



Fire Engineering Concept Design Statement

Project Address: 99-101 Newcastle St, East Maitland NSW 2323

Prepared for: Health Design Australia Pty Ltd

Report Ref: 390503-99-101NewcastleSt-LoteFECDS-RevC

Date: 19/04/2024

Commercial in Confidence



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1.0 Introduction

This document relates to the alteration and fit out of an existing building located at 99-101 Newcastle St, East Maitland NSW 2323.

Lote Consulting have been appointed by Health Design Australia Pty Ltd to assess the proposed Performance Solutions identified in Section 3.0 of this report against the relevant National Construction Code (NCC) Building Code of Australia (BCA) 2022 Volume 1 Performance Requirements and prepare a Fire Engineering Concept Design Statement (FECDS) to accompany the Development Application (DA).

The scope of the FECDS is to develop a concept design to support a performance-based fire engineered design strategy for the subject premises. It represents the first stage of the design process for the development of a fire safety strategy for this facility. The Performance Based Design Brief (PBDB) and Fire Engineering Report (FER) will be developed in the next phase of this project (i.e. Detailed Design). The PBDB represents the formal consultation and approval process with the relevant Approval Authorities.

1.1 Project Stakeholders

The relevant project stakeholders that have been nominated by the Client for purposes of participating in the fire engineering process are outlined below in Table 1-1.

Table 1-1 – Project Stakeholders

Name	Company	Role
Jean-Michel Huet	Health Design Australia Pty Ltd	Client / Project Manager
Scott O'Donohue (BDC No: 1713)	Sure Scope Building Certifiers	BCA Consultant
Louise Mathison	Design Doctors Australia	Architect
James Allen	Centric Engineers	Fire Services Designer
Dr Amer Magrabi (BDC No: 0240) Yamin Ahmed Christopher Koch	Lote Consulting	Fire Safety Engineer

2.0 Principal Building Characteristics

Key BCA DtS reference criteria identified by the BCA Consultant, Scott O'Donohue from Sure Scope Building Certifiers is shown in Table 2-1.

Table 2-1 – BCA Deemed to Satisfy (DtS) Reference Criteria

	BCA Clause	Description or requirement
Part A6	Classification	Class 5 - Office
C2D2	Construction Type	Type B Construction applicable
C2D3	Rise in Storeys	3 Storeys
	Storeys Contained	3 Storeys
C2D3	Effective Height	11.3 m (Less than 12 m)
C3D3	Floor Area	Ground Floor ~ 234 m ²
		First Floor ~ 222 m ²
		Second Floor ~ 123 m ²
		Total 579 m ²
	Largest Fire Compartment	~ 234 m ² ~ 702 m ³
C3D4	Large-Isolated Building	No
D2D18	Floor population as advised by Client	Ground Floor – 24 (Based on BCA D2D18) First Floor – 13 (Based on BCA D2D18) Second Floor – 13 (Based on BCA D2D8)
E1D17 & E2D21	Special Hazard	Yes, Solar Panels on the roof
	Unusual features Voids / Atriums	No

3.0 Proposed Performance Solutions

Sure Scope Building Certifiers are the BCA Consultant for purposes of assessing compliance with the BCA as part of the Development Application (DA) for this project and have identified the following BCA DtS Variation in their BCA Report Ref: 23-0315). Table 3-1 summarises the BCA DtS Variations, Proposed Performance Solutions, relevant BCA Performance Requirements and BCA Assessment Methods. All other fire safety aspects are to comply with BCA DtS Provisions.

Table 3-1 – BCA DtS Variations, Proposed Performance Solutions, relevant BCA Performance Requirements and Assessment Methods

BCA Clause	BCA DtS Provisions	Performance Solution	Relevant Performance Requirement	Assessment Method / Acceptance Criteria
C4D3	<p>BCA Clause C4D3– Protection of openings in external walls –</p> <p>(2) The requirements of (1) only apply if the distance between the opening and the fire-source feature to which it is exposed is less than—</p> <p>(a) 3 m from a side or rear boundary of the allotment; or</p> <p>(b) 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or(c) 6 m from another building on the allotment that is not Class 10.</p>	<p>Performance Solution #1</p> <p>It is proposed to permit window openings to be located within 3 m of the boundary without being protected in accordance with BCA C4D3.</p>	C1P2 and C2P8	<p>Qualitative and Quantitative analysis based on BCA A2G2 (1)(a) and A2G2 (2)(b)(ii) 'Other Verification Methods'.</p> <p>With reference to BCA Performance Requirements C1P2 and C1P8, the acceptance criterion is a radiant critical heat flux of less than 13 kW/m² for piloted ignition and 20 kW/m² for non-piloted ignition in relation to fire spread between buildings.</p>

4.0 Reference Information

4.1 Reference Legislation

This assessment is based on the following reference legislation:

- 1) NSW Environmental Planning and Assessment Act, 1979.
- 2) NSW Environmental Planning and Assessment Regulation, 2021.
- 3) NSW Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation, 2021.
- 4) Building Code of Australia 2022 Volume 1, Australian Building Codes Board, 2022.

4.2 Reference Code & Guidelines

This assessment is based on the following reference codes and guidelines:

- 1) Australian Fire Engineering Guidelines, Australian Building Code Board, 2021.
- 2) Guide to the BCA, Australian Building Codes Board, 2023.
- 3) Engineers Australia, Society of Fire Safety, Role of Registered Practitioners in Fire Safety Engineering, 2015, available on [Lote Consulting Website](#).
- 4) Engineers Australia, Code of Ethics, 2018, available on [Engineers Australia website](#).

4.3 Documents Considered

This assessment is based on the following documentation:

- 1) BCA Report by Sure Scope Building Certifiers (Ref: 23-0315).
- 1) Architectural Drawings by Design Doctors Australia as listed in Table 4-1.

Table 4-1 – Architectural Drawings

Drawing No.	Title	Issue	Date
TF-01	Proposal Plan	04	01/08/2022
TF-01	Proposal Plan	04	01/08/2022
TF-01	Proposal Plan	04	01/08/2022

5.0 Conclusions

Lote Consulting have been appointed by Health Design Australia Pty Ltd to assess the proposed Performance Solutions identified in Section 4.0 of this report against the relevant Building Code of Australia (BCA) 2022 Volume 1 Performance Requirements and prepare a Fire Engineering Concept Design Statement (FECDs) to accompany the Development Application (DA).

Based on our review of the project documentation, it is our considered opinion that performance-based fire engineering can be undertaken to address identified variations from BCA DtS Provisions.

6.0 Quality Information

Revision	Revision Date	Details	Document Details		
			Prepared	Reviewed	Authorised
A	12/04/2024	For Design Team Review	Yamin Ahmed	Joanna Jin	Dr S A Magrabi Director – Fire & Risk Engineering BDC No: 0240
B	18/04/2024	For C10 Review	Yamin Ahmed	Joanna Jin	Dr S A Magrabi Director – Fire & Risk Engineering BDC No: 0240
C	19/04/2024	For C10 Review	Yamin Ahmed	Joanna Jin	Dr S A Magrabi Director – Fire & Risk Engineering BDC No: 0240

Note: For and on behalf of Lote Consulting Pty Ltd, this Fire Engineering Concept Design Statement is signed by an Accredited Practitioner (Fire Safety) and Fire Safety Engineer, Dr S A Magrabi in accordance with Section 18 of the NSW Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation (2021). It is noted that this Fire Engineering Concept Design Statement does not constitute a Section 6.16 Compliance Certificate under the NSW Environmental Planning and Assessment Act (1979).