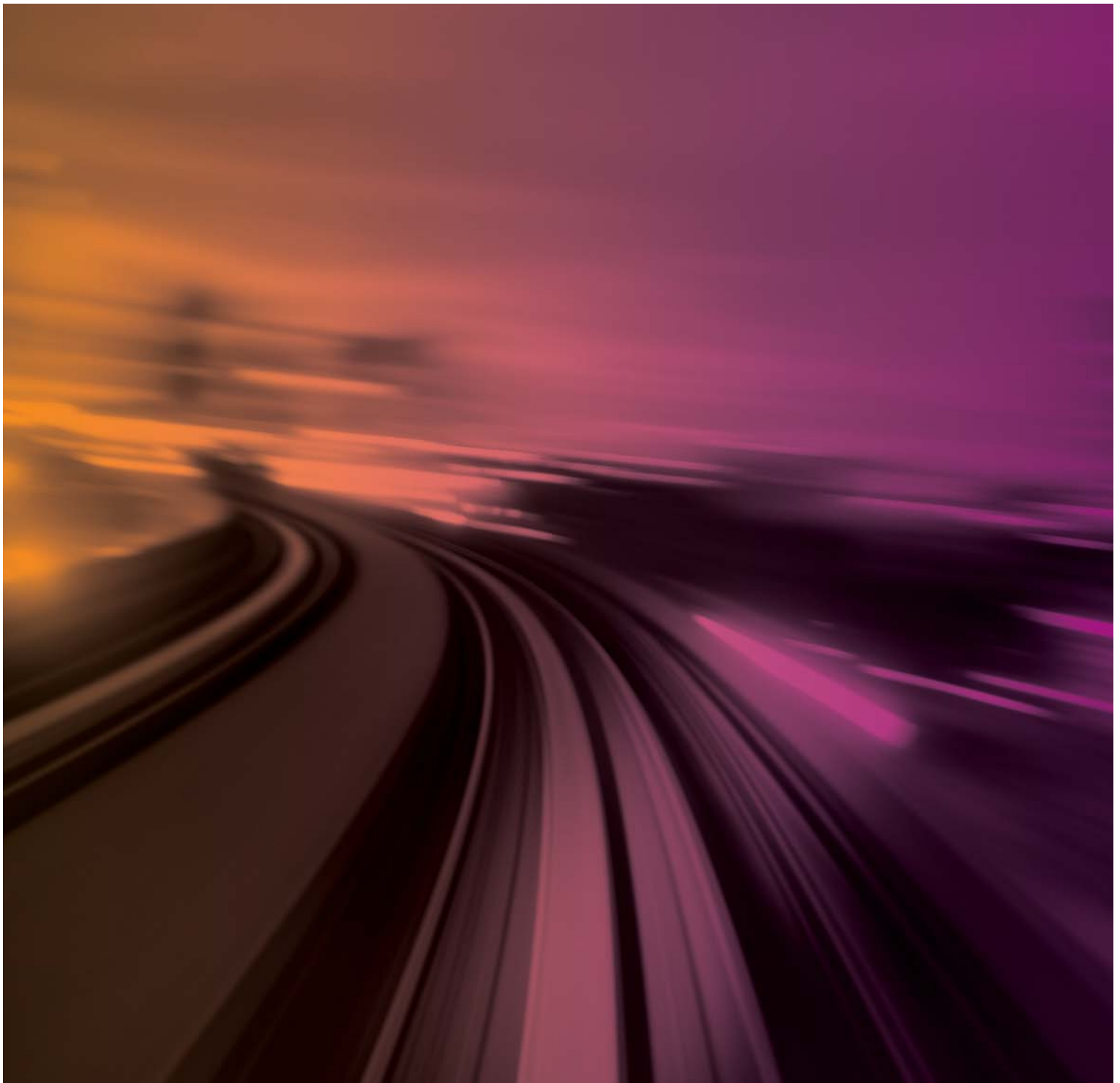


Building Code of Australia 2013

BCA Report for Sargood Centre – Sect 96 Lodgement



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BCA Report for Sargood Centre

Prepared for

Sargood Centre

Prepared by

Group DLA

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Quality Information

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Revision	Revision Date	Details	Authorised	
			Name/Position	
1	17-May-2011	CC Stage BCA Assessment	Charles Slack-Smith Technical Director	
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5	10/2/2014	BCA Assessment of Sect 96 plans	Charles Slack-smith - Director	

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1.0 Introduction

Property Description

The report is for the assessment of the Sargood Centre, to assess compliance with the Building Code of Australia 2013 ("BCA"). A summary of all relevant clauses of the BCA is attached under Appendix 1.

The report is prepared based on a review of the developed documentation and the information provided by the client and is intended for their use only.

Reporting Team

The information contained within this report was prepared by Charles Slack-Smith Accredited Certifier Grade A1 (BPB 0378) from Group DLA.

Current Legislation

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979.

As the Construction Certificate for this DA is anticipated to be lodged prior to the 1st May 2014, the BCA version that applies to this building is BCA 2013.

2.0 Building Description

The Project

The Building is a three storey building, with a basement carpark, training areas and accommodation for persons with a disability.

The Second building on the site is a single storey accommodation facility for persons with a disability consisting of Units 5 – 10.

Building Description

Building 1 Use (Main Building):	Training, Accommodation
Class of Occupancy:	Class 9b Assembly Building and Class 3
Type of Construction:	Type B Construction
Floor Area:	Less than 6,000m ² in Floor Area
Fire Compartment Size:	1,350m ² (Basement Carpark Separate Fire Compartment)
Rise in Storeys:	Three (3)
Levels Contained:	Three (3)
Effective Height:	Less than 12m (7.1m)
Climate Zone:	5

Building 2 Use (Stage 1 Building):	Accommodation
Class of Occupancy:	Class 3
Type of Construction:	Type C Construction
Floor Area:	440m ² Floor Area of Building
Rise in Storeys:	One (1)
Levels Contained:	One (1)
Effective Height:	Less than 12m
Climate Zone:	5

Determination of the effective height for the building has been assessed on the basis that the lowest level where access from the building is provided and the topmost occupied floor of the building. The effective height is determined as less than 12.0m.

3.0 BCA Requirements

The following assessment will provide an overview of compliance with the BCA and identify issues that require attention at this particular stage of the development (Note those items to be the subject of an alternative solution are listed separately).

BCA Clause C1.10 – Fire Hazard Properties

Fire hazard properties are to achieve compliance with this part of the BCA, and this includes the linings inside the units, the following parameters apply for this building:

Floor Linings

- CRF of not less than 1.2

Wall and Ceiling Linings

- Within the units – Group 1, 2 or 3 materials
- Within the Stage 1 Units – Group 1 or 2 materials
- Areas not inside Units – Group 1 or 2 materials
- Training Areas and Carpark level – Group 1, 2 or 3 materials

Lift Cars

- Floor linings – CRF of not less than 2.2
- Wall and Ceiling Linings – Group 1 or 2 material

Sarking Material

- Flammability Index of not more than 5

Insulation material in the Stage 1 Building

- Spread of Flame not more than 9 and Smoke Developed not more than 8

Insulation materials in Main Building External Walls

- To be Non-Combustible – as tested by AS 1530.1, please note that this is restrictive in regards to what products may be utilised and are to be checked prior to specifying or installing to ensure that the specific product can comply, normal insulation batts generally do not achieve this BCA defined “non-combustible” status (BCA clause 3.1b of Spec C1.1)

This assumes that the building is sprinkler protected throughout, if this is not the case

Please note: Internal Timber products generally are not able to achieve a Group 1 or 2 status, so timber linings to walls or ceilings may not be possible to any of the class 3 areas of the building.

This is detailed to comply at the CC stage without any change to the DA lodged plans

Clause C2.7 – Fire Separation of Carpark from Level 1

The Floor is expected to be concrete and has been advised as achieving an FRL of 120/120/120 FRL.

The Wall and Door surrounding the Stair leading to Level 1 is expected to provide the fire separation of the two spaces and wall to achieve a fire rating of 120/120/120 FRL (concrete or masonry if loadbearing), with an AS 1905.1 fire rated self-closing door to achieve FRL of -/120/30– Amend 5

Clause D1.10 – Discharge from Exits

Where the exits from the building discharge the pathways from the building to a public road are to achieve compliance, the minimum BCA requirement is for the following to be provided:

- Minimum width of 1,000mm for these pathways
- Not be any steeper than 1:8 (or 1:20 gradient if proposed to be used for Disabled Access / Egress)
- Stairs if provided to be BCA compliant

Note: Details of the pathway / stair access from the Terrace area on Level 1 near Grid Line 14, 13 or 12 is required for egress from this level of the building. – Amend 5

Clause D1.13 – Number of Persons

The population of the building is determined as the following:

- Residents – 21 persons
- Training Attendees / Visitors – 12 persons
- Staff for Building – 10 persons
- Function / Event – 60 persons

These numbers have been provided by the building owner based on their proposed use of the facility

D2 – Construction of Exits

BCA Clause D2.7 – Installations in paths of travel

All Electrical Distribution boards, electricity meters or central telecommunication distribution boards in the building are to be designed to achieve compliance with this part, which requires:

- Doors to be provided with smoke seals.
- Doors to be metal without openings or metal backed.
- Any openings in the wall, floor or ceiling of the enclosure to be smoke sealed.

D3 – Access for People with Disabilities

This part of the BCA is being assessed as part of the Disabled Access Consultants assessment

- Common Areas – Disabled Access is required to and within all of these common areas and parts of the building including the courtyard
- Carpark – based on the building being a class 3 for disabled and a training facility – 1 disabled space required (1 Disabled Space per 100 car spaces) as a minimum
- BCA Table D3.1 requires Disabled Units in the following ratios:
 - 1 - 10 Units - 1 Disabled Accessible Unit
 - 11 - 40 Units – 2 Disabled Accessible Units

Please note: this is the BCA minimum required for the building, the provision of extra disabled car spaces or extra disabled rooms is acceptable if required by the users is not within the scope of this assessment.

E1 – Fire Fighting Equipment

The Following Fire Fighting Equipment are required or advised as being provided to the building:

- Exit Signs – to BCA E4.5, E4.6 and AS 2293.1-2005
- Emergency Lighting – to BCA E4.2 and AS 2293.1-2005
- Fire Hydrant System – to BCA Clause E1.3 and AS 2419.1-2005
- Fire Hose Reel System – to BCA E1.4 and AS 2441-2005
- Portable Extinguishers (for Kitchen oils and fats) – to BCA E1.6 and AS 2444-2005
- Sound System and Intercom System for emergency purposes (EWIS system) – AS1670.4-2005 and BCA E4.9
- Smoke Detection and Alarm system – to Clause 4 of BCA Spec E2.2a and AS 1670.1-2004
- Fire Alarm Monitoring – to AS 1670.3-2004
- Carpark Mechanical Ventilation system – is to comply with Clause 5.5 of AS/NZS 1668.1-1998 except as amended by Table E2.2a of the BCA for the fan blades and cabling fire rating as listed in this table

Note: Issues at the present time to be addressed in the design at the CC stage include:

- Hydrant locations – these have not been shown on the plans to date and as such assessment is unable to be undertaken
- Fire Hose Reel locations – these have not been shown on the plans to date and as such assessment is unable to be undertaken
- *Hydrant Booster location – see Fire Engineering section for this item– Amend 5*

F2 – Toilet / Sanitary and Other Facilities

Based on the population numbers the following facilities will be required for the building

- Residents – Shower, Toilet and Washbasin in each room - complies
- Employees – 1 unisex disabled facility will provide for up to 20 staff members - complies
- Visitors / Training Persons – 1 unisex Disabled Facility will provide for up to 20 persons undertaking classes / training in this building - complies
- Function /Community Event Use – 1 unisex disabled facility will provide for up to 50 persons attending a function or event, 2 unisex toilets will provide for up to 100 persons attending an event - complies

Based on these uses and the populations provided for the building, the facilities provided on the plans will provide BCA compliance with these requirements.

These provided facilities in the building will cater for a training session occurring at the same time as a community information session / function, with a full staff load on at the same time - Three 3 unisex disabled facilities. - complies

Clause F4.8 – Restriction on Position of Toilets

The Disabled toilets on 2 near the Dining Area open directly into these spaces; options include providing a screen to adequately screen the doorway to the toilet from view, or by the provision of an airlock

Note: This airlock or screen will need to comply with the circulation space requirements of AS 1428.1-2009 – Not detailed on plans. – Amend 5

Part F4 - Light and Ventilation

Training Areas

Ventilation to be provided by natural or mechanical, if mechanical to comply with AS 1668.2-1991 and also is to shut down on fire trip anywhere in the building.

Accommodation Units

Ensure windows / glazing to the units are provided in accordance with these requirements

- Glazing – ensure glazed area is a minimum of 10% of the Floor area of the habitable rooms
- Ventilation of Units – ensure that the openable area is a minimum of 5% of the Floor area of the room

Based on the floor plans compliance with these provisions is assumed to be able to be achieved, but will need to be confirmed by the Architect at the CC Stage of the works.

Carpark Area

As the basement carpark is not able to meet the BCA requirement for Open Deck due to the openings location, the carpark is to be ventilated to comply with AS 1668.2-1991 or 2012 and also Clause 5.5 of AS/NZS 1668.1-1998 except as amended by Table E2.2a of the BCA for the fan blades and cabling fire rating as listed in this table.

Kitchen Area

A detail of the size of the Kitchen equipment has not been provided to date, **if** the cooking apparatus has:

- a total maximum electrical power input exceeding 8kW or
- a total gas power input exceeding 29MJ/h
- or if more than one apparatus a total maximum power input of 0.5kW electrical power per m2 of the room or
- or if more than one apparatus a total maximum power input of 1.8MJ gas per m2 of the room

Then a kitchen hood/s is to be provided to comply with AS/NZS 1668.1-1998 and AS 1668.2-1991, and ensure that the sprinkler consultant is aware for positioning of sprinkler heads etc

Part F5 - Sound Transmission and Installation

The following acoustic measures are required to be provided for in the design of the Class 3 part of the building

- Walls - $R_w + C_{tr}$ (airborne) of not less than 50 required for the wall between units
- Walls - R_w (airborne) of not less than 50 for the wall between the Unit and a common area or to the training area
- Discontinuous Construction (BCA F5.3) for walls where there is a kitchen backing onto a living area – example is in Unit 11/12 separating wall (20mm cavity between leaves and resilient type wall ties)
- Floors – The floor between the units and the Store room on level 1 are to achieve an $R_w + C_{tr}$ (airborne) not less than 50 and a $L_{n,w} + C_i$ (impact) of not more than 62.
- Ducts, Pipes or Stormwater lines – if these are proposed to run through the units then $R_w + C_{tr}$ of not less than 40 is required for these shafts / enclosures of the pipes/services.
- Door between Units – to achieve a $R_w + C_{tr}$ of not less than 50

Note: if the wall doesn't continue up to the underside of the roof above then the ceiling to these units must achieve the same sound rating as the wall.

Note2 : for the walls with doors proposed between units for separation, these will require confirmation of compliance of the acoustic levels required for the wall, and if not able to be achieved then an Alternative Solution from an Acoustic Consultant will be required to demonstrate compliance with Performance Clause FP5.3 of the BCA.

Section J - Energy Efficiency

As BASIX does not apply to buildings of this type, the building is to comply with this part of the BCA.

Building Fabric

- External Walls – R value of 2.8 (or reduced if use of concrete / masonry etc as listed in BCA Part J1)
- Ceiling / Roof Insulation – R Value of 3.2 (note where the installation of exhaust flues, Mech ducts, down lights etc exceeds 0.5% of the floor area then the R value will need to be increased to compensate, please provide details of any ceiling/roof insulation breaks if they exceed this 0.5%)
- Roof Lights – no roof lights have been shown on the plans, as such no issue
- Residential Floor Slab – Floor slab that are slab on ground and not have in slab heating, as such no requirement for insulation
- *Residential Floor Slab over the Store room/Carpark / other space– a R value of R1.0 for the insulation to the floor / underside of the floor slab over the carpark – Amend 5*
- *Floor Slab over Carpark – this slab is required to achieve a R value of 2 (or 1.0 R value if the car park is mechanically ventilated with not more than 1.5 air changes per hour – Mech Consultant to confirm) – Amend 5*
- Glazing – provide completed glazing calculator to confirm that the glazing being specified achieves compliance.
- Exhaust Fans – must be detailed as being provided with sealing device such as a self closing damper when not in use
- Door Seals – to be installed to all doors and 4 sided protection is required as detailed in clause J3.4 of the BCA for type of seals
- Air Conditioning and Ventilation systems – mechanical consultant to confirm compliance with this part of the BCA – Note: re doors to units as long as there is a self closing arm or the like to the doors to shut these within 1min of opening then the need for the reed switch to shut down the air conditioning is not required, but if there isn't a self closing mechanism then the reed switch will be required to the sliding doors.
- Lighting (Internal and External) – Electrical lighting design is to confirm that compliance with this part of the BCA is achieved
- Billy Units / Water Chillers units – are to be provided with time switches in accordance with BCA Spec J6
- *Energy Monitoring Facilities – ensure that the provisions of Clause J8.3 are included in the design – Amend 5*

Note: All insulation is to comply and be installed to comply with BCA Part J, AS 4859.1 and also the fire hazard properties of BCA C1.10

4.0 Alternative Solutions Proposed

BCA Clause D1.5 – Distance between Alternative Exits

As a result of the roofed awning to the pathways of the accommodation section of the building being provided, the travel distances for occupants of the main building are not deemed to reach an exit until they are in open space at the property boundary.

- Non-Residential Areas Level 2 - results in a travel distance between exits on level 2 being up to 80m between exits (in excess of 60m for Class 9b use) – *Amend 5*
- Accommodation Areas Level 2 - Distances between exits is 80m (more than 45m required by DTS) – Units 1,2,3,4, and Unit 10, 11, 12, 13, 14, 15, 16. – *Amend 5*

Please note: that the distance between exits when measured to the door that leads from the main building to the courtyard area is less than 40m, it is the fact that the occupants have to pass under the covered awnings surrounding the courtyard that creates this non-compliance to the boundary at the eastern courtyard gate to Beach Road.

BCA Clause E1.3 - Hydrant

The current location of the Hydrant Booster is within 10m of the building; as such this is a non-compliance with this part of the BCA as non-compliant with AS 2419.1-2005.

It is advised that these issues are to be the subject of a fire safety engineer's alternative solution to justify this location within 10m of the building.

Part F5 (Acoustic) and C3.11 (Fire) – Acoustic Sound Transmission and 35mm thick Self-closing Door

For the walls with doors proposed in Unit 5 for separating uses, these will require confirmation of compliance of the acoustic levels required for the wall, and if not able to be achieved then an Alternative Solution from an Acoustic Consultant will be required to demonstrate compliance with Performance Clause FP5.3 of the BCA.

If the proposed door is not able to be a 35mm thick solid core door then, the fire safety engineer will have to include this as part of the fire safety engineering.

Details to demonstrate compliance are to be provided to ensure that the compliance of these elements are able to be determined at the CC stage.

5.0 Essential Fire & Other Safety Measures

Below is a list of essential fire safety services that are proposed to be installed within the building.

Fire Safety Measure	Standard	BCA Clause(s)	Proposed Fire Safety Measures
Automatic fail safe devices	-	D2.19, D2.21	☒
Automatic fire detection & alarm systems	AS 1670.1 – 2004	Spec E2.2a	☒
Automatic fire suppression systems	AS 2118.1 – 1999	Spec E1.5	☐
Emergency lighting	AS 2293.1 – 2005	E4.2, E4.4	☒
Exit signs	AS 2293.1 – 2005	E4.5, NSW E4.6 & E4.8	☒
Fire alarm monitoring system	AS 1670.3 – 2004	Spec E2.2	☒
Fire dampers	AS 1668.1 – 1998	Spec E2.2a	☒
Fire doors	AS 1905.1 – 2005	C3.11	☒
Fire hose reel systems	AS 2441 – 2005	E1.4	☒
Fire hydrant systems	AS 2419.1 – 2005	E1.3	☒
Fire seals (protecting openings in fire resisting components of the building)	AS 4072.1 – 2005 AS 1530.4 – 2005	C3.12, C3.13, C3.15	☒
Lightweight construction (fire rated plasterboard or the like)	-	C1.8, Spec C1.8	☒
Mechanical air handling systems - Auto shutdown - Carpark exhaust	AS/NZS 1668.1 – 1998 AS 1668.2 – 1991	E2.2, Spec E2.2a	☒
Portable fire extinguishers	AS 2444 – 2001	E1.6	☒
Solid core doors	-	C3.11	☒
Sound systems and intercom systems for emergency procedures	AS 1670.4 – 2004	E4.9	☒
Warning and operational signs	-	E3.3, D2.23	☒
Other Measures:			
Paths of Travel	-	D1.6	☒
Alternative Solution, Report No. _____, issued by Holmes Fire and Safety, dated _____	-	(List Performance Clauses)	☒

6.0 Conclusions

Generally the building achieves an adequate level of BCA compliance for this stage of the design, there are a few elements that need working through for BCA compliance relating to acoustic and fire separation but these will not have a material effect on the design such that a Sect 96 would not be required should design changes be required.

Also there are certain elements that have been advised as being the subject of fire safety engineering; these have been listed separately in the report for the fire engineer's information, and will be included at the CC stage of the development, there is no requirement under Section 79C of the EPA Act for this to be provided at the DA or Section 96 stage of the process

Disabled Access is being undertaken by a separate consultant and as such has not been included in this report, except for high level issues relating to number of units and disabled car spaces as they relate to the BCA.

Appendix A

BCA Provisions

Appendix A BCA Provisions

The following is a clause-by-clause assessment of the architectural drawings against the deemed-to-satisfy provisions of the BCA 2011.

Notes:

- ✓ The building complies with this clause.
- X The building does not comply with this clause.
- ? Further documentation required.
- CR** Design statement (or other means) required from appropriate persons that the building will comply with this clause at the CC application documentation & certified at OC stage on completion of the works.
- N/A** This clause is not applicable to this project.
- AS** Alternative Solution using Performance Requirements has been advised as being assessed at the CC stage for this item.
- Noted** This clause is for information.

Section A: General Provisions

Icon	Clause	Reference	Comment
	A2	PART A3 – CLASSIFICATION OF BUILDINGS AND STRUCTURES	
	A3.2	<i>Classifications</i>	
Noted		The classification of a building is determined by the purpose for which it is designed, constructed or adapted.	Class 3 and 9b and 7a
	A3.3	<i>Multiple classification</i>	
Noted		Each part must be classified separately: (a) Classified to the major use if not more than 10% of the floor area of the storey. (b) Plant rooms are classified as the same part.	
	A4	PART A4 – UNITED BUILDINGS	
	A4.1	<i>When buildings are united</i>	
N/A		Two or more buildings adjoining each other form one united building if they are connected through openings in the walls dividing them and both buildings comply with the requirements of the BCA as though they are a single building.	

Section B: Structural Provisions

Icon	Clause	Reference	Comment
	B1.1	<i>Resistance to actions & Loads</i>	
	B1.2	<i>Determination of individual actions</i>	
CR		The building or structure must resist loads determined in accordance with the following: (a) Dead and live load combinations: AS 1170.1 (b) Wind loads AS 1170.2 (c) Snow loads AS 1170.3 (d) Earthquake loads AS 1170.4	
	B1.3	<i>Materials and forms of construction</i>	
CR		The building or structure must resist loads determined in accordance with the following: (a) Dead and live load combinations: AS 1170.1 (b) Wind loads AS 1170.2 (c) Snow loads AS 1170.3 (d) Earthquake loads AS 1170.4	
	B1.4	<i>Materials and forms of construction</i>	
CR		New materials and forms of construction are to be designed to the following Australian Standards as applicable: (a) AS 3700 (b) AS 3600 (c) AS 4100 (d) AS 1288-2006 and AS 2047 (e) Clause 6.6 of AS 1428.1-2009 - Decals (f) AS 1562.1 (g) AS 1720.1 (h) AS 3660.1	

Section C: Fire Provisions

Part C1 – Fire Resistance and Stability

Icon	Clause	Reference	Comment
	<i>C1.1</i>	<i>Type of construction</i>	
CR		Type of Construction required is determined by the Table C1.1 Type B – RIS of 2 for the Building (at any point on external wall is 2 or less)	Design Certificate required from Structural Engineer to confirm compliance of design Type B – main building Type C – Brissenden Ave Building
	<i>C.1.2</i>	<i>Calculation of rise in storeys</i>	
Noted		The rise in storeys is the greatest number of storeys at any part of the external walls of the building above the finished ground next to that part.	Two (2)
	<i>C1.3</i>	<i>Building of multiple classification</i>	
Noted		The Type of construction required is determined on the basis that the classification of the top storey applies to all storeys.	
	<i>C1.4</i>	<i>Mixed types of construction</i>	
Noted		Building may be of mixed Types of Construction where it is separated in accordance with C2.7	
	<i>C1.5</i>	<i>Two storey Class 2 or 9c buildings</i>	
N/A		Class 2 or 3 of two storeys may be Type C construction if each SOU has: - Access to at least 2 exits; or - Its own direct access to a road or open space.	
	<i>C1.6</i>	<i>Class 4 parts of a building</i>	
N/A		Class 4 part of a building requires same FRL as that required by a Class 2 in similar circumstances.	
	<i>C1.7</i>	<i>Open spectator stands and indoor sports stadium</i>	
N/A		May be of Type C construction if it contains only 1 tier and is of non-combustible material.	
	<i>C1.8</i>	<i>Lightweight construction</i>	
Noted		Lightweight construction may be used if it is in compliance with Specification C1.8.	
	<i>C1.10</i>	<i>Fire hazard properties</i>	
CR		Materials and assemblies used in the building must comply with the requirements of Specification C1.10.	

	<i>C1.11</i>	<i>Performance of external wall in fire</i>	
N/A		In buildings of up to two storeys, any concrete external walls that could collapse as complete panels to comply with specification C1.11.	
	<i>C1.12</i>	<i>Non-combustible materials</i>	
Noted		The following materials may be used where non-combustible materials are required: 1. Plasterboard. 2. Perforated gypsum. 3. Fibrous-plaster sheeting to AS 2185. 4. Fibre-reinforced cement sheeting. 5. Pre-finished metal sheeting. 6. Bonded laminated materials.	

Part C2 – Compartmentation and Separation

Icon	Clause	Reference	Comment
	<i>C2.2</i>	<i>General floor area limitations</i>	
✓		Table C2.2 limits the size of fire compartments to:- - Class 5 or 9b (non-residential parts) Type B, 5,500m² - Class 7a (carpark) Type A, 3,500 m² See Section 3,4 or 5 of Specification C1.1 for specific fire rating requirements (a brief table of FRL's is included in the appendix for information – detailed requirements in abovementioned section of the BCA)	
N/A	<i>C2.3</i>	<i>Large isolated buildings</i>	

N/A	C2.5	<i>Class 9a & 9c buildings</i>	
N/A		Class 9a & 9c Fire Compartmentation and separation requirements: 9a • Patient care areas not greater than 2000 m2 • Ward areas divided into 1000 m2 60/60/60 compartments, 500 m2 smoke walls • Treatment areas 1000 m2 smoke compartments • Ancillary areas separated from Patient Care areas by 60/60/60 walls • Openings in wall required to have an FRL to be protected 9c • 500 m2 smoke compartments • Fire compartments with 60/60/60 (see also C2.7 & Spec C1.1) • Internal walls supporting floors to have 60/-/- • Ancillary areas separated from sole-occupancy units by smoke proof walls • Openings in wall required to have an FRL to be protected	<i>Building advised as not being a Class 9a or 9c building</i> <i>As the facility is not for the use as a Nursing home or similar facility for disabled persons that need full time care.</i> <i>Nor is it proposed to be used as an Aged Care Facility</i>
	C2.6	<i>Vertical separation of openings in external walls</i>	
✓		Only applicable to a building of Type A Construction, that is not sprinkler-protected. – no requirement is applicable for spandrel separation of a Sprinkler protected building. If not Sprinkler protected either 900mm vertical spandrel required, or 1m horizontal projecting spandrel – specific details in this clause of the BCA	Building is not Type A construction
	C2.7	<i>Separation by fire walls</i>	
CR		A part of a building separated by firewall construction may be considered a separate building for the purposes of Parts C, D and E. (Must continue directly from on ground floor slab straight up through the building to top)	Details of the fire separation of the Stair leading from carpark to level 1 fire separation at the basement level is required to achieve 120/120/120 FRL
	C2.8	<i>Separation of classifications in the same storey</i>	
CR		Firewalls are needed to separate different classifications, or the building must be built to the higher fire resistance level.	
	C2.9	<i>Separation of classifications in different storeys</i>	
Noted		The separating floors must have an FRL not less than that required for the lower storey use.	
	C2.10	<i>Separation of lift shafts</i>	
CR		The lift is to be enclosed in a fire-isolated shaft of 120/120/120 FRL and be masonry or concrete if it connects more than two storeys or three storeys if provided with a sprinkler system.	

	<i>C2.11</i>	<i>Stairs and lift in one shaft</i>	
N/A		Not to be within the same shaft if either is required to be fire isolated.	
	<i>C2.12</i>	<i>Separation of equipment</i>	
Noted		Equipment comprising lift motors and control plant, emergency generators or central smoke control plant; boilers or batteries are required to be separated from the remainder of the building by construction achieving a FRL of 120/120/120.	
	<i>C2.13</i>	<i>Electricity supply system</i>	
CR		A substation located within a building or main switchboard, which sustains emergency equipment, must be separated from the remainder of the building by construction achieving a FRL of not less than 120/120/120.	
	<i>C2.14</i>	<i>Public corridors in Class 2 & 3 buildings</i>	
✓		In a Class 3 building, a public corridor, if more than 40m in length, must be divided at intervals of not more than 40m with smoke-proof walls complying with Clause 2 of Spec C2.5.	No enclosed corridor / passageway exceeds 40m

Part C3 – Protection of Openings

Icon	Clause	Reference	Comment
	C3.2	<i>Protection of opening in external walls</i>	
?		Openings in the external walls are to be protected in accordance with C3.4 if:- - less than 3m to side or rear boundary - less than 6m from the far boundary of a road if not located at or near ground level - less than 6m from another building on the same allotment.	The Windows to Unit 14 appear to be within 3m of the side boundary
	C3.3	<i>Separation of external walls and associated openings in different fire compartment</i>	
✓		External walls of a different fire compartment to be separated by a fire wall of not less than FRL 60/60/60 or any openings must be protected in accordance with Clause C3.4 if within the distance set out in Table C3.3.	
	C3.4	<i>Acceptable methods of protection</i>	
Noted		Where exposed to be protected by external or internal drenchers (side of protection specified by relevant clause that calls up protection), fire doors, windows or shutters.	
	C3.5	<i>Doorways in fire walls</i>	
N/A		Doorways in a fire wall which are not part of a horizontal exit, must not exceed ½ the length of the fire wall, and: • have the FRL required for the fire wall, and • be self-closing or automatic-closing.	
	C3.6	<i>Sliding fire doors</i>	
N/A		If utilised must fail safe in the closed position, be suitably signposted with an audible alarm, signage and directional arrow to indicate direction to slide door to open when in the closed position.	
	C3.7	<i>Doorways in horizontal exits</i>	
N/A		To be suitably protected by fire doors with FRL of not less than that required for the fire wall, and be self-closing or automatic-closing. And must swing in the direction of travel (this may be both ways if so either two doors or a multi directional swing fire door is required).	
	C3.8	<i>Openings in fire isolated exits</i>	
N/A		To be automatic magnamatic or self-closing -/60/30 fire doors by activation of detector within 1.5m from the approach side of the doorway.	
	C3.9	<i>Service penetrations in fire isolated exits</i>	
N/A		Fire exits must not be penetrated by services other than electrical wiring associated with lighting, stair pressurisation or the intercommunication system & hydrant system.	

Icon	Clause	Reference	Comment
	C3.10	<i>Openings in fire rated lift shafts</i>	
CR		- Doors to be - /60/ - fire doors to AS1735.11. - Lift indicator panels to be backed by - /60/60 construction if exceeding 35,000mm² in area.	
	C3.11	<i>Bounding Construction; Class 2, 3 & 4 buildings</i>	
CR/AS		Doorway to each SOU to be protected; - -/60/30 in Type A construction - Self-closing, tight fitting, solid core door, not less than 35mm thick in Type B or C construction Protection of openings in external wall required along the path of travel where only a single exit	Alt Sol – for door between Unit 5 for when separated by sliding door
	C3.12	<i>Openings in floors for services</i>	
CR		To be enclosed in a fire rated shaft with a FRL in accordance with Specification C1.1 or protected by Clause C3.15 of BCA	
	C3.13	<i>Openings in shafts</i>	
CR		Openings in ventilating, pipe, garbage or other service shaft to be protected by:- -/60/30 fire doors / hoppers / access panel.	
	C3.15	<i>Openings for service installations</i>	
CR		Electrical, plumbing mechanical ventilation shafts etc not to impair the FRL of rated members.	
	C3.16	<i>Construction joints</i>	
CR		Where constriction joints are required to be fire resisting for integrity and insulation they must be constructed identical to test prototype	
	C3.17	<i>Columns protected with lightweight construction to achieve an FRL</i>	
Noted		Where required and passing through and building element required to have an FRL must be installed same as tested prototype	

Specification C1.1 – Fire Resisting Construction

Icon	Clause	Reference	Comment
	3	<i>Type B fire resisting construction</i>	
CR	3.1	The building is to be designed to comply with Table 4 and the Requirements for Type A construction	Main Building to achieve compliance with all parts of Spec C1.1 of the BCA for Type B
	5	<i>Type C fire resisting construction</i>	
CR	5.1	The building is to be designed to comply with Table 5.	Brissenden Rd Units to achieve compliance with all parts of Spec C1.1 of the BCA for Type C

Specification C1.10 – Early Fire Hazard Indices

Icon	Clause	Reference	Comment
CR		Linings, materials and assemblies in Class 2-9 buildings must comply with the appropriate provisions	
		<i>Air-handling ductwork</i>	
CR		In a Class 2 to 9 building must comply with the fire hazard properties set out in AS 4254	
		<i>Lift cars</i>	
		In a lift car, the floor materials and floor coverings must have a Critical radiant heat flux not less than 2.2 and wall and ceiling linings must be a Group 1 or Group 2 material in accordance with Clause 3(b).	
		<i>Other materials</i>	
CR		Materials not set out in Clauses 3, 4, 5 or 6 must not exceed the indices set out in Table 4 .	

Section D: Access and Egress

Part D1 – Provision for Escape

Icon	Clause	Reference	Comment
	D1.2	<i>Number of exits required</i>	
✓		The number of exits is to be designed to satisfy performance standard DP4 of the BCA. A minimum of one exit is required from all buildings, and Two (2) exits for each storey are required for buildings over 25m, basement storeys or for class 9b of 6 storey or greater, buildings that exceed 50 persons, school buildings, class 9a patient care areas or class 9c sleeping areas, etc.	
	D1.3	<i>When fire isolated exits are required</i>	
N/A		Every stair in a building must be fire isolated unless it does not connect or pass through more than 3 consecutive floors in a sprinkler protected building or 2 storeys in a non-sprinkler protected building. Class 9a & 9c buildings require stairs to be fire isolated. Those stairs not requiring fire isolating must discharge at a level of road or open space	
	D1.4	<i>Exit travel distances</i>	
✓		No point on the floor must be more than 20m to an exit or a point in which travel in different directions to 2 exits is available, in which case, the maximum distance to 1 exit cannot exceed 40m.	
✓		Class 7 Car Park - No point on the floor must be more than 20m to an exit or a point in which travel in different directions to 2 exits is available, in which case, the maximum distance to 1 exit cannot exceed 40m. Class 2 and 3 buildings - (i) The entrance doorway of any sole occupancy unit must be not more than: (A) 6m from an exit or from a point from which travel in different directions to 2 exits is available; or (B) 20m from a single exit serving the storey at the level of egress to a road or open space; and (ii) No point on the floor of a room which is not in a sole occupancy unit must be more than 20m from an exit or from a point at which travel in different directions to 2 exits is available.	

	<i>D1.5</i>	<i>Distance between alternative exits</i>	
AS		To be no less than 9m or more than 45m in a Class 2, 3, and 9a, or 60m in all other classes, uniformly distributed with access to 2 exits if required and not converge so they become less than 6m apart.	Due to covered roof to walkways of accommodation area Main Building – distance between exits for the main building are 80m (more than 60m) Accommodation Area - distances between exits is 80m (more than 45m)
	<i>D1.6</i>	<i>Dimensions of exits and paths of travel</i>	
Noted		(a) height – minimum 2m: doorways 1980mm (b) width 1m minimum (c);(d) Width change based upon populations – generally for populations up to 100 persons require 1m of egress, up to 200 2m and then varies according to use over 200 person per floor / storey. (f) door width minimum 800mm [AS 1428] (g) not to diminish in direction of travel. Note: see also re number of exits for certain uses Clause D1.2 as may require additional exits no matter the population of the storey.	
	<i>D1.7</i>	<i>Travel by fire isolated stairs</i>	
N/A		Must provide independent egress and discharge to road or open space or complying covered area.	
	<i>D1.8</i>	<i>External stairs or ramps in lieu of fire isolated exits</i>	
N/A		External stairs or ramps may be used in lieu of a fire-isolated stair or ramp to a building under 25m in effective height.	
	<i>D1.9</i>	<i>Travel by non-fire isolated stairs</i>	
✓		Travel by Non-Fire Isolated Stairs:- (c) The distance from any point on the floor to a point of egress not to exceed 80m. (e) The stairway not to discharge at a point more than: (i) 20m to an exit (ii) 40m to one of 2 exits.	
	<i>D1.10</i>	<i>Discharge from exits</i>	
CR		An exit must not be blocked nor be capable of being blocked at its point of discharge. Ramp to a grade of 1:8 is required to connect with open space. Must lead from the Exit directly to road – if a rise is encountered then ramp or stairs required	<i>Details of the pedestrian access to Beach Rd from the level 1 external terrace/open area is required, as this is required for egress compliance for this level of the building– Amend 5</i> <i>This is understood to be included and on the landscaping plans</i>

	<i>D1.11</i>	<i>Horizontal exits</i>	
N/A		May be counted as required exits if the path of travel from a fire compartment leads by one or more horizontal exits directly into another fire compartments which has at least one required exit which is not a horizontal exit. Cannot be utilised in some classes or areas of buildings details to be assessed to ensure compliance with specific clause.	
	<i>D1.12</i>	<i>Non required stairs</i>	
N/A		May connect 2 levels in a non-sprinkler protected building. Within a sprinkler protected building may serve 3 storeys.	
	<i>D1.13</i>	<i>Number of persons accommodated</i>	
✓		To be in accordance with Table D1.13 of the BCA or as nominated by client (refer also liquor licensing if applicable).	
	<i>D1.16</i>	<i>Plant rooms and lift motor rooms: Concessions</i>	
N/A		(a) Where a plant room or lift motor room has a floor area: (i) Not more than 100m ² a ladder may be used in lieu of a stairway. (ii) More than 100m ² but less than 200m ² where two or more points of egress are provided a ladder may be used in lieu of a stairway from all but one of those points. (c) A ladder to the plant room is to comply with AS 1657 and the ladder to the lift motor room is to comply with AS 1735.2.	
	<i>D1.17</i>	<i>Access to lift pits</i>	
N/A		Requirements apply to access to lift pits less than or greater than 3m including signage.	

Part D2 – Construction of Exits

Icon	Clause	Reference	Comment
	<i>D2.2</i>	<i>Fire isolated stairs</i>	
N/A		Must be in a fire resisting shaft and be constructed of non-combustible materials and if there is local failure not cause structural damage or impair the fire resistance of the shaft.	
	<i>D2.3</i>	<i>Non fire isolated stairs</i>	
CR		Non fire isolated stairways must be constructed of either:- (a) reinforced or pre stressed concrete (b) 6mm thick steel (c) 44mm thick timber	

	D2.4	<i>Separation of rising and descending stairs flights</i>	
N/A		A required fire isolated stair cannot connect above and below ground flights unless separated by fire and smoke separation.	
	D2.5	<i>Open access ramps and balconies</i>	
N/A		Open access ramp or balcony is provided to meet the requirements of smoke hazard management E2.2a, it must; (i) have ventilation openings to the outside air; & (ii) not be enclosed on its open sides above height of 1m.	
	D2.6	<i>Smoke lobbies</i>	
N/A		Smoke lobby required by D1.7 must; 1. have a floor area not less than 6sqm; and 2. be separated by walls impervious to smoke; and 3. be fitted with smoke doors; and 4. be pressurised if the exit is required to be.	
	D2.7	<i>Installations in exits and paths of travel</i>	
CR		(b) No openings to ducts conveying hot products of combustion permitted. (c) Gas or fuel services not permitted in required exits. (d) Electric or services equipment not permitted unless in a non-combustible and smoke sealed enclosure.	
	D2.8	<i>Enclosure of space beneath stairs</i>	
CR		(a) in a fire stair no cupboards are permitted under the stair (b) the space beneath the non-fire isolated stairs are not to be enclosed unless in 60/60/60 construction with 60/60/30 fire doors.	<i>Stair 1 has the Store room indicated as being below this stair, details of the fire rating of the store room to achieve 60/60/60 with a self-closing - /60/30 fire rated fire door to AS 1905.1 is required at CC Stage – Amend 5</i>
	D2.9	<i>Width of stairs</i>	
Noted		When a measurement taken the width is to be measured clear of all obstructions and the stair must extend a minimum 2.0m above nosings. (unless specified elsewhere to require a greater height)	
	D2.10	<i>Pedestrian ramps</i>	
CR		Pedestrian ramp to be installed in accordance with AS 1428.1, and not have a gradient steeper than 1:8, and be finished with a non-slip surface. Note: AS 1428.1 requires handrails etc. for any ramp steeper than 1:20 grade.	
	D2.11	<i>Fire-isolated passageways</i>	
N/A		To attain the same FRL as the fire isolated stair	

	D2.12	<i>Roof as open space</i>	
N/A		If an exit discharges to a roof of a building, the roof must; 1. have an FRL 120/120/120; & 2. have roof lights or other openings within 3m of the path of travel.	
	D2.13	<i>Treads and risers</i>	
CR		(a) minimum 2 risers / maximum 18 in each flight (b) risers 115mm min 190 mm max - going 250mm min 355mm max - 2R+G 550mm min 700mm max. (c) goings and risers to be constant. (d) risers not to permit 125mm sphere to pass through (e) treads to be non slip (h) no stepped quarter landings	
	D2.14	<i>Landings</i>	
Noted		Maximum gradient not to exceed 1:50 and be a minimum 750 long measured from the inside edge of the landing.	
	D2.15	<i>Thresholds</i>	
CR		No step or ramp at any point closer to the door than the width of the door leaf. Generally doors opening to outside are able to be provided with a maximum 190mm step or 50mm if Class 9b	
	D2.16	<i>Balustrades</i>	
CR		A continuous balustrade or barrier must be provided along the side of any roof to which public access is provided, any stairway or ramp, any floor, corridor, hallway, balcony, veranda, mezzanine, access bridge or the like and along any side of any access path to a building if it is not bounded by a wall and the level above the floor or ground surface is more than 4m where it is possible to fall through an open window or 1m in any other case. Note: Frameless glass balustrades are to be designed and certified by structural engineer to achieve compliance with the AS 1170 suit of standards for loadings/balustrade performance—see AS 1288-2006 for details	
	D2.17	<i>Handrails</i>	
CR		Required along one side and on both sides of stairs over 2m in width, 865mm above nosing's and be continuous. Note: Disabled AS 1428.1 requires handrails to both sides of stairs which exceeds this min requirement	

	D2.18	<i>Fixed platforms, walkways, stairways and ladders</i>	
N/A		Treads, risers, handrails and balustrades in plant rooms etc. must comply with AS 1657	
	D2.19	<i>Doorways and doors</i>	
CR		Must not be revolving door, roller shutter or tilt door. Can be fitted with a sliding door if it leads directly to open space and can be opened manually under a force of not more than 110N and be fitted with a fail-safe device if the door is power operated. Class 9b has specific details relating to exit doors, sliding doors and the swing of doors anywhere in the building.	
	D2.20	<i>Swinging doors</i>	
X / AS		Must not encroach more than 500mm into the required width of the stair or 100mm when fully open and swing in the direction of travel. Note: Class 9b POPE doors and smoke doors must swing in the direction of egress – if multi exit required then the doors must swing in both directions	<i>The Door to the basement carpark is required to swing outwards, currently it is shown as swinging inwards which is not compliant - Amend 5</i>
	D2.21	<i>Operation of latch</i>	
CR		To be located 900mm to 1100mm above the floor and be openable with a single-handed downward action. Fail safe unlock is permitted as long as linked to the base building fire alarm system. Class 9b doors if to be secured must be provided with panic bars	<i>The building is not expected to contain more than 100 persons, as such fail safe devices or lever action door handles are satisfactory</i>
	D2.22	<i>Re-entry from fire-isolated exits</i>	
N/A		Every door in a fire stair must not be locked from inside the fire- isolated stairway to prevent re-entry to the storey or room it services for any stair that serves a storey over 25m in height. Specific details of compliance are defined in this clause of the BCA – the doors all must unlock on fire trip, if needed to be locked may be provided with alarm to allow re-entry in a non-fire situation	
	D2.23	<i>Signs on doors</i>	
N/A		To fire doors signage required to alert persons that blockage, obstruction or being chocked open is not allowable	

Part D3 – Access for People with Disabilities

Icon	Clause	Reference	Comment
	D3.1	<i>General building access requirements</i>	
CR		Building must be accessible as required by Table D3.1 (unless exempted by D3.4). <i>See Table D3.1</i>	See Separate report from Disabled Access Consultant
	D3.2	<i>Access to buildings</i>	
CR		Access to buildings required: - An accessway must be provided to a building required to be accessible - In a building required to be accessible, an accessway must be provided through the principal public entrance - Where a pedestrian entrance required to be accessible has multiple doorways - Where a doorway has multiple leaves	See Separate report from Disabled Access Consultant
	D3.3	<i>Parts of a building to be accessible</i>	
CR		In a building required to be accessible - Every ramp and stairwell to comply with AS1428.1 - Every lift to E3.6 - Accessways to have turning and passing spaces - Ramp of lift not required to a building not more than 3 storeys and each storey (excluding the entrance storey) is not more than 200 m² - Pile height of carpet not exceeding 11 mm and backing thickness not to exceed 4 mm	See Separate report from Disabled Access Consultant
	D3.4	<i>Exemptions</i>	
CR		Areas not required to be accessible: (a) areas inappropriate because of purpose area is used (b) an area posing a health or safety risk for people with a disability (c) any path or travel providing access only to an area exempted above	See Separate report from Disabled Access Consultant
	D3.5	<i>Accessible Car parking</i>	
CR		- Spaces provided as per Table D3.5 - Must comply with AS/NZS 2890.6	See Separate report from Disabled Access Consultant

	D3.6	<i>Signage</i>	
CR		Braille and tactile signage to comply with Specification D3.6 to identify: • Sanitary facility • Space with hearing augmentation system • Identify sanitary facility is left or right handed • Ambulant facility • Location of accessible entrance • To Identify Exit Doors – braille and tactile sign in addition to Green Exit signage	See Separate report from Disabled Access Consultant
	D3.7	<i>Hearing augmentation</i>	
CR		Where an inbuilt amplification system other than an EWIS is provided a hearing augmentation system is to be provided in the following locations:- - Conference room with a floor area - Judicatory room, - Auditorium in a Class 9b building, - Ticket office, reception area where the public is screened from the service provider.	See Separate report from Disabled Access Consultant
	D3.8	<i>Tactile indicators</i>	
CR		Required to public stairs and ramps in accordance with Section 1 and 2 of AS/NZS 1428.4.1	See Separate report from Disabled Access Consultant
	D3.9	<i>Wheelchair seating spaces in Class 9b assembly buildings</i>	
N/A		Number and grouping must be provided in accordance with Table D3.9	No fixed seating proposed
	D3.10	<i>Swimming pools</i>	
N/A		• Not less than 1 means of entry /exit in accordance with Specification D3.10 to pool require to be accessible by Table 3.1 • Where perimeter more than 70m entry must be by ramp/aquatic wheelchair or zero depth entry	None proposed
	D3.11	<i>Ramps</i>	
CR		• Series of connected ramps must not have a combined vertical rise of more than 3.6 m • A landing for a step ramp must not overlap a landing for another step ramp or ramp	See Separate report from Disabled Access Consultant
	D3.12	<i>Glazing on accessway</i>	
CR		On an accessway where this is no transom, all fully glazed doors sidelights and glazing capable of being mistaken for a doorway or opening must be clearly marked in accordance with As1428.1 (75 mm solid line between 900 mm and 1100 mm above the FFL, that is in colour contrast to the floor/wall of the surface behind the glazing)	See Separate report from Disabled Access Consultant

Section E: Services and Equipment

Part E1 – Fire Fighting Equipment

Icon	Clause	Reference	Comment
	<i>E1.3</i>	<i>Hydrants</i>	
CR / AS		a) System to be provided to serve whole building:- (i) Floor area exceeds 500m ² b) (i) Installed to AS 2419.1-2005 (iii) Pump set to AS 2419.1.	Fire Engineer to include the location of the booster location as designed which is not compliant with AS 2419.1-2005
	<i>E1.4</i>	<i>Hose reels</i>	
CR		a) System to be provided to serve whole building:- (i) Where hydrants installed internally or to serve any fire compartment greater than 500m ² : b) (i) Installed to AS 2441-2005 (iii) Hose to reach every part (iv) (A) Located externally or, (B) Within 4m of exit or further if coverage cannot be achieved or, (C) Adjacent to hydrant (not within fire isolated exit).	
	<i>E1.5</i>	<i>Sprinklers</i>	
N/A		System may be required to be provided to serve the entire building to AS 2118.1 and Spec E1.5 as applicable, see Table E1.5 for details when required	
	<i>E1.6</i>	<i>Portable fire extinguishers</i>	
CR		To be installed to Table E1.6 and AS 2444.	
	<i>E1.8</i>	<i>Fire control centres</i>	
N/A		A fire control centre facility is required for a building that exceeds 18,000m ² in total floor space or where the building exceeds 25m effective height. A Building that exceeds 50m in height is required to be provided with a dedicated fire control room that complies with Spec E1.8	

Part E2 – Smoke Hazard Management

Icon	Clause	Reference	Comment
	<i>E2.2</i>	<i>General requirements</i>	
N/A	<i>E2.2a</i>	Smoke hazard management strategies is required:- • Automatic smoke control system to Spec E2.2	Not required – size is less than 2,000m ² fire compartment
CR	<i>E2.2b</i>	All Class 9b Buildings are required to be provided with automatic shutdown.	Shutdown required of Mech vent systems
	<i>E2.3</i>	<i>Provision for special hazards</i>	
N/A		Additional smoke hazard management measures may be necessary due to the: a) Special characteristics of the building	

Part E3 – Lift Installations

Icon	Clause	Reference	Comment
	<i>E3.2</i>	<i>Stretcher facility in lifts</i>	
N/A		(a) Must be provided with: (i) at least 1 emergency lift required by E3.4 (ii) where emergency lift is not required, in at least 1 passenger lift in buildings over 12m. (b) Not less than 600mm wide and 2,000mm long x 1,400mm height.	
	<i>E3.3</i>	<i>Warning against use of lift in fire</i>	
CR		Warning signs are required at each lift landing located near every call button in accordance with Figure E3.3.	
	<i>E3.4</i>	<i>Emergency lifts</i>	
N/A		Required to buildings over 25m in effective height, complying with AS 1735.2.	
	<i>E3.5</i>	<i>Landings</i>	
CR		Certain provisions of AS1735.1 and AS1735.2 don't apply Access and egress to and from lift well landings to comply with Section D	
	<i>E3.6</i>	<i>Passenger lifts</i>	
CR		Every passenger lift must comply with Table E3.6a and have features as per Table E3.6b and not rely on a constant pressure device for its operation if the lift car is fully enclosed	
	<i>E3.7</i>	<i>Fire service controls</i>	
CR		All passenger lift cars require fire service controls in accordance with AS 1735.2	
	<i>E3.8</i>	<i>Aged care buildings</i>	
N/A		Where residents are on levels which do not have direct access to a road or open space the building must be provided with either: • At least one lift to accommodate a stretcher or • A ramp in accordance with AS1428.1 • Must both discharge at a level providing direct access to a road or open space	

Part E4 – Emergency Lighting, Exit and Warning Systems

Icon	Clause	Reference	Comment
	<i>E4.2</i>	<i>Emergency lighting</i>	
CR		Required in every path of travel to an exit and any room having a floor area more than 100m ² that does not open to a corridor or space with emergency lighting and any room having a floor area in excess of 300m ² required in every required non fire isolated stair. Emergency signage to be installed to AS 2293.1	
	<i>E4.3</i>	<i>Measurement of distance</i>	
Noted		Distances other than vertical rise must be measured along the shortest path of travel whether by straight lines, curves or a combination of both.	
	<i>E4.4</i>	<i>Design and operation of exit signs</i>	
CR		Every required exit sign must comply with AS 2293.1	
	<i>E4.5</i>	<i>Exit signage</i>	
CR		Required above egress doors and doors from an enclosed stair to open space. Directorial signs required to designate paths of travel. Cannot be higher than 2.7m above FFL Exit signage to be installed to AS 2293.1	
	<i>E4.6</i>	<i>Direction signs</i>	
CR		Where an exit is not apparent, exit signs with directional arrows are required. Class 9b POPE must have exit signs external to the building to show the way to the road if not apparent when in the open space.	
	<i>E4.7</i>	<i>Class 2, 3 and 4 parts: Exemptions</i>	
N/A		E4.5 does not apply to- 1. Class 2 building if the word "EXIT" is placed on the side of door remote from an exit, 2. An entrance door of a SOU in Class 2, 3 or 4.	
	<i>E4.8</i>	<i>Design and operation of exit signs</i>	
CR		Every required exit sign must - (a) Comply with AS 2293.1; and (b) Be clearly visible at all times when the building is occupied.	
	<i>E4.9</i>	<i>Sound systems and intercom systems for emergency purposes</i>	
CR		Sound systems and intercom systems for emergency purposes required to comply with AS 1670.4-2004;	

Section F: Health and Amenity

Part F1 – General

Icon	Clause	Reference	Comment
	<i>F1.1</i>	<i>Stormwater Drainage</i>	
CR		Stormwater drainage must comply to AS 3500.3.2	
	<i>F1.5</i>	<i>Roof Covering</i>	
CR		Roof covering must comply with required Australian Standard.	
	<i>F1.6</i>	<i>Sarking</i>	
CR		Sarking used for weather proofing of roofs must comply with AS/NZS 4200.	
	<i>F1.7</i>	<i>Water Proofing of Wet Areas in Buildings</i>	
CR		Water proofing of wet areas within a building to comply with AS 3740.	
	<i>F1.9</i>	<i>Damp-proofing</i>	
CR		Damp-proofing where required to be installed in accordance with AS/NZS 2904 or AS 3660.1	
	<i>F1.10</i>	<i>Damp-proofing of Floors on the Ground</i>	
CR		Damp-proofing where required to be installed in accordance with AS 2870	
	<i>F1.11</i>	<i>Provision of Floor Wastes</i>	
CR		In a Class 2, 3 or 4 part of a building, the floor of each bathroom and laundry located at any level above a sole-occupancy unit or public space must be graded to permit drainage to a floor waste.	
	<i>F1.12</i>	<i>Sub-floor Ventilation</i>	
N/A		The sub-floor space between a suspended floor of a building and the ground must be in accordance with the requirements of this clause.	
	<i>F1.13</i>	<i>Glazed assemblies</i>	
CR		Glazed assemblies in an external wall to comply with AS 2047 requirements for resistance to water penetration	

Part F2 – Sanitary and Other Facilities

Icon	Clause	Reference	Comment
	<i>F2.1</i>	<i>Facilities in residential buildings</i>	
✓		Minimum facilities required in Class 3 buildings: Within each sole occupancy unit- (a) a bath or shower; and (b) closet pan and washbasin.	
		Laundry facilities, either- (a) in each sole occupancy unit (i) clothes washing facilities, comprising at least one washtub and space for a washing machine; and (ii) clothes drying facilities comprising: (A) clothes line or hoist with not less than 7.5m of line; or (B) space for one heat-operated drying cabinet or appliance in the same room as the clothes washing facilities.	
✓		Facilities for employees- If the building contains more than 10 sole occupancy units, or a group of Class 2 buildings on the one allotment contains, in total, more than 10 sole occupancy units – a closet pan and washbasin in a compartment or room at or near ground level and accessible to employees without entering a sole occupancy unit.	
	<i>F2.1/3</i>	<i>Sanitary facilities in Class 3-9 buildings</i>	
✓		The number of sanitary facilities must be based upon the number of person accommodated calculated in accordance with D1.13 See Table F2.3 for details of number of toilets, washbasins and Urinals required.	

Class of Building	User	Max Number Served by								
		Closet Fixtures			Urinal(s)			Washbasins		
		1	2	Each Extra	1	2	Each Extra	1	2	Each Extra
3, 5, 6 and 9 other than schools	Employees									
	Males	20	40	20	25	50	50	30	60	30
	Females	15	30	15				30	60	30
9b - public halls, function rooms or the like	Employees									
	Males	100	300	200	50	100	50	50	200	200
	Females	25	50	50				50	150	200

Icon	Clause	Reference	Comment
	<i>F2.4</i>	<i>Facilities for persons with disabilities</i>	
CR		• Must be provided in accordance with Table F2.4(a) • Each bank of toilets must be provided with an ambulant facility if more than 1 pan for each sex • Accessible compartment to contain pan, wash basin, shelf or bench top and means for the disposal of sanitary towels	See Separate report from Disabled Access Consultant
	<i>F2.5</i>	<i>Construction of sanitary compartments</i>	
N/A		Where clear space between closet pan and doorway is less than 1.2m, doors must open outwards, slide or be readily removable from outside.	No toilets appear to have this issue
	<i>F2.6</i>	<i>Interpretation: Urinals and washbasins</i>	
Noted		Urinal may be 600 mm of urinal trough or a closet pan used in place of a urinal Washbasin may be individual basin or part of a hand washing trough served by a single water tap	
	<i>F2.8</i>	<i>Waste management</i>	
N/A		In a Class 9a a slop hopper or other device must be provided on any storey containing ward areas or bedrooms and a flushing apparatus, tap and grating In a Class 9c for every 60 beds on each storey containing resident use areas must be provided with a slop-hopper and a device for the disinfection of pans or an adequate means to dispose of receptacles	

Part F3 – Room Sizes

Icon	Clause	Reference	Comment
	<i>F3.1</i>	<i>Height of Rooms</i>	
✓		Room heights to be a minimum of 2.4m and 2.1m in corridors. Class 9b requires ceiling heights of 2.7m if more than 100 persons in the storey or area	

Part F4 – Provision of Natural Light

Icon	Clause	Reference	Comment
	<i>F4.1</i>	<i>Provision of Natural Light</i>	
✓		Class 3 buildings– to all habitable rooms.	
	<i>F4.4</i>	<i>Artificial Lighting</i>	
Noted		Required to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. Artificial lighting system is to comply with AS 1680.0 Note: See also Section J for details of energy efficiency of lighting required.	
	<i>F4.5</i>	<i>Ventilation of Rooms</i>	
CR		A mechanical ventilation or air conditioning system complying with AS 1668.2 is required. Note: See also Section J for details of energy efficiency of Ventilation / Mechanical Ventilation/Air-conditioning required.	
	<i>F4.8</i>	<i>Restriction on Position of Toilets</i>	
X		A toilet cannot open directly out into a room used for public assembly or workplace, unless - By providing an Airlock or - Mechanical exhaust to the room and screening to be provided to adequately screen from view the door to the toilet	The unisex toilet on level 2 open out into the Dining room without a screen or airlock
	<i>F4.9</i>	<i>Airlocks</i>	
CR		Required for rooms containing a closet pan or urinal where it opens directly to another room Exemption to use mechanical exhaust with screening of doorway to toilet	
	<i>F4.11</i>	<i>Car Parks</i>	
CR		Every storey of a car park, except an open deck car park, must have a system of ventilation complying with AS/NZS 1668.1 and AS/NZS 1668.2.	
	<i>F4.12</i>	<i>Kitchen local exhaust ventilation</i>	
CR		Commercial kitchen must be provided with a kitchen exhaust hood complying with AS/NZS 1668.1 and AS 1668.2 (depending on input)	

Part F5 – Sound Transmission and Insulation

Icon	Clause	Reference	Comment
	F5.3	<i>Sound Insulation of floors between units</i>	
CR		A floor separating sole occupancy units must have an R_w (sound reduction index)	
	F5.4	<i>Sound Insulation of walls between units</i>	
CR		A wall must have an sound insulation level if it separates: (a) sole occupancy units; or (b) a sole occupancy unit from a plant room, lift shaft, stairway, public corridor, hallway or the like.	
	F5.5	<i>Walls between a bathroom, sanitary compartment, laundry or kitchen and a habitable room in adjoining unit</i>	
CR / Alt Sol		Walls must have: (i) a sound insulation level; and (ii) provide a satisfactory level of insulation against impact sound; and (iii) not incorporate a duct which reduces the R_w	Door between Unit 5 to be designed to comply or Alt sol provided for these doors in the common wall

Section G: Ancillary Provisions

Part G1 – Minor Structures and Components

Icon	Clause	Reference	Comment
	NSW G1.101	<i>Provision for Cleaning of Windows</i>	
N/A		Provision is to be made for the cleaning of windows either within the building or to the OH&S Act 2000 for any windows three (3) or more above the ground.	

Section J: Energy Efficiency

Part J1 to J8 – Building Fabric

Icon	Clause	Reference	Comment
	<i>J1.1</i>	<i>Application of Part</i>	
CR		This part apply to building elements forming an envelope of a Class 2 to 9 building other than – Class 7, 8 or 9b building that does not have a conditioned space or an atrium that is separated by an envelope.	
	<i>J1.2</i>	<i>Thermal Construction General</i>	
CR		Where required, <i>insulation</i> must comply with AS/NZS 4859.1 and be installed so that it: - Abuts or overlaps adjoining insulation and forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that contribute to the thermal barrier;	
CR		Where required, <i>reflective insulation</i> must be installed: - With the required air space to achieve the R-Value between the reflective side and the cladding. Closely fitted against penetrations, door or window openings and supported by framing members. Each sheet overlapped not less than 50mm or taped together;	
CR		Where required, <i>bulk insulation</i> must be installed: - Maintain its thickness, other than where it crosses roof batten, water pipes, electrical cabling and the like; and in ceiling where there is no bulk insulation or reflective insulation in the wall, overlaps by 50mm	
	<i>J1.3</i>	<i>Roof and Ceiling Construction</i>	
CR		A roof or ceiling in Climate Zone 5 is to achieve a Total R-Value in the DOWNWARD direction of heat flow of not less than: - 3.2 – for a roof or ceiling generally; Adjustment for ceiling loss due to penetrations in accordance with Table J1.3b	

Icon	Clause	Reference	Comment
	<i>J1.4</i>	<i>Roof Lights</i>	
N/A		Roof lights that form part of the envelope of a Class 5, 6, 7, 8 or 9 building must satisfy: (a) If the area of the roof light is between 1.5%-10% of the floor area of the room they must comply with Table J1.4. (b) roof light may exceed 10% of the floor area of the room, where - compliance with the natural lighting requirements of Part F4 can only be achieved by the roof light; and the transparent and translucent elements, achieve: - an SHGC not more than 0.25; and - total U-Value of not more than 1.3.	
	<i>J1.5</i>	<i>Walls</i>	
CR		External walls within Climate Zone 5 achieve: - A Total R-Value of 2.8	
	<i>J1.6</i>	<i>Floors</i>	
CR		A suspended floor that is part of a buildings envelope to comply with Total R-Value specified in Table J1.6	R value of 1 for floor to be provided as a min, or 2 if air changes are not as per this table

Part J2 – External Glazing

Icon	Clause	Reference	Comment
	<i>J2.1</i>	<i>Application of Part</i>	
CR		This part of the BCA does not apply to a Class 7, 8 or 9b building that does not have a conditioned space.	
	<i>J2.2</i>	<i>Applicable glazing provisions</i>	
CR		Glazing in a Class 3, 5, 7, 8, 9a and 9b building must be designed and installed in accordance with Clause J2.4 of the BCA.	

Part J3 – Building Sealing

Icon	Clause	Reference	Comment
CR	J3.1	<i>Application of Part</i> Applies to elements forming the envelope of a class 2-9 building (doors, windows, walls, roof/ceilings etc). Except for buildings in climate 1,2,3 or 5 where the only means of cooling is by an evaporative cooler or A permanent building ventilation opening for safe operation of a gas appliance A class 6, 7, 8 or 9b building that does not have a conditioned space A building or space where the mechanical ventilation provides sufficient pressurisation to prevent infiltration	
	J3.2,3,5	<i>Chimneys, Roof lights, exhaust fans</i> Chimneys or flues must be provided with a damper or flap that can be closed to seals the chimney or flu when not in use Roof lights must be sealed by a diffuser or shutter system unless required as a building window for light Miscellaneous Exhaust fans must be provided with a damper that self closes when the fan is not in use	
	J3.4	<i>External Windows and Doors</i> A seal to restrict air infiltration must be fitted to each edge (top, bottom and sides) of an external door or window or the like when serving a conditioned space or for habitable rooms in climate zones 4, 6, 7 & 8. Excluding: - Windows that comply with AS 2047 - fire doors Roller shutter doors or security doors installed for out of hours security only External louver door, windows or other such openings	

Part J5 – Air Condition & Ventilation Systems

Icon	Clause	Reference	Comment
	Part J5	<i>Air Con and Mech Vent system design</i>	
CR		Ductwork for supply and return air must be insulated Design of the system must achieve compliance with all parts of Part J5 of the BCA	

Part J6 – Artificial Lighting & Power

Icon	Clause	Reference	Comment
	J6.1	<i>Application of part</i>	
CR		This part of the BCA does not apply to a Class 2 or 4 buildings or parts within the Sole occupancy unit/s. Design of the system must achieve compliance with all parts of Part J5 of the BCA (see checklist)	
	J6.2	<i>Interior artificial lighting</i>	
CR		The Design Illumination power load must not exceed the sum of the allowances achieved by multiplying the area of the space by the maximum illumination power density in Table J6.2b	
	J6.5	<i>Artificial lighting around the perimeter of a building</i>	
CR		Exterior lighting must be controlled by either a daylight sensor or a time switch in accordance with Spec J6 to turn off when natural light is effective or during daylight hours and Total perimeter lighting load that exceeds 100w must – - have an average light source efficacy of not less than 60 lumens/W or - be controlled by a motion detector in accordance with Spec J6	
	J6.6	<i>Boiling water and chilled water units</i>	
CR		Power supply to these units (Billy units) must be controlled by a time switch that complies with Spec J6	

Part J7 – Hot Water Supply

Icon	Clause	Reference	Comment
	J7.2	<i>Hot Water Supply</i>	
CR		Hot water supply for food preparation and sanitary purposes must comply with Section 8 of AS/NZS 3500.4 Solar systems in climate zones 1,2 and 3 do not need to comply with this requirement	

Part J8 – Access for Maintenance

Icon	Clause	Reference	Comment
	J8.2		
Noted		Access for Maintenance must be provided to all services and components, including - Time switches and motion detectors - Room temp thermostats - Plant thermostats such as on boilers or re-fridge units - Outside air dampers - Reflectors, lens and diffusers of light fittings - Heat transfer equipment - Adjustable or motorised shading devices	
	J8.3	Facilities for Energy Monitoring	
CR		A building that exceeds 500m² must have the facility to record the consumption of gas and electricity A Building with a floor area of more than 2,500m² must have the facilities to record the individual energy consumption of : • Air conditioning / plant • Artificial lighting • Appliance power • Central hot water supply • Internal services such as lifts, travelators where there is more than one serving the building • Other ancillary plant	Ensure detailed to be part of the design for the building as building exceeds 2,500m ²