Date: 03/09/2020
Our Reference: 201246

BCA COMPLIANCE ASSESSMENT
PROPOSED BUILDING WORK

Change of Use & Alterations to Educational Establishment
(Alesco Senior College)

27 Chapman Street CHARLESTOWN NSW

Introduction

This report is an assessment of the plans for the proposed ***Change of Use & Alterations to Educational Establishment (Alesco Senior College)*** at 29 Chapman Street, Charlestown NSW to determine if the proposed building work complies with the Building Code of Australia (***BCA 2019 Amdt.1***).

The plans assessed were as follows: *Architectural Plans prepared by CKDS Project No.20072 Drg. No. DA-0101,DA-1001,DA-1101,DA-2001,DA-3001,DA-7001 Issue: B Dated: 02/09/2020.*

Plans for the proposed building work were assessed against the Deemed-to-Satisfy (DTS) Provisions of the BCA.
The DTS provisions of the BCA are prescribed methods of construction that if adopted are deemed to satisfy the BCA performance requirements.

Other materials, forms of construction or design elements that differ from the DTS provisions may be used provided that they can be shown to meet the relevant BCA performance requirement (*a Performance Solution).*

Generally the report only comments on non-compliances that are shown on plans, or where insufficient detail is shown to confirm compliance. Other comment may be made where necessary to explain requirements for interrelated elements and systems of the building.

The assessment relates to the BCA and NSW Environmental Planning and Assessment legislation, including *Clause 93* of the *EP&A Reg. 2000* - this considers the change of building use for an existing building, and the fire protection, structural capacity and Category 1 Fire Safety Provisions that will be appropriate for the new building use.

Description of Building/s

Location:	27 Chapman Street, CHARLESTOWN NSW	
Use of Building:	Educational Establishment	
Classification:	9b & 10a	(A3.2/A3.3)
Rise in Storeys:	1	(C1.2)
Floor Area/Volume:	Main Building (*Inc. Learning Spaces, Offices Etc.)* Approx. **398 m²**	
	Multi-Purpose Facility *(Inc. Amenities)* Approx. **362m2**	

Fire-Resisting Construction

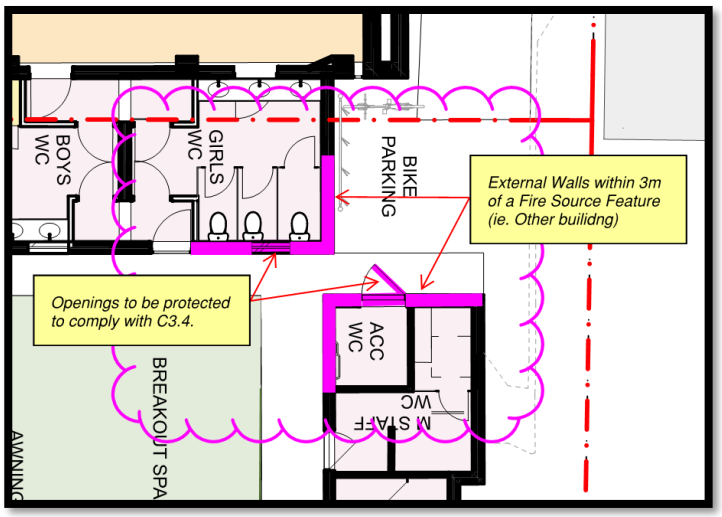
The existing building under *BCA 2019 Amdt.1* is Type C Fire-resisting construction in accordance with *Table C1.1, C2.2*.

Building elements require the following fire resistance levels (FRLs):

- External Walls (distance from a Fire-Source Feature):

  Within 1.5m – FRL ***90/90/90***

  1.5m to less than 3m – FRL ***60/60/60*** (Specification C1.1)



(*Figure 1 –* *Exposure to a fire-source feature requiring Fire Resisting Construction*)

The External Walls of the buildings within 3m of a Fire-Source Feature are highlighted in the diagram above, the requirement to have fire-resisting construction is to reduce the fire compartment size to less than 500m2.

The External Walls are constructed of masonry and may achieve the required FRL – this is to be confirmed by a Structural Engineer or evidence of a tested system.

The covered walkway structures (*Class 10a*) connecting the buildings are not considered to significantly contribute to the spread of fire and smoke between separate buildings – and are not Fire Source Features.

Fire Hazard Properties required for new construction materials are as follows:

- Floor materials and floor coverings: a critical radiant flux not less than 2.2 and maximum smoke development rate of 750 percent-minutes;

- Wall and Ceiling Lining Materials: Material Group 1, 2 or 3 and a smoke growth rate index not more than 100 or an average specific extinction area less than 250m²/k

  (Specification C1.10, C1.10a)

Protection of Openings

Any openings within the walls highlighted in *Figure 1* must comply with C3.4 - including:

(i) Doorways—

(A) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or

(B) –/60/30 fire doors that are self-closing or automatic closing.

(ii) Windows—

(A) internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or

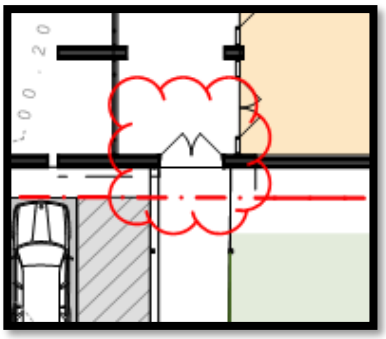
(B) –/60/– fire windows that are automatic closing or permanently fixed in the closed position; or

(C) –/60/– automatic closing fire shutters.

Provision and Construction of Exits

Exits shown on plans satisfy requirements for number of exits, travel distances and distance between alternative exits. (D1.2, D1.4, D1.5)

Exit Door from the Multi-Purpose Centre must swing in the direction of exiting the building. (D2.20(b))



(*Figure 2 –* *Exit Doors swinging against the path of egress from the Multi-Purpose Centre****)***

Exit doors must be readily openable without a key from the side that faces a person seeking egress by a single hand downward action on a single device which is located between 900 mm and 1.1 m from the floor. (D2.21)

Exit doors are to be readily openable without a key from the exit side and by a single hand pushing action on a single device such as a panic bar located between 900 mm and 1.1 m from the floor. (NSW D2.21(b))

Emergency Lighting complying with *AS 2293.1- (2018)* is required in any room or space to which there is public access in every storey of the building. (E4.2(f))

Emergency lighting complying with *AS 2293.1-(2018)* must be installed in every passageway or corridor that is part of the path of travel to an exit; any room with a floor area more than 100m² that does not open to a corridor or space that has emergency lighting or to a road or open space, and any room that has a floor area more than 300m². (E4.2(b))

Exit signs complying with *AS 2293.1-(2018)* are required over exit doors and in appropriate positions in corridors, hallways and the like indicating the direction to a required exit where exits are not readily apparent to persons occupying or visiting the building. (E4.5, E4.6)

Fire Fighting Equipment

The proposed building requires the provision of the following firefighting equipment:

- Portable Fire Extinguishers. (Part E1)

Portable fire extinguishers are to be installed suitable for risk classes associated with occupancy of the building. (E1.6)

Smoke Hazard Management

Smoke hazard management systems are not required for this building, (i.e. no smoke detection and alarm systems, smoke exhaust and/or fire sprinkler systems or the like).
(Tables E2.2a & E2.2b))

Conclusion

BCA compliance issues that have been identified in this report need to be incorporated into building design and construction to ensure that the building when completed will comply with BCA requirements and be suitable for occupation and use.

Glenn Levick
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BCA Certifiers (Australia) Pty Ltd

APPENDIX

REQUIRED FIRE SAFETY MEASURES (PROPOSED)	MINIMUM STANDARD OF PERFORMANCE (BCA 2019 Amdt.1 /Referenced Australian Standards)
Emergency lighting	BCA E4.2 & AS/NZS 2293.1-2018
Exit signs	BCA E4.5, E4.6, E4.8 & AS/NZS 2293.1-2018
Fire doors	BCA Spec C3.4 & AS 1905.1-2015 Amdt 1
Fire windows	BCA C3.4, BCA Spec C3.4
Portable fire extinguishers	BCA E1.6 & AS2444-2001

Category 1 fire safety provision means the following provisions of the *Building Code of Australia*, namely, EP1.3, EP1.4, EP1.6, EP2.1, EP2.2 and EP3.2 in Volume One of that Code and P2.3.2 in Volume Two of that Code.

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