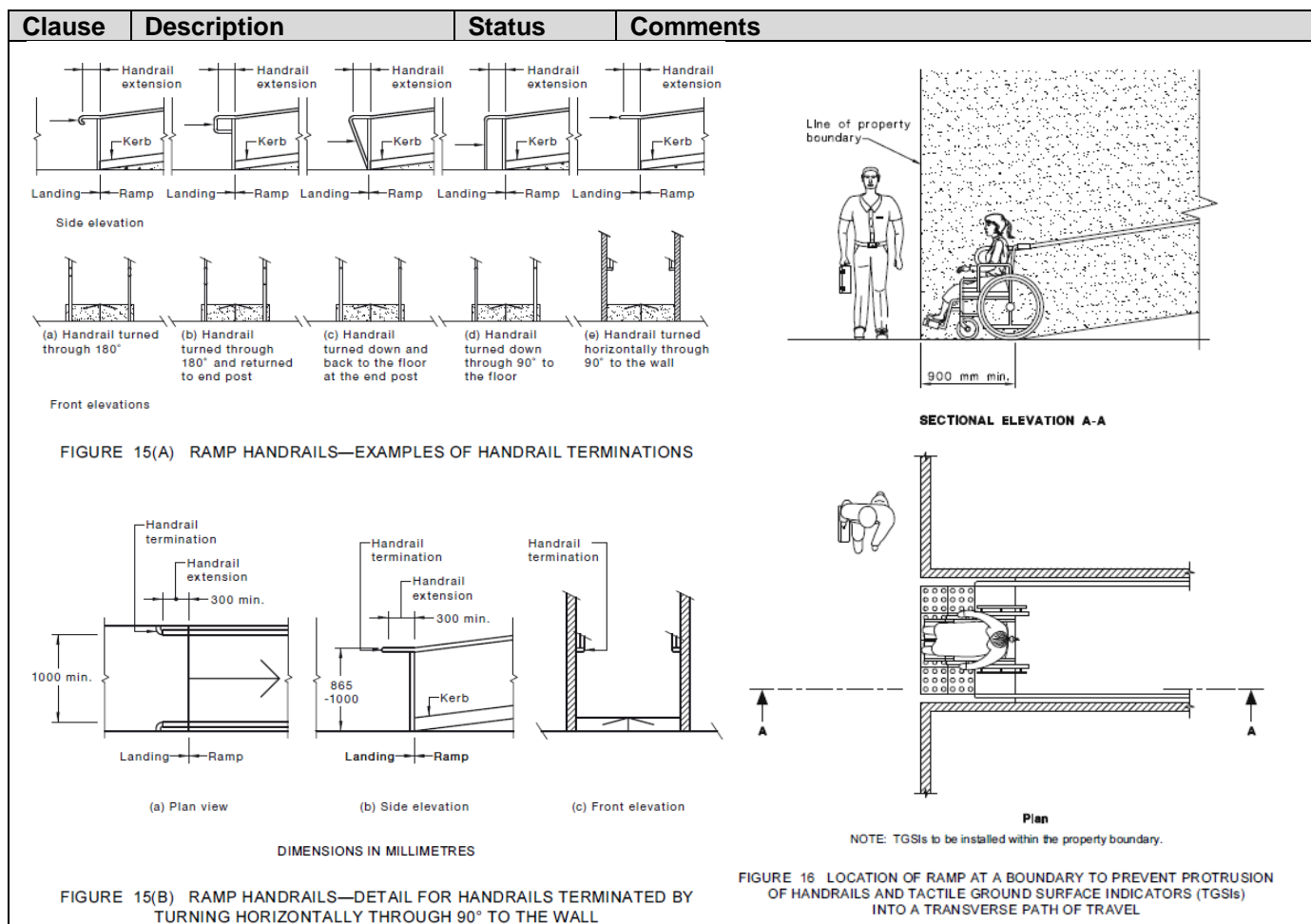


Clause	Description	Status	Comments
			(iii) for a door discharging from a fire-isolated exit— “FIRE SAFETY DOOR—DO NOT OBSTRUCT” .
D2.24	Protection of openable windows	N/A	Neither building includes a Class 2, 3, or 4 part.
D2.25	Timber stairways: Concession	N/A	
SECTION D3.3 – ACCESS FOR PEOPLE WITH DISABILITIES			
D3.0	Deemed-to-Satisfy Provisions	Noted	
D3.1	General building access requirements	CRA	Access must be provided to and within all areas normally used by the occupants. This should be reviewed in detail by a suitably qualified access consultant.
D3.2	Access to buildings	CRA	(a) An accessway must be provided to a building required to be accessible <ul style="list-style-type: none"> (i) from the main points of a pedestrian entry at the allotment boundary; and (ii) from another accessible building connected by a pedestrian link; and (iii) from any required accessible carparking space on the allotment. (b) In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance, and— <ul style="list-style-type: none"> (i) through not less than 50% of all pedestrian entrances including the principal pedestrian entrance; and (ii) in a building with a total floor area more than 500 m², a pedestrian entrance which is not accessible must not be located more than 50 m from an accessible pedestrian entrance, except for pedestrian entrances serving only areas exempted by BCA clause D3.4. This should be reviewed in detail by a suitably qualified access consultant.
D3.3	Parts of buildings to be accessible	CRA	The ramps, stairways, lifts, accessways, and floor coverings must comply with BCA clause D3.3. This should be reviewed in detail by a suitably qualified access consultant. However, at first glance the following obvious area of non-compliance is identified:



Clause	Description	Status	Comments
		DNC	1. Wheelchair access via a lift or ramp must be provided to the Mezzanine storey of Unit A.01 (floor area exceeds 200m ²).





Extraction from Standards Australia Handbook 197:1999

TABLE 3

PEDESTRIAN FLOORING SELECTION GUIDE – MINIMUM PENDULUM OR RAMP RECOMMENDATIONS FOR SPECIFIC LOCATIONS

Location	Pendulum	Ramp
External colonnade, walkway and pedestrian crossings	W	R10
External ramps	V	R11
Entry foyers hotel, office, public buildings - wet	X	R10
Entry foyers hotel, office, public buildings - dry	Z	R9
Shopping centre excluding food court	Z	R9
Shopping centre – food court	X	R10
Internal ramps, slopes (greater than 2 degrees) - dry	X	R10
Lift lobbies above external entry level	Z	R9
Other separate shops inside shopping centres	Z	R9
Other shops with external entrances – entry area	X	R10
Fast food outlets, buffet food servery areas	X	R10
Hospitals and aged care facilities – dry areas	Z	R9
Hospital and aged care facilities – ensuites	X	A or R10
Supermarket aisles except fresh food areas	Z	R9
Shop and supermarket fresh fruit and vegetable areas	X	R10
Communal changing rooms	X	A
Swimming pool surrounds and communal shower rooms	W	B
Swimming pool ramps and stairs leading into water	V	C
Toilet facilities in offices, hotels, shopping centres	X	R10
Undercover concourse areas of sports stadium	X	R10
Accessible internal stair nosings (dry) – handrails present	X	R10
Accessible internal stair nosings (wet) – handrails present	W	B or R11
External stair nosings	W	R11



Clause	Description	Status	Comments
D3.4	Exemptions	N/A	
D3.5	Accessible car parking	Complies	
D3.6	Signage	CRA	Signage compliant with BCA clause D3.6 must be provided to and throughout the building.
D3.7	Hearing Augmentation	N/A	
D3.8	Tactile Ground Surface indicators (TGSIs)	CRA	Where required, TGSIs must comply with the requirements of AS1428.4-2009.

There are three (3) distinct types of TGSIs, these each need to be assessed as to the most appropriate based on the surface it is to be applied and lighting conditions. AS1428.4.1 – 2009 clearly provides installation requirements.



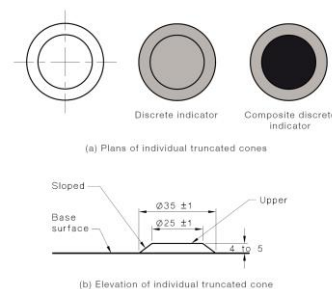
30% contrast to surface



45% Contrast to Surface



60% Contrast to Surface



D3.9	Wheelchair Seating Spaces in Class 9b Assembly Buildings	N/A	
D3.10	Swimming Pools	N/A	
D3.11	Ramps	Complies	
D3.12	Glazing on an accessway	CRA	Where there is no chair rail, handrail, or transom on an accessway all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1-2009.

SECTION E – SERVICES AND EQUIPMENT

Part E1 – Fire Fighting Equipment

Clause	Description	Status	Comments
E1.1	This clause has deliberately been left blank	N/A	
E1.2	This clause has deliberately been left blank	N/A	



Clause	Description	Status	Comments
E1.3	Fire Hydrants	CRA	<p>The total floor area of the building is greater than 500m². Therefore, a system of fire hydrants compliant with AS 2419.1-2005 is required to serve the building.</p> <p>The fire hydrant system will likely require an on-site pump which must be adequately separated from the building and have a door opening directly to a road or open space.</p> <p>Also, the fire hydrant system will likely require a booster valve assembly located adjacent to the entry of the building but no closer than 10m unless protected with a radiant heat shield (masonry wall).</p>
E1.4	Fire hose Reels	CRA	The total floor area of the building is greater than 500m ² . Therefore, a system of fire hose reels compliant with AS 2441-2005 is required to serve the building.
E1.5	Sprinklers	CRA	The building has an effective height of more than 25m, therefore, is required to be served by a sprinkler system.
E1.6	Portable fire extinguishers	CRA	Portable fire extinguishers are required to be provided in accordance with Table E1.6 of the BCA and AS 2444-2001.

Table E1.6 REQUIREMENTS FOR EXTINGUISHERS

Occupancy class	Risk class (as defined in AS 2444)
General provisions—Class 2 to 9 buildings (except within <i>sole-occupancy units</i> of a Class 9c building)	<p>(a) To cover Class AE or E fire risks associated with emergency services switchboards. (Note 1)</p> <p>(b) To cover Class F fire risks involving cooking oils and fats in kitchens.</p> <p>(c) To cover Class B fire risks in locations where flammable liquids in excess of 50 litres are stored or used (not including that held in fuel tanks of vehicles).</p> <p>(d) To cover Class A fire risks in normally occupied <i>fire compartments</i> less than 500 m² not provided with fire hose reels (excluding <i>open deck carparks</i>).</p> <p>(e) To cover Class A fire risks in classrooms and associated corridors in primary and secondary schools not provided with fire hose reels.</p> <p>(f) To cover Class A fire risks associated with a Class 2 or 3 building or Class 4 part of a building.</p>



Clause	Description	Status	Comments
	<p>Specific provisions (in addition to general provisions)—</p> <p>(a) Class 9a <i>health care building</i></p> <p>(b) Class 3 parts of detention and correctional occupancies</p> <p>(c) Class 3 accommodation for children, aged persons and people with disabilities</p> <p>(d) Class 9c building</p> <p>Notes</p> <p>1. For the purposes of this Table, an emergency services switchboard is one which sustains emergency equipment operating in the emergency mode.</p> <p>2. A Class E fire extinguisher need only be located at each nurses', supervisors' station or the like.</p> <p>3. Additional extinguishers may be required to cover fire risks in relation to special hazards provided for in E1.10.</p> <p>4. The fire risks in a Class 2 or 3 building or Class 4 part of a building must include risks within any <i>sole-occupancy units</i>, however portable fire extinguishers are not required to be located within a <i>sole-occupancy unit</i> unless the <i>sole-occupancy unit</i> has a floor area greater than 500 m².</p>		To cover Class A and E fire risks. (Note 2)
E1.7	This clause has deliberately been left blank	N/A	
E1.8	Fire control centres	CRA	The building must be provided with a fire control centre facility in accordance with BCA Specification E1.8.
E1.9	Fire precautions during construction	CRA	<p>In a building under construction not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit.</p> <p>Furthermore, after the building has reached an effective height of 12 m -</p> <p>(i) the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the 2 uppermost storeys; and</p> <p>(ii) any required booster connections must be installed.</p>
E1.10	Provisions for special Hazards	N/A	
Part E2 – Smoke Hazard Management			
E2.1	Application of Part	Noted	
E2.2	General requirements	CRA	<p>An air-handling system which does not form part of a smoke hazard management system in accordance with Table E2.2a or Table E2.2b and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must—</p> <p>(i) be designed and installed to operate as a smoke control system in accordance with AS/NZS 1668.1; or</p> <p>(ii)</p>



Clause	Description	Status	Comments
			<p>(A) incorporate smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and</p> <p>(B) be arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1670.1; and</p> <p>Miscellaneous air-handling systems covered by Sections 5 and 6 of AS/NZS 1668.1 serving more than one fire compartment (other than a carpark ventilation system) and not forming part of a smoke hazard management system must comply with that Section of the Standard.</p> <p>A smoke detection system must be installed in accordance with Clause 5 of Specification E2.2a to operate AS/NZS 1668.1 systems that are provided for zone smoke control and automatic air pressurisation for fire-isolated exits.</p> <p>The building must be provided with a zone smoke control system in accordance with AS/NZS 1668.1-2015 – has an effective height greater than 25m.</p>
E2.3	Provisions for special Hazards	N/A	
Part E3 – Lift Installations			
Not applicable – no lifts in building.			
Part E4 – Emergency Lighting, Exit Signs and Warning Systems			
E4.1	This clause has deliberately been left blank	N/A	
E4.2	Emergency lighting requirements	CRA	Emergency lighting is to be provided throughout the building in accordance with BCA clause E4.2.
E4.3	Measurement of distance	Noted	
E4.4	Design and operation of emergency lighting	Noted	The emergency lighting system must comply with AS 2293.1-2005.
E4.5	Exit signs	CRA	Exit signage is to be provided throughout the building in accordance with BCA clause E4.5.
E4.6	Direction signs	CRA	Where an exit location is not clear to a person unfamiliar with the building, exit signs with directional arrows must be installed in appropriate positions in corridors, hallways, lobbies and the like indicating the direction to a required exit in accordance with Clause E4.6 of the BCA.
E4.7	Class 2, 3 and 4 buildings: exemptions	N/A	



Clause	Description	Status	Comments
E4.8	Design and operation of exit signs	Noted	Exit signs are to operate in accordance with AS 2293.1-2005 and be clearly visible at all times while the building is occupied.
E4.9	Sound systems and intercom systems for emergency purposes	CRA	The building must be provided with a sound system and intercom system for emergency purposes complying with AS 1670.4-2015 – has an effective height greater than 25m.
SECTION F – HEALTH AND AMENITY			
Part F1 – Damp and Weatherproofing			
Clause	Description	Status	Comments
F1.1	Stormwater drainage	CRA	Stormwater drainage design shall be in accordance with AS/NZS 3500.3.
F1.2	This clause has deliberately been left blank	N/A	
F1.3	This clause has deliberately been left blank	N/A	
F1.4	External above ground membranes	CRA	Waterproofing membranes for external above ground use must comply with AS 4654.1-2012 and AS 4654.2-2012.
F1.5	Roof coverings	CRA	Roof coverings are to comply with the relevant Australian Standards as per Clause F1.5.
F1.6	Sarking	CRA	Sarking type materials used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 2.
F1.7	Waterproofing of wet areas	CRA	All wet areas must be made waterproof or water-resistant in accordance with AS 3740-2010.
F1.8	This clause has deliberately been left blank	N/A	
F1.9	Damp-proofing	CRA	Damp-proofing must be provided in accordance with the requirements of BCA clause F1.9.
F1.10	Damp-proofing of floors on the ground	CRA	A vapour barrier in accordance with AS 2870-2011 is to be provided beneath the basement floor slab.
F1.11	Provisions of floor wastes	N/A	No Class 2, 3, or 4 parts in the building.
F1.12	Subfloor ventilation	N/A	



Clause	Description	Status	Comments
F1.13	Glazed assemblies	CRA	Windows, sliding doors with a frame, adjustable louvres, shopfronts and window walls with one piece framing in an external wall must comply with AS 2047-2014 requirements for resistance to water penetration.
Part F2 – Sanitary and Other Facilities			
F2.1	Facilities in residential buildings	N/A	There are no Class 2, 3, 9c, or 4 parts in this building.
F2.2	Calculation of number of occupants and fixtures	Noted	
F2.3	Facilities in Class 3 to 9 buildings	DNC Complies	There are no sanitary facilities provided in Unit A.01. For every other Unit provided that the number of employees for each unit is limited to no greater than 10 so that a unisex facility is permitted rather than separate facilities for each sex. It should be noted that if the facilities in each unit are upgraded to be unisex accessible sanitary compartments (as required – see discussion of BCA clause F2.4 below), they can be counted once for both males and females resulting in a greater occupant capacity being permitted.
F2.4	Accessible sanitary Facilities	DNC	The facilities serving every unit must be unisex accessible sanitary compartments
F2.5	Construction of sanitary compartments	CRA	Doors to fully enclosed toilets are to open outwards, slide or be readily removable from the outside of the sanitary compartment unless there is a clear space of at least 1.2m between the closet pan within the sanitary compartment and the nearest part of the doorway.
F2.6	Interpretation: Urinals and washbasins	Noted	
F2.7	Warm water installations	N/A	Not Applicable in NSW
F2.8	Waste Management	N/A	
Part F3 – Room Sizes			
F3.1	Height of rooms and other spaces	Complies	
Part F4 – Light and Ventilation			
F4.1	Provision of natural light	N/A	This building does not incorporate any Class 2, 3, 4, 9a, or 9c parts.



Clause	Description	Status	Comments
F4.2	Methods and extent of natural light	N/A	
F4.3	Natural light borrowed from adjoining room	N/A	
F4.4	Artificial lighting	CRA	Artificial lighting complying with AS1680.0-2009 must be provided throughout both buildings accordance with the requirements this clause.
F4.5	Ventilation of rooms	CRA	Ventilation must be provided throughout both buildings by natural or mechanical means. If ventilation is provided by a mechanical system it must comply with AS 1668.2-2012.
F4.6	Natural ventilation	CRA	Natural ventilation (if provided) must be provided in accordance with this clause.
F4.7	Ventilation borrowed from adjoining room	CRA	If required, to be provided in accordance with the requirements of this clause.
F4.8	Restriction on location of sanitary compartments	DNC	The sanitary facilities serving all units open directly into the warehouse spaces. As such, these rooms must be provided with: (i) an airlock, hallway or other room with a floor area of not less than 1.1 m2 and fitted with self-closing doors at all access doorways; or (ii) mechanical exhaust ventilation and the doorway to the room adequately screened from view. in accordance with the requirements of BCA clause F4.9 (see below).
F4.9	Airlocks	DNC	The sanitary compartments in all units must be provided with: (i) an airlock, hallway or other room with a floor area of not less than 1.1 m2 and fitted with self-closing doors at all access doorways; or (ii) mechanical exhaust ventilation and the doorway to the room adequately screened from view.
F4.10	This clause has deliberately been left blank	N/A	
F4.11	Carparks	CRA	The carpark must be provided with a ventilation system complying with AS1668.2-2012.



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Clause	Description	Status	Comments
			The requirements of this clause are not applicable to any parts of the carpark that comply with the “open-deck carpark” requirements.
F4.12	Kitchen local exhaust	N/A	
Part F5 – Sound Transmission and Insulation			
Not applicable – neither building contains a Class 2, 3, or 9c part.			