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## BCA & ACCESS (DDA) STATEMENT

LIVERPOOL EDUCATION PRECINCT  
NEW LIVERPOOL PRIMARY SCHOOL

Prepared for:



Education  
School Infrastructure

Revision C

Date: 03 May 2021

Project No.: 190448

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## 1.0 INTRODUCTION

### 1.1 BACKGROUND

Blackett Maguire + Goldsmith Pty Ltd have been commissioned by NSW Department of Education to undertake an assessment of the Concept Design of the proposed development of the New Liverpool Primary school against the relevant provisions of the Building Code of Australia 2019 Amendment 1 (BCA).

### 1.2 OBJECTIVE OF STATEMENT

The objective of this statement is to:

- + Confirm that the referenced SSDA documentation has been reviewed by an appropriately qualified Building Surveyor and Access Consultant.
- + Outline the BCA & Access Compliance Strategy for the building and certification pathway for the project.
- + Identify BCA compliance matters that require further resolution.
- + Identify matters that are to be required to be addressed by Performance Solutions prior to issue of the S6.28 Crown Certificate. Noting reliance is also placed on the applicable design consultants to ensure non-compliances within their discipline are identified for consideration.
- + Enable the Public Authority to satisfy its statutory obligations under Section 6.28 of the Environmental Planning and Assessment Act, 1979.
- + Identify the relevant essential fire safety measures that are applicable to the proposed development.

### 1.3 PROJECT TEAM

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

- + Patrick Cameron – Team Leader (Senior Building Surveyor)
- + Camilo Ospina (Building Surveyor)
- + Michael Potts – Peer Review (Access Consultant)
- + David Blackett – Peer Review (Director)

### 1.4 REFERENCED DOCUMENTATION

The following documentation was relied upon when preparing this Statement:

- + NCC 2019, Amendment 1 - Guide to the Building Code of Australia – Volume One
- + NCC 2019, Amendment 1 - Building Code of Australia - Volume One
- + Concept Design Plans prepared by Fitzpatrick + Partners.

DRAWING No.	DRAWING TITLE	REVISION	DATE
NLPS-AR-DRG-SD-0201	SITE PLAN (EXISTING AND DEMOLITION)	01	06.04.2021
NLPS-AR-DRG-SD-0202	SITE PLAN (PROPOSED)	01	06.04.2021
NLPS-AR-DGR-SD-1101	GROUND PLAN	01	06.04.2021
NLPS-AR-DGR-SD-1102	LEVEL 1 PLAN	01	06.04.2021
NLPS-AR-DGR-SD-1103	LEVEL 2 PLAN	01	06.04.2021
NLPS-AR-DGR-SD-1104	ROOF PLAN	01	06.04.2021
NLPS-AR-DGR-SD-1201	ELEVATIONS SHEET 01	01	06.04.2021
NLPS-AR-DGR-SD-1202	ELEVATIONS SHEET 02	01	06.04.2021
NLPS-AR-DGR-SD-1301	SECTION SHEET 01	01	06.04.2021
NLPS-AR-DGR-SD-1302	SECTION SHEET 02	01	06.04.2021
NLPS-AR-DGR-SD-1701	GROUND FF&E PLAN 1 OF 2	01	06.04.2021
NLPS-AR-DGR-SD-1702	GROUND FF&E PLAN 2 OF 2	01	06.04.2021
NLPS-AR-DGR-SD-1703	LEVEL 01 FF&E PLAN 1 OF 2	01	06.04.2021
NLPS-AR-DGR-SD-1704	LEVEL 01 FF&E PLAN 2 OF 2	01	06.04.2021
NLPS-AR-DGR-SD-1705	LEVEL 02 FF&E PLAN 1 OF 2	01	06.04.2021
NLPS-AR-DGR-SD-1705	LEVEL 02 FF&E PLAN 2 OF 2	01	06.04.2021



## 1.5 LIMITATIONS AND EXCLUSIONS

The limitations of this statement are as follows:

- + This statement is based on a review of the referenced documents and following a no inspection has been undertaken of the refurbishment areas (upgrade works to external connections) to ascertain the current level of BCA compliance.
- + The statement does not address issues in relation to the following:
  - i. The design, maintenance, or operation of any existing electrical, mechanical, hydraulic or fire protection services.
  - ii. Work Health and Safety Act and Regulations.
  - iii. Water, drainage, gas, telecommunications, and electricity supply authority requirements.
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- + This statement is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.

## 1.6 BCA COMPLIANCE METHODOLOGY

Pursuant to Clause 6.28 of the Environmental Planning & Assessment Regulation 2000, the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the date of invitation for tender for the project.

The current version of the BCA (in force) is BCA 2019 Amendment 1, with BCA 2022 [anticipated to come into effect in 1 September 2022](#). Where the date of invitation for tender for the project occurs after 1 September 2022, BCA 2022 will be applicable. However, as it is expected that invitations to tender will be sent out prior to 1 September 2022, this assessment has been prepared against the provisions of BCA 2019 Amendment 1.

## 1.7 STATEMENT TERMINOLOGY

**Building Code of Australia** - Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.

**Climatic Zone** – Is an area defined in BCA Figure A1.1 and in Table A1.1 for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.

**Construction Certificate** – Building Approval issued by the Certifying Authority pursuant to Part 4A of the EP&A Act 1979.

**Construction Type** – The construction type is a measure of a buildings ability to resist a fire. The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1, except as allowed for—

- (i) certain Class 2, 3 or 9c buildings in C1.5; and
- (ii) a Class 4 part of a building located on the top storey in C1.3(b); and
- (iii) open spectator stands and indoor sports stadiums in C1.7.

Note: Type A construction is the most fire-resistant and Type C the least fire-resistant of the types of construction.

**Deemed-to-Satisfy (DTS) Provisions of the BCA** – Means the prescriptive provisions of the BCA which are deemed to satisfy the performance requirements.

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

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

- + An internal or external stairway.
- + A ramp.
- + A fire-isolated passageway.
- + A doorway opening to a road or open space.

**Fire Compartment** – The total space of the building; or when referred to in

- + The Performance Requirements – any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or
- + The Deemed-to-Satisfy Provisions – any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to-Satisfy Provisions of the relevant part.

**Fire Resistance Level (FRL)** – The grading periods in minutes for the following criteria-

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

and expressed in that order

**Fire Source Feature (FSF)** - The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.



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

**Occupation Certificate (OC)** – Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 4A of the EPA Act 1979.

**Open Space** - Means a space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.

**Performance Requirements of the BCA** - A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must meet. Compliance with the Performance Requirements can only be achieved by-

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

**Performance Solution (Alternative Solution)** – Means a method of complying with the performance requirements other than by a Deemed-To-Satisfy Solution.

**Rise in Storeys** – The greatest number of storeys calculated in accordance with C1.2.

**Sole Occupancy Unit** – means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and can include a dwelling and/or office suite



## 2.0 PROJECT OVERVIEW

### 2.1 SITE LOCATION

The proposed New Liverpool Primary School is proposed to be situated within the Liverpool Boys High School and Liverpool Girls High School site located at 18 Forbes Street, Liverpool NSW 2170. The proposed new Liverpool Primary School is located in the eastern portion of the existing school grounds. The site is legally described as Lot 1 in DP 1137425 and is bounded by Lachlan Street to the north, Burnside Drive and the Southern Railway Line to the east, Liverpool Hospital to the south, and Forbes Street to the west, refer figure below.

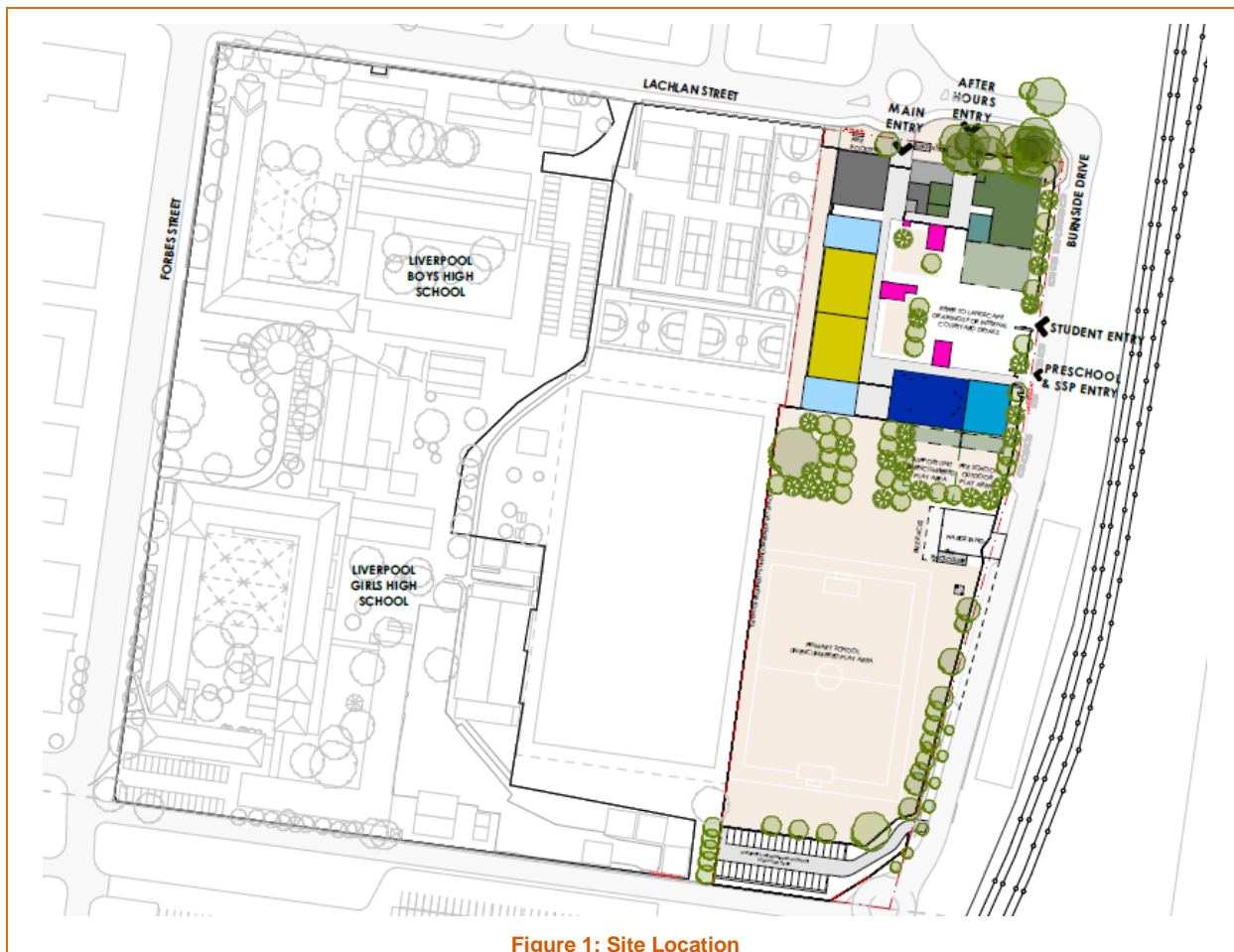


Figure 1: Site Location

### 2.2 DESCRIPTION OF DEVELOPMENT

The proposed redevelopment of the site (full scope) includes the demolition of all existing buildings and construction of a new three (3) storey school building containing teaching and learning areas; library; administration and staff areas; Covered Outdoor Learning Area (COLA); canteen; shared community facilities; rooftop play areas and a preschool.



## 2.3 BUILDING CHARACTERISTICS

The subject development is classified as follows:

<b>BCA Classification:</b>	Class 9b (School)
<b>Rise in Storeys:</b>	Three (3)
<b>Storeys Contained:</b>	Three (3)
<b>Type of Construction:</b>	Type A Construction
<b>Sprinkler Protected Throughout:</b>	No
<b>Effective Height:</b>	8.4m (L2: RL 17.700 – GF RL 9.300)
<b>Floor Area of Fire Compartments:</b>	Ground Floor: 4,191m <sup>2</sup> Level 1: 3,662m <sup>2</sup> Level 2: 2,966m <sup>2</sup> <i>Note 1 &amp; Note 2</i>
<b>Max. Fire Compartment Size:</b>	8,000m <sup>2</sup> & 48,000m <sup>3</sup>
<b>Climate Zone:</b>	Zone 6

**Note 1:** For the purpose of the above assessment, all connections between storeys are to be fire separated by construction which achieves a 120-minute FRL. Where there are any connections between storeys (other than the external stairs which will be addressed via Fire Engineering), then the connected compartments will be considered a single fire compartment and need to be less than 8,000m<sup>2</sup> and 48,000m<sup>3</sup>.

**Note 2:** Any fire compartment greater than 5,000m<sup>2</sup> will require further assessment by the hydraulic fire services designer, noting that Table 2.1 from AS 2419.1-2005 will require the simultaneous operation of 3 hydrants with a flow rate of 10L/s & a residual pressure of 700kPa.

## 2.4 FLOOR AREA LIMITATIONS

Noting that Type A Construction applies throughout, the maximum fire compartment size is:

Classification		Type A	Type B	Type C
5, 9b or 9c	Max. floor area	8,000m <sup>2</sup>	5,500m <sup>2</sup>	3,000m <sup>2</sup>
	Max. volume	48,000m <sup>3</sup>	33,000m <sup>3</sup>	18,000m <sup>3</sup>



### 3.0 SUMMARY OF PERFORMANCE SOLUTIONS

The following comprises a summary of the key compliance issues identified under the clause-by-clause assessment in Section 4 of this statement that will be addressed prior to the BCA Certification for the project.

#### 3.1 MATTERS SUBJECT TO FIRE SAFETY ENGINEERED PERFORMANCE SOLUTIONS

BCA (DtS) CLAUSE	DESCRIPTION	PERFORMANCE REQUIREMENT
1. <b>Clause D1.8</b>	To allow the external stairway (inclusive of stair landings), to be located within 3m - 6m of openings in the external wall of the building which are not protected in accordance with the BCA	DP5 & EP2.2
2. <b>Clause E1.3</b>	To permit the hydrant booster to not be located adjacent to principal vehicular access to the site and within 10m of the external wall of the building the contrary to Clause 7.3(d)(ii) & (iii) of AS 2419.1-2005.	EP1.3

#### 3.2 MATTERS REQUIRING OTHER PERFORMANCE SOLUTIONS

BCA (DtS) CLAUSE	DESCRIPTION	PERFORMANCE REQUIREMENT
1. <b>No DtS Clause Applies</b>	<p>A Performance is required to be documented at the Construction Certificate stage which demonstrates that the weatherproofing of external walls (including openings around windows and doors) prevents the penetration of water that could cause—</p> <ul style="list-style-type: none"><li>+ unhealthy or dangerous conditions, or loss of amenity for occupants; and</li><li>+ undue dampness or deterioration of building elements.</li></ul>	FP1.4



#### 4.0 PRELIMINARY FIRE SAFETY SCHEDULE

The following table is a preliminary list of the required fire safety measures within the buildings. Separate fire safety measures will be provided for the respective buildings once the design has been further developed and final building locations and set outs have been confirmed.

STATUTORY FIRE SAFETY MEASURE	DESIGN / INSTALLATION STANDARD	PROPOSED
Access Panels, Doors & Hoppers (TBC)	BCA Clause C3.13 & AS 1530.4 – 2014 and Manufacturer's specifications	✓
Alarm Signalling Equipment (TBC)	AS 1670.3 – 2018 Fire Engineering Report No..... prepared by ..... dated .....	✓
Automatic Fire Detection & Alarm System (TBC)	BCA Spec. E2.2a & AS 1670.1 – 2018 Fire Engineering Report No..... prepared by ..... dated .....	✓
Emergency Evacuation Plan	AS 3745-2010	✓
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 –2018	✓
Building Occupant Warning System (TBC)	BCA E2.2a and AS 1670.1 – 2018 Fire Engineering Report No..... prepared by ..... dated .....	✓
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8; and AS 2293.1 – 2018	✓
Fire Blankets	AS 2444 – 2001	✓
Fire Dampers	BCA Clause C3.15, AS 1668.1 – 2015 & AS 1682.1 & 2 – 1990 and manufacturer's specification	✓
Fire Doors	BCA Clause C2.13 and AS 1905.1 – 2015 and manufacturer's specification	✓
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 – 2005 and Fire Engineering Report No..... prepared by ..... dated .....	✓
Fire Seals	BCA Clause C3.15, AS 1530.4 – 2014 & AS 4072.1 – 2005 and manufacturer's specification	✓
Lightweight Construction	BCA Clause C1.8 & AS 1530.4 – 2014	✓
Mechanical Air Handling Systems	BCA Clause E2.2, AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012	✓
Paths of Travel	Clause 186 of the EP&A Regulation 2000	✓
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001	✓
Warning & Operational Signs	Clause 183 of the EP&A Regulation 2000 and BCA Clauses C3.6, D2.23, D3.6, E3.3	✓
Fire Engineered Performance Solutions: + To permit the hydrant booster to not be located adjacent to principal vehicular access to the site and within 10m of the external wall of the building the contrary to Clause 7.3(d)(ii)&(iii) of AS 2419.1-2005 + To allow the external stairway (inclusive of stair landings), to be located within 3m - 6m of openings in the external wall not protected in accordance with BCA clause C3.4 or parts of the external wall not achieving a minimum FRL of 60/60/60.	Fire Engineering Report No..... prepared by ..... dated .....	✓



## 5.0 REQUIRED FRLs: BCA TABLE 3 - TYPE A CONSTRUCTION

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

### Notes:

- + Any lightweight construction in a fire wall or an internal wall required to have an FRL is to comply with Specification C1.8.
- + All elements of an external wall assembly (except those allowed under Clause C1.9) must be non-combustible. This includes, framing, integral formwork, insulation, sarking, façade coverings, and the like.
- + Fire rated shafts are required to be enclosed at the top and bottom by construction having an FRL of not less than what the shaft requires (in both directions)
- + Lift shafts are required to be enclosed at the top of the shaft with fire rated construction having an FRL of 120/120/120.
- + Fire isolated exits are to be provided with a fire rated “lid” that achieves an FRL of 120/120/120.
- + Where roof lights are proposed they are required to be located not less than 3 metres from a roof light in an adjoining fire separated part; and must not be more than 20% of the area of the roof.
- + Any loadbearing internal walls or loadbearing fire walls are to be masonry or concrete.
- + External walls must be non-combustible construction. Non-loadbearing parts of an external wall that are more than 3m from a fire source feature need not be fire rated.



## 6.0 CONCLUSION

This report contains an assessment of the referenced architectural documentation for the proposed development which comprises the construction of a new three (3) storey school building containing teaching and learning areas; library; administration and staff areas; Covered Outdoor Learning Area (COLA); canteen; shared community facilities a preschool and on-grade staff parking carpark for 32 cars against the Building Code of Australia 2019, Amendment 1.

In view of the above assessment, we can confirm that subject to the above measures being appropriately addressed by the project design team, compliance with the provisions of the BCA and Access is readily achievable.

In addition, it is considered that such matters can adequately be addressed in the preparation of the Crown Certificate documentation without giving rise to any inconsistencies with the Development Approval.

If you have any questions or require further information, please do not hesitate to contact me on 9211 7777.

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