DC PARTNERSHIP

Sandrick Projects

BCA & Access Design Assessment Report

Development Application Phase

Dee Why Village Plaza

24 Howard Avenue

Dee Why

Building Regulations | Accessibility | Fire Safety Engineering

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The following report register documents the development and issue of this and each subsequent report(s) undertaken by DC Partnership Pty Ltd.

Revision History—

OUR REFERENCE	REMARKS	ISSUE DATE
SYD224_145-1 (BCA & ACCESS) JR	DRAFT report issued to client	09 October 2024
SYD224_145-2 (BCA & ACCESS) JR	FINAL report issued to client	06 November 2024

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EXECUTIVE SUMMARY

This BCA Design Assessment Report has been prepared by DC Partnership at the request of Sandrick Projects and relates to the minor external alterations located at 24 Howard Avenue, Dee Why.

Based upon our assessment to date we are of the opinion that the subject development is capable of achieving compliance with the performance provisions of the BCA, either by complying with the prescriptive requirements or via a performance-based approach.

Any other matters that have been identified as requiring 'Design Detail' in **Section 3** shall also be developed and reviewed as the project progresses. The above has explicably been stated as they are deemed to have greater implications if left unresolved.

In addition to undertaking a detailed assessment of the design against the prescriptive requirements of the BCA a preliminary performance-based assessment has also been undertaken.

The on the following page lists scenarios where we believe the adoption of a performance design may add value to development in-lieu of complying with the prescriptive (DtS) provisions—

ITEM	PROPOSED PERFORMANCE SOLUTION	BCA DTS CLAUSE	PERFORMANCE REQUIREMENT
FIRE SAFETY			
1.	Omission of required FRL's (180/--/--) to the external columns supporting the awning structure	C2D2 & Spec 5	C1P1

The implementation of a performance-based approach in lieu of compliance with the deemed-to-satisfy (DtS) provisions shall be in consultation with all relevant stakeholders and is subject to the approval of the certifying authority.

1.0 INTRODUCTION

1.1 General

This BCA Design Assessment Report has been prepared by DC Partnership at the request of Sandrick Projects and relates to the minor external alterations located at 24 Howard Avenue, Dee Why.

1.2 Purpose of report

The purpose of this report is to identify the extent to which the architectural design documentation complies with the prescriptive provisions of the NCC 2022 Volume One - Building Code of Australia, thereby after referred to as the BCA.

1.3 Documentation Provided for Assessment

This assessment is based upon the Architectural documentation prepared by Christiansen O'Brien listed within **Appendix 1.**

1.4 Limitations

In interpreting the report, the following limitations shall be noted –

(a) BCA requirements for existing buildings located on the allotment;

(b) This report is based upon, and limited to, the information depicted in the documentation provided for assessment, and does not make any assumptions regarding 'design intention' or the like;

(c) This assessment does not contain comments regarding detailed design issues such as (but not limited to): slip resistance, handrail design, door schedule and door hardware specification and lift specification.

(d) The list of fire safety measures in Section 2.7 is not a proposed fire safety schedule within the context of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021; and

(e) This report is not a regulated design, as defined by the Design Building Practitioners Regulations 2021.

1.5 Report Exclusions

It is conveyed that this report should not be construed to infer that an assessment for compliance with the following has been undertaken –

(a) Work Health & Safety Act (2011) and Regulations (2017);

(b) WorkCover Authority requirements;

(c) Structural and Services Design Documentation;

(d) The individual requirements of service authorities (i.e. Telecommunication Carriers, Sydney Water, Endeavour Energy);

(e) Any conditions imposed by the Consent Authority;

(f) Any conditions imposed by the Principal Certifying Authority;

(g) Design and Building Practitioners Act (2020) and Regulations (2021);

(h) Adaptable Housing (AS4299-1995);

(i) Liveable Housing Guidelines;

(j) BASIX certificate;

(k) The Disability Discrimination Act (DDA) 1992;

(l) The accessibility requirements of the BCA, as contained within Part D4 and F4D5 of the BCA; and

(m) The energy efficiency provisions of the BCA, as contained with Section J of the BCA.

1.6 Relevant Legislative Framework

(a) Existing buildings (No change of use) –

Section 14(3) of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulations 2021 prevents a certifying authority from issuing a Construction Certificate that involves the alteration, enlargement or extension of an existing building unless on completion of the building work, the fire protection and structural capacity of the building will not be reduced.

2.0 DEVELOPMENT DESCRIPTION

2.1 General

This BCA Design Assessment Report has been prepared by DC Partnership at the request of Sandrick Projects and relates to the minor external alterations located at 24 Howard Avenue, Dee Why.

Figure 2.1(a) – 3D Image (Source: Christiansen O'Brien)

2.2 Building Description

Table 2.2 (a) – Building description

DESCRIPTION		
Building Classification	Commercial	Class 6
Storeys Contained	Two (2)	
Rise in Storeys	Two (2)	
Type of Construction	Type A	
Effective Height	Less than 12m	
Max Permitted Fire Compartment Size	8,000m2 / 48,000m3	
Climate Zone	Zone 5	

2.3 BCA Assessment – Interpretation Notes

To provide the reader with additional context, the following information regarding assessment methodology used in this assessment is provided below—

(a) The estimated population of the proposed fitout areas are based off the provided seating arrangement outlined in the provided plans.

(b) This assessment is of new works only and does not address existing non-compliances.

Several acronyms and abbreviations are used throughout this report, refer to **Appendix 2** for clarification.

3.0 BCA ASSESSMENT SUMMARY

3.1 Interpretation

The following table summarises the compliance status of the architectural design in terms of each applicable prescriptive provision of the BCA and indicates a capability for compliance with the BCA. The following is an explanation of the terminology used in the summary checklist:

(a) N/A: Not Applicable. This clause is not applicable to the proposed design.

(b) Complies: The proposed design complies with the relevant provisions of the BCA.

(c) PS: Performance Solution. The proposed design can comply with the relevant Performance Requirements of the BCA via a Performance Solution.

(d) Does not comply: The proposed design does not comply with the BCA and requires amendment or investigations into the feasibility of a Performance Solution.

(e) Design Detail: The proposed design does not provide enough information to determine compliance. Compliance will be determined as the design develops. A detailed analysis and commentary are provided within **Section 4.0** of this report.

(f) Design Certification: Detailed design issues which are to be developed and verified at CC stage.

Table 3 – BCA assessment summary checklist

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	DESIGN CERTIFICATION
Section B – Structure					
Part B1 - Structural provisions					
B1D2	Resistance to actions				✓
B1D3	Determination of individual actions				✓
B1D4	Determination of structural resistance of materials and forms of construction				✓
B1D6	Construction of buildings in flood hazard areas				✓
Section C – Fire Resistance					
Part C2 - Fire Resistance and Stability					
C2D2	Type of construction required		**PS**		
C2D9	Lightweight construction				
C2D10	Non-combustible building elements				
C2D11	Fire hazard properties				✓
C2D14	Ancillary elements				
Section E – Services and Equipment					
Part E1 – Fire fighting equipment					
E1D2	Fire hydrants				✓
E1D3	Fire hose reels				✓
E1D4 - E1D12	Sprinklers				✓
Section F - Health and amenity					
Part F1 - Surface water management, rising damp and external waterproofing					
F1D3	Stormwater drainage				✓

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	DESIGN CERTIFICATION
Part F3 - Roof and wall cladding					
F3D2	Roof coverings				✓
Part F5 - Room heights					
F5D2	Height of rooms and other spaces	✓			
Part F6 - Light and ventilation					
F6D5	Artificial lighting				✓
Part G6 - Occupiable outdoor areas					
G6D2 – G6D10	Occupiable outdoor areas	**NOTE**			

4.0 BCA DETAILED ASSESSMENT

4.1 General

With reference to the 'BCA Assessment Summary' contained within **Section 3** of this report, the following detailed analysis and commentary is provided. This commentary is formulated to enable the design documentation to be further progressed, for the purpose of evidencing the attainment of compliance with the relevant provisions of the BCA

4.2 Section B – Structure

Part B1 - Structural provisions

B1D2 – B1D6	Structural works shall comply with this section. Compliance with Section B of the BCA shall be addressed by the project's Structural Engineer as part of the structural design documentation.

4.3 Section C – Fire Resistance & Stability

Part C2 – Fire Resistance and Stability

C2D2

Type of Construction Required (prev. C1.1)

Type A Requirements: Fire Resistance of Building Elements

(a) (General) each building element are required to achieve the nominated FRLs as nominated within BCA Specification 5 as applicable. - These FRLs have been summarised within Tables C5C11a – C5C11g.

(b) (Internal Walls) any internal wall required to have an FRL with respect to integrity and insulation must extend to—

- (i) the underside of the floor next above; or
- (ii) the underside of a (non-combustible) roof covering, except for roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or
- (iii) a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes

(c) (Loadbearing internal walls & fire walls & shafts) must be constructed from concrete, masonry, fire-protected timber.

Performance Solution – Based on the building being deemed Type A construction due to the size of the floor area. It is recommended to pursue a fire engineered performance solution for the omission of required FRL's (180/--/--) to the external columns supporting the awning structure.

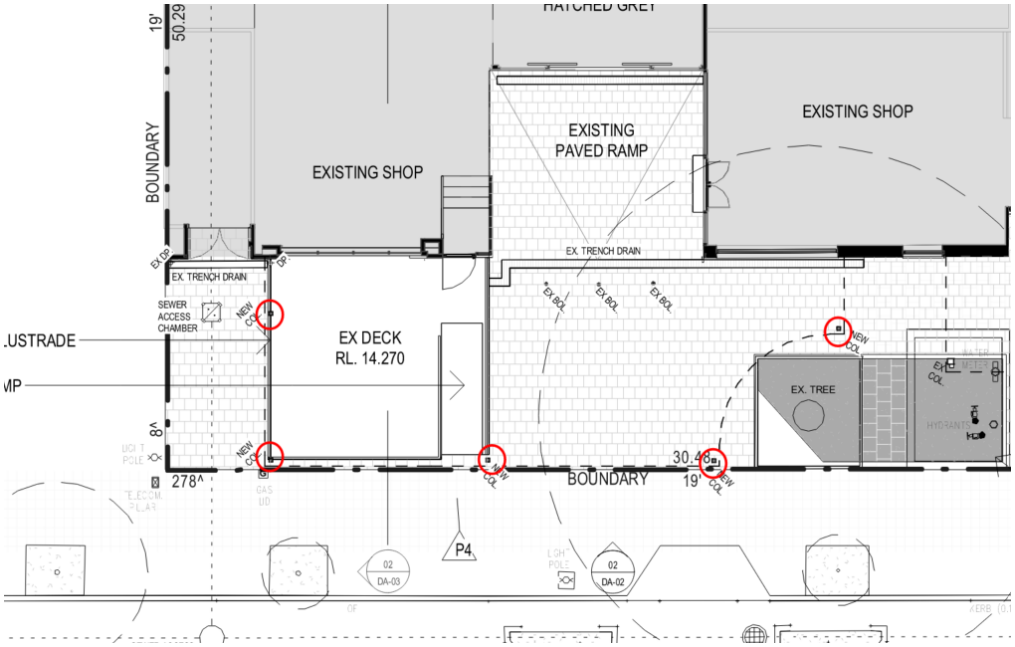

Figure C2D2 *– Loadbearing External Steel Columns Require FRLs*

C2D9	**Lightweight Construction (prev. C1.8)** Any lightweight construction to internal walls required to achieve an FRL or protection to steel columns required achieve an FRL are required to be tested for resistance in accordance with this clause. Lightweight construction used as a fire-resisting covering of a steel column or the like, and where the covering is not in continuous contact with the column must have the voids filled to a height of not less than 1.2m above the floor and where the column is liable to be damaged must be protected by steel or other suitable material.
C2D11	**Fire Hazard Properties (prev. C1.10)** This clause outlines the minimum fire hazard properties of materials inside the subject development which is susceptible to the effects of flame or heat. All linings, materials or assemblies used for flooring, floor coving, wall and ceiling lining are required to comply with Specification 7.
C2D14	**Ancillary Elements (prev. C1.14)** An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the elements permitted under this clause.

4.4 Section E - Services and equipment

Part E1 - Fire fighting equipment

Part E1	**Fire fighting equipment** All existing fire services such as hose reel, hydrant, sprinkler and fire extinguishers are to be amended to ensure coverage is provided to new layout.

Part E2 - Smoke hazard management

Part E2	**Smoke hazard management** The building must be provided with an automatic smoke detection and alarm system complying with Specification 20.

Part E4 - Visibility in an emergency, exit signs and warning systems

E4D5	**Exit signs (prev. E4.5)** An exit sign must be clearly visible to persons approaching the exit, and must be installed on, above or adjacent to each— (a) door providing direct egress from a storey to— (i) an enclosed stairway, passageway or ramp serving as a required exit; and (ii) an external stairway, passageway or ramp serving as a required exit; and (iii) an external access balcony leading to a required exit; and (b) door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space; and (c) horizontal exit; and (d) door serving as, or forming part of, a required exit in a storey required to be provided with emergency lighting in accordance with E4D2.

4.5 Section F - Health and amenity

Part F5 - Room heights

F5D2	**Height of rooms and other spaces** <u>Class 6</u> (a) All areas — 2.4m, unless specified below (b) Corridor, passageway, or the like — 2.1 m

Part F6 - Light and ventilation

F6D5	**Artificial lighting (prev. F4.4)** Artificial lighting in accordance AS/NZS 1680.0.must be provided— (a) in required stairways, passageways, and ramps; and (b) if natural light of a standard equivalent to that required by F6D3 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency, in Class 6, buildings — to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress.

5.0 CONCLUSION

Our strategy for ensuring compliance has been refined and documented during the design process in conjunction with the continual development of the architectural documentation, as required.

Based upon our assessment to date we are of the opinion that the subject development is capable of achieving compliance with the performance provisions of the BCA. Compliance would be achieved via a mixture of adopting a performance based approach as well as complying with the relevant deemed-to-satisfy requirements as outlined within the BCA, compliance via the performance based approach could occur without significant changes to the proposed design.

The Performance Solutions for the building will be developed as part of the ongoing design and consultation with the design team.

The details of the proposed Performance Solutions with respect to fire safety are subject to the outcome of the fire engineering brief and analysis which will be carried out in accordance with the International Fire Engineering Guidelines.

Report By

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Verified By

Lindsay Beard
Principal | Building Regulations
For DC Partnership Pty Ltd

APPENDIX 1 – DOCUMENTATION PROVIDED FOR ASSESSMENT

This BCA assessment was based upon the architectural documentation dated 17/09/2024 prepared by Christensen O'Brien namely—

DA-01	PROPOSED PLANS
DA-02	PROPROSED ELEVATIONS
DA-03	PROPOSED SECTION
DA-04	FINISHES SCHEDULE
DA-05	ROOF PLANS
DM-01	DEMOLITION PLANS
DM-02	DEMOLITION ELEVATIONS
EX-01	EXISTING PLAN
EX-02	EXISITNG ELEVATIONS

APPENDIX 2 – ABBREVIATIONS & DEFINITIONS

The following acronyms and abbreviations are used throughout the report.

ACRONYM / ABBREVATION	DEFINITION
AS	Australian Standard
CHF	Critical Heat Flux
BCA	Building Code of Australia 2022
DTS	Deemed to Satisfy
FRL	Fire-resistance level
FH	Fire hydrant
FHR	Fire hose reel
NCC	National Construction Code
PFE	Portable fire extinguisher
PBDB	Performance Based Design Brief
RC	Reinforced concrete
SOU	Sole occupancy unit
SPEC.	Specification
U-Value	Thermal transmittance

DEFINITIONS

The following definitions are provided for words used throughout the report.

Accessible

Accessible means having features to enable use by people with a disability.

Combustible

A material — means combustible as determined by AS 1530.1; and construction or part of a building — means constructed wholly or in part of combustible materials.

Deemed-to-Satisfy Provisions

Provisions which are deemed to satisfy the Performance Requirements.

Deemed-to-Satisfy Solution

A method of satisfying the Deemed-to-Satisfy Provisions.

Effective height

Effective height means the vertical distance between the floor of the lowest storey included in a determination 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

Exit means –

Any, or any combination of the following if they provide egress to a road or open space—

(ɑ) An internal or external stairway.

(b) A ramp.

(c) A fire-isolated passageway.

(d) A doorway opening to a road or open space.

(e) A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

Fire compartment

Fire compartment means –

(a) the total space of a building; or

(b) when referred to in—

(i) 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

(ii) 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)

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with Specification A2.3, for the following criteria—

(a) structural adequacy; and

(b) integrity; and

(c) insulation,

— expressed in that order.

Note: A dash means that there is no requirement for that criterion. For example, 90/–/– means there is no requirement for an FRL for integrity and insulation, and –/–/– means there is no requirement for an FRL.

Fire-source feature

(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

Fire wall

Fire wall means a wall with an appropriate resistance to the spread of fire that divides a storey or building into fire compartments.

Loadbearing

Intended to resist vertical forces additional to those due to its own weight.

Non-combustible

Non-combustible means—

(a) applied to a material — not deemed combustible as determined by AS 1530.1:1994 — Combustibility Tests for Materials; and

(b) applied to construction or part of a building — constructed wholly of materials that are not deemed combustible

Occupiable outdoor area

Occupiable outdoor area means a space on a roof, balcony or similar part of a building–

(a) that is open to the sky; and

(b) to which access is provided, other than access only for maintenance; and

(c) that is not open space or directly connected with open space.

Open space

Open space means a space on the allotment, or a roof or similar part of a building adequately protected from fire, open to the sky and connected directly with a public road.

Performance Requirement

Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

Performance Solution

Performance Solution means a method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.

Sole-occupancy unit

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 includes—

(a) a dwelling; or

(b) a room or suite of rooms in a Class 3 building which includes sleeping facilities: or

(c) a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or

(d) a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.

APPENDIX 3 – FRLS

Table A1 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

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

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