



# BCA Design Compliance Report (BCA Consultant)

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Construction of a Rural Fire Station 9 Polo Flat Road, Cooma |



Prepared for: NRBS Architecture

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## Authorisation

Revision	Comment / Reason for Issue	Issue Date	Prepared by	Reviewed by
1	Schematic Design Review	17-Mar-23		
			Angus Peters	Seb Howe (BDC2420)

## Revision History

Revision	Comment / Reason for Issue	Issue Date	Prepared by
01	Schematic Design Review	17-Mar-23	Angus Peters

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# 1 Executive Summary

Modern Building Consultants (MBC Group) as the appointed BCA Consultant for the proposed development, have reviewed architectural design documents prepared by NBR Architecture (refer appendix A) for compliance with the National Construction Code - Building Code of Australia Volume One Draft 2022 (referred to as BCA).

## 1.1 Performance Solutions - Fire & Life Safety

The assessment of the design documentation has revealed that the following areas are required to be assessed against the relevant Performance Requirements of the BCA in accordance with Clause 18 of the Building and Development Certifiers Regulation 2020. The submission for a Crown Approval will need to include verification from a Certifier – Fire Safety, where determined permissible under A2G1 of the BCA, for the following aspects: -

DTS Clause	Description of Non-Compliance	Performance Requirement
	<b><u>Fire Hydrants</u></b>	
E1D2	Two external fire hydrants are currently proposed on the site. A shortfall of up to 20m to the proposed Storage Building has been identified.	E1P3
	This shall be addressed through hydraulic design modifications or a fire engineered performance solution.	

Any Performance Solution relating to category 2 items (C1P9, E1P3, E1P4, E1P6, E2P2, E3P2) will be subject to voluntary consultation and approval by Fire and Rescue NSW as part of the Crown Approval process. NSW RFS to advise if they do not wish to complete referral.

## 1.2 Performance Solutions Non-fire or Access Related

The assessment of the design documentation has revealed that the following areas are required to be assessed against the relevant Performance Requirements of the BCA in accordance with Clause 18 of the Building and Development Certifiers Regulation 2020. The submission for a Crown Approval will need to include verification from an Accredited Consultant (suitably qualified in the relevant field), where determined permissible under A2G1 of the BCA, for the following aspects:

DTS Clause	Description of Non-Compliance	Performance Requirement
	<b><u>Weatherproofing</u></b>	
Part F3	A performance solution is required to satisfy Performance Requirement F3P1. This shall be prepared by an Architect or Façade Engineer. Alternatively, compliance with the DTS Provisions of Part F3 is required.	F3P1

### 1.3 Design Details Required

The assessment of the design documentation has revealed that the following areas require further details to demonstrate compliance with the prescriptive provisions of the BCA

DTS Clause	Description
	<b><u>Doorways and Doors</u></b>
D3D24	The proposed sliding door at the main entrance of the proposed FCC Building is considered a required exit. This door is required to be openable under a force not more than 110N or power operated and connected to a fail-safe device.
	<b><u>Bushfire</u></b>
NSW G5	Please provide a bushfire assessment from a qualified Bushfire Assessor to determine if the buildings are bushfire affected and level of bushfire protection required.

The documentation will need further detailing such as door hardware, construction specifications, services design and manufacturer's details, as outlined in Appendix D of this report.

The application for Crown Approval shall be assessed under the relevant provisions of the Environmental Planning and Assessment Act 1979 (As Amended) and the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021.

Angus Peters  
MBC Group

## 2 Introduction

Modern Building Consultants (MBC Group) as the appointed BCA Consultant for the proposed development subject of this report by NBRS Architecture. This report is based upon a desktop review of architectural details (as listed in Appendix A), presently ready for tender submission, against the applicable provisions of the National Construction Code - Building Code of Australia Volume One DRAFT 2022.

### 2.1 Purpose

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy (DtS) provisions of the BCA.

### 2.2 Methodology

The methodology applied in undertaking this assessment has included: -

- A desktop review of architectural plans, as listed in Appendix A
- Detailed assessment of Sections C, D, E, F, G, H and J (as applicable / relevant) of the BCA
- Discussions with the design development team to gain an understanding of the development proposed.

### 2.3 Limitations

This report does not include or imply any detailed assessment for design, compliance or upgrading for:

- the structural adequacy or design of the building;
- the inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and
- the design basis and/or operating capabilities of any proposed
  - electrical
  - mechanical
  - hydraulic
  - fire protection services.

This report does not include, or imply compliance with:

- the National Construction Code – Plumbing Code of Australia Volume 3
- the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to)
- The deemed to satisfy provisions of Part D4 and F4D5 of BCA DRAFT 2022
- The deemed to satisfy provisions of Section J of BCA DRAFT 2022
- Demolition Standards not referred to by the BCA;
- Work Healthy and Safety Act 2011;
- An out of cycle change to the Building Code of Australia.
- Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority,



Work Cover, Roads and Maritime Services (RMS), Roads and Transport Authority, Local Council, ARTC, Department of Planning and the like; and

- Conditions of Development Consent issued by the Local Consent Authority

This report has been prepared by MBC in the capacity as the appointed Certifier for the proposed development. This report is an assessment of the proposed development against the DtS provisions of the applicable BCA.

## 3 Development Description & Assessment Information

### 3.1 Proposed Development

The proposed development comprises a single storey Fire Control Centre Building utilised for internal training and office purposes, a single storey storage shed/clean store and associated carparking, training ground and helipad.

### 3.2 Location and Description

The site is located at lot 14 of DP250029.



### 3.3 BCA Classification (Part A6)

The proposed development shall contain the following classifications: -

- Class 5: being an office building or part
- Class 7b: being a warehouse building or part

### 3.4 Rise in Storeys (Clause C2D3)

The proposed development has been assessed to have a rise in storeys of 1.

### 3.5 Type of Construction Required (Clause C2D2 / Table C2D2)

The proposed development is required to be Type C Construction. Specification 5 outlines the fire resistance required by certain building elements. This has also been provided in Appendix B.



### 3.6 Floor Area and Volume Limitations (Clause C3D3 / Table C3D3)

The development is limited to the following floor area and volume compartment limitations:

Class		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>
6, 7, 8 or 9a	Max floor area -	5,000m <sup>2</sup>	3,500m <sup>2</sup>	2,000m <sup>2</sup>
	Max volume -	30,000m <sup>3</sup>	21,000m <sup>3</sup>	12,000m <sup>3</sup>

### 3.7 Building Data Summary

Part of Development	Use	Class	Floor Area (approx.) m <sup>2</sup>	Population (using D2D18)
Proposed FCC - Ground Floor	Office	5	1,086	108
Proposed Storage Shed - Ground Floor	Storage	7b	575	11

Notes:

- The above populations have been based on the floor areas and calculations in accordance with Table D2D18 of the BCA.
- The floor areas have been adjusted to account for ancillary areas such as sanitary facilities, corridors, shelving and / or racking layouts in storage areas by a factor of 0.8.
- The Carpark areas have been considered ancillary to the use for the purposes of population numbers

Summary of Construction and Building – Proposed FCC	
Use(s)	Office
Classifications(s)	5
Number of Storeys contained	1
Rise in Storeys	1
Type of Construction	Type C
Effective Height	0

Summary of Construction and Building – Proposed FCC	
Climate Zone	7
Importance Level	2

Summary of Construction and Building – Proposed Storage Shed	
Use(s)	Storage
Classifications(s)	7b
Number of Storeys contained	1
Rise in Storeys	1
Type of Construction	Type C
Effective Height	0
Climate Zone	7
Importance Level	2

## 4 Proposed Fire Safety Schedule

The following is a draft Fire Safety Schedule for the proposed building, listing the likely measures and standards of performance required, this schedule shall be subject of further development and review as part of the Performance Solutions assessment:

### Fire Safety Schedule

Section 78 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021

Premises: Cooma Rural Fire Station  
Address: 9 Polo Flat Road, Cooma

The following essential fire safety measures shall be implemented in the whole of the building premises and each of the fire safety measures must satisfy the standard of performance listed in the schedule which, for the purposes of Section 78 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021, is deemed to be the current fire safety schedule for the building.

### SCHEDULE – Base Building BCA Year 2022 Type of Construction C

	Measure	Status	Existing Performance Standard
1.	Automatic fail safe devices	N	BCA 2022 Clause D3D24 AS 1670.1-2018
2.	Emergency lighting	N	BCA 2022 Clause E4D2, E4D3 E4D4, AS 2293.1-2018
3.	Exit and directional signage	N	BCA 2022 Clause E4D5, NSW E4D6 & E4D8, Spec 25 AS 2293.1-2018
4.	Fire hose reel systems	N	<b>Storage Building</b>  BCA 2022 Clause E1D3, AS 2441-2005
5.	Fire hydrant systems	N	BCA 2022 Clause E1D2, AS 2419.1-2021,
6.	Mechanical air handling systems	N	BCA 2022 E2 and NSW Part E2 AS 1668.2-2012

	Measure	Status	Existing Performance Standard
7.	Portable fire extinguishers	N	BCA 2022 Clause E1D14, AS 2444-2001

## 5 Appendix A – Architectural Plans Reviewed

The following documentation, prepared by NBRS was used in the assessment and preparation of this report: -

Drawing No.	Title	Date	Drawn By	Revision
22396-NBRS-DA-DR-A-210	Ground Floor Plan	22/02/2023	NBRS	P2
22396-NBRS-A-COO-DA-401	SITE SECTIONS	28/02/2023	NBRS	P3
22396-NBRS-A-COO-DA-611	SIGNAGE DETAILS	28/02/2023	NBRS	P3
22396-NBRS-A-DA-DR-201	Site Plan Proposed	22/02/2023	NBRS	P2
22396-NBRS-DA-DR-A-301	Site Elevations	22/03/2023	NBRS	P2
H-02	Site Plan – Hydraulic Services	11/09/2020	NBRS	3

## 6 Appendix B - Specification 5 Fire-Resisting Construction

### 6.1 Type C Fire-Resisting Construction

Table S5C24a: Type C construction: FRL of parts of external walls

Distance from a <i>fire-source feature</i>	FRL (in minutes): <i>Structural adequacy/ Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	90/90/90	90/90/90	90/90/90	90/90/90
1.5 to less than 3 m	-/-/-	60/60/60	60/60/60	60/60/60
3 m or more	-/-/-	-/-/-	-/-/-	-/-/-

Table S5C24b: Type C construction: FRL of external columns not incorporated into an external wall

Distance from a <i>fire-source feature</i>	FRL (in minutes): <i>Structural adequacy/ Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5m	90/-/-	90/-/-	90/-/-	90/-/-
1.5 to less than 3 m	-/-/-	60/-/-	60/-/-	60/-/-
3 m or more	-/-/-	-/-/-	-/-/-	-/-/-

Table S5C24c: Type C construction: FRL of common walls and fire walls

Wall type	FRL (in minutes): <i>Structural adequacy/ Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
<i>Loadbearing</i> or non-loadbearing	90/90/90	90/90/90	90/90/90	90/90/90

Table S5C24d: Type C construction: FRL of internal walls

Location	FRL (in minutes): <i>Structural adequacy/ Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Bounding <i>public corridors</i> , public lobbies and the like	60/60/60	-/-/-	-/-/-	-/-/-



Between or bounding <i>sole-occupancy units</i>	60/60/60	-/-/-	-/-/-	-/-/-
Bounding a stair if <i>required</i> to be rated	60/60/60	60/60/60	60/60/60	60/60/60

Table S5C24e: Type C construction: FRL of roof

Location	FRL (in minutes): <i>Structural adequacy/ Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Roofs	-/-/-	-/-/-	-/-/-	-/-/-

## 7 Appendix E – Sanitary Facilities Calculations

The following has been determined from the submitted details from NBR Architecture Drawing No. 22396-NBRS-DA-DR-A-210 Rev P2.

The proposed number of sanitary facilities currently cater for 75 males and 75 females.



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