



A Bureau Veritas Group Company

# Regulatory Compliance Report

Boarding House Development Works  
3 – 5 Kelloway Avenue, Camden

Prepared for: Sam Crawford Architects  
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Revision: E

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## 1. Executive Summary

### Development Overview

The proposed development is a 2 storey Class 3 Boarding House consisting of 12 Sole Occupancy Units including a communal area.

### Compliance Summary

As Registered Certifiers we have reviewed the architectural design documents prepared by Sam Crawford Architects (refer appendix A) for compliance with the current building assessment provisions, i.e. the Building Code of Australia 2019 Amendment 1 (BCA).

This report has been prepared to assess the project against the Building Code of Australia to enable the issuance of construction approvals.

### Deviations from the Deemed-to-Satisfy Provisions

The assessment of the approval documentation has revealed that the following areas deviate from the deemed-to-satisfy provisions of the BCA. These items are to be addressed to ensure compliance is achieved, either through design amendment to achieve compliance with the deemed-to-satisfy provisions, or through a performance solution demonstrating compliance with the Performance Requirements of the BCA:

No.	Description	DTS Clause	Performance Requirements
<b>Fire Safety Items</b>			
1	<b>Extended Travel Distances</b> First floor travel distance is up to 11m in lieu of 6m.	D1.4	DP4 & EP2.2
<b>Miscellaneous Items</b>			
2	<b>Weatherproofing of External Walls</b> As there are no deemed to satisfy provisions relating to the weatherproofing of external walls, a performance solution is to be provided by the façade engineer/registered architect demonstrating that the external walls comply with the requirements of Performance Requirement FP1.4.	-	FP1.4

The feasibility and any additional requirements that will apply as a result of the performance solution will need to be confirmed by the professional preparing the performance solution. Any performance solution will need to be prepared by a suitably qualified/accredited professional.

### Fire Safety Services

The following key fire safety services are required to meet the minimum DTS requirements.

1.	Fire hydrant system throughout
2.	Fire precautions during construction
3.	Automatic smoke detection and alarm system throughout

Refer to part 7 of this report for further details regarding the required services.

### Further Assessment for CC Crown Works Certificate

The assessment of the design documentation has also revealed that the following additional information is required in order to complete the assessment, and/or the following areas need to be further reviewed during the Building Approval phase.

No.	Further Information / Review Required for CC	Report Reference
1.	Details of the fire rated construction under the stairs	8.1
2.	Proposed new Fire hydrant location. If the existing street fire hydrant is to be utilised, it needs to be confirmed by hydraulic engineer compliance in accordance with AS 2419.1 2005	9.1
3.	Emergency lighting layout and Exit/Directional signs locations	9.5
4.	Advise if staff/employees are occupied in the facility to determine separate sanitary facility requirements	10.1
6.	Energy Efficiency Report	11

Documentation to enable assessment and demonstrate compliance will be required to address the above items prior to approval.

The application for Crown Certificate shall be assessed under the relevant provisions of the Environmental Planning & Assessment Act 1979 (As Amended) and the Environmental Planning & Assessment Regulation 2021.

## 2. Introduction

The proposed development comprises a 2 storey Class 3 Boarding House consisting of 12 Sole Occupancy Units with private balconies including communal spaces.

The site is located on 3 -5 Kelloway Avenue, Camden NSW 2570.

This report is based upon the review of the approval documentation listed in Appendix A of this Report.

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979. This Act requires that all new building works must be designed to comply with the BCA.

The version of the BCA applicable to the development, is the version that is in place at the time of the application to the Registered Certifier for the Crown Certificate. For the purposes of this Report, BCA 2019 Amendment 1 has been utilised as the version of the BCA applicable at the time of preparing this Report.

## 3. Compliance with the Building Code of Australia

The Building Code of Australia is a performance based document, whereby compliance is achieved by complying with the Governing Requirements and the Performance Requirements.

Performance Requirements are satisfied by one of the following:

- 1) A Performance Solution
- 2) A Deemed-to-Satisfy Solution
- 3) A combination of (1) and (2)

## 4. Documentation of Performance Solutions

A Performance Solution must demonstrate compliance with all relevant Performance Requirements, or the solution must be at least equivalent to the Deemed-to-Satisfy provisions.

Compliance with the Performance Requirements is to be demonstrated through one or a combination of the following:

- a) Evidence of suitability in accordance with Part A5 of the BCA that shows the use of a material, product, plumbing and drainage product, form of construction or design meets the relevant Performance Requirements.
- b) A Verification Method including the following:
  - i. The Verification Methods provided in the NCC.
  - ii. Other Verification Methods, accepted by the appropriate authority that show compliance with the relevant Performance Requirements
- c) Expert Judgement
- d) Comparison with the Deemed-to-Satisfy Provisions

Where a Performance Solution is proposed as the method to achieve compliance, the following steps must be undertaken:

- a) Prepare a performance-based design brief in consultation with relevant stakeholders
- b) Carry out analysis, using one or more of the assessment methods nominated above, as proposed by the performance-based design brief.
- c) Evaluate results from (b) against the acceptance criteria in the performance-based design brief
- d) Prepare a final report that includes:
  - i. All Performance Requirements and/or Deemed-to-Satisfy Provisions identified as applicable
  - ii. Identification of all assessment methods used
  - iii. Details of required steps above

- iv. Confirmation that the Performance Requirement has been met; and
- v. Details of conditions or limitations, if an exist, regarding the Performance Solution.

## 5. Preliminaries

### 5.1. Building Assessment Data

Summary of Construction Determination:

Part of Project	Building 1
Classification	3
Number of Storeys	2
Rise In Storeys	2
Type of Construction	B
Effective Height (m)	3.1m

*Note: The effective height of the project includes all stories included in the rise in stories of the project. The calculation has been taken from the elevation drawings, however, updated drawings will be required to show the finished floor levels.*

Summary of the floor areas and relevant populations where applicable: -

Part of Project	BCA Classification	Approx. Floor Area (m <sup>2</sup> )	Approximate Volume (m <sup>3</sup> )	Assumed Population
Ground Floor	3	350	963	12 (2 per room)
First Floor	3	303	834	12 (2 per room)
<b>Total</b>		<b>658</b>	<b>1,797</b>	<b>24</b>

Notes:

- The above has been calculated as per D1.13, utilising other suitable means of assessing its capacity on the assumption of 2 persons per SOU.
- Client to advise if the proposed populations will be higher for further review and assessment.

## 6. Structure

### 6.1. Structural Provisions (BCA B1):

New structural works are to comply with the applicable requirements of BCA Part B1, including AS/NZS 1170.0-2002, AS/NZS 1170-1-2002, AS/NZS 1170.2-2011 and AS 1170.4-2007.

Depending on the importance level of the building as determined by AS/NZS 1170.0-2002, the non-structural elements of the building, including partitions (and non-structural fire walls), ceilings, services and racking/shelving may be required to comply with the seismic restraint requirements of AS 1170.4-2007. Where this is required, certification will be required confirming that the design of the seismic restraints complies with AS 1170.4-2007. This may be provided by a specialist seismic consultant or by the architect and services design engineers.

It is noted that BCA 2019 introduced a new Verification Method, BV2, which is a pathway available to verify compliance with BCA Performance Requirement BP1.1(a)(iii).

Glazing is to comply with AS1288-2006 and AS2047-2014.

Prior to the issue of the Crown Certificate structural certification is required to be provided by a Professional Engineer registered on the National Engineering Register.

## 7. Fire Protection

### 7.1. Fire Compartmentation (BCA C1.1)

The BCA stipulates three levels of fire-resistant construction, which is based upon the rise in storeys and classification of the building. Each of these types of construction has maximum floor area and volume limitations as per BCA Table C2.2.

Based upon the rise in storeys and use of the building, it is required to be constructed in accordance with the requirements of **Type B Construction**, in accordance with Table 4 of Specification C1.1 of the Building Code of Australia 2019 Amendment 1.

The building has been assessed on the basis of the following fire separation/compartmentation within the development:

- Bounding construction to the sole occupancy units of 60 minutes.

### 7.2. Fire Resistance (BCA C1.1)

The building should be constructed generally in accordance with the relevant provisions of Specification C1.1 of the BCA applicable to **Type B Construction**, Please refer to Appendix C which outlines the required fire rating to be achieved by the development.

Other passive fire protection issues that will need to be addressed in the detailed documentation phase include:

- Hydrant Pump Rooms (if determined by hydraulic engineer);

The above areas are to be separated from the remainder of the building by construction achieving a minimum fire resistance level of 120 minutes.

Please note that with regards to fire separation, the provisions and required FRL's that apply to the building also apply to an occupiable outdoor space associated with the building.

### 7.3. Fire Hazard Properties (BCA C1.10 and BCA C1.9)

The fire hazard properties of fixed surface linings and mechanical ductwork will also need to be addressed within the detailed documentation phase pursuant to Specification C1.10 of the Building Code of Australia. The following requirements apply:

#### External Wall Cladding

Since the building is of Type B construction, the following components are required to be completely non-combustible:

- External walls, including façade coverings, framing, insulation;
- Flooring and framing of lift pits;
- Non-loadbearing internal walls required to have an FRL;
- All non-loadbearing shafts since the building is a Class 3 building;
- All loadbearing internal walls and loadbearing fire walls, including those that are part of loadbearing shafts.

As the design develops towards the Crown Certificate, please provide product specifications and test reports to AS 1530.1-1994 for all materials to demonstrate compliance.

For materials and assemblies that are required to be non-combustible, the material or system must be not deemed combustible when tested in accordance with AS 1530.1-1994.

#### Combustible Materials

The following materials, though combustible or containing combustible fibres, may be used wherever a non-combustible material is required:

- a) Plasterboard.
- b) Perforated gypsum lath with a normal paper finish.
- c) Fibrous-plaster sheet.
- d) Fibre-reinforced cement sheeting.
- e) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0.
- f) Sarking type materials that do not exceed 1mm in thickness and have a Flammability Index not greater than 5.
- g) Bonded laminated materials where -
  - (i) each laminate is non-combustible; and
  - (ii) each adhesive layer does not exceed 1 mm in thickness; and
  - (iii) the total thickness of the adhesive layers does not exceed 2 mm; and
  - (iv) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole does not exceed 0 and 3 respectively.

It is recommended that once material selections are made, copies of the fire test certificates/reports be provided for review and approval prior to the issuance of the Crown Certificate.

Any Aluminium Composite Panels must be labelled in accordance with SA TS 5344.

The BCA does nominate that ancillary elements may not be fixed to an external wall that is required to be non-combustible unless they comprise of the following:

- a) An ancillary element that is non-combustible.
- b) A gutter, downpipe or other plumbing fixture or fitting.
- c) A flashing.
- d) A grate or grille not more than 2 m<sup>2</sup> in area associated with a building service.
- e) An electrical switch, socket-outlet, cover plate or the like.
- f) A light fitting.
- g) A required sign.
- h) A sign other than one provided under (a) or (g) that—
  - i) achieves a group number of 1 or 2; and
  - ii) does not extend beyond one storey; and
  - iii) does not extend beyond one fire compartment; and
  - iv) is separated vertically from other signs permitted under (h) by at least 2 storeys.

#### **7.4. Public Corridors: Class 2 and 3 Buildings (BCA C2.14)**

Public corridors exceeding 40m in length to be divided into intervals of not more than 40m by smoke proof walls complying with Clause 2 of BCA Specification C2.5.

In the review of the proposed schematic plan for both floors, the public corridor is not more than 40m in total length, therefore, it is compliant with the requirement of this clause.

#### **7.5. Protection of Openings in External Walls (BCA C3.2 / C3.3 / C3.4)**

The prescriptive provisions of the BCA stipulate that any external opening within 3m of the boundary, within 6m of the far boundary of a road, river, lake or the like that adjoins the allotment, or within 6m of another building on the allotment requires protection by -/60/- fire-rated construction, or externally located wall wetting sprinklers.



In the updated architectural drawings, the external wall of the communal roo has been revised to be at a 3m setback from the boundary making it compliant with the BCA DtS provision with these clauses.

## **7.6. Protection of Openings fire-rated building elements (BCA C3.5 and BCA C3.10)**

The prescriptive provisions of the BCA stipulate that openings within building elements required to have an FRL shall be protected as follows:

- a) Penetrations through fire-rated floors to be protected either by a tested prototype (e.g. fire collar, fire damper, etc) or be installed within a fire-rated shaft achieving an FRL the same as the FRL of the floor it is passing through;
- b) Any penetration through a wall or room required to have an FRL (e.g. substation, boiler room, apartment separating wall etc) is to be protected either by a tested prototype (e.g. fire collar, fire damper, etc) or be installed within a shaft achieving an FRL the same as the FRL of the floor it is passing through; (or 120/120/120 where it is a room such as a substation);
- c) Self-closing -/60/30 fire doors to the doors opening to the fire isolated stairs (note that this also includes the access doors to the condenser units on the plant platforms).

Note that where fire dampers, fire collars, etc are utilised, allowance needs to be made for access hatches to be provided within the walls/ceilings to ensure that maintenance access is provided.

As the design develops, details will need to be included in relation to sealing of penetrations/construction of fire-rated building elements such as the bounding constructions.

## **8. Access and Egress**

### **8.1. Provision for Escape (BCA D1)**

The egress provisions for the proposed building are provided by the following:

- Required non-fire isolated stairways
- External Doors

The egress provisions that apply to the building also apply to any occupiable outdoor areas.

Detailing issues that will need to be addressed as the design develops include:

- Door Hardware
- Exit Door Operation
- Stair Construction
- Handrail and Balustrade construction
- Details of the egress provisions to the Road.
- Door swings

### **8.2. Exit Travel Distances (BCA D1.4)**

The locations of the proposed exits would appear to indicate that the deemed to satisfy requirements in terms of travel distances, distances between alternative exits and egress widths would be satisfied.

The travel distances to exits should not exceed:

#### **Class 3**

- 6m from an exit or from a point of choice from the entrance doorway of a sole occupancy unit
- 20m from a single exit at the level of egress to a road or open space

- Alternate exits not more than 45m apart

The locations of the proposed exits indicate that the travel distances within the building are as follows:

Area	BCA Provisions (Distance to Point of Choice/ Travel Distance/Distance Between)	Assessed Distances			Comments
		To a Point of Choice	Overall Travel Distance	Between Alternate Exits	
Unit 11 SOU	-/6m/-	NA	11m	NA	Extended travel distance from the SOU door to the 1 <sup>st</sup> riser of the stairways (refer to the diagram below).

The above indicates the departure of the extended travel distance as per the deemed to satisfy requirements.

The extended travel distance to the stairways will need to be addressed to comply with the requirements of the deemed to satisfy provisions noted above, or be assessed as performance solutions by the Fire Safety Engineer using BCA Performance Requirements DP4 & EP2.2



### 8.3. Dimensions of Exits (BCA D1.6)

Minimum dimensions of 1000mm and 2000mm height to be provided within exits, with the paths of travel should provide a minimum width of 1000mm (note that all maintenance access, cat walks, etc may comply with AS1657-2018 in which case a 600mm clear width is required).

The following table summarises the exit widths required by BCA Clause D1.6:

Storey	Number of people	Exit Width Required	Exit Width Provided
Ground Floor	12	1m	2m
First Floor	12	1m	1m

Notes:

- The exit doors have been assessed as the double-door leaf at each end of the building.

Doorways are permitted to contain a clear opening width of the required width of the exit minus 250mm, with a height of 1980mm as part of egress requirements. Access for persons with disabilities however requires a clear doorway opening width of 850mm (i.e. minimum 920 mm doors).

#### 8.4. Enclosure of space under stairs (BCA D2.8)

In a non-fire-isolated stairway, the space below must not be enclosed to form a cupboard or other enclosed space unless:

- The enclosing walls and ceiling have an FRL of less than 60/60/60; and
- Any access doorway to be enclosed space is fitted with a self-closing -/60/30 fire door.

In the review of the ground floor plan, it is proposed the space under the stairs be enclosed. Further information is required to demonstrate the construction is in accordance with this clause or to be addressed through Performance Solution.

#### 8.5. Balustrades and Handrails (BCA D2.16 / BCA D2.17 / D2.24)

##### Generally

Balustrading to a minimum height of 1000mm with a maximum opening of 124mm in any direction should be provided adjacent to balconies, landings, corridors etc where located adjacent to a change in level exceeding 1000mm, or where it is possible to fall through an openable window located more than 4m above the surface beneath.

Handrails should generally be provided at a minimum height of 865mm alongside all ramps and stairs.

The public stairs and ramps located along an accessible path of travel should be designed in accordance with the requirements of AS1428.1 for persons with disabilities. This requires a handrail on each side of the stair and ramp and for the handrail to extend approximately 550mm – 600mm past the last tread/end of the ramp.

##### Openable Windows in Bedrooms

In bedrooms of Class 3 buildings where the distance from the floor level to the level below exceeds 2m, window openings shall be provided with protection in accordance with BCA Clause D2.24.

Where the lowest part of the window opening is less than 1.7m above a floor, the window opening must be:

- a) Fitted with a device to restrict the opening; or
- b) Fitted with a screen with secure fittings

The device or screen required must –

- a) Not permit a 125mm sphere to pass through it; and
- b) Resist an outward horizontal action of 250N; and
- c) Have a child-resistant release mechanism if the screen or device is able to be removed, unlocked or overridden

Further review will be undertaken to ensure compliance as the design develops.

#### 8.6. Slip Resistance

The adoption of BCA 2014 introduced a requirement for slip resistance of stairway treads and ramp surfaces. The requirements are as follows:

Table D2.14 SLIP-RESISTANCE CLASSIFICATION

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

## 9. Services and Equipment

The following section of this report describes the essential fire safety measures and the minimum performance requirements of those measures. A draft essential fire safety schedule can be found in Appendix B.

It is noted that the provisions below also apply to occupiable outdoor areas.

### 9.1. Fire Hydrants (BCA E1.3)

A system of Fire Hydrants is required to be provided in accordance with BCA Clause E1.3 and AS2419.1-2005 as the building exceeds 500sqm.

Pressure and flow information will be required to confirm the required pressures and flow to the system, depending on the type of hydrant to be utilized by a suitably qualified hydraulic designer.

### 9.2. Fire Extinguishers (BCA E1.6)

The provision of portable fire extinguishers is required to BCA Clause E1.6 and AS2444 - 2001 to provide coverage to all portion of the building.

Table E.6 details when portable fire extinguishers are required:

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

In addition, extinguishers are to be provided to the class 3 portions of the building in accordance with the below:

- an ABE type fire extinguisher is to be installed with a minimum size of 2.5 kg; and
- extinguishers are to be distributed outside a sole-occupancy unit:
  - a) to serve only the storey at which they are located; and
  - b) so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10 m.

Fire extinguishers are to be located in accordance with AS 2444 - 2001, often collocated with fire hydrants and/or fire hose reels.

As the design develops, the location of the fire extinguisher will be required to be shown on the plan for further assessment.

### 9.3. Smoke Hazard Management (BCA E2.2)

Smoke hazard management shall be provided throughout the building by means of the following systems:

- Automatic Smoke Detection and Alarm System in accordance with the requirements of BCA Spec E2.2a and AS 1670.1-2018;

### 9.4. Lift Services (BCA E3.4 and BCA E3.6)

The passenger lifts to be installed are to be:-

- Fitted with warning signs, fire service controls in accordance with Clauses E3.3, Figure E3.3, E3.9 and E3.10 of the BCA.
- Be provided with the following in order to satisfy accessibility requirements:
  - A handrail in accordance with AS1735.12-1999,
  - Minimum internal floor dimensions of 1400 x 1600mm for lifts which travel more than 12m, or 1100 x 1400mm for lifts which travel not more than 12m,
  - Fitted with a series of door opening sensory devices which will detect a 75mm diameter or across the door opening between 50mm and 1550mm above floor level,
  - Have a set of buttons for operating the lift located at heights above level complying with AS1735.12 - 1999

### 9.5. Exit Signs and Emergency Lighting (BCA E4.2 and BCA E4.5)

Emergency Lighting and Exit Signs indicating exit location paths of travel to exits to be provided in accordance with BCA Part E4 and AS/NZS 2293.1-2018, including the potential use of photo luminescent exit signs.

### 9.6. Fire Precautions During Construction (BCA E1.9)

No less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit.

## 10. Health and Amenity

### 10.1. Sanitary Facilities (BCA F2.2 and BCA F2.3)

Client to advise if staff/employees are occupied in the facility? If so, additional sanitary facilities are required for the staff in accordance with clause F2.3 of the BCA.

#### *Class 3 buildings*

Each apartment is required to be provided with the following:

- A bath or shower, and
- A closet pan, and
- A washbasin.

The design submitted indicates that each apartment should satisfy the above requirements.

#### *Bathroom Construction*

Where bathrooms or rooms containing water closets have the WC within 1200mm of the doorway, the door shall be either sliding, open outwards, or be provided with removable hinges.

### 10.2. Floor Wastes

Floor wastes to be provided within bathrooms and laundries where located above another sole occupancy unit. The floor shall be sloped towards these wastes.

As the design develops the floor wastes are required to be shown on the plans for further assessment.

### 10.3. Light and Ventilation (BCA Part F4)

Class 3

Natural light and ventilation are to be provided to all habitable rooms at a rate of 10% and 5% of the floor area of the rooms respectively.

A required window that faces a boundary of an adjoining allotment or a wall of the same building or another building on the allotment must not be less than a horizontal distance from that boundary or wall that is the greater of:

- (i) generally — 1 m; and
- (ii) 50% of the square root of the exterior height of the wall in which the window is located, measured in metres from its sill.

In the assessment of the updated architectural drawings, the floor area of the SOU's is 32 sqm & 36 sqm with openings achieved to the sliding door and side window for 10% natural light and 5% ventilation.

### 10.4. Sound Transmission and Insulation (BCA F5)

Building elements within Class 3 buildings should provide the following sound insulation levels.

Location	Notes	Sound Insulation Requirement
Walls separating habitable rooms		$R_w + C_{tr} \geq 50$
Walls separating habitable room and kitchen or bathroom	Wall must be of Discontinuous Construction	$R_w + C_{tr} \geq 50$
Floor separating habitable rooms	Impact isolation required	$R_w + C_{tr} \geq 50$ $L_{n,w} + C_i \leq 62$
Duct, soil, waste or water supply pipe, including pipes that is located in a floor or wall cavity, serves or passes through more than one room	Adjacent habitable room or Adjacent non-habitable room	$R_w + C_{tr} \geq 40$ or $R_w + C_{tr} \geq 25$
Door to habitable room		$R_w \geq 30$

Please note for walls requiring impact resistance an air gap between leafs of the wall construction is required to be provided.

Refer to Specification F5.2, Table 2 Acceptable forms of construction for walls to guide the design details as the project develops.

A report from the acoustic engineer verifying design compliance with the provisions of part F5 of the BCA will be required as the design develops to ensure compliance with this clause.

### 10.5. Waterproofing (BCA FP1.4)

Performance Requirement FP1.4 which relates to the prevention of the penetration of water through external walls must be complied with. It is noted that there are no Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls.

As such, a performance solution is to be prepared by a suitably qualified professional that demonstrates that the external walls of the proposed building comply with Performance Requirement FP1.4 which reads as follows:

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

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

#### External above Ground Membranes

All external above-ground areas (roof slabs, balconies etc.) shall be protected by a waterproofing system in accordance with AS4654 Parts 1 and 2 – 2012.

For external balconies, the waterproofing membrane must have a vertical upward termination height in accordance with the table below dependant on the wind class of the site. The wind class is determined by the structural engineer.

Wind Class Regions A & B	Wind Class Regions C & D	Ultimate Limit State Wind Speed	Termination Height (mm)
N1	-	34	40
N2	-	40	50
N3	C1	50	70
N4	C2	61	100
N5	C3	74	150
N6	C4	86	180

#### Wet Areas

Internal wet areas throughout the development (e.g. bathrooms, laundries) shall be waterproofed in accordance with AS3740 - 2010 requirements.

#### **10.6. Stormwater Drainage**

Stormwater drainage systems serving the building are to comply with AS3500.3 - 2018.

## **11. Energy Efficiency**

As Class 3 buildings are not subjected to BASIX, NSW Subsection J (B) applies the provisions of the national section J relevant to Class 3 with minor variations.

Class 3 buildings must comply with all of the provisions of the national Section J that are applicable to the relevant classification.

#### **11.1. SECTION J**

The commentary below is an assessment based on the provisions included in BCA 2019 Amendment 1.

#### **11.2. SECTION J (JP1 Energy Use)**

Efficient energy use must be achieved appropriate to the function and use of the building, level of human comfort, solar radiation, the energy source of the services and sealing of the building envelope. To achieve this JV1, JV2, JV3 and JV4 verification methods have been introduced as options available to achieve compliance.

It is noted that a deemed to satisfy pathway is still available.

Access for maintenance is to be provided to the building in accordance with the requirements of BCA Part J8.

The proposed site will be located in a climate zone 6.



Due to the special nature of the building some energy provisions may not be appropriate. Certification from an appropriately qualified engineer should be provided for either option with a report / computations outlining how compliance is achieved.

## Verification Methods

The Verification Methods available to demonstrate compliance with the BCA on a performance basis are as follows:

### JV2 Green Star

- To achieve compliance with JP1 for Class 3,4,5,6, 7, 8, 9 and common area of Class 2 buildings Green Star can be used as a verification method when the calculation method complies with ANSI/ASHRAE Standard, Specification JVb and when:
  - The building complies with simulation requirements and is registers for a Green Star – Design & As-Built rating; and
  - The annual greenhouse gas emissions of the proposed building are less than 90% of the annual greenhouse gas emissions of the reference building; and
  - In the proposed building, a thermal comfort level of between predicted mean vote of -1 to +1 is achieve across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building; and
  - The building complies with the additional requirements of Specification JVb.

### JV3 Verification Using a Reference Building

- To achieve compliance with JP1 for Class 3,4,5,6, 7, 8, 9 and common area of Class 2 buildings verification using a reference building can be used when the calculation method complies with ANSI/ASHRAE Standard, Specification JVb and when:
  - It is determined that the annual greenhouse gas emissions of the proposed building are not more than the annual greenhouse gas emissions of a reference building when the proposed building is modeled with the proposed services and the proposed building is modelled with the same services as the reference building. The proposed building thermal comfort level is to be between predicted mean vote of -1 to +1 across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation; and
  - The building achieves the additional requirements in Specification JVb; and
  - The greenhouse gas emissions of the proposed building may be offset by renewable energy generated and use on site and another process such as reclaimed energy used on site.

### JV4 Building Envelope Sealing

- Compliance with sealing of the building against air leakage is verified when the envelope is sealed at an air permeability rate tested in accordance with Method 1 of AS/NZS ISO 9972, of not more than –
  - For class 3 or 9c building, or a class 9a ward area in climate zones 1, 3, 4, 6, 7 and 8 5m<sup>3</sup>/hr.m<sup>2</sup> at 50 Pa reference pressure.
- Part J3 and performance solution that uses on of the other NCC assessment Methods which verifies that compliance with JP1 (e) will be achieve can also be used as verification methods.

## **11.3. Building Fabric (Part J1)**

### **Roof and Ceiling Construction (Part J1.3)**

For a deemed-to-satisfy solution roofs and or ceilings are to be constructed to provide a total R-Value greater than or equal to-

- (i) in climate zones 1, 2, 3, 4 and 5, R3.7 for a downward direction of heat flow; and
- (ii) in climate zone 6, R3.2 for a downward direction of heat floor; and



- (iii) in climate zone 7, R3.7 for an upward direction of heat flow; and
- (iv) in climate zone 8, R4.8 for an upward direction of heat flow;

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.

Where the layer of insulation is penetrated by the percentages as tabled below, additional upgrading of the remainder of the insulation level is required.

To achieve compliance with J0.2 (c) a roof that has a metal sheet roofing fixed to metal purlins, metal rafters or metal battens and does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens must have a thermal break. The thermal break to be consisting of a material with a R-Value of not less than R0.2, installed at all points of contact between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens.

### **External Walls and Glazing (Part 1.5)**

For walls and glazing construction the total system U-value must not be greater than-

- (i) for a Class 2 common area, a Class 5, 6, 7, 8 or 9b building other than a ward area, U2.0; 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 zones 8, U0.9;

The total system U-value of wall-glazing construction should be calculated in accordance with Specification J1.5a.

Wall components of the wall-glazing construction must achieve a minimum total R-Value of R1.0 where the wall is less 80% if the area and reflect the value specified in Table J1.5a where the wall is \*0% or more of the area.

There are further design parameters for display glazing and solar admittances for wall-glazing construction, both of which should comply with the relevant provisions of J1.5.

To achieve compliance with J0.2 (c) a wall that does not have a wall lining or has a wall lining that is fixed directly to the same metal frame and has a lightweight external cladding such as weatherboards, fibre-cement or metal sheeting fixed to a metal frame must have a thermal break. The thermal break is to consist of a material with an R-Value of not less than R0.2, installed at all points of contact between the external cladding and metal frame.

### **Floors (Part J1.6)**

Floors are to achieve an R rating of 2.0.

#### **11.4. Building sealing (Part J3)**

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### **Windows and Doors (Part J3.4)**

- a) A door, openable window or the alike must be sealed –
  - (i) When forming part of the envelope; or
  - (ii) In climate zones 4,5,6,7 or 8
- b) The requirements of (a) do not apply to –
  - (i) A window complying with AS2047; or
  - (ii) A fire door or smoke door; or
  - (iii) A roller shutter door, roller shutter grille or other security door or device installed only for out of house security
- c) A seal to restrict air infiltration –
  - (i) For the bottom edge of a door, must be draft protection device; and

- (ii) For the other edged 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.
- d) An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, rapid roller door, revolving door or the like, other than –
  - (i) When the conditioned space has a floor area of not more than 50m<sup>2</sup>; or
  - (ii) Where a café, restaurant, open front shop or the like has –
    - (A) A 3m deep un-conditioned zone between the main entrance, including an open front, and the conditioned space; and
    - (B) At all other entrances to the café, restaurant, open front shop or the like, self-closing doors.
  - (iii) A loading dock entrance, if leading to a conditioned space, must be fitted with a rapid roller door or the like

### **Exhaust fans (Part J3.5)**

An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving a conditioned space or a habitable room in climate zones 4, 5, 6, 7, or 8.

### **Construction of ceilings, walls and floors (Part J3.6)**

A seal to restrict air infiltration must be fitted to each edge of the external doors and openable windows. The seals may be foam or compressible strip, fibrous seal or the like. The main entry doors must have either an airlock, or self-closing doors, or a revolving door.

Ceilings, walls, floors and any openings such as a window frame, door frame, roof light frame or the like must be constructed to minimise air leakage in accordance with the below when forming part of –

- (i) The envelope; or
- (ii) In climate zones 4, 5, 6, 7 or 8

Construction required by above must be –

- (iii) Enclosed by internal lining systems that are close fittings at ceiling, wall and floor junctions; or
- (iv) Sealed at junctions and penetrations with –
  - (A) Close fitting architrave, skirting or cornice; or
  - (B) Expanding foam, rubber compressible strip, caulking or the like

The above does not apply to openings, grilles or the like required for smoke hazard management.

## **11.5. Air Conditioning and Ventilation systems (Part J5.0)**

Air conditioning and ventilation systems must be designed to comply with the following provisions:

- Be capable of being deactivated when the building or part of a building being served by that system is not occupied;
- Where motorised dampers are in place, they should close when the system is deactivated
- Where serving a sole-occupancy unit in a Class 3 building, must not operate when any external door of the sole-occupancy unit that opens to a balcony or the like, is open for more than one minute;
- Time switches should be provided to control an air-conditioning system of more than 2kW<sub>r</sub> and a heater of more than 1kW<sub>heating</sub> used for air-conditioning, and be capable of switching electric power on and off at variable pre-programmed times on variable pre-programmed days.
- Ductwork and fittings in an air-conditioning system should have insulation complying with AS/NZS 4859.1 and have an insulation R-Value greater than or equal to:-
  - for flexible ductwork R1.0; or
  - for cushion boxes, that of the connecting ductwork; or
  - That specified in Table J5.5

Table J5.5

Location of ductwork and fittings	Climate zone 1, 2, 3, 4, 5, 6 or 7	Climate zone 8
Within a conditioned space	1, 2	2.0
Where exposed to direct sunlight	3.0	3.0
All other locations	2.0	3.0

Mechanical:

- Be capable of being deactivated where the building or part of the building served by that system is not occupied
- Time switches must be provided to a mechanical ventilation system with an air flow rate of more than 1000 L/s, capable of switching electric power on and off at variable pre-programmed times and on variable pre-programmed days;

Heaters

A heater used for air-conditioning or as part of an air-conditioning system must be either a solar heater, gas heater, heat pump heaters, a heater using reclaimed heat or an electric heater.

A gas water heater, that is used as part of an air-conditioning system must:-

- if rated to consume 500 MJ/hour of gas or less, achieve a minimum gross thermal efficiency of 86% ; or
- If rated to consume more than 500 MJ/hour of gas, achieve a minimum gross thermal efficiency of 90%

## 11.6. Artificial Lighting and Power (Part J6)

### Interior Artificial Lighting and Power Control (Part J6.2 & 6.3)

In a sole-occupancy unit of a Class 3 building the lamp power density/illumination power density of artificial lighting must not exceed the allowance of 5 W/m<sup>2</sup> within a sole-occupancy unit and 4 W/m<sup>2</sup> on a verandah, balcony or the like attached to a sole-occupancy unit.

In a building other than a sole-occupancy unit of a Class 3 building for artificial lighting, the aggregate design illumination power load must not exceed the sum of the allowances obtained by multiplying the area of each space by the maximum illumination power density below:-

The maximum illumination power density;

Stairways	2W/m <sup>2</sup>
Toilet, locker room, staff room, rest room or the like	3W/m <sup>2</sup>
Lift cars	3W/m <sup>2</sup>
Service area, cleaner's room and the like	3W/m <sup>2</sup>
Corridors:	5W/m <sup>2</sup>
Lounge area for communal use in a Class 3 or 9c building	4.5W/m <sup>2</sup>
Dormitory of Class 3 building:	
(A) Used for sleeping only	3W/m <sup>2</sup>
(B) Used for sleeping & study	4W/m <sup>2</sup>
Storage	1.5W/m <sup>2</sup>
Kitchen and food preparation area:	4W/m <sup>2</sup>

Artificial Lighting must be controlled by a time switch, other control device or a combination of both.

Each light control in a building must not operate lights within an area of more than;

- Not operate lighting for an area more than -
  - a) 250m<sup>2</sup> for a space of not more than 2000m<sup>2</sup>;
  - b) 1000m<sup>2</sup> for a space of more than 2000m<sup>2</sup>
- if in a Class 3, 6, 7, 8 (other than a laboratory) or 9 building;

#### Interior decorative and display lighting

Interior decorative and display lighting, such as for a foyer mural or art display, must be controlled -

- Separately from other artificial lighting; and
- By a manual switch for each area other than when operating times of the displays are the same in a number of areas (e.g. where in a museum) in which case they may be combined; and
- By a time switch in accordance with Specification J6 where the display lighting exceeds 1 kW

Window display must be controlled separately from other display lighting exceeds 1kW.

#### Exterior artificial lighting

Artificial lighting attached to or directed at the façade of the building if it exceeds a total of 100W must;

- Use LED luminaires for 90% of the total lighting load; or
- Be controlled by a motion detector in accordance with Specification J6 of the BCA;
- When used for decorative purposes, such as façade lighting or signage lighting, have a separate switch in accordance with Specification J6.

#### **Lifts (Part 6.7)**

Lifts must be configured to ensure artificial lighting and ventilation in the car are turned off when it is unused for 15 minutes and achieve the idle and standby energy performance level required, and the energy efficiency class under J6.7 of the BCA.

### **11.7. Heated Water Supply (Part 7)**

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#### **Heated water supply (Part J7.2)**

A heated water supply system for food preparation and sanitary purposes must be designed and installed in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.

## 12. Access for People with Disabilities

The development is required to comply with the accessibility provisions contained within:

- The Building Code of Australia 2019 Amendment 1;
- Disability (Access to Premises – Buildings) Standards 2010;
- AS1428.1-2009 General Requirements for Access – New Building Work;
- AS1428.4.1 -2009 Tactile Ground Surface Indicators
- AS2890.6-2009 Car Parking for People with Disabilities

**Note:** With the introduction of the Commonwealth *Disability Discrimination Act (DDA)* in 1992 (enacted in 1993), all organisations have a responsibility to provide equitable and dignified access to goods, services and premises used by occupants. Organisations and individuals since its introduction, are required to work to the objects of the Act which are to eliminate, as far as possible, discrimination against persons on the ground of disability in the **areas of work, accommodation, education, access to premises, clubs and sports, and the provision of goods, facilities, services and land, existing laws and the administration of Commonwealth laws and programs.**

This report assesses against the requirements contained with the Building Code of Australia (and documents referred to therein) and is not considered to be a full assessment against the Disability Discrimination Act.

### 12.1. General Building Access Requirements (BCA D3.1)

Access for people with disabilities shall be provided to and within the building in accordance with the requirements of Clause D3.2, D3.3 and D3.4 of the BCA 2019 Amdt 1 and AS 1428.1. Parts of the building required to be accessible shall comply with the requirements of:-

- AS1428.1-2009 General Requirements for Access – New Building Work;
- AS1428.4.1 -2009 Tactile Ground Surface Indicators
- AS2890.6-2009 Car Parking for People with Disabilities

Access for persons with a disability is to be provided as follows:

#### Boarding House (Class 3 buildings)

- From the pedestrian entrance to at least 1 floor containing Sole Occupancy Units and to the entrance door of all Sole Occupancy Units on that floor, and to at least one type of each common facility, such as gyms, shops, laundries (shared), gaming rooms etc.
- Where an AS1428.1 compliant lift or ramp is provided in addition to the above and access is required to and within all spaces, and to the entrance of doors to single-occupancy units on the levels, served by the lift or ramp.

Where individual Class 3 single-occupancy units are provided:

1 to 10 single-occupancy units	To and within 1 accessible sole occupancy units
11 to 40	To and within 2 accessible sole occupancy units
41 to 60	To and within 3 accessible sole occupancy units
61 to 80	To and within 4 sole occupancy units
81 to 100	To and within 5 sole occupancy units
101 to 200	To and within 5 sole occupancy units and 1 for every 25 sole occupancy units over 100
201 to 500 single-occupancy units	To and within 9 accessible sole occupancy units, plus 1 for every 30 units in excess of 200 units

More than 500

To and within 19 accessible sole occupancy units, plus 1 for every 50 units in excess of 500 units

- \* Not more than 2 required accessible units may be located adjacent to each other; and
- \* Where more than 2 sole occupancy units are required to be accessible, they must be indicative of the range of units/rooms available.

The proposed scheme generally appears compliant with this clause and based on the access consultant report, 'Access Review', prepared by Morris Goding Access Consulting dated 6 March 2023, has confirmed the design as capable of complying for the next phase of the development.

## 12.2. Provision for Access to Buildings

The BCA prescribes access to be provided to and within the building as follows:

- Via the principle pedestrian entry and at least 50% of all other entrances from the allotment boundary
- From designated car parking spaces for the use of occupants with a disability.
- From another accessible building connected by a pedestrian link.
- All areas used by the occupants.

In buildings over 500m<sup>2</sup> in floor area, a non-accessible entrance must not be located more than 50m from an accessible entrance.

Where a pedestrian entry contains multiple doors, the following is required;

- Entrance containing not more than 3 doors, at least one of the doorways must be accessible.
- Where an entrance contains more than 3 doors, not less than 50% of the doorways must be accessible.

A door is considered to be accessible if it is automatic (open and closing) or is more than 850mm in clear opening width and contains the required door circulation space.

The proposed scheme generally appears compliant with this clause and based on the access consultant report, 'Access Review', prepared by Morris Goding Access Consulting dated 6 March 2023, has confirmed the design as capable of complying for the next phase of the development.

## 12.3. Accessibility within Building (BCA D3.3)

A building required to be accessible is required to be equipped with either a AS 1428.1 compliant lift or AS 1428.1 compliant ramp, (but the maximum vertical rise of a ramp must not exceed 3.6m).

An exemption to not provide either a lift or ramp exists for class 5, 6, 7b, or 8 buildings, where a building contains;

- a) Less than 3 storeys; and
- b) Floor area of each storey (excluding the entrance level) is not more than 200m<sup>2</sup>.

Within the building the following are required;

- Door circulation space as per AS1428.1 Clause 13.3 and as attached in Appendix B;
- Doorways must have a clear opening of 850mm;
- Passing spaces (1.8m wide passages) must be provided at maximum of 20m intervals
- Within 2.0m of end access ways/corridors, turning areas spaces are required to be provided.
- Carpet pile height of not more than 11mm to an adjacent surface and backing <4mm
- Any glazing capable of being mistaken for a doorway or opening must be clearly marked (or contain chair rail, hand rail or transom as per AS 1288 requirements)
-

The design would generally comply with the prescriptive provisions of the BCA with additional ongoing review being undertaken as to door widths, circulation, etc. Further details as to access to these areas is to be assessed by an access consultant.

The proposed scheme generally appears compliant with this clause and based on the access consultant report, 'Access Review', prepared by Morris Goding Access Consulting dated 6 March 2023, has confirmed the design design as capable of complying for the next phase of the development.

#### **12.4. Car Parking (BCA D3.5)**

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The Access Consultant to advise the requirements of the Accessible car parking space required for this development.

The proposed scheme generally appears compliant with this clause and based on the access consultant report, 'Access Review', prepared by Morris Goding Access Consulting dated 6 March 2023, has confirmed the design as capable of complying for the next phase of the development.

#### **12.5. Tactile Indicators (BCA D3.8)**

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Tactile indicators are required to be provided to warn occupants of all stairs (except Fire Isolated stairs) and ramps regardless of public nature or private environment and where an overhead obstruction occurs less than 2.0m above the finished floor level.

#### **12.6. Stairs (BCA D3.3 inter Alia AS1428.1)**

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Stairs shall be constructed as follows:

- a) Where the intersection is at the property boundary, the stair shall be set back by a minimum of 900mm so that the handrail and TGSIs do not protrude into the transverse path of travel.
- b) Where the intersection is at an internal corridor, the stair shall be set back one tread width plus 300mm (nominally 700mm as per AS 1428.1-2009 Fig 26(b)), so the handrails do not protrude into transverse path of travel.
- c) Stairs shall have opaque risers.
- d) Stair nosing shall not project beyond the face of the riser and the riser may be vertical or have a splay backwards up to a maximum 25mm.
- e) Stair nosing profiles shall;
  - Have a sharp intersection;
  - Be rounded up to 5mm radius; or
  - Be chamfered up to 5mm x 5mm
- f) All stairs, including fire isolated stairs, shall, at the nosing of each tread have a strip not less than 50mm and not more than 75mm deep across the full width of the path of travel. The strip may be set back a maximum of 15mm from the front of the nosing. The strip shall have a minimum luminance contrast of 30% to the background. Where the luminous contrasting strip is affixed to the surface of the tread, any change in level shall not exceed a difference of 5mm.
- g)

The proposed scheme generally appears compliant with this clause and based on the access consultant report, 'Access Review', prepared by Morris Goding Access Consulting dated 6 March 2023, has confirmed the design as capable of complying for the next phase of the development.

#### **12.7. Accessible Sanitary Facilities (BCA F2.4)**

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##### *Unisex Accessible Sanitary Facilities*

An accessible unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only and provided in accordance with AS 1428.1-2009 and must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary products and as per following.



Building Type	Minimum accessible unisex sanitary compartments to be provided
Boarding House Class 3 building	a) In every accessible sole-occupancy unit provided with sanitary compartments within the accessible sole-occupancy unit, not less than 1; and b) At each bank of sanitary compartments containing male and female sanitary compartments provided in common areas, not less than 1.

The proposed scheme generally appears compliant with this clause and based on the access consultant report, 'Access Review', prepared by Morris Goding Access Consulting dated 6 March 2023, has confirmed the design as capable of complying for the next phase of the development.

#### 12.8. Signage (BCA D3.6)

As part of the detailed design package, specifications will need to be developed indicating:

- Directional / Way Finding signs to the Lifts, etc;
- Identify each door required by BCA Clause E4.5 to be provided with an exit sign, stating 'EXIT' and 'Level' number
- Braille and tactile signs must be illuminated to ensure *luminance contrast* requirements are met at all times during which the sign is required to be read.

#### 12.9. Lifts (BCA E3.6)

Lifts compliant to BCA E3.6 and BCA E3.7 must be provided, where required to be provided, with a minimum size of 1400 x 1600mm or 1100mm x 1400mm (whichever is appropriate) in size – with appropriate handrails and auditory commands.

The proposed scheme generally appears compliant with this clause and based on the access consultant report, 'Access Review', prepared by Morris Goding Access Consulting dated 6 March 2023, has confirmed the design as capable of complying for the next phase of the development.



### 13. Appendix A - Reference Documentation

The following documentation was used in the assessment and preparation of this report:

Drawing No.	Title	Issue	Date	Revision
20.26 - 00	COVER PAGE	DA	-	
20.26 - A100	BLOCK ANALYSIS PLAN	DA	-	
20.26 - A101	SITE PLAN	DA	-	
20.26 - A102	DEMOLITION PLAN	DA	-	
20.26 - A104	GROUND FLOOR PLAN	DA	-	
20.26 - A105	FIRST FLOOR PLAN	DA	-	
20.26 - A106	ROOF PLAN	DA	-	
20.26 - A201	NORTH ELEVATION (STREET)	DA	-	
20.26 - A202	SOUTH ELEVATION (STREET)	DA	-	
20.26 - A203	EAST ELEVATION	DA	-	
20.26 - A204	WEST ELEVATION	DA	-	
20.26 - A301	SECTIONS	DA	-	
<b>BCA Report Rev 9 drawings</b>				
20.26 - 000	COVER PAGE	DA	11/01/2022	1
20.26 - A101	BLOCK ANALYSIS PLAN	DA	11/01/2022	1
20.26 - A102	SITE ANALYSIS PLAN	DA	11/01/2022	1
20.26 - A103	DEMOLITION PLAN	DA	11/01/2022	1
20.26 - A104	DEVELOPMENT DATA	DA	11/01/2022	1
20.26 - A105	SITE PLAN	DA	11/01/2022	1
20.26 - A106	GROUND FLOOR PLAN	DA	11/01/2022	1
20.26 - A107	FIRST FLOOR PLAN	DA	11/01/2022	1
20.26 - A108	ROOF PLAN	DA	11/01/2022	1
20.26 - A201	NORTH ELEVATION (STREET)	DA	11/01/2022	1
20.26 - A202	SOUTH ELEVATION (REAR)	DA	11/01/2022	1
20.26 - A203	EAST ELEVATION	DA	11/01/2022	1
20.26 - A204	WEST ELEVATION	DA	11/01/2022	1
20.26 - A301	SECTION (LONG)	DA	11/01/2022	1
20.26 - A302	SECTION (CROSS 01)	DA	11/01/2022	1
20.26 - A303	SECTION (CROSS 02)	DA	11/01/2022	1
20.26 - A401	SHADOW DIAGRAMS	DA	11/01/2022	1
20.26 - A501	MATERIAL SCHEDULE	DA	11/01/2022	1
Access Review : 3-5 Kelloway Avenue, Camden, dated 6 March 2022H prepared by Morris Goding Access Consulting				

Drawing No.	Title	Issue	Date	Revision
Traffic Noise Impact Assessment, LAHC – Camden Boarding House, No. 20220223 Revision 1 dated 5 April 2022				

## 14. Appendix B - Draft Fire Safety Schedule

No.	Measure	Particulars of Measure <i>(including where the requirement for the measure is set out or described i.e. in building plans or in a performance solution report)</i>	Currently Implemented (Yes/No)	Proposed (Yes/No)
<b>STATUTORY FIRE SAFETY MEASURES</b>				
1.	Automatic Fail Safe Devices	BCA 2019 Amdt 1 Clause D2.19 & D2.21	No	Yes
2.	Automatic Fire Detection and Alarm System	BCA 2019 Amdt 1 Spec. E2.2a & AS 1670.1 – 2018, AS/NZS 1668.1 - 2015	No	Yes
3.	Emergency Lighting	BCA 2019 Amdt 1 Clause E4.2, E4.4 & AS/NZS 2293.1 – 20018 Amdt 1 & 2	No	Yes
4.	Exit Signs	BCA 2019 Amdt 1 Clauses E4.5, NSW E4.6 & E4.8 and AS/NZS 2293.1 – 2005 Amdt 1 & 2	No	Yes
5.	Fire Dampers	BCA 2019 Amdt 1 Clause C3.15, AS/NZS 1668.1 – 2015 & AS 1682.1&2 - 2015	No	Yes
6.	Fire Hydrant Systems	BCA 2019 Amdt 1 Clause E1.3 & AS 2419.1 – 2005 Amdt 1	No	Yes
7.	Fire Seals protecting fire resisting components of the building	BCA 2019 Amdt 1 Clause C3.15, C3.16 & AS 1530.4 – 2014	No	Yes
8.	Lightweight Construction	BCA 2019 Amdt 1 Clause C1.8 & AS 1530.3 – 1999	No	Yes
9.	Portable Fire Extinguishers	BCA 2019 Amdt 1 Clause E1.6 & AS 2444 – 2001	No	Yes
10.	Solid Core Doors	BCA 2019 Amdt 1 Clause C3.11	No	Yes
11.	Wall-Wetting Sprinkler and Drencher Systems	BCA 2019 Amdt 1 Clause C3.4 & AS 2118.2 – 2010	No	Yes
<b>OTHER FIRE SAFETY MEASURES</b>				
12.	Fire Collars protecting fire resisting components of the building	BCA 2019 Amdt 1 Clause C3.12, C3.15, C3.16 & AS 1530.4 – 2014	No	Yes
13.	Paths of Travel	EP&A Reg 2021 Clause 183, 184, 184 & 186	No	Yes
14.	Required Exit Doors (power operated)	BCA 2019 Amdt 1 Clause D2.19	No	Yes

## 15. Appendix C - Fire Resistance Levels

The table below represents the Fire resistance levels required in accordance with BCA 2019 Amendment 1:

Table 4 TYPE B CONSTRUCTION: FRL OF BUILDING ELEMENTS	Class of building—FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
<b>EXTERNAL WALL</b> (including any column and other building element incorporated within it) or other external building element, where the distance from any fire-source feature to which it is exposed is—				
For <i>loadbearing</i> parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 30	120/ 90/ 60	180/120/ 90	240/180/120
3 to less than 9 m	90/ 30/ 30	120/ 30/ 30	180/ 90/ 60	240/ 90/ 60
9 to less than 18 m	90/ 30/—	120/ 30/—	180/ 60/—	240/ 60/—
18 m or more	—/—/—	—/—/—	—/—/—	—/—/—
For non- <i>loadbearing</i> parts—				
less than 1.5 m	—/ 90/ 90	—/120/120	—/180/180	—/240/240
1.5 to less than 3 m	—/ 60/ 30	—/ 90/ 60	—/120/ 90	—/180/120
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
<b>EXTERNAL COLUMN</b> not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—				
less than 3 m	90/—/—	120/—/—	180/—/—	240/—/—
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
<b>COMMON WALLS and FIRE WALLS—</b>	90/ 90 / 90	120/120/120	180/180/180	240/240/240
<b>INTERNAL WALLS—</b>				
<i>Fire-resisting lift and stair shafts—</i>				
<i>Loadbearing</i>	90/ 90/ 90	120/120/120	180/120/120	240/120/120
<i>Fire-resisting stair shafts</i>				
<i>Non-loadbearing</i>	—/ 90/ 90	—/120/120	—/120/120	—/120/120
Bounding <i>public corridors</i> , public lobbies and the like—				
<i>Loadbearing</i>	60/ 60/ 60	120/—/—	180/—/—	240/—/—
<i>Non-loadbearing</i>	—/ 60/ 60	—/—/—	—/—/—	—/—/—
Between or bounding <i>sole-occupancy units—</i>				
<i>Loadbearing</i>	60/ 60/ 60	120/—/—	180/—/—	240/—/—
<i>Non-loadbearing</i>	—/ 60/ 60	—/—/—	—/—/—	—/—/—
<b>OTHER LOADBEARING INTERNAL WALLS and COLUMNS—</b>				
	60/—/—	120/—/—	180/—/—	240/—/—
<b>ROOFS</b>	—/—/—	—/—/—	—/—/—	—/—/—