



**BLACKETT  
MAGUIRE+  
GOLDSMITH**

## **BCA ASSESSMENT REPORT**

**Flower Power Garden Centre  
277 Mona Vale Road, Terrey Hills**

**Prepared For:**

**Flower Power  
C/- Statewide Project Management Pty Ltd**

Revision 3

Date: 05 June 2023

Project No.: 210350

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REPORT STATUS				
DATE	REVISION	STATUS	AUTHOR	REVIEWED
01.02.2022	0	Preliminary Assessment – for Client & Consultant Review	JB	DG
08.03.2022	1	DA Stage – Updated Following Client & Consultant Review	JB	DG
04.05.2023	2	DA Stage – Updated to Address Revised Design	JB	DG
05.06.2023	3	DA Stage – Updated to Address Revised Design	JB	DG

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## 1.0 INTRODUCTION

### 1.1 BACKGROUND / PROPOSAL

Blackett Maguire + Goldsmith Pty Ltd (BM+G) have been commissioned by Flower Power C/- Statewide Project Management Pty Ltd to undertake a preliminary review of the proposed development, against the Deemed-to-Satisfy (DtS) provisions of the Building Code of Australia 2022 (BCA) pursuant to the provisions of s.19 of the *Environmental Planning & Assessment (EP&A) (Development & Fire Safety) Regulation 2021* and Clauses 24 & 25 of the *Building & Development Certifiers Regulation 2020*.

The proposed development comprises redevelopment of the existing flower power site, including partial demolition of the site, construction of a new retail building attached to an existing building, along with construction of a new landscape shop, on grade carparking and various ancillary, external works.



Figure 1. Perspective View (aerial view from Mona Vale Road)

### 1.2 AIM

The aim of this report is to:

- + Undertake an assessment of the proposed new garden centre against the Deemed-to-Satisfy (DtS) Provisions of the BCA 2022.

**Note:** *The version of the BCA that is applicable to building work is the version that is in force at the time the application for the relevant Construction Certificate or Complying Development Certificate is made. In this regard, it is highlighted that this report includes an assessment of the proposed development against the requirements of BCA 2022.*

- + Identify any BCA compliance issues that require resolution/attention for the proposed development at the CC Application stage.

**Note:** *Certification Work under the Building and Development Certifiers Regulation 2020:*

- + *This statement has been prepared in strict accordance with Part 4 of the Building and Development Certifiers Regulation 2020. As such, it is clarified that this statement is a part of the contracted scope by BM+G for "Certification Work", and due to the requirements and limitations of the BDC Regulations, BM+G asserts that we cannot undertake any services other than "Certification Services" on this project.*
- + *In this regard, it is noted that this report comprises a preliminary, certification assessment of the plans as part of the "Certification Work", and no part of this statement is to be construed as involvement in the building design, preparation of plans/specifications, or provision of advice on how to amend plans/specifications, nor any other activity stated in a restriction imposed by the BDC Regulations.*

### 1.3 PROJECT TEAM

The following BM+G Team Members have contributed to this Report:

- + Dean Goldsmith (Director)
- + Jackson Boyd (Building Surveyor)
- + John Kassiou (Cadet Building Surveyor)



## 1.4 DOCUMENTATION

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

- + NCC Volume 1 (BCA) 2022
- + Architectural Plans prepared by Leffler Simes Architects:

Drawing No.	Rev.	Date	Drawing No.	Rev.	Date
DA000	A	30.05.23	DA01	A	30.05.23
DA10	A	30.05.23	DA11	A	30.05.23
DA15	A	30.05.23	DA17	A	30.05.23
DA19	A	30.05.23	DA100	A	30.05.23
DA111	A	30.05.23	DA112	A	30.05.23
DA113	A	30.05.23	DA120	A	30.05.23
DA150	A	30.05.23	DA151	A	30.05.23
DA152	A	30.05.23	DA160	A	30.05.23
DA161	A	30.05.23	DA162	A	30.05.23
DA163	A	30.05.23			

## 1.5 REGULATORY FRAMEWORK

Pursuant to s.19 of the *Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021*, all new building work must comply with the current BCA.

## 1.6 RELEVANT VERSION OF THE BCA

Pursuant to s.19(1)(c) of the *EP&A (Development & Fire Safety) Reg. 2021*, the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the time the application for the Construction Certificate was made. The current version of the BCA is the BCA 2022, which has come into effect on 1 May 2023.

## 1.7 LIMITATIONS AND EXCLUSIONS

The limitations and exclusions of this report are as follows:

- + The following assessment is based upon a review of the architectural documentation.
- + No assessment has been undertaken with respect to the Disability Discrimination Act (DDA) 1992. The building owner should be satisfied that their obligations under the DDA have been addressed. In this regard, however, the provisions of the DDA Access to Premises – Buildings Standards have been considered as they are generally consistent with the accessibility provisions of the BCA.
- + The Report does not address matters in relation to the following:
  - (i) Local Government Act and Regulations.
  - (ii) NSW Public Health Act 1991 and Regulations.
  - (iii) Work Health and Safety (WH&S) Act and Regulations.
  - (iv) Work Cover Authority requirements.
  - (v) Water, drainage, gas, telecommunications and electricity supply authority requirements.
  - (vi) DDA 1992.
- + BM+G Pty Ltd do not guarantee acceptance of this report by Local Council, FRNSW or other approval authorities.
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## 1.8 TERMINOLOGY

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### + **Alternative Solution / Performance Solution**

A Building Solution which complies with the Performance Requirements other than by reason of satisfying the DtS Provisions.

### + **Building Code of Australia (BCA)**

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 New South Wales (NSW) under the provisions of the EPA Act and Regulation. Building regulatory legislation stipulates that compliance with the BCA Performance Requirements must be attained and hence this reveals BCA's performance-based format.

### + **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—

- (i) certain Class 2, 3 or 9c buildings in C2D6; and
- (ii) a Class 4 part of a building located on the top storey in C2D4(2); and
- (iii) 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.

### + **Climate Zone**

Is an area defined in BCA Figure 2 and in Tables 3a to 3h for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.

### + **Deemed to Satisfy Provisions (DtS)**

Provisions which are deemed to satisfy the Performance Requirements.

### + **Effective Height**

The height to 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) from the floor of the lowest storey providing direct egress to a road or open space.

### + **Exit**

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

- (i) An internal or external stairway.
- (ii) A ramp.
- (iii) A fire-isolated passageway.
- (iv) A doorway opening to a road or open space.

### + **Fire Compartment**

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

- (i) 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
- (ii) 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-

- (i) structural adequacy; and
- (ii) integrity; and
- (iii) insulation,

and expressed in that order.

**+ Fire Source Feature (FSF)**

The far boundary of a road which adjoins the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

**+ National Construction Code Series (NCC)**

The NCC was introduced 01 May 2011 by the Council of Australian Governments. The BCA Volume One (Class 2 to 9 Buildings) is now referenced as the National Construction Code Series Volume One — BCA.

**+ Occupation Certificate**

Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 6 of the EPA Act 1979.

**+ Open Space**

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 meet.

Compliance with the Performance Requirements can only be achieved by-

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



## 2.0 BUILDING CHARACTERISTICS

### 2.1 BUILDING CLASSIFICATION

The following table presents a summary of relevant building classification items of the proposed new, Flower Power garden centre development:

#### **Eastern Building (Main Building):**

<b>BCA Class:</b>	Class 6 (Retail)
<b>Rise in Storeys:</b>	Two (2)
<b>Effective Height:</b>	3m (RL200.00 – RL197.00)
<b>Type of Construction:</b>	Type C Construction (Large Isolated Building)
<b>Climate Zone:</b>	Zone 5
<b>Maximum Floor Area:</b>	2,000m <sup>2</sup>
<b>Maximum Volume:</b>	12,000m <sup>3</sup>
<b>Importance Level:</b>	Level 3 (to be confirmed by Structural Engineer)

#### **Western Building (Landscape Shop):**

<b>BCA Class:</b>	Class 6 (Retail)
<b>Rise in Storeys:</b>	One (1)
<b>Effective Height:</b>	N/A (single storey)
<b>Type of Construction:</b>	Type C Construction
<b>Climate Zone:</b>	Zone 5
<b>Maximum Floor Area:</b>	2,000m <sup>2</sup>
<b>Maximum Volume:</b>	12,000m <sup>3</sup>
<b>Importance Level:</b>	Level 2 (to be confirmed by Structural Engineer)

**Note:** Additional Class 10a & 10b structures are present in the provided design. Commentary is provided throughout this report in relation to these structures where relevant.

### 2.2 FIRE SOURCE FEATURES

The distances from the nearest Fire Source Features are noted as follows:

#### **Eastern Building (Main Building):**

<b>Fire Source Feature:</b>	<b>Distance to Fire Source Feature:</b>
Northern (Far Boundary):	>3m
Southern (Adjacent Building):	>3m
Eastern (Far Boundary):	>3m
Western (Far Boundary):	>3m

#### **Western Building (Landscape Shop):**

<b>Fire Source Feature:</b>	<b>Distance to Fire Source Feature:</b>
Northern (Adjacent Building):	>3m
Southern (Far Boundary):	>3m
Eastern (Far Boundary):	>3m
Western (Far Boundary):	>3m



## 3.0 BCA ASSESSMENT

### BCA DEEMED-TO-SATISFY COMPLIANCE ISSUES

The following comments have been made in relation to the relevant BCA provisions relating to the compliance issues associated with the proposed Flower Power garden centre development.

#### 3.1 SECTION B – STRUCTURE

##### PART B1 – STRUCTURAL PROVISIONS

#### + Clause B1D3/B1D4 – Determination of Individual Actions/Determination of Structural Resistance of Materials and Forms of Construction

Structural engineering details prepared by an appropriately qualified structural engineer to be provided to demonstrate compliance with Part B1. This will include the following Australian Standards (where relevant):

- AS 1170.0 – 2002 General Principles
- AS 1170.1 – 2002, including certification for balustrades (dead and live loads)
- AS 1170.2 – 2021, Wind loads
- AS 1170.4 – 2007, Earthquake loads
- AS 3700 – 2018, Masonry Structures
- AS 3600 – 2018, Concrete Structures
- AS 4100 – 1998, Steel Structures and/or
- AS 4600 – 2018, Cold formed steel Structures
- AS 2159 – 2009, Piling Design & Installation
- AS 1720 – 2010, Design of Timber Structure
- AS/NZS 1664.1 & 2 – 1997, Aluminium Structures
- AS 2047 – 2014, Windows and External Glazed Doors in buildings.
- AS 1288 – 2006, Glass in buildings.
- AS 3660.1 – 2014, Termite control (or confirmation no primary building elements are timber).

*Comments:* Structural design details and certification will be required at CC application stage.

**Note:** Design certification will also be required from the Architect and Services Consultants to confirm compliance with Section 8 of AS 1170.4-2007 with regard to the design of non-structural parts and components and their fastenings for horizontal and vertical earthquake forces and inter-storey drift.

#### 3.2 SECTION C – FIRE RESISTANCE

##### FIRE RESISTANCE AND STABILITY

#### + Clause C2D2 – Type of Construction Required

The minimum type of fire-resisting construction of a building must be that specified in Table C2D2 and Specification 5 except as allowed for in this clause.

*Comments:* Type C Construction applies to both buildings, being Class 6 buildings with a rise in storeys of no more than 2.

#### + Clause 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.

*Comments:* The western building has a rise in storeys of 1. The eastern building has a rise in storeys of 2.

#### + Clause C2D10 – Non-Combustible Building Elements

This clause sets out requirements for specific building elements to be constructed of non-combustible materials in external walls and other locations.

*Comments:* The provisions of this clause do not apply in this instance, based on the fact both the buildings are proposed to be constructed of Type C construction. This clause is provided as compliance commentary only.





#### + **Clause C2D11 – Fire Hazard Properties**

The fire hazard properties of the following linings, materials and assemblies in a Class 2 to 9 building must comply with Specification 7 and the additional requirements of the NSW Provisions of the Code.

*Comments: Design certification required at CC application stage and installation certification (including relevant test reports confirming the critical radiant flux (CRF) of floor linings and Group Number of wall and ceiling linings) required at OC stage.*

### COMPARTMENTATION AND SEPARATION

#### + **Clause C3D3 – General Floor Area and Volume Limitations**

Sets out the parameters for the area and volume of Class 5, 6, 7, 8 & 9 buildings as required by sub-clauses (1), (2) & (3). **Note:** Table C3D3 maximum size of Fire Compartments or Atriums.

*Comments: The proposed buildings are Class 6 buildings of Type C Construction (as identified under Clause C2D2 above) as such the provisions of this clause limit the building to 2,000m<sup>2</sup> fire compartments.*

*The eastern building achieves compliance without any fire compartmentation, as the floor area is measured to be approx. 850m<sup>2</sup>. The western building is understood to be proposed to incorporate internal fire walls complying with cl. C3D8. It is also understood that a **Fire Engineered Performance Solution** may be proposed to justify certain excessive compartment sizes.*

#### + **Clause C3D8 – Separation by Fire Walls**

Separation of Fire Compartments must be constructed in accordance with the following:

- FRL in accordance with Tables S5C11a – S5C11g of Spec. 5 and extend to the underside of a floor with the same FRL, or to the underside of a non-combustible roof covering.
- Any openings in a fire wall must not reduce the FRL, except where permitted by the Deemed-to-Satisfy Provisions of Part C4 (e.g. fire doors & protection of service penetrations).
- Building elements, other than roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not pass through or cross the fire wall unless the required fire resisting performance of the fire wall is maintained.

*Comment: Fire compartmentation plans demonstrating compliance are to be provided as part of the documentation submitted for CC application.*

#### + **Clause C3D13 – Separation of Equipment**

Equipment as listed below must be separated from the remainder of the building with construction complying with an FRL as required by Specification 5, but not less than 120/120/120 and a doorway protected with a self-closing fire door having an FRL not less than -/120/30.

- Lift motors and lift control panels; or
- Emergency generators used to sustain emergency equipment operating in the emergency mode; or
- Central smoke control plant; or
- Boilers; or
- A battery system installed in the building that has a voltage of 12 volts or more and a storage capacity of 200kWh or more.

**Note:** Separating construction must have –

- an FRL as required by Specification 5, but not less than 120/120/120; and
- any doorway protected with a self-closing fire door having an FRL of not less than -/120/30.

*Comments: Where appropriate, details demonstrating compliance are to be included in the CC Application plans. Specific attention is drawn to the solar system in this regard.*

#### + **Clause 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 than -/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—
  - If located in a position that could be subject to damage by motor vehicles — WS53W; or
  - 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.

*Comments:* Where appropriate, details demonstrating compliance are to be included in the CC Application plans. This is particularly relevant to the main electrical switchroom(s) that are required to be fire separated in accordance with the above requirements.

## PROTECTION OF OPENINGS

### + Clause C4D4 – Separation of External Walls and Associated Openings in Different Fire Compartments

The distance between parts of external walls and openings within them in different fire compartments separated by a fire wall must not be less than that set out in Table C4D4, unless those parts of each wall have an FRL not less than 60/60/60 and any openings are protected in accordance with C4D5.

*Comment:* The provisions of C4D4 apply where Fire Walls are proposed to address compliance with C3D9 – further details are required to be provided to confirm compliance with the above requirements at CC Application stage.

### + Clause C4D6 – Doorways in Fire Walls

A doorway in fire walls that does not form a horizontal exit must not consist of more than 50% of the fire wall in which they are located. All doorways in fire walls must be protected by either a single or 2 fire doors that achieve an equivalent fire rating to the fire wall in which they are located.

All fire doors must be self-closing, and if they are proposed to be held-open, the self-closing operation must be activated by AS 1670.1 compliant smoke detectors within 1.5m on either side of the door and on general fire trip in the building.

*Comment:* Doorways in any proposed Fire Walls must be protected with fire doors, complying with the requirements of this clause.

### + Clause C4D15 – Openings for Services Installations

All openings for services installations in building elements required to be fire-resisting with respect to integrity and insulation must be protected in accordance with the provisions of clause C4D15, in accordance with a tested system.

*Comments:* Note – Certification will be required at Occupation Certificate application stage as applicable.

## SPECIFICATIONS

### + Specification 5 – Fire Resisting Construction

The new building works are required to comply with the requirements detailed under Table 5 of Specification 5 for Type C Construction. In this regard the proposed building elements are required to comply.

*Comments:* The buildings will be subject to compliance with the Type C Construction provisions of tables S5C21a to S5C21g as summarised below:

- All external walls & loadbearing elements incorporated in or attached to an external wall are to achieve the required FRL per Table S5C24a.
- All loadbearing external columns are to achieve the required FRL per Table S5C24b.
- Any Fire Walls that are proposed to separate different classifications per C3D9 above are to achieve the required FRL per Table S5C24c.
- All internal stair shaft walls and walls bounding SOUs, as well as any associated columns, walls, beams and trusses throughout are to achieve the required FRL per Table S5C21d.



#### + Specification 7 – Fire Hazard Properties

This Specification sets out requirements in relation to the fire hazard properties of linings, materials and assemblies in Class 2 to 9 buildings as set out in the Tables.

*Comments: Refer to comments under Clause C2D11 above – certification will be required at both CC and OC Application stages.*

#### + Specification 12 – Fire Doors, Smoke Doors, Fire Windows and Shutters

Fire doors and smoke doors must comply with the requirements of this specification.

*Comment: Where appropriate, details to be included into the design noting that details will be required to be provided at CC Application stage.*

### 3.3 SECTION D – ACCESS AND EGRESS

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#### PROVISION FOR ESCAPE

##### + Clause D2D3 – Number of Exits Required

This clause requires the provision of sufficient exits to enable safe egress in case of an emergency. D2D3 provides that all buildings must have at least one exit from each storey and sets out circumstances in which more than one exit may be required.

Not less than 2 exits must be provided from any storey that involves a vertical rise within the building of more than 1.5m unless the floor area of the storey is not more than 50m<sup>2</sup> and the distance of travel from any point on the floor to a single exit is not more than 20m.

Access to an exit must not necessitate passing through a separate tenancy.

*Comments: The number of exits provided to each of the tenancies complies with the requirements of this Clause. (i.e. minimum of 1).*

*Each of the exits discharge directly to the outside from their respective tenancy, or via a common lobby, thus occupants are not required to pass through any other tenancy. Compliance is achieved in this regard.*

##### + Clause D2D5 – Exit Travel Distances

This clause specifies the permitted travel distances allowable from Class 2 to Class 9 buildings. Sub-clauses (1)-(6) specify the maximum distances to be taken into account for the various uses in each Class of building.

*Comments: Travel distance requirements are as follows:*

- Max. 20m permitted to a point of choice (where two exits are provided), and
- Max. 40m permitted to the nearest exit, and
- Max. 30m to an exit where only 1x exit is provided.

*The architectural plans provide only an indicative internal layout and thus the precise details of the travel distances are yet to be finalised. Notwithstanding, the below comprises a high-level review of the indicative travel distances, which will be addressed prior to the issue of the Construction Certificate.*

*Based on our review, the travel distances to the nearest exit will exceed those permitted by the DtS requirements in a number of locations from within the eastern building, though the western building is understood to achieve compliance. In this regard, it is understood that the following instances are proposed to be addressed via a **Fire Engineered Performance Solution** and/or design amendments (as relevant) prior to the issue of the Construction Certificate:*

- **Retail Storage:** Up to 50m to the nearest exit (10m in excess of DtS)
- **Staff/Amenities:** Up to 50m to the nearest exit (10m in excess of DtS)

*Additionally, the provision of a single exit from the Fruit shop and the existing Garden Centre does not demonstrate compliance, this is to be remedied prior to the issue of the relevant CC.*

##### + Clause D2D6 – Distances Between Alternative Exits

Exits required as alternative exits must be –

- 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.

*Comments: Based on our review, the travel distances between alternative exits will exceed those permitted by the DtS requirements in a number of locations from within the eastern building, though the western building is understood to achieve compliance. In this regard, it is understood that the following instances are proposed to be addressed via a **Fire Engineered Performance Solution** and/or design amendments (as relevant) prior to the issue of the Construction Certificate:*

- **Retail Storage:** Up to 90m to the nearest exit (30m in excess of DtS)
- **Staff/Amenities:** Up to 75m to the nearest exit (15m in excess of DtS)

*Egress compliance is to be finalised prior to the issue of the relevant Construction Certificate.*

#### + **Clause D2D7-D2D11 – Dimensions of Exits**

This clause details the minimum dimensions such as height and width of paths of travel from Class 2 to 9 buildings. It also specifies the minimum dimensions of doorways from the various compartments and the width of exit doors from buildings depending on the uses and functions carried out within them.

*Comments: Further design finalisation is required in order to determine whether compliance is achieved in this respect. Compliance will need to be confirmed prior to the issue of the relevant Construction Certificate.*

#### + **Clause D2D15 – Discharge from Exits**

The path of travel to the road from a required exit leading to open space must have an unobstructed exit width of that of the required exit, or if larger, 1m.

If the discharge point of the exit is at a different level from the road, a stairway or ramp achieving no more than 1:14 must be provided.

The discharge point of alternative exits must be located as far apart as practical and be suitably protected from vehicles potentially blocking the exit. Barriers such as bollards must be installed to prevent vehicles from blocking the discharge from exits.

*Comments: Further design finalisation is required in order to determine whether compliance is achieved in this respect. Compliance will need to be confirmed prior to the issue of the relevant Construction Certificate.*

#### + **Clause 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.

*Comments: Table D2D18 provides the below indication of population for the building. It is understood that calculations of greater accuracy will be provided by the project team at a later stage.*

Use	Area	Population Density	Adjustment	Total Population
Flower Power (Patrons)	Garden Centre: 2,640m <sup>2</sup>	1 occupant per 3m <sup>2</sup>	x0.25	220 patrons
	Nursery: 4,675m <sup>2</sup>	1 occupant per 5m <sup>2</sup>	x0.25	234 patrons
Café Area (Patrons)	530m <sup>2</sup>	1 occupant per 1m <sup>2</sup>	x0.5	275 patrons
Flower Power & Café (Staff)	50 staff have been allocated			
Pet Shop (Patrons)	385m <sup>2</sup>	1 occupant per 3m <sup>2</sup>	x0.5	65 patrons
Pet Shop (Staff)	10 staff have been allocated			
Fruit Shop (Patrons)	1,330m <sup>2</sup>	1 occupant per 3m <sup>2</sup>	x0.5	221 patrons
Fruit Shop (Staff)	10 staff have been allocated			
Landscape Shop (Patrons)	565m <sup>2</sup>	1 occupant per 3m <sup>2</sup>	x0.5	95 patrons
Landscape Shop (Staff)	10 staff have been allocated			

*In order to increase the accuracy of the population calculations, the outputs from BCA Table D2D18 have been utilised with adjustments based on advice provided to BM+G to consider areas which will not contribute to population numbers such as racking, stocked areas, storage, etc.*



## CONSTRUCTION OF EXITS

### + Clause 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)-(6) prescribes 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.

*Comments: This requirement applies to all cupboards containing electrical distribution boards or comms equipment that are 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.*

### + Clause D3D10 – Width of Required Stairways & Ramps

A required stairway or ramp that exceeds 2m in width is considered as having a width of only 2m unless it is divided by a handrail or barrier and each division has a width not more than 2m.

*Comments: The above is to be observed with respect to the egress stair between the lobby and the café. Details demonstrating compliance are to be submitted with the CC Application drawings for assessment against the above criteria.*

### + Clause D3D14 – Goings & Risers

This clause sets out the detailed requirements for the construction and geometry of the goings and risers in required stairways. These details are set out in sub-clauses (1)-(3) and Table D3D14 Riser and Going Dimensions.

*Comments: All stairs are to have dimensions that comply with Table D3D14 (below), have solid risers, and are to have contrasting nosings and slip resistant surfaces throughout in accordance with clause 11 of AS 1428.1-2009. Further commentary is to be provided by the Access Consultant in this regard.*

**Note:** Refer to the slip resistance requirements for stairs below under Clause D3D15.

Riser and Going Dimensions (mm)			
	Riser (R)	Going (G)	Quantity (2R + G)
Maximum	190	355	700
Minimum	115	250	550

### + Clause D3D15 – Landings

The dimensions and gradients of landings in stairways are set out in this clause; the configuration will depend on the proposed use of a building.

Landing surfaces must be slip resistant OR have slip resistant nosings not less than that listed in Table D3D15 when tested in accordance with AS 4586.

*Comments: Architect to note.*

Application	Surface conditions	
	Dry	Wet
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or landing surface	P3 or R10	P4 or R11

### + Clause D3D16 – Thresholds

The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless –

- In a building required to be accessible by Part D4, the doorway –
- Opens to a road or open space; and
- Is provided with a threshold ramp or step ramp in accordance with AS1428.1;

In other cases –

- Opens to a road or open space, external stair landing or external balcony; and
- The door sill is not more than 190mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.



Comments: Architect to note, details demonstrating compliance will be required to be included in the CC plans.

+ **Clause D3D17-D3D21 – Balustrades or Other Barriers**

This clause details 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, 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.

Comments: Details demonstrating compliance are to be submitted with the CC Application drawings for assessment against the above criteria.

+ **Clause D3D22 – Handrails**

This Clause sets out the requirements regarding the location, spacing and extent of handrails required to be installed in buildings.

Comments: Architect to note, details demonstrating compliance will be required to be included in the CC plans. Further commentary is to be provided by the Access Consultant in this regard.

+ **Clause D3D23 – Fixed Platforms, Walkways, Stairways and Ladders**

A fixed platform, walkway, stairway, ladder, any going and riser, landing, handrail or barrier attached thereto may comply with AS 1657 if it only serves a machinery room, boiler house, lift-machine rooms, plant rooms or the like.

Comments: Architect to note, specifically regarding the roof access ladder. Details demonstrating compliance will be required to be included in the CC plans.

+ **Clause D3D24 – Doorways and Doors**

This clause applies to all doorways 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 the door is also power operated, it must be capable of being opened manually under a force of not more than 110N in the event of a malfunction or failure to the power source; or upon the activation of a fire or smoke alarm anywhere in the fire compartment served by the door.

Comment: Architect to note. Details demonstrating compliance will be required to be included in the CC plans.

+ **Clause D3D25 – Swinging Doors**

A swinging door in a required exit or forming part of a required exit must be installed to the requirements of sub-clauses (1)-(3). This clause only applies to swinging doors in doorways serving a required exit or forming part of a required exit. It does not apply to other doorways – see notes in the Guide to the BCA.

Comments: The proposed egress doors are required to swing in the direction of egress in accordance with D3D25(1). The current architectural drawings indicate that compliance is generally achieved, however the doors from the western building are shown as swinging against the direction of egress, which does not comply with the requirements of this clause.

+ **Clause D3D26 – Operation of Latch**

A door in a required exit or forming part of a required exit and in a path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by a single downward action or pushing action on a single device which is located between 900mm & 1.1m from the floor. This clause prohibits the use of devices such as deadlocks and knobs where knobs must be operated in a twisting motion in accordance with sub-clauses (1) & (2). D3D26 also sets out exceptions in relation to buildings where special security arrangements are required in relation to the uses carried out.





Comments: Architect to note. Details demonstrating compliance will be required to be included in the CC plans.

## ACCESS FOR PEOPLE WITH A DISABILITY

### + **Clause D4D3 – General Building Access Requirements for People with Disabilities**

Access must be provided to and within all areas normally used by occupants (as required by Clause D4D2) within this building from the main points of pedestrian entry at the allotment boundary; from another accessible building connected by a pedestrian link; and any accessible car parking space.

Access must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances (including the principal pedestrian entry). In addition, as the buildings are greater than 500m<sup>2</sup>, the non-accessible entrance must not be greater than 50m from an accessible entrance.

Comments: Access for persons with a disability is required as outlined below.

- **From;** *The main points of pedestrian entry at the allotment boundaries, and  
Each of the accessible car parking spaces, and  
Each of the accessible entry doors to the eastern and western buildings,*
- **To;** *The main entry of each building, and  
At least 50% of the other entries to each building and  
If a non-accessible entry is provided, it mustn't be more than 50m from an accessible entry, and*

Access is also required throughout all areas within the two buildings, unless exempted under cl. D4D5. Refer to D4D4 and D4D5 below for further details. There is not currently a dedicated path shown on the drawings satisfying all of the above, though it is understood this is to be addressed through design development.

### + **Clause D4D4 – Parts of the Building to be Accessible**

This part 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). In addition, any storey with a floor area more than 200m<sup>2</sup> must be served by a passenger lift that is designed to comply with Clauses E3D7 & E3D8, and all accessways must include passing & turning spaces per AS 1428.1-2009.

Comments: As indicated above, the proposed buildings are required to be accessible throughout, in accordance with BCA Part D4 and AS 1428.1-2009. Details and design certification will be required to be provided at Construction Certificate Application stage along with any proposed performance solutions relating to accessibility.

The following is a summary of some of the key matters which need to be considered from Clause D4D4 and AS 1428.1-2009:

- Access for persons with disabilities must be provided, at a minimum, to and within all areas normally used by the occupants, unless a D4D5 concession is applied – see D4D5 below.
- An accessway complying with AS 1428.1-2009 is required between all points noted under D3.1.
- The minimum width of an accessible doorway must have a clear opening of not less than 850mm and a minimum clear height of not less than 1980mm. An accessway must have a minimum clear width of 1000mm and 2000mm clear height
- 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.
- Clause D4D4(g) & (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.
- Circulation space to the new doorways that are required to be accessible are to comply with Section 13 of AS 1428.1-2009.
- Turning Spaces and Passing Spaces for occupants in wheelchairs are required to be provided throughout, in accordance with Clauses 6.4 & 6.5 of AS 1428.1-2009.



### Stairways

- Every common area stairway must be constructed in accordance with Clause 11 of AS 1428.1, except if they serve the areas in a 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 (TGSIs) in accordance with AS 1428.4.1, except if they are within a fire isolated exit.

### Handrails

- Handrails shall be installed along stairways and ramps as follows:
  - Shall be continuous through the flight and where practicable, around landings and have no obstruction on or above up to a height of 600mm,
  - 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.

### + **Clause 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.

Comments: It is understood that advice is to be obtained from an accredited Access Consultant at the CC Application stage. Confirmation from the client 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 facility.

### + **Clause 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.

Comments: Compliant Accessible Parking spaces are to be provided at a rate of 1 per 50 spaces for the retail building. The plans comply with the requirements of this clause (264 spaces, 8 of which are accessible).

### + **Clause 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 E4E5 to be provided with an exit sign. The latter is to state EXIT and state the level e.g. LEVEL 1.

Comments: Architect to note.

### + **Clause 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.

Comments: Stairways and ramps serving the buildings, 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.

Per comments under the stairways subheading of cl. D4D4 in this report, TGSIs are not required in fire isolated stairs. However, all non-fire isolated stairs require compliance with AS 1428.1, including provision of TGSIs (except stairs which only serve non-accessible areas).

### + **Clause 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 AS 1428.1.

Comments: Architect to note. Details demonstrating compliance will be required to be included in the CC plans.





+ **Clause 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.

*Comments: Glazing capable of being mistaken for an opening as listed above is required to be clearly marked for its full width with a solid and non-transparent contrasting line being not less than 75mm wide and the lower edge must be located between 900mm and 1000mm above the plane of the finished floor level.*

### 3.4 SECTION E – SERVICES AND EQUIPMENT

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#### FIRE FIGHTING EQUIPMENT

+ **Clause E1D2 – Fire Hydrants**

A fire hydrant system must be provided to serve buildings having a floor area greater than 500m<sup>2</sup>, where the fire brigade is available to attend a building fire.

The fire hydrant system must be installed in accordance with the provisions of AS 2419.1-2021, except where E1D2 provides concessions associated with Class 8 Electricity Network Substations.

Internal fire hydrants are only permitted to serve the level on which they are located.

*Comments: Both the eastern and western buildings are required to be served by a fire hydrant system. Details demonstrating compliance with the provisions of E1D2 and AS 2419.1-2021 are required to be provided at CC Application stage.*

*The fire hydrant booster assembly is required to achieve compliance with the requirements as specified above (as well as all other requirements of AS 2419.1). Where any deviations from the requirements of this standard are proposed, a Fire Engineered Performance Solution would be required.*

+ **Clause 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<sup>2</sup>.

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.

*Comments: The proposed building is required to be served throughout by fire hose reels. Details demonstrating compliance are to be provided at the CC application stage.*

+ **Clauses NSW E1D8 & 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.

*Comments: Where the eastern building incorporates any fire compartments exceeding 3,500m<sup>2</sup> a sprinkler system is required to be provided to protect that compartment.*

*Additionally, any areas of excessive hazard, as defined in this clause, are required to be provided with a sprinkler system. An example being storage of timber within a building (including sheets, planks, boards, joists and cut sizes), where the total volume of storage exceeds 1,000m<sup>3</sup> and the total height of the storage exceeds 4m. Further investigation is required in this regard prior to the issue of the CC.*

+ **Clause E1D14 – Portable Fire Extinguishers**

Portable fire extinguishers must be provided as listed in Table E1D14 and must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444.

*Comments: Fire extinguishers will be required to be installed in the proposed building in accordance with E1D14 and AS 2444-2001.*

#### SMOKE HAZARD MANAGEMENT

+ **Clauses E2D2 & 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. 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.

Per E2D2, the smoke exhaust and smoke-and-heat vent provisions of Part E2 do not apply to any area not used by occupants for an extended period of time, such as a storeroom <30m<sup>2</sup>, a sanitary compartment, plant room or the like.

Comments: Based on the provisions for Class 6 buildings, the following is required:

- In compartments <2,000m<sup>2</sup> – No smoke detection, sprinklers (unless required by Part E1) or smoke exhaust system.
- In compartments from 2,000m<sup>2</sup>-3,500m<sup>2</sup> – At least of the following; a sprinkler system, a smoke detection/alarm system, smoke-and-heat vents (applies to single storey parts only) or a smoke exhaust system.
- In compartments from >3,500m<sup>2</sup> – At least of the following; smoke-and-heat vents (applies to single storey parts only) or a smoke exhaust system.

## EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS

### + Clause E4D2 – Emergency Lighting Requirements

This clause details when emergency lighting must be installed in Class 2 to 9 buildings. The requirements for buildings and parts of buildings are detailed in sub-clauses (a) to (i) and each sub-clause must be considered as more than one may apply to any single building

Comments: Emergency Lighting is required throughout the building in accordance with E4D2, E4D4 and AS/NZS 2293.1-2018.

### + Clause E4D4 – Design & Operation of Emergency Lighting

Every required emergency lighting system must comply with AS 2293.1.

Comments: Electrical Consultant to note.

### + Clause 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.

Comments: Electrical Consultant to note, details demonstrating compliance will be required to be included in the CC plans.

### + Clause NSW 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.

Comments: Electrical Consultant to note, details demonstrating compliance will be required to be included in the CC plans.

### + Clause E4D8 – Design & Operation of Exit Signs

Every required exit sign must comply with AS/NZS 2293.1 and be clearly visible at all times when the building is occupied by any person having the legal right of entry into the building.

Comments: Electrical Consultant to note, details demonstrating compliance will be required to be included in the CC plans.

## 3.5 SECTION F – HEALTH AND AMENITY

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### SURFACE WATER MANAGEMENT, RISING DAMP AND EXTERNAL WATERPROOFING

#### + Clause 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.

Comments: Details of stormwater disposal are required to be prepared by a suitably qualified consultant and submitted with documentation for the CC.



#### + **Clause F1D4 – Exposed Joints**

Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must—

- Be protected in accordance with Section 2.9 of AS 4654.2; and
- Not be located beneath or run through a planter box, water feature or similar part of the building

*Comments: Details of compliance with the above are to be prepared by a suitably qualified consultant and submitted with documentation for the CC.*

#### + **Clause F1D5 – External Waterproofing Membranes**

External waterproofing membranes are required to comply with AS 4654.1 & 2.

*Comments: Details of compliance with the above are to be prepared by a suitably qualified consultant and submitted with documentation for the CC.*

#### + **Clause 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).

*Comments: Note.*

#### + **Clause 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.

*Comments: Note.*

### WET AREAS AND OVERFLOW PROTECTION

#### + **Clauses F2D2 & F2D3 – 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.

*Comments: Note – Design Certification required at CC Application stage.*

#### + **Clause F2D4 – Floor Wastes**

Where a floor waste is provided, the fall of the floor plane to the floor waste is required to be between 1:80-1:50.

*Comments: Note.*

### ROOF AND WALL CLADDING

#### + **Clause F3P1 – Weatherproofing**

A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause

- (a) Unhealthy or dangerous conditions, or loss of amenity for occupants; and
- (b) Undue dampness or deterioration of building elements.

Note 1: The DtS provisions addressing F3P1 are very limited with respect to external walls. A Performance Solution may be required in this regard.

Note 2: Refer to Clause F3D2 for DtS provisions relating to roof coverings.

*Comments: Design statement and a documented Performance Solution is to be provided with the CC application for the building, either by using:*

- A DtS approach, or



- The Verification Method set out 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 (e.g. CodeMark); or
- By way of Expert Judgement, or
- A combination of the above.

**+ Clause 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.

Comments: Note – design certification required at CC Application stage.

**+ Clause F3D3 – Sarking**

Sarking-type materials used for weatherproofing of roofs must comply with AS/NZS 4200 parts 1 and 2.

Comments: Note.

**+ Clause F3D4 – Glazed Assemblies**

Glazed assemblies in an external wall must comply with AS 2047 requirements for resistance to water penetration for windows, sliding doors with a frame, adjustable louvres, shop fronts and windows with one-piece framing

Comments: Details to be provided with the application for the Construction Certificate.

**+ Clause 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.

Comments: Details are to be provided in together with the F3P1 Performance Solution Report, demonstrating compliance, prior to the issue of the relevant CC(s).

**SANITARY AND OTHER FACILITIES**

**+ Clause F4D3 – Facilities in Class 3 to 9 Buildings**

This clause provides the requirements for sanitary facilities to be installed in Class 3, 5, 6, 7, 8 and 9 buildings in accordance with F4D3. The requirements and variations are set out in sub-clauses (a)-(h).

Comments: The adjusted population calculations in accordance with table D2D18 & advice from the project team has been utilised for the below calculations, summarised as follows:

Class 6 – (Flower Power/Café Staff)							
	Closet Pans		Urinals		Washbasins		Total Population Served
	Proposed	Pop. Served	Proposed	Pop. Served	Proposed	Pop. Served	
M	1	20	2	50	1	30	40
F	2	30	-	-	1	30	
Class 6 – (Flower Power Patrons)							
	Closet Pans		Urinals		Washbasins		Total Population Served
	Proposed	Pop. Served	Proposed	Pop. Served	Proposed	Pop. Served	
M	1	1200	1	600	1	600	1200
F	2	600	-	-	2	1200	
Class 6 – (Café Patrons)							
	Closet Pans		Urinals		Washbasins		Total Population Served
	Proposed	Pop. Served	Proposed	Pop. Served	Proposed	Pop. Served	
M	3	500	3	150	3	400	300
F	5	200	-	-	3	350	



Class 6 – (Pet Shop Staff)							
	Closet Pans		Urinals		Washbasins		Total Population Served
	Proposed	Pop. Served	Proposed	Pop. Served	Proposed	Pop. Served	
M	1	20	0	10	1	30	20
F	1	15	-	-	1	30	
Class 6 – (Fruit Shop Staff)							
	Closet Pans		Urinals		Washbasins		Total Population Served
	Proposed	Pop. Served	Proposed	Pop. Served	Proposed	Pop. Served	
M	1	20	0	10	1	30	20
F	1	15	-	-	1	30	
Class 6 – (Landscape Shop Staff)							
	Closet Pans		Urinals		Washbasins		Total Population Served
	Proposed	Pop. Served	Proposed	Pop. Served	Proposed	Pop. Served	
M	1	20	0	10	1	30	20
F	1	15	-	-	1	30	

It is noted that sanitary facilities are not required to be allocated specifically to patrons of the pet shop, landscape shop or fruit shop, as the total number of patrons in these areas does not exceed 600 (based on the calculations under cl. D2D18).

Based on the calculations under D2D18, the sanitary facilities shown on the provided plans are sufficient to accommodate the proposed occupants. Notwithstanding, where more accurate occupancy calculations are available, a reassessment is to be undertaken and the design amended where required.

#### + Clause F4D5 to F4D7 – Accessible Sanitary Facilities

Accessible unisex sanitary facilities and ambulant facilities must be provided, in accordance with F4D5 & F4D6 and unisex showers must be provided in accordance with F4D7, in buildings or parts that are required to be accessible. The detailed design of accessible and ambulant facilities must comply with AS 1428.1-2009.

Comments: The proposed accessible toilet facilities and ambulant sanitary facilities are required to achieve compliance with the provisions of Clauses F4D5 to F4D7. Details demonstrating that the design of each facility complies with AS 1428.1 are to be provided at the CC application stage.

### ROOM HEIGHTS

#### + Clause 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/passage, bathroom, storeroom, tea preparation room, car park, etc. – 2.1m
- Remainder – 2.4m.

Comments: Architect to ensure compliance. Ceiling heights are to be reviewed at the Construction Certificate stage with the detailed section drawings.

### LIGHT AND VENTILATION

#### + Clause 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.

Comments: Design certification to be submitted at CC Application.

#### + Clause F6D7 – 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 AS 1668.2 and AS/NZS 3666.1.

Comments: Design certification to be submitted at CC Stage for each building.

## 3.6 SECTION G – ANCILLARY PROVISIONS



#### + **Part G6 – Outdoor Occupiable Areas**

The provisions of this part stipulate that, generally, the requirements of BCA Sections C-E apply to outdoor areas which require travel back through the building for egress, as if the outdoor area were an indoor area.

*Comments: No such areas are proposed in the provided plans.*

### 3.7 SECTION J – ENERGY EFFICIENCY

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#### + **Part J4 – Building Fabric**

The provision of insulation of the building envelope will be required in the proposed Building, in accordance with Clauses J4D2 to J4D7, and the Tables therein, including Thermal Construction General, Roof and Ceiling Construction, Roof lights, Walls, and Floors. Design details and/or certification of design will be required to be provided in this regard.

*Comments: This section applies to any air-conditioned spaces (or spaces with the potential to be air conditioned) proposed within the Warehouses buildings. Design details and/or certification of the 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 envelope/fabric is required to all next external walls and roof elements, in accordance with Clauses J5D2 to J5D8, including Thermal Construction General, Roof and Ceiling Construction, Roof lights, Glazing, Walls, and Floors.

*Comments: This section applies to any air-conditioned spaces proposed within the Warehouses buildings. Design details and/or certification of building envelope design will be required to be submitted with the application for a Construction Certificate.*

#### + **Part J6 – Air-Conditioning and Ventilation**

Details and/or design certification which confirms 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.

*Comments: Details or certification demonstrating compliance will need to be submitted with the application for a Construction Certificate.*

#### + **Part J7 – Artificial Lighting and 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.

*Comments: Consultant certification required at CC Application Stage.*

#### + **Part J8 – Heated Water Supply and Swimming Pool and 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.

*Comments: Details and certification demonstrating compliance will need to be submitted with the application for a Construction Certificate.*

#### + **Part J9 – Energy Monitoring and On-Site Distributed Energy Resources**

Provision for monitoring of energy consumption must be provided to a building where the floor area exceeds 500m<sup>2</sup>, and must be capable of recording the consumption of gas and electricity. In addition, where the floor area of a building exceeds 2,500m<sup>2</sup> 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.

Provisions also exist under clauses J9D4 and J9D5 for EV charging stations and solar, respectively.

*Comments: 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 SUMMARY OF KEY COMPLIANCE ISSUES

The following comprises a summary of the key compliance issues identified under the assessment contained above in this report and includes the required Performance Solutions. These matters are to be addressed prior to issue of the Construction Certificate.

### 4.1 MATTERS REQUIRING FURTHER RESOLUTION AND NON-FIRE SAFETY PERFORMANCE SOLUTIONS

BCA Clause/s	Description
1. C3D3 & C3D8	Compartmentation strategy to be finalised. It is noted that a Fire Engineered Performance Solution may be required to address excessive compartment sizes.
2. C4D4	Protection of openings will be required, subject to the finalisation of internal compartmentation.
3. D2D5	It is understood that an additional egress door is to be provided to the Fruit Shop and to the Existing Garden Centre to achieve egress requirements.
4. D2D18 & F4D3-F4D7	Further detail is to be provided regarding the proposed occupant loads and sanitary facility layouts in order to establish a compliant design.
5. D3D25	The exit door from the landscape shop swings against the direction of egress. BM+G is advised that the design is to be revised to achieve compliance.
6. Part D4 & F2.4	Refer to the Access Report by MGAC, noting further design documentation/development is required in order to establish compliance.
7. NSW E1D8 & E1D13	A sprinkler system may be required to service the eastern building, dependant on the finalised compartmentation design & an assessment to determine whether any occupancies of excessive hazard exist.
8. E2D2 & E2D3	A smoke detection/alarm system or additional smoke hazard management measures may be required to service the eastern building, dependant on the finalised compartmentation design.
9. F3P1	Where the external wall assembly does not comprise entirely of DtS components, a Performance Solution will be required to establish compliance.

### 4.2 MATTERS TO BE ADDRESSED AS FIRE SAFETY ENGINEERED PERFORMANCE SOLUTIONS

BCA Clause/s	Description
1. D2D5	It is understood that a number of excessive distances to an exit are proposed to be addressed via a Fire Engineered Performance Solution. This is to be reassessed upon finalisation of the internal fit out.
2. D2D6	It is understood that a number of excessive distances to an exit are proposed to be addressed via a Fire Engineered Performance Solution. This is to be reassessed upon finalisation of the internal fit out.





## 5.0 CONCLUSION

This report contains an assessment of the referenced architectural documentation for the proposed construction of a new, Flower Power garden centre and associated works in Terrey Hills, against the Deemed-to-Satisfy Provisions of the BCA 2022. Arising from our review it is considered that the proposed development can readily achieve compliance with the relevant provisions of the BCA. Where compliance matters are proposed to comply with the Performance Requirements (rather than DtS Provisions), the development of a Performance Solution Report will be required prior to the issue of the Construction Certificate.

The following forms a **draft** list of fire safety measures are required for each of the new buildings, which will likely be subject to change as the design progresses towards CC stage:

### Eastern Building:

Statutory Fire Safety Measure	Design / Installation Standard	Existing	Proposed
Alarm Signaling Equipment	AS 1670.3 – 2018		✓
Automatic Fail-Safe Devices	BCA Clause D3D26		✓
Automatic Fire Detection and Alarm Systems	BCA Spec. 20 & BCA Spec 23 AS 1670.1 – 2018		✓
Automatic Fire Suppression Systems	BCA Spec. 17 & 18 AS 2118.1 – 2017 or AS 2118.4, 6 – 2012		✓
Building Occupant Warning System activated by the Sprinkler System	BCA Spec. 17 Clause 8 and/or Clause 3.22 of AS 1670.1 – 2018		✓
Emergency Lighting	BCA Clauses E4D2 & E4D4 AS 2293.1 – 2018		✓
Exit Signs	BCA Clauses E4D5, NSW E4D6 & E4D8 AS 2293.1 – 2018		✓
Fire Dampers	BCA Clause C4D15 AS 1668.1 – 2015 & AS 1682.1 & 2 – 2015 and Manufacturer's Specification		✓
Fire Doors	BCA Clauses C3D13, C3D14, C4D5 & C4D6 AS 1905.1 – 2015 Manufacturer's Specification		✓
Fire Hose Reel Systems	BCA Clause E1D3 AS 2441 – 2005		✓
Fire Hydrant Systems	BCA Clause E1D2 AS 2419.1 – 2021		✓
Fire Seals Protecting Openings in Fire-Resisting Components of the Building	BCA Clause C4D15 AS 1530.4 – 2014 & AS 4072.1 – 2014 Manufacturer's Specification		✓
Lightweight Construction	BCA Clause C2D9 AS 1530.4 – 2014 Manufacturer's Specification		✓
Mechanical Air Handling Systems (Automatic Shutdown)	BCA Clause E2D3 AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012		✓
Portable Fire Extinguishers	BCA Clause E1D14 AS 2444 – 2001		✓





Statutory Fire Safety Measure	Design / Installation Standard	Existing	Proposed
Required Exit Doors (Power Operated)	BCA Clause D3D24(2)		✓
Wall-Wetting Sprinkler and Drencher Systems	BCA Clause C4D5 AS 2118.2 – 2010		✓
Warning and Operational Signs	BCA Clauses D3D28 & D4D7 AS 1905.1 – 2015		✓
Fire Engineered Performance Solutions relating to: 1. TBC	BCA Performance Requirements ... Fire Safety Engineering Report prepared by ... Report No. ... Revision ... dated ...		✓

**Western Building:**

Statutory Fire Safety Measure	Design / Installation Standard	Existing	Proposed
Emergency Lighting	BCA Clauses E4D2 & E4D4 AS 2293.1 – 2018		✓
Fire Hose Reel Systems	BCA Clause E1D3 AS 2441 – 2005		✓
Fire Hydrant Systems	BCA Clause E1D2 AS 2419.1 – 2021		✓
Fire Seals Protecting Openings in Fire-Resisting Components of the Building	BCA Clause C4D15 AS 1530.4 – 2014 & AS 4072.1 – 2014 Manufacturer's Specification		✓
Lightweight Construction	BCA Clause C2D9 AS 1530.4 – 2014 Manufacturer's Specification		✓
Portable Fire Extinguishers	BCA Clause E1D14 AS 2444 – 2001		✓
Warning and Operational Signs	BCA Clauses D3D28 & D4D7 AS 1905.1 – 2015		✓
Fire Engineered Performance Solutions relating to: 2. TBC	BCA Performance Requirements ... Fire Safety Engineering Report prepared by ... Report No. ... Revision ... dated ...		✓



## 6.0 APPENDIX 1 – SPEC. 5 FRL REQUIREMENTS (TYPE C CONSTRUCTION)

Building Element	Class of building—FRL: (in minutes) <i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
<b>Table S5C24a: EXTERNAL WALLS</b> (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Less than 1.5m	90/90/90	90/90/90	90/90/90	90/90/90
1.5m to less than 3m	—/—/—	60/60/60	60/60/60	60/60/60
3m or more	—/—/—	—/—/—	—/—/—	—/—/—
<b>Table S5C24b: EXTERNAL COLUMN</b> not incorporated in an external wall, where the distance from any fire-source feature to which it is exposed is—				
Less than 1.5m	90/—/—	90/—/—	90/—/—	90/—/—
1.5m to less than 3m	—/—/—	60/—/—	60/—/—	60/—/—
3m or more	—/—/—	—/—/—	—/—/—	—/—/—
<b>Table S5C24c: COMMON WALLS &amp; FIRE WALLS—</b>				
Loadbearing or non-loadbearing	90/90/90	90/90/90	90/90/90	90/90/90
<b>Table S5C24d: INTERNAL WALLS—</b>				
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 fire rated	60/60/60	60/60/60	60/60/60	60/60/60
<b>S5C21e: ROOFS—</b>				
Roofs	—/—/—	—/—/—	—/—/—	—/—/—