

27 July 2017

Our Ref: P216\_192

TKD Architects  
Level 1, 19 Foster Street  
SURRY HILLS NSW 2010

Attention: Robert Denton

**Re: Schofields Public School – St Albans Road, Schofields**  
**Re: BCA Capability Statement for DA Submission**

Design Confidence has been engaged to provide building regulatory advice regarding the compliance status of the proposed primary school development in the context of the prescriptive requirements as contained within the Building Code of Australia (BCA) 2016 – Volume 1.

This statement has been provided to accompany the Development Application submission for the subject development.

A broad assessment has been undertaken of the proposed design (as detailed within the documentation listed in Table 1 below).

**Table 1 – Architectural Drawings**

PLAN TITLE	DRAWING NO	REVISION	DATE
Proposed Site Plan	AR-DA-1102	P1	03.07.2017
Ground Floor Plan	AR-DA-2001	P1	03.07.2017
First Floor Plan	AR-DA-2002	P1	03.07.2017
Roof Plan	AR-DA-2003	P1	03.07.2017
Elevations	AR-DA-3001	P1	03.07.2017
Sections	AR-DA-3101	P1	03.07.2017

The broad assessment undertaken revealed that the proposed design is capable of complying with the relevant performance requirements of the BCA.

**Fire Safety Measures**

Table 2 below outlines the relevant statutory fire safety measures that will be provided as part of the development such that compliance with the BCA is achieved.

**Table 2 – Fire Safety Measures**

STATUTORY FIRE SAFETY MEASURES	PROPOSED STANDARD OF PERFORMANCE
Fire hydrant system	BCA Cl. E1.3 & AS2419.1-2005
Fire hose reels	BCA Cl. E1.4 & AS2441-2005
Portable fire extinguishers	BCA Cl. E1.6 & AS2444-2001
Mechanical air handling (Auto shutdown)	BCA Cl. E2.2 & Clause 5 of Spec. E2.2 & AS/NZS1668.1-2015
Emergency lighting	BCA Cl. E4.2, E4.4 & AS2293.1-2005
Exit signs	BCA Cl. E4.5, E4.8 & AS2293.1-2005
Lightweight construction	BCA Cl. C1.8 & Spec. C1.8
Fire seals protecting openings in fire-resisting components of the building	BCA Cl. C3.15, Spec. C3.15, AS1530.4-2005 & AS4072.1-2005 with tested prototype and manufacturers specifications

We are of the opinion that compliance can be achieved, be it via either complying with the DTS provisions or Performance requirements of the BCA.

This statement should not be construed as relieving any other parties of their legislative obligations.

I possess Indemnity Insurance to the satisfaction of the building owner or my principal.

Yours Faithfully



Nicolas Hurtado

**Associate**

For Design Confidence (Sydney) Pty Ltd



DESIGN CONFIDENCE

TKD Architects

Schofield's Public School

Return Brief

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Project: Schofields Public School  
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#### Revision History:

OUR REFERENCE	REMARKS	ISSUE DATE
P216_192_ReturnBrief LS	Completed report issued to client.	12 February 2017

# 1. INTRODUCTION

## 1.1 GENERAL

This return brief report has been prepared at the request of TKD Architects and relates redevelopment of Schofield Public School to enable the school to increase capacity for students. This involves the replacement of seven demountables via the provisions of twenty new permanent teaching spaces, as well as a new administration area, hall, library and toilets.

The purpose of this report is to identify in broad terms the compliance status of the proposed building when assessed against the –

- The relevant prescriptive requirements contained within the Building Code of Australia (BCA) 2016;
- The Disability (Access to Premises – Buildings) Standards 2010.

This *Return Brief* is issued to offer the design team an indication of BCA compliance and to enable design progression.

## 1.2 APPLICABLE CODES AND STANDARDS

The assessment contained herein is based upon, but not limited to, the following codes and standards –

- The relevant prescriptive requirements contained within the Building Code of Australia (BCA) 2016;
- The Disability (Access to Premises – Buildings) Standards 2010.

## 1.3 SCOPE

The scope of this report is based on the Design Confidence fee proposal dated 13 June 2016 and the acceptance by Design Confidence's client, TKD Architects via email correspondence dated the 17 August 2016.

This report does not assess the level of property protection, business interruption or environmental protection associated with the development.

## 1.4 PROJECT TEAM

The ultimate client is the Department of Education. The project team is listed within Table 1.1 below –

**Table 1.1 – Project Team**

ROLE	COMPANY	REPRESENTATIVE
Client	Department of Education	
Project Manager	Cadence Australia	Hugh Kelly
Architect	TKD	Robert Denton Sasha Jovanovic Valentina Colombo
BCA / Access Consultant	Design Confidence	Luke Sheehy Nicolas Hurtado

## 1.5 DOCUMENTATION

The assessment in this report is based on the documentation listed within Table 1.2 below, as prepared by TKD Architects as contained within email correspondence issued to the design team on the 03 February 2017.

**Table 1.2** – Architectural drawings

PLAN TITLE	DRAWING NO	REVISION	DATE
Ground Floor Plan	AR-SK-2001	-	-
First Floor Plan	AR-SK-2002	-	-

Design Confidence is not responsible for checking the accuracy or consistency of drawings and other project documents produced by others.

## 2. PROJECT DESCRIPTION

For the full description of the development, the reader is referred to the project documentation. The following brief description is provided to set the return brief in context.

### 2.1 BUILDING CHARACTERISTICS

**Table 2.1** – Building Characteristics

DESCRIPTION OR REQUIREMENT	
Permanent Teaching Spaces	
Building Classification	Class 9b
Rise in Storeys	Two (2)
Construction Type	Type B
Effective Height	<12m
Floor area & volume limitations	< 5,500m <sup>2</sup> < 33,000m <sup>3</sup>
Canteen + Multi-Purpose Space	
Building Classification	Class 9b
Rise in Storeys	One
Construction Type	Type C
Effective Height	<12m
Floor area & volume limitations	< 3,000m <sup>2</sup> < 18,000m <sup>3</sup>
Existing Buildings (Hall / Netball Court + Special Program)	
Building Classification	Class 9b
Rise in Storeys	One
Construction Type	Type C
Effective Height	<12m
Floor area & volume limitations	< 3,000m <sup>2</sup> < 18,000m <sup>3</sup>



### 3. ITEMS ARISING FROM APPRAISAL

It is noted that the information provided below is preliminary in nature and floor area calculations have not yet been undertaken. The information provided below indicates the general methodology proposed to ensure compliance with the BCA is achieved.

#### 3.1 FIRE RESISTANCE

##### 3.1.1 Fire Resisting Construction

Based upon the documentation provided the buildings located throughout the site achieves a Class 9b classification, the required fire-resisting construction is detailed within **Tables 3.1 & 3.2** below.

**Table 3.1 – Fire Resistance Levels – Permanent Teaching Spaces**

BUILDING ELEMENT	CLASS OF BUILDING – FRL (IN MINUTES) STRUCTURAL ADEQUACY / INTEGRITY / INSULATION
<b>9b</b>	
<b>EXTERNAL WALL</b> (including any column and other building element incorporated therein) or other external building element, where the distance from any fire-source feature to which it is exposed is –	
For loadbearing parts	
less than 1.5 m	120/120/120
1.5 to less than 3m	120/90/60
3m to less than 9m	120/30/30
9m to less than 18m	120/30/--
18m or more	--/--/--
For non-loadbearing parts	
less than 1.5 m	--/120/120
1.5 to less than 3m	--/90/60
3m or more	--/--/--
<b>EXTERNAL COLUMN</b> not incorporated in an external wall –	
For loadbearing columns	
Less than 18m	120/--/--
18m or more	--/--/--
For non-loadbearing columns	
--/--/--	
<b>COMMON WALLS and FIRE WALLS –</b>	120/120/120
<b>INTERNAL WALLS –</b>	
Fire-resisting lift and stair shafts –	
loadbearing	120/120/120
non-loadbearing	--/120/120
Bounding public corridors, public lobbies and the like –	
loadbearing	120/--/--
non-loadbearing	--/--/--
Between or bounding sole-occupancy units –	
loadbearing	120/--/--
non-loadbearing	--/--/--
<b>OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES and</b>	
<b>COLUMNS –</b>	120/--/--
<b>FLOORS</b>	30/30/30
<b>ROOFS</b>	--/--/--

**Table 3.2 – Fire Resistance Levels – Canteen + Multi-Purpose Space & Existing Buildings**

BUILDING ELEMENT	CLASS OF BUILDING – FRL (IN MINUTES)		
	STRUCTURAL ADEQUACY / INTEGRITY / INSULATION		
9b			
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any fire-source feature to which it is exposed is –			
For loadbearing parts			
less than 1.5 m	90/90/90		
1.5 to less than 3m	60/60/60		
3m or more	--/--/--		
For non-loadbearing parts			
less than 1.5 m	90/--/--		
1.5 to less than 3m	60/--/--		
3m or more	--/--/--		
EXTERNAL COLUMN not incorporated in an external wall –			
less than 1.5 m	90/--/--		
1.5 to less than 3m	60/--/--		
3m or more	--/--/--		
COMMON WALLS and FIRE WALLS –	90/90/90		
INTERNAL WALLS –			
Bounding public corridors, public lobbies and the like –			
--/--/--			
Between or bounding sole-occupancy units –			
--/--/--			
Bounding a stair if required to be rated	60/60/60/		
ROOFS	--/--/--		

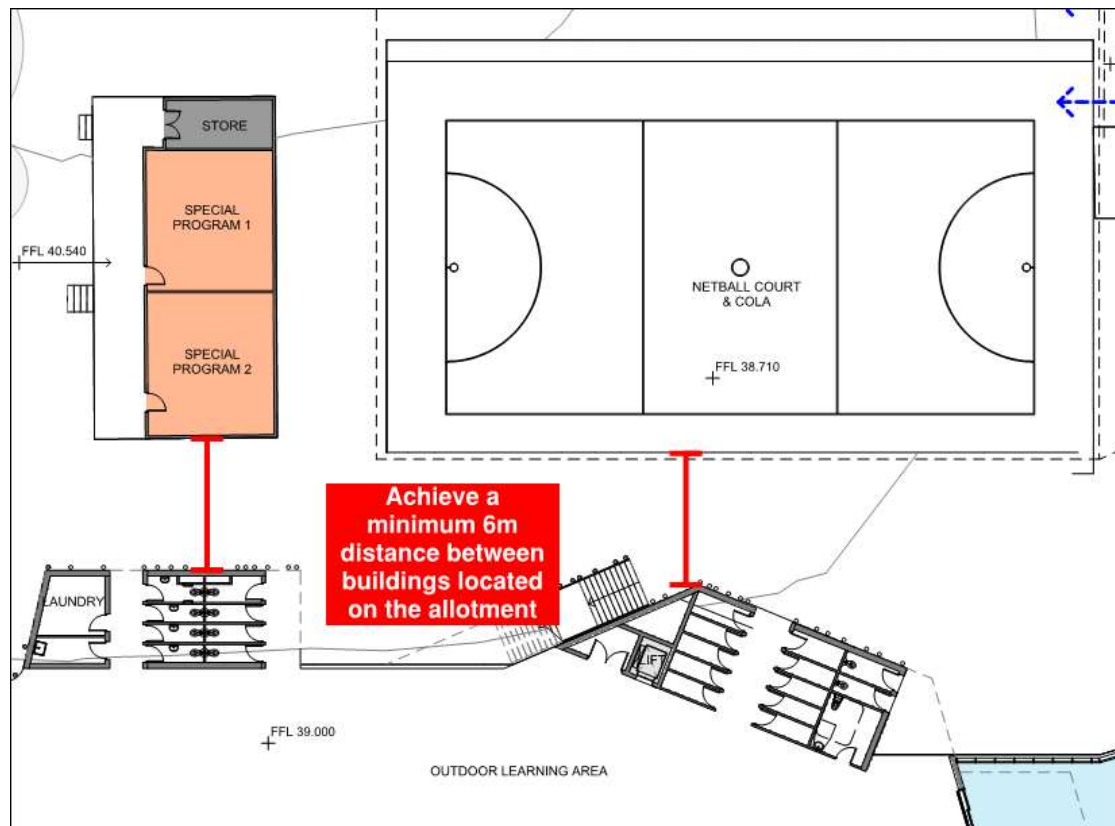
### 3.1.2 Fire Spread between Buildings located on the Allotment

Referring to Figure 3.1 below, it can be readily seen that the subject allotment contains numerous buildings located on the allotment. To restrict the ability to spread from one building to another the BCA places restrictions on how close buildings can be located to one another, which is as follows –

- Permanent Teaching Spaces – Buildings within this group are two storeys and are required to be located not closer than 6m to another building & 3m from a side / rear boundary; and
- Canteen + Multi-Purpose Space & Existing Buildings – Building within these groups are single storey and are required to be located not closer than 3m to another building & 3m from a side / rear boundary.

*With respect to the subject development the following comments are made –*

- Permanent Teaching Spaces – A review of the architectural drawings revealed that the subject building appears to be located within 6m of the existing hall / netball. It is suggested that to avoid the need to protect openings within the external wall of the new building that a minimum distance of 6m be maintained between the buildings;



**Figure 3.1 – Fire Spread between Buildings**

## 3.2 ACCESS & EGRESS

### 3.2.1 Design of Exits

- Any floor containing more than 50 persons is required to be provided with access to not less than two exits (2);
- The maximum distance between these two exits cannot exceed 60m;
- The design of the egress / exit system will be dictated by the projected population of occupants per floor. For example if the top floor contains a population of 450 persons, the aggregate exit width and the path of travel to each exit needs to be **4m**, hence the options for compliance could be –
  - A. 2m per exit;
  - B. 1m for one exit and 3m for the other

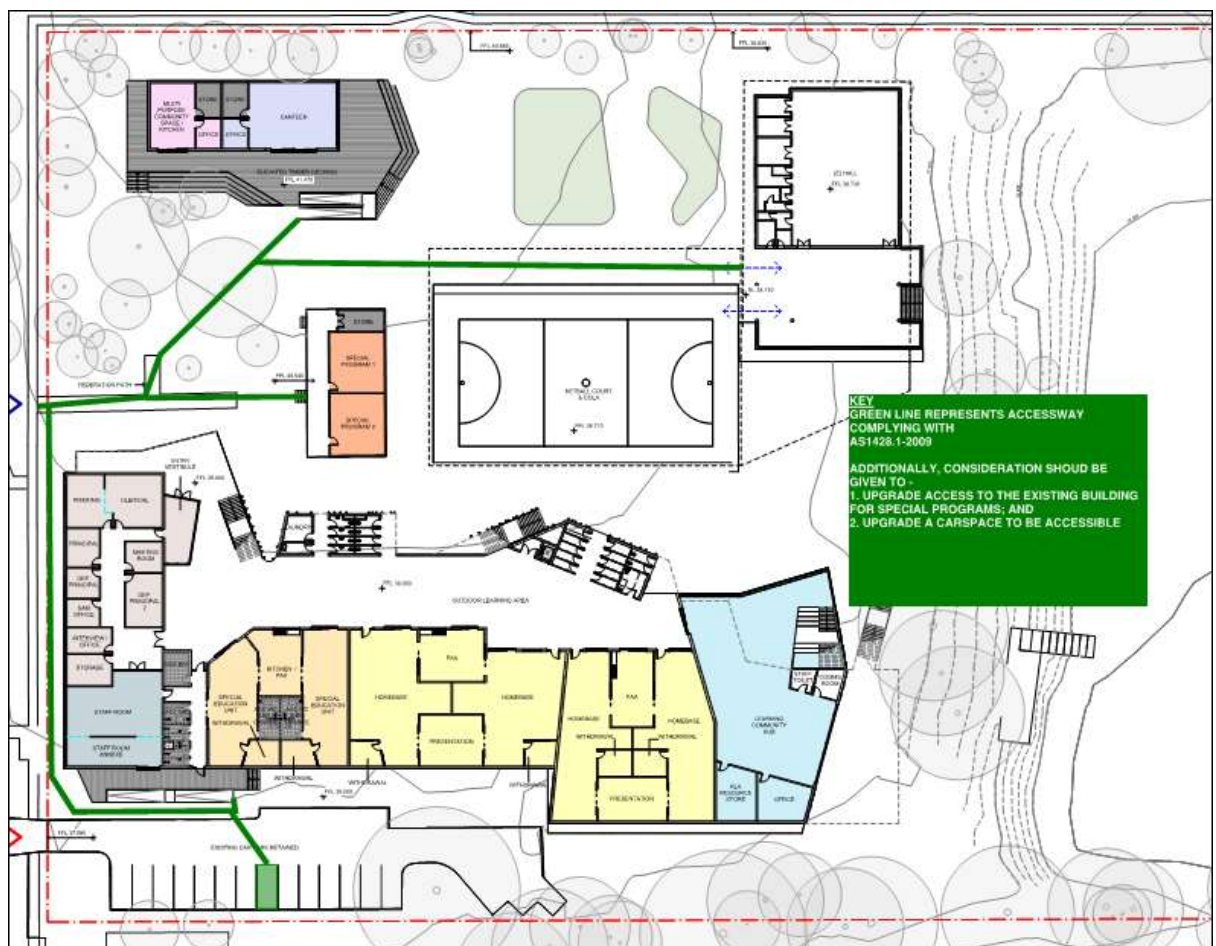
### 3.3 ACCESS FOR PEOPLE WITH A DISABILITY

#### 3.3.1 Access for People with a Disability

Access for people is to be provided –

- To all areas to and throughout the building;
- Access to the building is required to be provided from any other building located on the allotment.

It is suggested that where possible external access to the building be provided via walkways having a gradient not steeper than 1:20. The use of walkways negates the need for ramps incorporating handrails and kerb rails, refer to Figure 3.2 below.



**Figure 3.2 – Accessways**

#### 3.3.2 Hearing Augmentation

It is expected that the building would be provided with an inbuilt amplification system. Therefore, a hearing augmentation system is required to be provided.

### 3.3.3 Wheelchair Seating Spaces

If fixed seating is proposed within the theatre space, then wheelchair seating spaces complying with AS1428.1 are also required to be provided –

- Up to 150 fixed seats – 3 spaces, being 1 single space and 1 group of 2 spaces;
- 151 to 800 fixed spaces – 3 spaces, plus 1 additional space for each additional 50 seats in excess of 150, being 1 single space and not less than 1 group of 2 spaces and not more than 5 spaces in any other group.

The location of wheelchair seating is to be representative of the range of seating provided.

### 3.3.4 Accessible Car parking spaces

*Whilst it appears no new works are proposed to the existing carpark it is suggested that consideration be given to upgrading one space such that it accessible for persons with a disability and compliant with AS/NZS2890.6 (including a shared space).*

## 3.4 FIRE SAFETY MEASURES

The following fire safety measures are required to be installed within the building –

- Fire Hydrants;
- Fire Hose Reels;
- Automatic shutdown of Mechanical Air Handling System;
- Emergency Lighting & Exit Signage;
- Portable Fire Extinguishers;
- External drenchers / fire rated glass / fire shutters;

*With respect to the fire hydrant system, it is recommended that as part of the works the hydrant system be completed upgraded such that compliance with AS2419.1-2005 is achieved*

### 3.5 SANITARY FACILITIES

The sanitary facilities required to be provided within the subject building are detailed below in Table 3.3, they have been based upon the following project population –

- Students – Population 2000
- Staff – Population 200

**Table 3.1** – Required Sanitary Facilities

OCCUPANT POPULATION NUMBER				WC REQUIRED	URINAL REQUIRED	BASIN REQUIRED
Students	<b>1000</b>	Male	500	<b>7</b>	<b>6</b>	<b>9</b>
		Female	500	<b>13</b>	-	<b>9</b>
Staff	<b>100</b>	Male	50	<b>3</b>	<b>3</b>	<b>2</b>
		Female	50	<b>4</b>	-	<b>2</b>

\*Sanitary facilities for staff and student facilities cannot be shared;

\*\* the unisex accessible sanitary facility can be counted once for each sex.

### 3.6 ENERGY EFFICIENCY

If the building is provided with air-conditioning system, then the building is required to be treated as a conditioned space for the purpose of Section J and incorporate the following –

- The building fabric (ie external walls, ceilings floors and the like) are to achieve the specific Total R-Value;
- Any glazing located within the building fabric is to achieve specific thermal properties and characteristics;
- Building services (air-handling and artificial lighting) are to achieve a specific level of performance.

## 4. CONCLUSION

If the information provided above is incorporated into the design as it progresses, compliance with the BCA will be achieved.

Report By



Luke Sheehy

**Principal**

For Design Confidence (Sydney) Pty Ltd

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