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# 1 BASIS OF ASSESSMENT

#### 1.1 Location and Description

The building development, the subject of this report, is located at 412 Galston Road, Galston and is known as 'Galston Aquatic & Leisure Centre'. The proposed refurbishment to the centre includes but is not limited to: -

- a) A new roof over the existing 25 m pool and learner pool;
- b) A new learn-to-swim changeroom, containing toilets and showers;
- c) New accessible sanitary compartments;
- d) A new proposed club room / canteen.



Figure 1. Site location map

## 1.2 Purpose

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy Provisions of BCA 2019, and to clearly outline those areas (if any) where compliance is not achieved, where areas may warrant redesign to achieve strict BCA compliance or where areas may be able to be assessed against the relevant performance criteria of BCA 2019. Such assessment against relevant performance criteria will need to be addressed by means of a separate Performance Based Fire Safety Engineered Assessment Report to be prepared under separate cover.



# 1.3 Building Code of Australia

This report is based on the Deemed-to-Satisfy Provisions of the National Construction Code Series Volume 1 - Building Code of Australia, 2019 Edition (BCA) incorporating the State variations where applicable. Please note that the version of the BCA applicable to new building works is the version applicable at the time of the lodgement of the Construction Certificate application to the Accredited Certifying Authority. The BCA is updated generally on a three-yearly cycle, starting from the 1st of May 2016.

## 1.4 Limitations

This report does not include nor imply any detailed assessment for design, compliance or upgrading for:

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

This report does not include, or imply compliance with:

- (a) Part D3, F2.4 & F2.9 of the BCA2019;
- (b) the National Construction Code Plumbing Code of Australia Volume 3;
- (c) the Disability Discrimination Act 1992 including the Disability ((Access to Premises Buildings) Standards 2010 – unless specifically referred to),
- (d) Demolition Standards not referred to by the BCA;
- (e) Work Health and Safety Act 2011;
- (f) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Local Council, ARTC, Department of Planning and the like; and
- (g) Conditions of Development Consent issued by the Local Consent Authority.

## 1.5 Design Documentation

This report has been based on the Design plans and Specifications listed in Annexure A of this Report.

## 1.6 Definitions

## Designated bushfire prone area

Designated bushfire prone area means land which has been designated under a power of legislation as being subject, or likely to be subject, to bushfires.

## Effective height

Effective height means the vertical distance between the floor of the lowest storey included in a determination of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units).

## <u>Exit</u>

Exit means-

- (a) 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.
- (b) A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

## Fire compartment

Fire compartment means-

- (a) the total space of a building; or
- (b) when referred to in-
  - the Performance Requirements any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or
  - (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)

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with Specification A2.3, for the following criteria—

- (a) structural adequacy; and
- (b) integrity; and
- (c) insulation,

and expressed in that order.

Note: A dash means that there is no requirement for that criterion. For example, 90/-/- means there is no requirement for an FRL for integrity and insulation, and -/-/- means there is no requirement for an FRL.

#### Fire-source feature

Fire-source feature means-

(a) the far boundary of a road, river, lake or the like adjoining the allotment; or

- (b) a side or rear boundary of the allotment; or
- (c) an external wall of another building on the allotment which is not a Class 10 building

#### Flammability index

Flammability Index means the index number as determined by AS 1530.2.

#### Group number

Group number means the number of one of 4 groups of materials used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining, or attachment to a wall or ceiling.

#### Non-combustible

Non-combustible means-

(a) applied to a material — not deemed combustible as determined by AS 1530.1 — Combustibility Tests for Materials; and

(b) applied to construction or part of a building — constructed wholly of materials that are not deemed combustible

#### Performance Requirement

Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

#### Performance Solution

Performance Solution (Alternative Solution) means a method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.

#### Sarking-type material

Sarking-type material means a material such as a reflective insulation or other flexible membrane of a type normally used for a purpose such as waterproofing, vapour management or thermal reflectance.

#### Smoke growth rate index

Smoke growth rate index (SMOGRA RC) means the index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.

#### Sole-occupancy unit

Sole-occupancy unit means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes—

- (a) a dwelling; or
- (b) a room or suite of rooms in a Class 3 building which includes sleeping facilities; or
- (c) a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or
- (d) a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.

# 2 BUILDING DESCRIPTION

For the purposes of the Building Code of Australia (BCA) the development may be described as follows.

## 2.1 Rise in Storeys (Clause C1.2)

The building has a rise in storeys of one (1).

## 2.2 Classification (Clause A6.0)

The building has been classified as follows.

Table	1.	Building	Classification
-------	----	----------	----------------

Class	Level	Description
		-Swimming pool
		-Gymnasium
9b	Ground Level	-Clubroom
		-Canteen (Note)
		-Plant room (ancillary use)

Note: The proposed canteen is less than 10% of the floor area of the ground level and therefore is not required to be classified separately as Class 6 retail.

## 2.3 Effective Height (Clause A1.0)

The building has an effective height of less than 12 metres being a single storey building.

**Note:** The definition of the effective height of a building changed on 1 May 2016. Any Construction Certificate **submitted after this date** will need to comply with the new definition.

The BCA2016 definition is as follows:

"Effective height means the vertical distance between the floor of the lowest storey included in a calculation of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units)."

# 2.4 Type of Construction Required (Table C1.1)

The building is required to be of Type C Construction.

## 2.5 Floor Area and Volume Limitations (Table C2.2)

The building is subject to maximum floor area and volume limits of:-

Class 9b	Maximum Floor Area	3,000 m <sup>2</sup>
	Maximum Volume	18,000m <sup>3</sup>

The building is well within the maximum floor area limits.

## 2.6 Fire Compartments

The following fire compartments have been assumed:

1. The entire building is considered as one large fire compartment.



## 2.7 Exits

The following points in the building have been considered as the exits from the existing 25 m swimming pool:

- (a) The main entry doorway on the southern elevation of the building;
- (b) The doorway from the 25 m pool on the north eastern elevation of the building;
- (c) The doorway from the plantroom on the west elevation of the building;
- (d) The doorway from the 25 m pool adjacent to the female change room on the southern elevation of the building;
- (e) The doorway from the learn to swim pool on the north elevation of the building.

#### 2.8 Climate Zone (Clause A1.0)

The building is located within Climate Zone 5.

## 2.9 Location of Fire-source features

The fire source features for the subject development are the far boundaries of the allotment, none of which are close enough to be of relevance to the subject building.

A fire-source feature is defined in Part A1.0 - Schedule 3 of the BCA as-

- (a) the far boundary of a road, river, lake or the like adjoining the allotment; or
- (b) a side or rear boundary of the allotment; or
- (c) an external wall of another building on the allotment which is not a Class 10 building.

A building element is exposed to a fire-source feature if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that-

- (i) has an FRL of not less than 30/–/–; and
- (ii) is neither transparent nor translucent.

# 3 ESSENTIAL FIRE SAFETY MEASURES

The following fire safety measures are required to be installed in the building, this table may be required to be updated as the design develops and options for compliance are confirmed.

Note, requirements for bushfire fire protection have not yet been considered in this table.

Table 2. Essential Fire Safety Measures

Item	Essential Fire and Other Safety Measures	Standard of Performance				
General						
1	Portable fire extinguishers	BCA2019 E1.6				
		AS2444–2001				
2.	Fire blankets	AS2444–2001				
Gener	al - Egress					
3.	Evacuation Training	AS3745-2010				
4.	Path of travel for stairways, passageway and ramps	EP&A Reg. 2000 Clauses 184-186				
5.	5. Required Automatic Doors <b>D2.19</b> (Doorways and Doors)					
Electri	Electrical Services					
	Automatic fail safe devices	BCA2019 D2.21 (Operation of Latches)				
6.	Auto open Sliding Exit doors					
	Break Glass release					
7.	Emergency lighting	<b>BCA2019 E4.2, E4.4</b> AS/NZS 2293.1 –2018				
8.	Exit signs	BCA2019 E4.5 (Exit Signs) BCA2019 E4.6 (Direction Signs) BCA2019 E4.8 (Design and Operation - Exits) AS/NZS 2293.1 –2018				
Hydra	ulic Services					
	Fire hydrant systems	BCA2019 E1.3				
	NSW Storz Couplings	AS2419.1–2005				
9.		FRNSW Technical Sheet D15/45534.V9 issued 10.01.19, 'Compatible Hose Connections'				
10	Hose reel systems	BCA2019 E1.4				
10.		AS2441–2005				

Item	Essential Fire and Ot	her Safety Measures	Standard of Performance			
Perfor	mance Solutions					
	Description of Performance Solution	DTS Provision	Performance Method of Requirement setting s solutions			
11.	ТВС	TBC	ТВС	ТВС		
Bushfire Protection Requirements						
12.	ТВС	ТВС	ТВС	ТВС		

# 4 FIRE RESISTANCE LEVELS

The following fire resistance levels (FRL's) are required for the various building elements, with a fire source feature being the far boundary of a road adjoining the allotment, a side or rear boundary or an external wall of another building on the allotment except a Class 10 structure.

# Table 3. Type C Construction

ltem	Class 9
External Walls	
Less than 1.5m to a fire- source feature	90/90/90
• 1.5 – less 3m from fire- source feature	60/60/60
3m or more from a fire- source feature	-/-/-
External Column not incorporated in an external wall	
Less than 1.5m to a fire source feature	90/-/-
<ul> <li>1.5 – less 3m from fire source feature;</li> </ul>	60/-/-
3m or more from a fire source feature	-/-/-
Common Walls and Fire Walls	90/90/90
Internal walls bounding sole occupancy units	-/-/-
Internal walls bounding public corridors, hallways and the like:	-/-/-
Internal walls bounding a stair if required to be fire rated	60/60/60

Note: An external wall that is required to have an FRL need only be tested from the outside to satisfy the FRL requirement.

# 5 MATTERS FOR FURTHER CONSIDERATION

## 5.1 General

Assessment of the Architectural design documentation against the Deemed-to Satisfy Provisions of the Building Code of Australia, 2019 (BCA) has revealed the following areas where compliance with the BCA may require further consideration and/or may involve assessment as Performance Based (Fire Engineered) Performance Solutions. Any Performance Solutions will be required to clearly indicate methodologies for achieving compliance with the relevant Performance Requirements.

Annexure B to this report provides a detailed assessment of the proposal against ALL relevant Deemed-to-Satisfy Provisions of the BCA.

Note: It is important that Annexure B is read in conjunction with the items below, as some matters may not have had sufficient information provided to allow a detailed assessment to be undertaken.

## 5.2 Dimensions and Tolerances

The BCA contains the minimum standards for building construction and safety, and therefore generally stipulates minimum dimensions which must be met. BCA Logic's assessment of the plans and specifications has been undertaken to ensure the minimal dimensions have been met.

The designer and builder should ensure that the minimum dimensions are met onsite and consideration needs to be given to construction tolerances for wall set outs, applied finishes and skirtings to corridors and bathrooms for example, tiling bed thicknesses and the like which can adversely impact on critical matters such as access for people with disabilities, stair and corridor widths and balustrade heights.

## 5.3 Fire Safety Upgrade Works

The primary objective of any fire upgrading works is to achieve a means of fire and occupant safety within the context of the objectives of the Building Regulations (i.e.; Building Code of Australia 2019) namely: -

- (a) the safety of persons in the event of a fire;
- (b) the prevention of fire; and
- (c) the suppression of fire.

The items referred to within Part 6 identify the existing deficiencies when the deemed-to-satisfy provisions of BCA2019 are applied prescriptively to the existing building and its proposed refurbishment. However, as BCA2019 is a fully Performance-based document with the prescriptive Deemed-to-Satisfy provisions being only one of the two methods of satisfying these Performance Provisions.

With existing buildings strict compliance with the prescriptive deemed-to-satisfy provisions of BCA2019 is often unlikely and impractical without carrying out massive reconfiguration of the existing building due to the age, use or existing architectural design of the building.

Accordingly, where a deficiency within an existing building has been identified it may not necessarily result in that deficiency being required to be upgraded to strictly meet the deemed-to-satisfy provisions of BCA2019. If, due to specific site circumstances, it can be shown that the deficiency still satisfies the performance provisions of BCA2019 as an Alternative Solution then this deficiency would not require upgrading.

## 5.4 Compliance with Legislation

#### 5.4.1 Clause 94 of the Environmental Planning & Assessment Regulation 2000

Under Clause 94 of the Environmental Planning & Assessment Regulation 2000, the local Consent Authority (Hornsby Shire Council) have discretion on the level of upgrading deemed necessary, being either a total upgrade to satisfy the provisions of the BCA or a partial upgrading depending on the design, construction extent of alterations and additions and circumstances of the particular building.

When determining the extent of BCA upgrading that may be necessary when undertaking alterations and additions to an existing building that requires a <u>Construction Certificate</u> approval, the requirements of Clause 94 of the Environmental Planning & Assessment Regulations 2000 (EP&A Regs) should be considered.

The relevant requirement of Clause 94 of the EP & A Regulation 2000 does not require that an existing building be upgraded to comply with the BCA rather it gives the Consent Authority (Hornsby Shire Council) during the Development Approval assessment process the power to require upgrading where it sees fit to do so.

Clause 94 of the EP & A Regulation 2000 states:

- 94 Consent authority may require buildings to be upgraded (cf clause 66B of EP&A Regulation 1994)
  - (1) This clause applies to a development application for development involving the rebuilding, alteration, enlargement or extension of an existing building where—
    - (a) the proposed building work, together with any other building work completed or authorised within the previous 3 years, represents more than half the total volume of the building, as it was before any such work was commenced, measured over its roof and external walls, or
    - (b) the measures contained in the building are inadequate-
      - (i) to protect persons using the building, and to facilitate their egress from the building, in the event of fire, or
      - (ii) to restrict the spread of fire from the building to other buildings nearby.
    - (c) (Repealed)
  - (2) In determining a development application to which this clause applies, a consent authority is to take into consideration whether it would be appropriate to require the existing building to be brought into total or partial conformity with the *Building Code of Australia*.
  - (2A), (2B) (Repealed)
  - (3) The matters prescribed by this clause are prescribed for the purposes of section 4.15 (1) (a) (iv) of the Act.

Accordingly, as rebuilding, alterations and extension (exceeding 50%) of the existing building are proposed (and require a Construction Certificate approval) the building is subject of Clause 94 as outlined above, whereby the recommended upgrade works detailed in Part 6 would need to be taken into consideration.

It should be noted that under Clause 94 above, the primary concern with existing buildings is that of structural adequacy and fire safety. However, this does not prevent Council from requiring the building to be upgraded in accordance with the full BCA.

Accordingly, due to the public nature of the building, it is likely that Council will recommend that a full BCA Part D3 accessibility upgrade is undertaken. The requirements of the accessibility upgrade have been documented in the BCA Logic Access Report, referenced 109448.2b-BCA-r1.

# 5.4.2 Clause 143 of the Environmental Planning & Assessment Regulation 2000

In addition, there is also a further requirement under Clause 143, part (3) of the EP & A Regulation 2000, which states:

143 Fire protection and structural capacity (cf clause 79E of EP&A Regulation 1994)

- A certifying authority must not issue a construction certificate for building work under a development consent that authorises a change of building use unless—
  - (a) the fire protection and structural capacity of the building will be appropriate to its new use, and
  - (b) the building will comply with such of the Category 1 fire safety provisions as are applicable to the new use,

assuming that the building work is carried out in accordance with the plans and specifications to which the construction certificate relates and any conditions to which the construction certificate is subject.

- (2) Subclause (1) (b) does not apply to the extent to which an exemption is in force under clause 187 or 188, subject to the terms of any condition or requirement referred to in clause 187 (6) or 188 (4).
- (3) In the case of building work that involves the alteration, enlargement or extension of an existing building in circumstances in which no change of building use is proposed, a certifying authority must not issue a construction certificate for the work unless, on completion of the building work, the fire protection and structural capacity of the building will not be reduced, assuming that the building work is carried out in accordance with the plans and specifications to which the construction certificate is subject.
- (4) This clause does not apply to building work required by a consent authority as a condition of a development consent that authorises a change of building use.

Accordingly, the Certifying Authority of a Construction Certificate has an obligation under the above Clause 143 part (3) to not issue a Construction Certificate for the work, unless at the completion of the work the fire protection and structural capacity of the building will not be reduced. Therefore, the items raised in Part 6 of the report are relevant.

## 5.5 Performance Based Design – Performance Solutions

There are specific areas throughout the development where strict Deemed-to-Satisfy BCA Compliance will not be achieved by the proposed design and site constraints. These matters will need to be address in a detailed Fire Safety Engineering Report to be prepared for this development under separate cover:

Performance Solutions identified to date include:

ltem	Description of Performance Solution	DTS Provision
1.	The construction of the roof and external walls is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements. The Alternative Solution will be required to address Performance Requirements FP1.4.	No DtS Provisions – FP1.4 Performance Provisions Only

#### Table 4. Performance Solutions

# 6 BCA DEEMED-TO-SATISFY DEPARTURES

# 6.1 BCA Clause D1.10 – Discharge from exits

In accordance with BCA Clause D1.10(b) & (c), the discharge from a required exit into open space must be provided with a path of travel to the public road with an unobstructed width throughout of not less than 1 m. In addition, 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 ramp or other incline having a gradient not steeper than 1:14 or by a BCA compliant stairway.

#### 6.2 BCA Clause D1.13 and F2.3 – Number of persons accommodated based on Facilities

For the purposes of the Deemed-to-Satisfy Provisions, the number of persons accommodated in the building must be determined with consideration to the purpose for which the building is used and the layout of the floor area by -

- a) Calculating the sum of the numbers obtained by dividing the floor area of each part of the storey by the number of square metres per person listen in Table D1.13 according to the use of that part, excluding spaces set aside for –
  - i) Lifts, stairways, ramps and escalators, corridors, hallways, lobbies and the like; and
  - ii) Service ducts and the like, sanitary compartments or other ancillary uses; or
- b) Reference to the seating capacity in an assembly building or room; or
- c) Any other suitable means of assessing its capacity.

Notwithstanding the above, data on the maximum number of persons utilising the building at any given time is not readily available, therefore the number of persons accommodated in the building will be limited by the number of facilities provided. A review of the existing and proposed facilities has been provided below.

# **Total Facilities Available**

Male existing facilities

- 2 WC
- 4 urinals
- 3 showers
- 3 handwash basin

Female existing facilities

- 2 WC
- 3 showers
- 3 handwash basin

Additional proposed unisex facilities

- 2 WC
- 5 showers
- 1 accessible sanitary compartment
- 1 accessible adult changing places facility (Note<sup>1</sup>: The accessible adult changing places facility are to be provided separately and in addition to any other sanitary compartment, Therefore, they cannot be counted when determining compliance with BCA Clauses F2.3 or F2.4.)
- 2 handwash basin



## Number of Persons Accommodated

The below tables 5 & 6 provide the number of persons accommodated based on the number of facilities provided. There are separate facility requirements for employees and the public (participants).

- The proposed facilities may accommodate a maximum of <u>60 participants</u> and <u>20 employees</u> at any given time. It has been assumed that anyone who enters the building is a participant or an employee. The calculation of the number of persons accommodated by the facilities has not considered spectators.
- Employees and the public may share the same facilities in a Class 9b building provided the number of facilities is not less than the total number of facilities required for employees plus those required for the public.
- The proposed unisex facilities will require a Performance Solution.
- The BCA provides a concession whereby if not more than 10 people are employed, a unisex facility may be provided instead of separate facilities for each sex.

Participants	WC	Persons	Urinal	Persons	Washbasins	Persons	Shower	Persons
Male	2 in total	40	4 in total	40	<u>3 in total</u>	30	<u>6 in total</u>	60
	-1 WC (existing)		-4 existing		-2 existing		-3 existing	
	-1 accessible (proposed)		(Note <sup>1</sup> )		-1 accessible (proposed)		-3 proposed	
Female	<u>4 in total</u> -2 WC (existing)	40	N/A	N/A	5 in total -3 existing	50	5 in total -3 existing	50
	(proposed)				(proposed)		-z proposed	
	-1 WC (proposed)				-1 proposed			

## Table 5. Number of participants accommodated based on facilities provided.

Note<sup>1</sup>: In accordance with BCA Clause F2.6, each 600 mm length of a continuous urinal trough may be considered as one (1) urinal. The existing urinal trough is 2.6 m long therefore there are 4 existing urinals.

Employees	wc	Persons accommodated	Urinal	Persons accommodated	Washbasins	Persons accommodated
Male	1 (existing)	20	nil	10	1 existing	30
Female	1 (proposed)	15	-	-	1 proposed	30

# 6.3 BCA Clause E1.3 – Fire Hydrants

The building has a floor area greater than 500 m<sup>2</sup> therefore must be served by a fire hydrant system complying with BCA Clause E1.3 and AS 2419.1-2005. The building is not provided with fire hydrant coverage from an on-site system but by an external fire hydrant located approximately 10 m south of the existing gymnasium / front entry of the building.

The existing external hydrant is currently not provided with the appropriate hydrant hose connections. The hydrant hose upstand valve connection will be required to be upgraded to have compatible storz hose connections. In addition, it is recommended that a flow and pressure test is undertaken of the building to determine compliance of the existing fire hydrant system with AS 2419.1.

#### 6.4 BCA Clause F2.3 – Facilities

In accordance with BCA Clauses F2.2, F2.3 and Table F2.3, sanitary facilities (other than accessible sanitary compartments) must be provided separately for males and females. The proposed plans indicate that the LTS change facilities provide two (2) unisex sanitary facilities where separate facilities are required to comply with the Deemed-to-Satisfy requirements of the BCA.

Accordingly, separate male and female facilities are required to be provided in accordance with the number of persons accommodated in the building. Alternatively, and <u>subject to an</u> <u>assessment</u>, a Performance-based Alternative Solution may be prepared to fulfil BCA Performance Requirements FP2.1.

#### 6.5 BCA Clause F4.8 – Restriction on position of water closets and urinals

In accordance with BCA Clause F4.8, sanitary compartment must not open directly into a room used for public assembly, i.e. each of the proposed family accessible change facilities open directly into the swimming pool areas and therefore must be provided with mechanical exhaust ventilation and the doorways to the room be adequately screen from view.

#### 6.6 BCA Clause NSW G5.2 – Protection

In accordance with BCA Clause NSW G5.2, in a designated bushfire prone area, a Class 9 assembly building that is a special fire protection purpose must comply with the following: -

- a) AS 3959 except
  - i) As amended by Planning for Bush Fire Protection; and
  - For Section 9 Construction for Bushfire Attack Level FZ (BAL-FZ). Buildings subject to BAL-FZ must comply with specific conditions of development consent for construction at this level; or
- b) The requirements of (a) above as modified by the development consent following consultation with the NSW Rural Fire Service under section 4.14 of the Environmental Planning and Assessment Act 1979 if required; or
- c) The requirements of (a) above as modified by development consent with a bushfire safety authority issued under section 100B of the Rural Fires Act 1997 for the purposes of integrated development.

Accordingly, the Bushfire Consultant will provide recommendations of the level of bushfire compliance required in accordance with the above requirements. The recommendations will be required to be implemented into the design of the building and the appropriate referrals shall be undertaken.

# 7 STATEMENT OF COMPLIANCE

The architectural design documentation as referred to in report has been assessed against the applicable provision of the Building Code of Australia, (BCA) and it is considered that such documentation complies or is capable of complying (as outlined in Annexure B) with that Code.

# **ANNEXURE A - DESIGN DOCUMENTATION**

This report has been based on the following design documentation.

Table 7. Architectural Plans

Architectural Plans Prepared by Architects of Arcadia			
Drawing Number	Revision	Date	Title
1808 – SK 00	Preliminary	09/09/19	Site & Roof Plan on Survey
1808 - SK 01 C	Preliminary	12/11/19	Plans
1808 - SK 02 B	Preliminary	03/10/19	Sections & Elevations



## **ANNEXURE B - DETAILED BCA 2019 ASSESSMENT**

Outlined below is a detailed assessment of the design under the Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) including the State variations where applicable.

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 table.

N/A	Not Applicable. The Deemed-to-Satisfy clause is not applicable to the proposed design.
Complies	The relevant provisions of the Deemed-to-Satisfy clause have been satisfied by the proposed design.
CRA	'COMPLIANCE READILY ACHIEVABLE'. It is considered that there was not enough information included in the documentation to accurately determine strict compliance with the individual clause requirements. However, subject to noting the requirements of each clause, compliance can be readily achieved.
FI	Further Information is necessary to determine the compliance potential of the building design.
PS	Performance Solution with respect to this Deemed-to-Satisfy Provision is necessary to satisfy the relevant Performance Requirements.
DNC	Does Not Comply.
Noted	BCA Clause simply provides a statement not requiring specific design comment or confirmation.

# DEEMED TO SATISFY CLAUSE ASSESSMENT

# Table 8. Deemed to Satisfy Clause Assessment

Clause	Comment	Status
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SECTI	SECTION B: STRUCTURE			
PART	PART B1 – STRUCTURAL PROVISIONS			
B1.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
B1.1:	Resistance to actions	The resistance of the building must be greater than the most critical action effect resulting from different combinations of actions, where the most critical action has been determined in accordance with this Part – Structural Engineer to certify at CC stage.	CRA – Refer Annexure C	
B1.2:	Determination of individual actions	The magnitude of actions must be determined in accordance with this Clause – Structural Engineer to certify at CC stage.	CRA – Refer Annexure C	
B1.4:	Determination of structural resistance of materials and forms of construction	The structural resistance of materials and forms of construction must be determined in accordance with this Clause – Structural Engineer, Architect and Manufacturers to certify at CC stage.	CRA – Refer Annexure C	
B1.5	Structural software	Structural software used in computer aided design of a building or structure within the geometrical limits of (b) of this Clause must comply with the ABCB Protocol for Structural Software. Structural Engineer to certify.	CRA – Refer Annexure C	
B1.6	Construction of buildings in flood hazard areas	A Class 2 or 3 building, Class 9a health care building, Class 9c aged-care building or Class 4 part of a building, in a flood hazard area (refer to Council maps) must comply the ABCB Standard for Construction of Buildings in Flood Hazard Areas.	N/A	

SECTI	SECTION C: FIRE RESISTANCE			
PART	C1 – FIRE RESISTANCE AND	STABILITY		
C1.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
		The building is required to be of Type C Construction.	CBA Bofor	
C1.1:	l ype of construction required	Refer to Specification C1.1 requirement at the end of this Section.	Annexure C	
C1.2:	Calculation of rise in storeys	The building has a rise in storeys of one (1).	Noted	
C1.3:	Buildings of multiple classification	Informational	Noted	
C1.4:	Mixed Types of construction	Not applicable.	N/A	
C1.5:	Two Storey Class 2, 3 or 9c buildings	Not applicable.	N/A	
C1.6:	Class 4 Parts of building	Not applicable.	N/A	

Not applicable.	N/A
Lightweight construction used in a fire-rated application is to comply with Specification C1.8.	N/A
Not applicable.	N/A
Fire hazard properties of internal linings, materials and assemblies must comply with C1.10 of the BCA and Specification C1.10, including floor, wall and ceiling linings, air-handling ductwork, lift cars, insulation, sarking-type materials and attachments, or be considered non-combustible.	CRA – Refer Annexure C
Not applicable.	N/A
Clause now deleted and relocated to C1.9.	Noted
Not applicable, building is not sprinkler protected.	N/A
<ul> <li>An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following:</li> <li>(a) An ancillary element that is non-combustible.</li> <li>(b) A gutter, downpipe or other plumbing fixture or fitting.</li> <li>(c) A flashing.</li> <li>(d) A grate or grille not more than 2 m<sup>2</sup> in area associated with a building service.</li> <li>(e) An electrical switch, socket-outlet, cover plate or the like.</li> <li>(f) A light fitting.</li> <li>(g) A required sign.</li> <li>(h) A sign other than one provided under (a) or (g) that— <ul> <li>(i) achieves a group number of 1 or 2; and</li> <li>(ii) does not extend beyond one storey; and</li> <li>(iii) does not extend beyond one fire compartment; and</li> <li>(iv) is separated vertically from other signs permitted under (h) by at least 2 storeys.</li> </ul> </li> <li>(i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that— <ul> <li>(i) meets the relevant requirements of Table 4 of Specification C1.10 as for an internal element; and</li> </ul> </li> </ul>	CRA – Refer Annexure C
(ii) serves a storey—	
	Not applicable.         Lightweight construction used in a fire-rated application is to comply with Specification C1.8.         Not applicable.         Fire hazard properties of internal linings, materials and assemblies must comply with C1.10 of the BCA and Specification C1.10, including floor, wall and ceiling linings, air-handling ductwork, lift cars, insulation, sarking-type materials and attachments, or be considered non-combustible.         Not applicable.         Clause now deleted and relocated to C1.9.         Not applicable, building is not sprinkler protected.         An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following: <ul> <li>(a) An ancillary element that is non-combustible.</li> <li>(b) A gutter, downpipe or other plumbing fixture or fitting.</li> <li>(c) A flashing.</li> <li>(d) A grate or grille not more than 2 m² in area associated with a building service.</li> <li>(e) An electrical switch, socket-outlet, cover plate or the like.</li> <li>(f) A light fitting.</li> <li>(g) A required sign.</li> <li>(h) A sign other than one provided under (a) or (g) that—                  <ul> <li>(i) achieves a group number of 1 or 2; and</li> <li>(ii) does not extend beyond one storey; and</li> <li>(iii) does not extend beyond one fire compartment; and</li> <li>(iv) is separated vertically from other signs permitted under (h) by at least 2 storeys.</li> <li>(i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that—                         (</li></ul></li></ul>

SECTIO	ON C: FIRE RESISTANCE		
		(A) at ground level; or	
		<ul> <li>(B) immediately above a storey at ground level; and</li> </ul>	
		(iii) does not serve an exit, where it would render the exit unusable in a fire.	
		(j) A part of a security, intercom or announcement system.	
		(k) Wiring.	
		(I) A paint, lacquer or a similar finish.	
		(m) A gasket, caulking, sealant or adhesive directly associated with (a) to (k).	
PART	C2 – COMPARTMENT AND SE	PARATION	
C2.0:	Deemed-to-Satisfy Provisions	Informational	Noted
		Informational -	
C2.1:	Application of Part	C2.2, C2.3 and C2.4 do not apply to a carpark provided with a sprinkler system complying with Specification E1.5 (other than an FPAA101D or FPAA101H system), an open-deck carpark or an open spectator stand.	Noted
C2.2:	General floor area and volume limitations	The size of fire compartments in the building must not exceed that specified in Table C2.2.	Complies
C2.3:	Large isolated buildings	Not applicable	N/A
C2.4:	Requirements for open spaces and vehicular access	Not applicable.	N/A
C2.5:	Class 9a and 9c Buildings	Not applicable.	N/A
C2.6:	Vertical separation of openings in external walls	Not applicable.	N/A
C2.7:	Separation by fire walls	Not applicable.	N/A
C2.8:	Separation of classifications in the same storey	Not applicable.	N/A
C2.9:	Separation of classifications in different storeys	Not applicable.	N/A
C2.10:	Separation of lift shafts	Not applicable.	N/A
C2.11:	Stairways and lifts in one shaft	Not applicable.	N/A
C2.12:	Separation of equipment	Whilst not specifically required to be fire separated by BCA Clause C2.12, it is recommended that the exist plant room be '2 hour' fire separated from the remainder of the building, inclusive of a self-closing 2 hour -/120/30 fire doorset.	CRA – Refer Annexure C See Part 6 of the report.
C2.13:	Electricity supply system	<ul> <li>A main switchboard which sustains emergency equipment operating in the emergency mode must be fire separated from any other part of the building</li> </ul>	N/A

SECTION C: FIRE RESISTANCE		
	by construction having an FRL of not less than 120/120/120 and have the doorway fitted with self- closing fire door having an FRL of not less than – /120/30.	
C2.14: Public corridors in Class 2 and 3 Buildings	Not applicable.	N/A
PART C3 – PROTECTION OF OPENI	NGS	
C3.0: Deemed-to-Satisfy Provisions	Informational	Noted
C3.1: Application of Part	<ul> <li>(a) The Deemed-to-Satisfy Provisions of this Part do not apply to–</li> <li>(i) Control joints, weep holes and the like in external walls of masonry construction and joints between panels in external walls of precast concrete panel construction if, in all cases they are not larger than necessary for the purpose; and</li> <li>(ii) Non-combustible ventilators for subfloor or cavity ventilation, if each does not exceed 45 000 mm<sup>2</sup> in face area and is spaced not less than 2 m from any other ventilator in the same wall; and</li> <li>(iii) Openings in the vertical plane formed between building elements at the construction edge or perimeter of a balcony or verandah, colonnade, terrace, or the like; and</li> <li>(iv) In a carpark–</li> <li>(A) Service penetrations through; and</li> </ul>	Noted
	<ul> <li>(b) Openings formed by a vehicle ramp in,</li> <li>A floor other than a floor that separates a part not used as a carpark, providing the connected floors comply as a single fire compartment for the purposes of all other requirements of the Deemed-to- Satisfy Provisions of Sections C, D and E.</li> <li>(b) For the purposes of the Deemed-to-Satisfy Provisions of this Part, openings in building elements required to be fire-resisting include doorways, windows (including any associated fanlight), infill panels and fixed or openable glazed areas that do not have the required FRL.</li> <li>(c) For the purposes of the Deemed-to-Satisfy Provisions of this Part, openings, other than those covered under (a)(iii), between building elements such as columns, beams and the like, in the plane formed at the construction edge or perimeter of the</li> </ul>	

SECTIO	ON C: FIRE RESISTANCE		
		building, are deemed to be openings in an external wall.	
C3.2:	Protection of openings in external walls	Not applicable.	N/A
C3.3:	Separation of external walls and associated openings in different fire compartments	Not applicable.	N/A
C3.4:	Acceptable methods of protection	Not applicable	N/A
C3.5:	Doorways in fire walls	Not applicable.	N/A
C3.6:	Sliding fire doors	Not applicable.	N/A
C3.7:	Protection of doorways in horizontal exits	Not applicable.	N/A
C3.8:	Openings in fire-isolated exits	Not applicable.	N/A
C3.9:	Service penetrations in fire- isolated exits	Not applicable.	N/A
C3.10:	Openings in fire-isolated lift shafts	Not applicable.	N/A
C3.11:	Bounding Construction: Class 2, 3 and 4 Buildings	Not applicable.	N/A
C3.12:	Openings in floors and ceilings for services	Not applicable.	N/A
C3.13:	Openings in shafts	Not applicable.	N/A
C3.15:	Openings for service installations	Not applicable.	N/A
C3.16:	Construction joints	Not applicable.	N/A
C3.17:	Columns protected with lightweight construction to achieve an FRL	Not applicable.	N/A
SPECI	FICATION C.1.1 - FIRE-RESIS	STING CONSTRUCTION	
2.0:	General Requirements	Informational	Noted
2.1:	Exposure to fire-source features	A building element is exposed to a <i>fire-source feature</i> if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the	Noted

SECTI	ON C: FIRE RESISTANCE		
		feature, is not obstructed by another part of the building that-	
		(i) has an FRL of not less than 30/–/–; and	
		(ii) is neither transparent nor translucent.	
2.2:	Fire protection for a support of another part	Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part must have an FRL not less than that required by other provisions of this Specification; and if located within the same fire compartment as the part it supports have an FRL in respect of structural adequacy the greater of that required for the supporting part itself and for the part it supports.	N/A
2.3:	Lintels	A lintel must have the FRL required for the part of the building in which it is situated unless it does not contribute to the support of a fire door, fire window or fire shutter and meets the requirements of Spec C1.1 clause 2.3 (a) & (b).	N/A
2.4:	Attachments not to impair fire-resistance	The method of attaching or installing a finish, lining, ancillary element or service installation to a building element must not reduce the fire-resistance of that element to below that required.	N/A
2.5:	General concessions		N/A
2.6:	Mezzanine floors: Concession		N/A
2.7:	Enclosure of shafts		N/A
2.8:	Carparks in Class 2 and 3 Buildings	Not applicable.	N/A
2.9:	Residential Aged Care building: Concession	Not applicable.	N/A
5.0:	Type C fire-resisting construction	Noted	-
5.1:	Fire-resistance of building elements		Noted
5.2:	Carparks	Not applicable.	N/A

SECTI	SECTION D: ACCESS AND EGRESS			
PART	PART D1 – PROVISION FOR ESCAPE			
D1.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
D1.1:	Application of Part	The <i>Deemed-to-Satisfy Provisions</i> of this Part do not apply to the internal parts of a <i>sole-occupancy unit</i> in a Class 2 or 3 building or a Class 4 part of a building.	Noted	

SECTI	ON D: ACCESS AND EGRESS			
D1.2:	Number of exits required	A Class 9b building that accommodates more than 50 persons requires not less than 2 exits.	Complies	
D1.3:	When fire-isolated stairways and ramps are required	Not applicable.	N/A	
D1.4:	Exit travel distances	No point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40 m.	Complies	
		Exits that are required as alternative means of egress must be-		
		the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas; and		
D1.5:	Distance between alternative	(b) not less than 9 m apart; and	Complies	
	exits	(c) not more than—	Complies	
		(iii) in all other cases — 60 m apart; and		
		(d) located so that alternative paths of travel do not converge such that they become less than 6 m apart.		
		Note: the distance between exits must be measured through the point at which travel two exits is available		
		In a required exit or path of travel to an exit-		
		<ul> <li>the unobstructed height throughout exits and paths of travel to exits must not be less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm; and</li> </ul>		
		<ul> <li>the unobstructed width of each exit or path of travel to an exit, except for doorways must be not less than 1m;</li> </ul>		
D1.6:	D1.6:	Dimensions of exits and paths of travel to exits	<ul> <li>the unobstructed width of doorways must be not less than 750 mm, unless providing access for people with disabilities in which case the unobstructed width must be not less than 850 mm.</li> </ul>	CRA – Refer Annexure C
		<ul> <li>the required width of a stairway or ramp must be measured clear of all obstructions such as handrails.</li> </ul>		
		• the unobstructed width of a required exit must not diminish in the direction of travel to a road or open space.		
D1.7:	Travel via fire-isolated exits	Not applicable.	N/A	
D1.8:	External stairways or ramps in lieu of fire-isolated exits	Not applicable.	N/A	

SECTIO	ON D: ACCESS AND EGRESS		
D1.9:	Travel by non-fire-isolated stairways or ramps	Not applicable.	N/A
D1.10:	Discharge from exits	<ul> <li>Exits must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit.</li> <li>If a required exit leads to open space, the path of travel to the road must have an unobstructed width of not less than 1m.</li> <li>If an exit discharges to open space that is at a different level that the public road to which it is connected, the path of travel to the road must be by a ramp or other incline not steeper than 1:8, or a BCA compliant stairway.</li> <li>The discharge points of alternative exits must be as far apart as practical</li> </ul>	CRA – Refer Annexure C See Part 6 for details.
D1.11:	Horizontal exits	Not applicable.	N/A
D1.12:	Non-required stairways, ramps or escalators	Not applicable.	N/A
D1.13:	Number of persons accommodated	Informational– The number of persons accommodated in a storey, room or mezzanine must be determined within consideration to the purpose for which it is used and the layout of the floor area by– (a) calculating the sum of the numbers obtained by dividing the floor area of each part of the storey by the number of square metres per person listed in BCA Table D1.13 according to the use of that part, excluding spaces set aside for— (i) lifts, stairways, ramps and escalators, corridors, hallways, lobbies and the like; and (ii) service ducts and the like, sanitary compartments or other ancillary uses; or (b) reference to the seating capacity in an assembly building or room; or (c) any other suitable means of assessing its capacity. Based on floor area and Table D1.13, the population numbers are as follows:	Noted See Part 6 for details.
D1.14:	Measurement of distances	Informational – The nearest part of an exit means in the case of— (a) a fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp, the nearest part of the doorway providing access to them; and	Noted

SECTION D: ACCESS AND EGRESS			
		(b) a non-fire-isolated stairway, the nearest part of the nearest riser; and	
		(c) a non-fire-isolated ramp, the nearest part of the junction of the floor of the ramp and the floor of the storey; and	
		(d) a doorway opening to a road or open space, the nearest part of the doorway; and	
		(e) a horizontal exit, the nearest part of the doorway.	
D1.15:	Method of Measurement	Informational	Noted
D1.16:	Plant rooms, lift motor rooms and electricity network substations: concession	Not applicable, a stairway is provided.	N/A
D1.17:	Access to lift pits	Not applicable	N/A
PART	D2 – CONSTRUCTION OF EXI	TS	
D2.0:	Deemed-to-Satisfy Provisions	Informational	Noted
		Informational-	
D2.1:	Application of Part	Except for D2.13, D2.14(a), D2.16, D2.17(d), D2.17(e), D2.21 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 3 building.	Noted
		D2.18 & D2.24, the deemed-to-satisfy Provisions of this Part do not apply to internal parts of the Class 2 sole- occupancy units.	
D2.2:	Fire-isolated stairways and ramps	Not applicable.	N/A
D2.3:	Non-fire-isolated stairways and ramps	Not applicable.	N/A
D2.4:	Separation of rising and descending stair flights	Not applicable.	N/A
D2.5:	Open access ramps and balconies	Not applicable.	N/A
D2.6:	Smoke lobbies	Not applicable.	N/A
D2.7:	Installations in exits and paths of travel	• Any electricity meters, distribution boards or ducts, or telecommunications distribution boards or equipment installed in corridors/hallways/lobbies or the like must be enclosed with non-combustible construction or a fire protective covering with doorways suitably sealed against smoke spread.	Noted
D2.8:	Enclosure of space under stairs and ramps	The space below a required non fire-isolated stairway (including an external stairway) or non-fire-isolated ramp must not be enclosed to form a cupboard or other	Noted

SECTION D: ACCESS AND EGRESS		
	enclosed space unless the enclosing walls and ceilings have an FRL of not less than 60/60/60 and the doorway is fitted with a self-closing –/60/30 fire door.	
D2.9: Width of stairways and ramps	Informational– A <i>required</i> stairway or ramp that exceeds 2 m in width is counted as having a width of only 2 m unless it is divided by a handrail or barrier continuous between landings and each division has a width of not more than 2 m.	Noted
D2.10: Pedestrian ramps	Not applicable.	N/A
D2.11: Fire-isolated passageways	Not applicable.	N/A
D2.12: Roof as open space	Not applicable.	N/A
D2.13: Goings and risers	Not applicable.	N/A
D2.14: Landings	Not applicable.	N/A
D2.15: Thresholds	<ul> <li>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– <ul> <li>a) in a building required to be accessible, the doorway–</li> <li>(i) opens to a road or open space; and</li> <li>(ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1; or</li> </ul> </li> <li>b) in other cases– <ul> <li>(i) the doorway opens to a road or open space, external stair landing or external balcony; and</li> <li>(ii) the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.</li> </ul> </li> </ul>	CRA – Refer Annexure C
D2.16: Barriers to prevent falls		N/A
D2.17: Handrails		N/A
D2.18: Fixed platforms, walkways stairways and ladders	Plant areas may be accessed via stairs and ladders compliant with AS 1657-2013.	CRA – Refer Annexure C.
D2.19: Doorways and doors	<ul> <li>Sliding doors serving as exit doors must be openable manually under a force of not more than 110N.</li> </ul>	CRA – Refer Annexure C

SECTION D: ACCESS AND EGRESS		
	<ul> <li>Exit doors that are power operated must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source and if leading to road or open space, open automatically if there is a power failure or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door.</li> <li>A power operated door in a path of travel to a required exit must be able to be opened manually under a force of not more than 110 N if there is a malfunction of the power source.</li> </ul>	
D2.20: Swinging doors	<ul> <li>Swinging doors in a required exit must not encroach— <ul> <li>(i) at any part of its swing by more than 500 mm on the required 1m width of the exit and</li> <li>(ii) when fully open, by more than 100 mm on the required 1m exit width; and</li> </ul> </li> <li>the measurement of encroachment in each case is to include door handles or other furniture or attachments to the door.</li> <li>A swinging door in a required exit must swing in the direction of egress unless— <ul> <li>it serves a building or part with a floor area not more than 200 m<sup>2</sup>, it is the only required exit from the building or part and it is fitted with a device for holding it in the open position; or</li> <li>it serves a sanitary compartment or airlock (in which case it may swing in either direction).</li> </ul> </li> </ul>	CRA – Refer Annexure C
D2.21: Operation of latch	<ul> <li>Class 9b (other than school, early childhood centre or religious) for storey or room accommodating &gt;100 persons:</li> <li>All doors in a required exit or forming part of a required exit AND doors in a path of travel to a required exit must be readily openable— <ul> <li>(i) without a key from the side that faces a person seeking egress; and</li> <li>(ii) by a single hand pushing action on a single device such as a panic bar located between 900mm and 1.2 m from the floor; and</li> <li>(iii) where a two-leaf door is fitted, the provisions of (i) and (ii) need only apply to one door leaf if the appropriate requirements of D1.6 are satisfied by the opening of that one leaf; and</li> </ul> </li> </ul>	CRA – Refer Annexure C
D2.22: Re-entry from fire-isolated exits	Not applicable.	N/A
D2.23: Signs on doors	Not applicable.	N/A

SECTION D: ACCESS AND EGRESS			
D2.24:	Protection of openable windows	Not applicable.	N/A
D2.25:	Timber stairways: concession		Noted
PART D3 - ACCESS FOR PEOPLE WITH A DISABILITY			
D3.0:	Deemed-to-Satisfy Provisions	Refer to Access Report prepared by BCA Logic and referenced 109448.2b-BCA-r3.	

SECTION E: SERVICES AND EQUIPMENT			
PART E	1 – FIRE FIGHTING EQUIPM	ENT	
E1.0:	Deemed-to-Satisfy Provisions	Informational	Noted
E1.3:	Fire hydrants	As the building has a floor area greater than $500 \text{ m}^2$ , a fire hydrant system complying with AS 2419.1-2005 must be provided to serve the building.	Noted See Part 6 for details.
E1.4:	Fire hose reels	<ul> <li>A fire hose reel system complying with BCA clause E1.4 and AS 2441-2005 must be provided to the building (excluding Classes 2, 3, 4, 5, 8 and 9c).</li> <li>All points on a floor shall be within reach of a 4 m hose stream issuing from a nozzle at the end of the hose laid on floor. The hose length shall not exceed 36 m.</li> <li>Fire hose reels must be located so that the fire hose will not need to pass through doorways fitted with fire or smoke doors, except— <ul> <li>(i) doorways in walls referred to in C2.5(a)(v) in a Class 9a building and C2.5(b)(iv) in a Class 9c building, separating ancillary use areas of high potential fire hazard; and</li> <li>(ii) doorways in walls referred to in C2.12 or C2.13 separating equipment or electrical supply systems; and</li> </ul> </li> </ul>	CRA – Refer Annexure C
		(iii) doorway openings to shafts referred to in C3.13.	
E1.5:	Sprinklers	Not applicable.	N/A
E1.6:	Portable fire extinguishers	Portable fire extinguishers must be provided in accordance with clause E1.6 & Table E1.6 of the BCA and must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444-2001.	CRA – Refer Annexure C
E1.8:	Fire control centres	Not applicable.	N/A
E1.9:	Fire precautions during construction	<ul> <li>Informational–</li> <li>During construction, not less than one portable 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 / temporary exit; and</li> </ul>	Noted

SECTIO	SECTION E: SERVICES AND EQUIPMENT			
		<ul> <li>After the building has reach an effective height of 12m, the required fire hydrants and fire hose reels must be operational on all floor / roof covered storeys, except for the 2 uppermost storeys; and all required booster connections must be installed.</li> </ul>		
E1.10:	Provision for special hazards	Not applicable.	N/A	
PART E	2 – SMOKE HAZARD MANAG	GEMENT		
E2.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
E2.1:	Application of Part	Informational	Noted	
E2.2:	General requirements (including Tables E2.2a and E2.2b)	Not applicable.	N/A	
E2.3:	Provisions for special hazards	Not applicable.	N/A	
PART E	3 – LIFT INSTALLATIONS			
E3.0:	Deemed-to-Satisfy Provisions	Not applicable.	N/A	
PART E	4 – VISIBILITY IN AN EMERG	ENCY, EXIT SIGNS AND WARNING SYSTEMS		
E4.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
E4.2:	Emergency lighting requirements	An emergency lighting system must be installed throughout the building in accordance with Clause E4.2 of the BCA and AS 2293.1-2018.	CRA – Refer Annexure C	
E4.3:	Measurement of distance	Informational	Noted	
E4.4:	Design and operation of emergency lighting	The emergency lighting system must comply with AS 2293.1-2018.	CRA – Refer Annexure C	
E4.5:	Exit signs	Exits signs are to be provided above or adjacent to a door providing egress as well as directional signage throughout the entire development where necessary.	CRA – Refer Annexure C	
E4.6:	Direction signs	Where an exit is not readily apparent, directional signage is to be installed indicating the direction of egress.	CRA – Refer Annexure C	
E4.7:	Class 2 and 3 buildings and Class 4 Parts: Exemptions	Not applicable.	N/A	
E4.8:	Design and operation of exit signs	Exit signs must comply with AS 2293.1-2018 and be clearly visible at all times when the building is occupied.	CRA – Refer Annexure C	
E4.9:	Emergency warning and intercom systems	An Emergency warning and intercom system complying where applicable with AS 1670.4 must be installed within the building.	N/A	

# SECTION F: HEALTH AND AMENITY

PART F1 – DAMP AND WEATHERPROOFING

SECTIO	N F: HEALTH AND AMENIT	Ŷ	
F1.0:	Deemed-to-Satisfy Provisions	Performance Requirement FP1.4, for the prevention of the penetration of water through external walls, must be complied with. There are no Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls. The assessment contained within this report does not include an assessment against Performance Provision FP1.4.	PS Required
F1.1:	Stormwater drainage	Stormwater drainage to comply with AS3500.3-2003.	CRA – Refer Annexure C
F1.4:	External above ground membranes	Waterproofing membranes for external above ground use to comply with AS4654 Parts 1 and 2-2012.	CRA – Refer Annexure C
F1.5:	Roof coverings	Roof coverings are to comply with BCA Clause F1.5.	CRA – Refer Annexure C
F1.6:	Sarking	Sarking-type materials used for weatherproofing must comply with AS/NZS 4200 Part 1 and 2-1994.	CRA – Refer Annexure C
F1.7:	Water proofing of wet areas in buildings	Wet areas must be constructed in accordance with AS 3740-2010 and F1.7 of the BCA.	CRA – Refer Annexure C
F1.9:	Damp-proofing	Moisture is to be prevented from reaching the walls above a damp-proof course, and the underside of the suspended floors.	CRA – Refer Annexure C
F1.10:	Damp-proofing of floors on the ground	If a 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 2870-2011 (N/A to areas that do not require weatherproofing – refer specific clause exemptions).	CRA – Refer Annexure C
F1.11:	Provision of floor wastes	Not applicable.	N/A
F1.12:	Sub-floor ventilation	Not applicable.	N/A
F1.13:	Glazed Assemblies	Glazed assemblies are to comply with AS2047 and AS1288.	CRA – Refer Annexure C
PART F2	2 – SANITARY AND OTHER	FACILITIES	
F2.0:	Deemed-to-Satisfy Provisions	Informational	Noted
F2.1:	Facilities in residential buildings (including Table F2.1)	Not applicable.	N/A
F2.2:	Calculation of number of occupants and facilities	<ul> <li>Informational –</li> <li>a) The number of persons accommodated must be calculated according to D1.13 if it cannot be more accurately determined by other means</li> <li>b) Unless the premises are used predominantly by one sex, sanitary facilities must be provided on the basis of equal numbers of males and females</li> <li>c) In calculating the number of sanitary facilities to be provided under F2.1 and F2.3, a unisex facility <i>required</i> for people with a disability may be counted once for each sex</li> </ul>	Noted See Part 6 for details.

SECTIO	N F: HEALTH AND AMENIT	Y	
		<ul> <li>For the purpose of this Part, a unisex facility comprises one closet pan, one washbasin and means for the disposal of sanitary towels</li> </ul>	
		<ul> <li>(a) Except where permitted by (b), (c), (f), F2.4(a) and F2.4(b), separate sanitary facilities for males and females must be provided for Class 3, 5, 6, 7, 8 or 9 buildings in accordance with Table F2.3.</li> <li>(b) If not more than 10 people are employed a unique.</li> </ul>	
		facility may be provided instead of separate facilities for each sex.	
		(c) If the majority of employees are one sex, not more than 2 employees of the other sex may share toilet facilities if the facilities are separated by means of walls, partitions and doors to afford privacy.	
		(d) Employees and the public may share the same facilities in a Class 6 and 9b building (other than a school or early childhood centre) provided the number of facilities provided is not less than the total number of facilities required for employees plus those required for the public.	
		(e) Adequate means of disposal of sanitary towels must be provided in sanitary facilities for use by females.	
	<ul> <li>(f) Separate sanitary facilities for males and females need not be provided for patients in a ward area of a Class 9 building.</li> <li>(g) A Class 9a health-care building must be provided with a sanitary facilities for use by females.</li> </ul>		
<b>F</b> 0.0		(g) A Class 9a health-care building must be provided with	Noted
F2.3:	Facilities in Class 3 to 9 buildings (including Table F2.3)	<ul> <li>(i) one kitchen or other adequate facility for the preparation and cooking or reheating of food including a kitchen sink and washbasin; and</li> </ul>	See Part 6 for details.
		(ii) laundry facilities for the cleansing and drying of linen and clothing or adequate facilities for holding and dispatch or treatment of soiled linen and clothing, sanitary towels and the like and the receipt and storage of clean linen; and	
		(iii) one shower for each 8 patients or part thereof; and	
		<ul><li>(iv) one island-type plunge bath in each storey containing a ward area</li></ul>	
		(h) A class 9b early childhood centre must be provided with	
		<ul> <li>(i) a kitchen or food preparation area with a kitchen sink, separate hand washing facilities, space for a refrigerator and space for cooking facilities, with –</li> </ul>	
		(A) the facilities protected by a door or gate with child proof latches to prevent unsupervised access to the facilities by children younger than 5 years old; and	
		(B) the ability to facilitate supervision of children from the facilities if the early childhood centre accommodates children younger than 2 years old; and	
		(ii) one bath, shower or shower-bath; and	

SECTION F: HEALTH AND AMENITY			
		(iii) if the centre accommodates children younger than 3 years old –	
		<ul> <li>(A) a laundry facility comprising a washtub and space in the same room for a washing machine; and</li> </ul>	
		(B) a bench type baby bath, which is within 1 m of the nappy change bench; and	
		(C) a nappy changing bench which –	
		(aa) is within 1 m of separate adult hand washing facilities and bench type baby bath; and	
		(bb) must be not less than 0.9 m <sup>2</sup> in area and a height of not less than 850 mm, but not more than 900 mm above the finished floor level; and	
		(cc) must have a space not less than 800 mm hight, 500 mm wide and 800 mm deep for the storage of steps; and	
		(dd) is positioned to permit a staff member changing a nappy to have visibility of the play area at all times.	
		(i) Class 9b theatres and sporting venues must be provided with one shower for each 10 participants or part therof.	
		(j) Not less than one washbasin must be provided where closet pans or urinals are provided.	
F2.4:	Accessible sanitary facilities (including Table F2.4)	Refer to Access Report prepared by BCA Logic ar 109448.2b-BCA-r3.	nd referenced
		<ul> <li>Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend—</li> </ul>	
		<ul> <li>(i) from floor level to the ceiling in the case of a unisex facility; or</li> </ul>	
		<ul> <li>to a height of not less than 1.5 m above the floor if primary school children are the principal users; or</li> </ul>	
F2.5:	Construction of sanitary	(iii) 1.8 m above the floor in all other cases.	CRA – Refer
	compariments	<ul> <li>b) The door to a fully enclosed sanitary compartment must—</li> </ul>	Annexure C
		(i) open outwards; or	
		(II) Slide; or (iii) be readily removable from the outside of the	
		sanitary compartment, unless there is a clear	
		with Figure F2.5, between the closet pan within the sanitary compartment and the doorway.	
		Informational-	
F2 6.	Interpretation: urinals and	(a) A urinal may be—	
12.0.	washbasins	(i) an individual stall or wall-hung urinal; or	Noted
		(II) each 600 mm length of a continuous urinal trough; or (iii) a closet pan used in place of a urinal.	

SECTIO	N F: HEALTH AND AMENIT	Υ	
		<ul> <li>(b) A washbasin may be—</li> <li>(i) an individual basin; or</li> <li>(ii) a part of a hand washing trough served by a single water tap.</li> </ul>	
F2.8:	Waste Management	Not applicable.	N/A
F2.9:	Accessible adult change facilities	Refer to Access Report prepared by BCA Logic at 109448.2b-BCA-r1.	nd referenced
PART F	3 – ROOM SIZES		
F3.0:	Deemed-to-Satisfy Provisions	Informational	Noted
F3.1:	Height of rooms and other spaces	<ul> <li>(d) in a Class 9b building— <ul> <li>(i) a school classroom or other assembly building or part that accommodates not more than 100 persons — 2.4 m; and</li> <li>(ii) a theatre, public hall or other assembly building or part that accommodates more than 100 persons — 2.7 m; and</li> <li>(iii) a corridor— <ul> <li>(A) that serves an assembly building or part that accommodates not more than 100 persons — 2.4 m; or</li> <li>(B) that serves an assembly building or part that accommodates more than 100 persons — 2.4 m; or</li> <li>(B) that serves an assembly building or part that accommodates more than 100 persons — 2.4 m; or</li> <li>(B) that serves an assembly building or part that accommodates more than 100 persons — 2.7 m; and</li> <li>(iv) the number of persons accommodated must be calculated according to D1.13; and</li> </ul> </li> <li>(f) in any building— <ul> <li>(i) a bathroom, shower room, sanitary compartment, airlock, tea preparation room, pantry, store room, garage, car parking area, or the like — 2.1 m; and</li> <li>(ii) a commercial kitchen — 2.4 m; and</li> <li>(iii) above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like.</li> <li>(iv)A required accessible adult change facility – 2.4m</li> </ul> </li> </ul></li></ul>	CRA – Refer Annexure C
PART F	4 – LIGHT AND VENTILATIO	ON .	
F4.0:	Deemed-to-Satisfy Provisions	Informational	Noted
F4.1:	Provision of natural light	Not applicable.	N/A
F4.2:	Methods and extent of natural lighting	Not applicable.	N/A
F4.3:	Natural light borrowed from adjoining room	Not applicable.	N/A
F4.4:	Artificial Lighting	Lighting to the all areas is to comply with AS 1680.0.	CRA – Refer Annexure C

SECTIO	N F: HEALTH AND AMENIT	Y		
F4.5:	Ventilation of rooms	All rooms to be provided with Clause F4.6 compliant natural ventilation <b>OR</b> a mechanical ventilation or air-conditioning system complying with AS 1668.2-2012.	CRA – Refer Annexure C	
F4.6:	Natural ventilation		Noted	
F4.7:	Ventilation borrowed from adjoining room		Noted	
F4.8:	Restriction on position of water closets and urinals	<ul> <li>Sanitary compartments must not open directly into a –</li> <li>kitchen or pantry</li> <li>public dining room or restaurant</li> <li>dormitory in a Class 3 building</li> <li>room used for public assembly (which is not an early childhood centre, primary school or open spectator stand)</li> <li>workplace normally occupied by more than one person.</li> </ul>	DNC See Part 6 of report.	
F4.9:	Airlocks	<ul> <li>If sanitary compartments are prohibited from opening directly to another room:</li> <li>Class 9 <ul> <li>access must be by an airlock, hallway or other room with a floor area of not less than 1.1m<sup>2</sup> and fitted with self-closing doors at all access doorways; or</li> <li>the sanitary compartments must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.</li> </ul> </li> </ul>	DNC See Part 6 of report.	
F4.11:	Carparks	Not applicable.	N/A	
F4.12:	Kitchen local exhaust ventilation	<ul> <li>Any commercial kitchen must be provided with a kitchen exhaust hood complying with AS/NZS 1668.1 and AS 1668.2 where:</li> <li>any cooking apparatus has: <ul> <li>a total maximum electrical power input exceeding 8 kW; or</li> <li>a total gas power input exceeding 29 MJ/h; or</li> </ul> </li> <li>the total maximum power input to more than one apparatus exceeds: <ul> <li>0.5 kW electrical power; or</li> <li>1.8 MJ gas,</li> </ul> </li> <li>Per m<sup>2</sup> of floor area of the room or enclosure.</li> </ul>	CRA – Refer Annexure C	
PART F5 – SOUND TRANSMISSION AND INSULATION				
F5.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
F5.1:	Application of Part	Informational– The Deemed-to-Satisfy Provisions of this Part apply to Class 2 and 3 buildings and Class 9c buildings.	Noted	
PART F6 - CONDENSATION MANAGEMENT				
F6.0:	Deemed-to-satisfy provisions	Informational	Noted	

SECTION F: HEALTH AND AMENITY					
F6.1:	Application of Part	Not applicable.	N/A		
SECTIO	N G: ANCILLARY PROVISI	ONS			
PART G	1 – MINOR STRUCTURES	AND COMPONENTS			
G1.0:	Deemed-to-Satisfy Provisions	Informational	Noted		
G1.1:	Swimming pools	Existing swimming pool.	Noted		
G1.2:	Refrigerated chambers, strong-rooms and vaults		Noted		
G1.3:	Outdoor play spaces	Not applicable.	N/A		
NSW G <sup>2</sup>	1.101: Provision for cleaning windows	Not applicable.	N/A		
PART G	2 – BOILERS, PRESSURI	E VESSELS, HEATING APPLIANCES, FIREPLACES, CH	IMNEYS AND		
G2.0:	Deemed-to-Satisfy Provisions	Informational	Noted		
G2.2:	Installation of Appliances	<ul><li>The installation of a stove, heater or similar appliance in a building must comply with:</li><li>For boilers and pressure vessels: Specification G2.2</li></ul>	Noted		
G2.3:	Open Fireplaces	Not applicable.	N/A		
G2.4:	Incinerator Rooms	Not applicable.	N/A		
PART G	3 – ATRIUM CONSTRUCTI	ON			
G3.1:	Atriums Affected by the Part	Not applicable	N/A		
PART G4- CONSTRUCTION IN ALPINE AREAS					
G4.0:	Deemed-to-Satisfy Provisions	Not applicable.	N/A		
PART G	PART G5 – CONSTRUCTION IN BUSHFIRE PRONE AREAS				
G5.0:	Deemed-to-Satisfy Provisions	Informational	Noted		
G5.1:	Application of Part	Informational	Noted		
NSW G5	5.2: Protection		FI See Part 6 of report.		

SECTION H: SPECIAL USE BUILDINGS			
PART H1 – CLASS 9b BUILDINGS			
NSW H1.1: Application of Part Not applicable. N/A			

**SECTION I: MAINTENANCE** 

PART I1 – EQUIPMENT AND SAFETY INSTALLATIONS

# **SECTION I: MAINTENANCE**

This Part has been deleted in BCA2019.

SECTION J: ENERGY EFFICIENCY (Class 9)				
PART J0 – ENERGY EFFICIENCY				
J0.1:	Application of Section J	Informational	Noted	
J0.2:	Heating & cooling loads of Sole Occupancy Units to Class 2 & 4 parts	Not applicable, clause relevant to class 2 & 4 only	NA	
J0.3:	Ceiling fans	Not applicable	NA	
J0.4:	Roof thermal breaks	Not applicable, clause relevant to J0.2 only	NA	
J0.5:	Wall thermal breaks	Not applicable, clause relevant to J0.2 only	NA	
PART J	1 – BUILDING FABRIC			
J1.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
J1.1:	Application of Part	The provisions of Part J1 apply to building elements forming part of the <i>envelope</i> of the building.	CRA – Refer Annexure C	
J1.2:	Thermal construction general	Where required insulation is to comply with AS4859.1 and be installed in accordance with this clause. The required Total R-Value and Total System U-Value, must be determined in accordance with J1.2 (e) clause.	CRA – Refer Annexure C	
J1.3:	Roof and ceiling construction	<ul> <li>(a) A roof or ceiling must achieve a Total R-Value greater than or equal to— <ul> <li>(i) in climate zones 1, 2, 3, 4 and 5, R3.7 for a downward direction of heat flow; and</li> <li>(ii) in climate zone 6, R3.2 for a downward direction of heat flow; and</li> <li>(iii) in climate zone 7, R3.7 for an upward direction of heat flow; and</li> <li>(iv) in climate zone 8, R4.8 for an upward direction of heat flow.</li> </ul> </li> <li>(b) In climate zones 1, 2, 3, 4, 5, 6 and 7, the solar absorptance of the upper surface of a roof must be not more than 0.45.</li> </ul>	CRA – Refer Annexure C	
J1.4:	Roof lights	Any roof lights must have – (a) a total area of not more than 5% of the floor area of the room & space served; and (b) transparent and translucent elements with performance of – (i) Total system SHGC, in accordance with table J1.4, and (ii) Total system U-value, not more than U3.9	CRA – Refer Annexure C	
J1.5:	Walls	(a) The Total System U-Value of wall-glazing construction must not be greater than—	CRA – Refer Annexure C	



SECTION J: ENERGY EFFICIENCY	(Class 9)	
	(i) for a Class 2 common area, a Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a ward area, 112.0; and	
	(ii) for a Class 3 or 9c building or a Class 9a ward area—	
	(A) in climate zones 1, 3, 4, 6 or 7, U1.1; or	
	(B) in climate zones 2 or 5, U2.0; or	
	(C) in climate zone 8, U0.9.	
	(b) The Total System U-Value of display glazing must not be greater than U5.8.	
	(c) The Total System U-Value of wall-glazing construction must be calculated in accordance with Specification J1.5a.	
	(d) Wall components of a wall-glazing construction must achieve a minimum Total R-Value of—	
	(i) where the wall is less than 80% of the area of the wall-glazing construction, R1.0; or	
	<ul> <li>(ii) where the wall is 80% or more of the area of the wall-glazing construction, the value specified in Table J1.5a.</li> </ul>	
	(e) The solar admittance of externally facing wall-glazing construction must not be greater than—	
	(i) for a Class 2 common area, a Class5, 6, 7, 8 or 9b building or a Class 9a building other than a ward area, the values specified in Table J1.5b; and	
	(ii) for a Class 3 or 9c building or a Class 9a ward area, the values specified in Table J1.5c.	
	(f) The solar admittance of a wall-glazing construction must be calculated in accordance with Specification J1.5a.	
	(g) The Total system SHGC of display glazing must not be greater than 0.81 divided by the applicable shading factor specified in Clause 7 of Specification J1.5a.	
	a)	
	(a) A floor must achieve the Total R-Value specified in Table J1.6.	
	(b) A floor must be insulated around the vertical edge of its perimeter with insulation having an R-Value greater than or equal to 1.0 when the floor—	
	(i) is a concrete slab-on-ground in climate zone 8; or	
J1.6: Floors	(ii) has an in-slab or in-screed heating or cooling system, except where used solely in a bathroom, amenity area or the like.	CRA – Refer
	(c) Insulation required by (b) for a concrete slab-on-ground must—	
	(i) be water resistant; and	
	(ii) be continuous from the adjacent finished ground level—	
	(A) to a depth not less than 300 mm; or	
	(B) for the full depth of the vertical edge of the concrete slab-on-ground.	
PART J2 – GLAZING		

SECTIO	N J: ENERGY EFFICIENCY	(Class 9)	
J2.0:	Deemed-to-Satisfy Provisions	Part J2 has deliberately been left blank from the BCA2019	Noted
J2.1:	Application of Part	N/A	Noted
J2.4:	Glazing	N/A	Noted
J2.5:	Shading	N/A	Noted
PART J	3 – BUILDING SEALING		
J3.0:	Deemed-to-Satisfy Provisions	Informational	Noted
		The requirements of this Part apply to elements forming the <i>envelope</i> of the building other than:	
		<ul> <li>a building in a climate zones 1, 2, 3 and 5 where the only means of air-conditioning is by using an evaporative cooler; or</li> </ul>	
J3.1:	Application of Part	<ul> <li>a permanent building opening necessary for the safe operation of a gas appliance;</li> </ul>	Noted
		<ul> <li>a building or space where mechanical ventilation required by Part F4 provides sufficient pressurisation to prevent infiltration;</li> </ul>	
		<ul> <li>parts of building that cannot be fully enclosed.</li> </ul>	
J3.2:	Chimneys and flues	The chimney or flue of an open solid-fuel burning appliance must be provided with a damper or flap that can be closed to seal the chimney or flue.	CRA – Refer Annexure C
		Roof lights serving conditioned spaces, or habitable rooms in climate zone 4-8, must be sealed or be capable of being sealed and must be constructed with–	
J3.3:	Roof lights	<ul> <li>(i) an imperforate ceiling diffuser or the like installed at the ceiling or lining level; or</li> </ul>	CRA – Refer Annexure C
		(ii) a weatherproof seal; or	
		<ul> <li>(iii) a shutter system readily operated either manually, mechanically or electronically by the occupant.</li> </ul>	
		(a) A door, openable window or the like must be sealed—	
		(i) when forming part of the envelope; or	
		(ii) in climate zones 4, 5, 6, 7 or 8.	
		(b) The above does not apply to:	
		(ii) a fire door or smoke door: or	
J3.4:	Windows and doors	<ul> <li>(ii) roller shutter door, roller shutter grille or other security device or device installed only for out-of- hours security.</li> </ul>	CRA – Refer Annexure C
		(c) A seal to restrict air infiltration—	
		<ul> <li>(i) for the bottom edge of a door, must be a draft protection device; and</li> </ul>	
		(ii) for the other edges of a door or the edges of an openable window or other such opening, may be a foam or rubber compression strip, fibrous seal or the like.	

SECTIO	SECTION J: ENERGY EFFICIENCY (Class 9)			
		<ul> <li>(d) An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, revolving door or the like, other than— <ul> <li>(i) where the conditioned space has a floor area of not more than 50m<sup>2</sup>; or</li> <li>(ii) where a café, restaurant, open front shop or the like has—</li> <li>A. a 3m deep un-conditioned zone between the main entrance, including an open front, and the conditioned space; and</li> <li>B. at all other entrances to the café, restaurant, open from shop of the like, self-closing doors</li> </ul> </li> </ul>		
J3.5:	Exhaust fans	The exhaust fans serving conditioned spaces or habitable room in climate 4 - 8, must be fitted with a sealing device, such as a self-closing damper of the like.	CRA – Refer Annexure C	
J3.6:	Construction of ceilings, walls and floors	The roof, walls, floors and any other openings, such as window or doors, are to be constructed to minimise air leakage by being enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or are sealed by expanding architraves, skirting, cornices; or expanding foam, rubber compressible strip, caulking or the like.	CRA – Refer Annexure C	
J3.7:	Evaporative Coolers	The evaporative cooler must be fitted with a self-closing damper or like when serving heated space OR in climate zones 4 - 8.	CRA – Refer Annexure C	
PART J4	ŀ			
J4.0:		This part has deliberately been left blank in the BCA2019	N/A	
PART J	5 – AIR CONDITIONING ANI	D VENTILATION SYSTEMS		
J5.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
J5.1:	Application of Part	Informational	Noted	
J5.2:	Air-conditioning systems	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
J5.3:	Mechanical ventilation system control	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
J5.4:	Fan systems	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
J5.5:	Ductwork Insulation	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
J5.6:	Ductwork Sealing	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
J5.7:	Pump Systems	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
J5.8:	Pipework Insulation	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	

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J5.9:	Space Heating	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
J5.10:	Refrigerant Chillers	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
J5.11:	Unitary Air-Conditioning Equipment	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
J5.12:	Heat Rejection Equipment	Compliance required, design certification to be provided by Mechanical Engineer.	CRA – Refer Annexure C	
PART J	6 - ARTIFICIAL LIGHTING A	AND POWER		
J6.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
J6.1:	Application of Part	Informational	Noted	
J6.2:	Artificial lighting	Artificial lighting must comply with BCA Clause J6.2. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C	
J6.3:	Interior artificial lighting and power control	Lighting switches and control devices must comply with BCA Clause J6.3. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C	
J6.4:	Interior decorative and display lighting	Lighting falling under this clause is to be separately switched from other lighting, be under a manual switch and controlled with a time switch. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C	
J6.5:	Exterior artificial lighting	Exterior lighting attached to or directed at the façade of the building must be controlled by daylight sensors or time switches in accordance with the specific requirements of this clause. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C	
J6.6:	Boiling water and chilled water storage units	The power supply to a fixed boiling water or chilled water storage unit must be controlled by a time switch in accordance with BCA Specification J6. Design certification to be provided by the electrical designer.	CRA – Refer Annexure C	
J6.7:	Lifts	Lifts must be configured to ensure artificial lighting and ventilation in the car are turned off when it is unused for 15 minutes; it also must achieve energy control requirements that comply to Clause J6.7 (b) and (c).	CRA – Refer Annexure C	
J6.8:	Escalators and moving walkways	Escalators and moving walkways must have the ability to slow to between 0.2 m/s and 0.05 m/s when unused for more than 15 minutes.	CRA – Refer Annexure C	
PART J7 – HEATED WATER SUPPLY				
J7.0:	Deemed-to-Satisfy Provisions	Informational	Noted	
J7.2:	Heated water supply system	The hot water supply systems must be designed and installed in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.	CRA – Refer Annexure C	
J7.3:	Swimming pool heating and pumping	a) Heating for a swimming pool must be by—	CRA – Refer Annexure C	

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		<ul> <li>(i) a solar heater not boosted by electric resistance heating; or</li> </ul>	
		(ii) a heater using reclaimed energy; or	
		(iii) a gas heater; or	
		(iv) a heat pump; or	
		(v) a combination of (i) to (iv).	
		<ul> <li>b) Where some or all of the heating required by (a) is by a gas heater or a heat pump, the swimming pool must have—</li> </ul>	
		<ul><li>(i) a cover with a minimum R-value of 0.50; and</li><li>(ii) a time switch to control the operation of the heater.</li></ul>	
		c) A time switch must be provided to control the operation of a circulation pump for a a swimming pool.	
		<ul> <li>d) Where required, a time switch must be capable of switching electric power on and off at variable pre- programmed times and on variable pre-programmed days.</li> </ul>	
		<ul> <li>Pipe work carrying heated or chilled water for a swimming pool must comply with the insulation requirements of J5.8.</li> </ul>	
		<li>For the purpose of J7.3, a swimming pool does not include a spa pool.</li>	
		<ul> <li>a) Heating for a spa pool that shares a water recirculation system with a swimming pool must be by—</li> </ul>	
		(i) a solar heater; or	
		(ii) a heater using reclaimed energy; or	
		(iii) a geothermal heater; or	
		(iv) a gas heater; or	
		(A) if rated to consume 500 MJ/hour or less, achieves a minimum gross thermal efficiency of 86%; or	
		(B) if rated to consume more than 500 MJ/hour, achieves a minimum gross thermal efficiency of 90%; or	
		(v) a heat pump; or	
		(vi) a combination of (i) to (v).	
J7.4:	Spa pool heating and pumping	<ul> <li>b) Where some or all of the heating required by (a) is by a gas heater or a heat pump, the spa pool must have—</li> </ul>	CRA – Refer Annexure C
		(i) a cover with a minimum R-value of 0.50; and	
		<ul><li>(ii) a push button and a time switch to control the operation of the heater.</li></ul>	
		c) A time switch must be provided to control the operation of a circulation pump for a spa pool having a capacity of 680 L or more.	
		d) Where required, a time switch must be capable of switching electric power on and off at variable pre- programmed times and on variable pre-programmed days.	
		<ul> <li>Pipework carrying heated or chilled water for a spa pool must comply with the insulation requirements of J5.8.</li> </ul>	

SECTION J: ENERGY EFFICIENCY (Class 9)			
PART J	8 – FACILITIES FOR ENER	GY MONITORING	
J8.0:	Deemed-to-Satisfy Provisions	Informational	Noted
J8.1	Application of Part	Informational	Noted
J8.3	Facilities for energy monitoring	<ul> <li>A building or <i>sole-occupancy unit</i> with a floor area of more than 500m<sup>2</sup> must have an energy meter configured to record the time-of-use consumption of gas and electricity.</li> <li>A building with a floor area of more than 2,500m<sup>2</sup> must have the energy meters configured to enable individual time-of-use energy consumption data recording, in accordance with (c), of the energy consumption of -:         <ul> <li>air-conditioning plant including, where appropriate, heating plant, cooling plant and air handling fans; and</li> <li>artificial lighting; and</li> <li>central hot water supply; and</li> <li>internal transport devices including lifts, escalators and moving walkways where there is more than one serving the building; and</li> <li>other ancillary plant.</li> </ul> </li> <li>Energy meters required by (b) must be interlinked by a communication system that collates the time-of-use energy consumption data to a single interface monitoring system where it can be stored, analysed and reviewed.</li> <li>The provisions of (b) do not apply to a Class 2 building with a floor area of more than 2500 m<sup>2</sup> where the total area of the common areas is less than 500 m<sup>2</sup>.</li> </ul>	CRA – Refer Annexure C

## **ANNEXURE C - BCA COMPLIANCE SPECIFICATION**

The following BCA matters are to be addressed by specific BCA Design Certificate to be issued by the relevant architectural, services and engineering consultants at the Construction Certificate Stage. This schedule should be forwarded to all consultants to obtain verification that these items have and will be included in the design documentation / specifications:

#### **Architectural Design Certification:**

- 1. The FRL's of building elements for the proposed works have been designed in accordance with Table 5 of Specification C1.1 of BCA2019 for a building of Type C Construction.
- Materials, floor and wall linings/coverings, surface finishes and air-handling ductwork used in the works will comply with the fire hazard properties of Clause C1.10 and Specification C1.10 of BCA2019.
- Any ancillary elements fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible will comply with Clause C1.14 of BCA2019.
- 4. All attachments to the external façade of the building will be fixed in a way that does not affect the fire resistance of that element in accordance with Clause 2.4 of Specification C1.1 of BCA2019.
- 5. The number of exits provided to the building will be in accordance with Clause D1.2 of BCA2019.
- 6. Travel distances to exits will be in accordance with Clause D1.4 of BCA2019.
- 7. The alternative exits will be distributed uniformly around the storey and will not be less than 9m apart, and not more than 60 m, in accordance with Clause D1.5 of BCA2019.
- The dimensions of exits and paths of travel to exits will be provided in accordance with Clause D1.6 of BCA2019.
- 9. Discharge from exits will be in accordance with Clause D1.10 of BCA2019.
- 10. The construction of EDB's and telecommunications distribution boards will be in accordance with Clause D2.7 of BCA2019 with the enclosure bounded by non-combustible construction or fire protective covering and smoke seals provided around the perimeter of the non-combustible doors and any openings sealed with non-combustible mastic to prevent smoke spreading from the enclosure.
- 11. The fixed platform, walkway, stairway and ladder and any associated going and riser, landing handrail, balustrade, located within the plant-room will comply with AS1657-2013 or Part D2 of BCA2019.
- 12. The doorways and doors will be in accordance with Clause D2.19 and D2.20 of BCA2019.
- 13. The door latching mechanisms to the proposed required exit doors will be in accordance with Clause D2.21 of BCA2019.
- 14. Fire precautions whilst the building is under construction fire precautions will be in accordance with Clause E1.9 of BCA2019.
- 15. External above ground waterproofing membranes will comply with Clause F1.4 of BCA2019 and AS 4654 Parts 1 & 2.
- 16. The new roof covering will be in accordance with Clause F1.5 of BCA2019.
- 17. Any sarking proposed will be installed in accordance with Clause F1.6 of BCA2019.
- 18. Waterproofing of all wet areas to the building will be carried out in accordance with Clause F1.7 of BCA2019 and AS3740.
- 19. Damp proofing of the proposed structure will be carried out in accordance with Clause F1.9 and F1.10 of BCA2019.



- 20. All new glazing to be installed throughout the development will be in accordance with Clause F1.13 of BCA2019 and AS1288 / AS2047.
- 21. Sanitary facilities will be provided in the building in accordance with Clause F2.1, Table F2.1, Clause F2.3 and Table F2.3 of BCA2019.
- 22. The construction of the sanitary facilities will be in accordance with Clause F2.5 of BCA2019.
- 23. Ceiling heights to the new areas will be in accordance with Clause F3.1 of BCA2019.
- 24. Natural ventilation will be provided in accordance with Clause F4.5, F4.6 and F4.7 of BCA2019.
- 25. Water closets and urinals will be located in accordance with Clause F4.8 of BCA2019.
- 26. The sanitary compartments will be either be provided with mechanical exhaust ventilation or an airlock in accordance with Clause F4.9 of BCA2019.
- 27. The building is within a bushfire prone area therefore will be in accordance with Part G5 of BCA2019. (Note: See NSW G5.2 Variation below)
- Essential fire or other safety measures must be maintained and certified on an ongoing basis, in accordance with the provisions of the Environmental Planning and Assessment Regulation, 2000.
- 29. Building Fabric and Thermal Construction will be in accordance with Part J1 of BCA2019.
- 30. Glazing will be in accordance with Part J1 of BCA2019.
- 31. Building sealing will be in accordance with Part J3 of BCA2019.
- 32. Facilities for Energy Monitoring will be provided in accordance with Clause J8.3 of BCA2019.

#### **Electrical Services Design Certification:**

- 33. Emergency lighting will be installed throughout the development in accordance with Clause E4.2, E4.4 of BCA2019 and AS2293.1.
- 34. Exit signage will be installed in accordance with Clause E4.5, E4.7, and E4.8 of BCA2019 and AS2293.1.
- 35. Artificial lighting will be installed throughout the development in accordance Clause F4.4 of BCA2019 and AS/NZS 1680.0.
- 36. Lighting power and controls will be installed in accordance with Part J6 of BCA2019.

#### Hydraulic Services Design Certification:

- 37. Storm water drainage will be provided in accordance with Clause F1.1 of BCA2019 and ASNZS3500.3
- 38. Fire hydrant system will be installed in accordance with Clause E1.3 of BCA2019 and AS2419.1 as required.
- 39. Fire hose reels will be installed in accordance with Clause E1.4 of BCA2019 and AS2441.
- 40. Portable fire extinguishers will be installed in accordance with Clause E1.6 of BCA2019 and AS2444.
- 41. The heated water supply systems will be designed and installed to NCC Volume 3 Plumbing code and Clause J7.2 of BCA2019.

#### **Mechanical Services Design Certification:**

- 42. Where not naturally ventilated the building will be mechanically ventilated in accordance with Clause F4.5 of BCA2019 and AS1668.2.
- 43. Any commercial kitchen will be provided with a kitchen exhaust hood in accordance with Clause F4.12 of BCA2019, and AS/NZS 1668.1 and AS1668.2.

44. The air-conditioning and ventilations systems will be designed and installed in accordance with Part J5 of BCA2019.

## **Structural Engineers Design Certification:**

- 45. The material and forms of construction for the proposed works will be in accordance with Clause B1.2, B1.4 and B1.6 of BCA2019 as follows:
  - Dead and Live Loads AS1170.1
  - Wind Loads AS1170.2
  - Earthquake actions AS1170.4
  - Masonry AS3700
  - Concrete Construction AS3600
  - Steel Construction AS4100
  - Aluminium Construction AS/NZS1664.1 or 2
  - Timber Construction AS 1720.1
  - ABCB Standard for Construction of Buildings in Flood Hazard Areas.
- 46. The FRL's of the structural elements for the proposed works have been designed in accordance with Table 5 of Specification C1.1 of BCA2019 for a building of Type C Construction.

## **NSW Specification Design Certificate:**

- 47. Materials, floor and wall linings/coverings, surface finished and air-handling ductwork used in the works will comply with the fire hazard properties in accordance with Clause C1.10, NSW Clause C1.10, Specification C1.10 and NSW Specification C1.10 of BCA2019.
- 48. Landings and door thresholds throughout the development will be provided in accordance with Clause D2.14 and D2.15, and NSW Clause D2.15(d)&(e) of BCA2019. Landings to have either a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS4586 or a strip at the edge of the landing with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS4586 where the edge leads to a flight below.
- 49. The door latching mechanisms to the proposed required exit doors will be in accordance with Clause D2.21 and NSW Clause D2.21(c)&(d) of BCA2019.
- 50. The building is within a bushfire prone area therefore will be in accordance with Part G5, and NSW Part G5.1 & G5.2 of BCA2019.
- 51. Exit signage will be installed in accordance with Clause E4.5, NSW Clause E4.6, E4.7, and E4.8 of BCA2019 and AS2293.1.