

PO Box 402, Dee Why • NSW • 2099 Mobile: 0417 247 447 E: graham@grsreports.com.au

E: graham@grsreports.com.au W: www.grsreports.com.au





102 Oliver Street, Freshwater BCA Report for DA

Prepared for: Bernard Hachenberg Project No: W561/Rev 1 6 September 2021

INDEX

		Page No
Exec	cutive Summary	1
1.	Introduction	3
1.1	Background	3
1.2	Aim	3
1.3	Documentation	3
1.4	Reporting Team	3
1.5	BCA Terms and Definitions	4
1.6	Limitations and Exclusions	4
2.	Building Description	5
2.1	Building	5
2.2	Classification	5
2.3	Rise in Storeys	5
2.4	Type of Construction	5
2.5	Effective Height	5
2.6	Floor Area / Volume	6
2.7	Fire Source Feature	6
3.	BCA Assessment	7
3.1	BCA Section C – Fire Resistance Levels	7
3.2	Clause 94 of Planning & Assessment Regulation 2000	8
3.3	BCA Fire Audit Strategy & Recommendations	8
4.	Conclusion	12
ANN	EXURE A (DtS Assessment)	13
ANN	EXURE B (Fire Safety Schedule)	37

REPORT REVISION STATUS			
REVISION	DATE	STATUS	
1	6 September 2021	Preliminary	
2			

Without written permission from GRS Building Reports Pty Ltd, no part of this document may be reproduced in any form or by any means. This report is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.

Signature

Graham Scheffers
GRS Building Reports Pty Ltd

Accreditation No. 0364 (BDC)
Date: 6 September 2021

Executive Summary

The building, the subject of this Report, is an existing mixed commercial / residential building proposed to undergo partial demolition, additions and alterations located at No 102 Oliver Street, Freshwater.

The existing building contains a real estate office and single residence. The real estate office is at Ground Floor at the corner of Oliver Street and Wyadra Ave. The residence is attached to the rear of the real estate office and is fronting Wyadra Ave. There is a detached building to the rear of the site also fronting Wyadra Ave. This detached building is not part of this Report.

The proposal is to retain the majority of the real estate office and portions of the residence. A First Floor addition to the residence is proposed.

The proposed works include: -

a) Ground Floor

Internal modifications to the real estate office so that the existing kitchen area and storage area would become part of the residence. The existing lounge to the residence would become part of the real estate office. Doorways in walls between the real estate office and residence are to be infilled where modified. The existing WC located on the northern side is to be modified so that the existing external access only is to be retained.

The Ground Floor of the residence is to be extended westerly including a portion to the towards the northern and southern boundaries. An internal stair is proposed in place of the existing kitchen area of the real estate for access to the First Floor.

b) Upper Floor

The proposed new First Floor is to extend over the existing Ground Floor residence and the real estate office with a terrace above the main office area. The First Floor is not proposed to extend over the existing single garage.

An assessment of the existing building has been undertaken in accordance with the relevant provisions of the Building Code of Australia 2019, Amendment 1 (BCA) as required by Clause 94 of the Environmental Planning and Assessment Regulation 2000 (EP & A Reg) and is detailed in Sections 3.2 & 3.3 of this Report.

Clause 94 of the EP & A Reg, is as follows;

"94 Consent authority may require buildings to be upgraded

- (1) This clause applies to a development application for development involving the rebuilding, alteration, enlargement or extension of an existing building where—
 - (a) the proposed building work, together with any other building work completed or authorised within the previous 3 years, represents more than half the total volume of the building, as it was before any such work was commenced, measured over its roof and external walls, or
 - (b) the measures contained in the building are inadequate—
 - to protect persons using the building, and to facilitate their egress from the building, in the event of fire, or
 - (ii) to restrict the spread of fire from the building to other buildings nearby.
 - (c) (Repealed)
- (2) In determining a development application to which this clause applies, a consent authority is to take into consideration whether it would be appropriate to require the existing building to be brought into total or partial conformity with the Building Code of Australia."

Sections 3.2 and 3.3 provides details and comments of the BCA Assessment to address the relevant provisions of BCA Parts C, D (Parts D1 & D2) and E whilst having regard to Clause 94 of the Environmental Planning and Assessment Regulation 2000 with recommendations for consideration with the Development Application.

The Report includes the following Annexures:

- 1. Annexure A BCA Clause by Clause Deemed-To-Satisfy Assessment (DtS) of the subject building.
- 2. Annexure B Fire Safety Schedule detailing existing and proposed Essential Fire Safety Measures applicable to the subject building.

1. Introduction

1.1 Background

The building, the subject of this Report, is an existing mixed commercial / residential building proposed to undergo partial demolition, additions and alterations located at No 102 Oliver Street, Freshwater.

GRS Building Reports Pty Ltd has been engaged by Bernard Hachenberg to undertake a BCA Assessment Report for the subject building and proposed works.

1.2 Aim

The aim of this Report is to:

- 1. Undertake an inspection of the existing building.
- 2. Undertake an assessment of the existing building in accordance with the relevant provisions of the Building Code of Australia 2019, Amendment 1 (BCA), i.e.. Undertake a BCA Review of Parts C, D1, D2, E and F as detailed in Section 3 of this Report. This is to have regard to the provisions of Clause 94 of the Environmental Planning and Assessment Regulation 2000 for an existing building.
- 3. Address significant non-compliances with the BCA to ensure that the building is provided with an adequate level of fire and life safety commensurate with the community's expectations having regard to the Objectives and Performance Requirements of the BCA and Section 9.34(1)(b) of and Schedule 5 to the Environmental Planning and Assessment Act 1979 which relates to the:
 - Prevention of fire
 - Suppression of fire
 - Prevention of the spread of fire
 - · Safety of persons in the event of fire
- 4. Recommend fire and life safety upgrading works to address the non-compliances with the BCA
- 5. Identify existing and proposed Essential Fire Safety Measures applicable to the subject building as detailed in Annexure A.

1.3 Documentation

The following documentation was relied upon when preparing this Report:

- Building Code of Australia 2019, Amendment 1 (BCA).
- Plans prepared by Scope Architects, Drawing Nos. A02 to A08, Revision 1, dated 7 July 2021.

1.4 Reporting Team

This Report was prepared on behalf of GRS Building Reports Pty Ltd by Graham Scheffers, an Registered Grade A1 Certifier (NSW Department of Fair Trading) and Building Code Consultant following an inspection carried out on 2 September 2021.

1.5 BCA Terms and Definitions

The following terms are based on BCA definitions;

- 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.
- **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.
- Rise in Storeys means the greatest number of storeys calculated in accordance with C1.2.

1.6 Limitations and Exclusions

The limitations of this report are as follows:

- The assessment is limited to providing a Building Code of Australia, Amendment 1 (BCA) Report for submission to Northern Beaches Council in relation to the proposed Development Application.
- The Building Certifier is to determine that the relevant documentation for proposed works satisfies the BCA for the purposes of issuing a Construction Certificate. This BCA Assessment Report is predominantly an assessment of the existing building only. The Report is not intended to provide verification that the entire design documents satisfy the BCA as this is beyond the scope of GRS Building Report Pty Ltd and must be undertaken for the Construction Certificate Stage.
- The Report is based on a visual walk-through inspection of the accessible areas within the building. Concealed spaces such as voids, shafts, and the like were not inspected. Systems were not tested and building fabric was not removed to determine the method of construction.

The Report does not address issues in relation to the following:

- 1. The structural adequacy of the building including the fire resistance levels of any building elements (unless specifically referred to).
- 2. The design, maintenance or operation of any electrical, mechanical, hydraulic or fire protection services.
- 3. Works outside the boundaries /lease area, building elements or services that extend outside the boundaries and works associated with external ancillary services, structures or civil works required by relevant authorities.
- 4. Development Consent conditions of approval issued by the Local Authority.
- 5. Environmental Planning and Assessment Act and Regulations, Local Government Act and Regulations unless where nominated.
- 6. Work Health and Safety Act and Regulations.
- 7. WorkCover Authority requirements.
- 8. Water, drainage, gas, telecommunications and electricity supply authority requirements.
- 9. The provisions of BCA Part D3, the Disability Discrimination Act, National Premises Standards as this is beyond the scope.
- 10. Council Policy relating to Access for People with Disabilities.
- 11. GRS Building Reports Pty Ltd cannot guarantee acceptance of this Report by the Statutory Authorities such as Local Council, Fire & Rescue NSW or other approval authorities.

2. Building Description

2.1 Building

The building, the subject of this Report, is an existing mixed commercial / residential building proposed to undergo partial demolition, additions and alterations located at No 102 Oliver Street, Freshwater.

The existing building contains a real estate office and single residence. The real estate office is at Ground Floor at the corner of Oliver Street and Wyadra Ave. The residence is attached to the rear of the real estate office and is fronting Wyadra Ave. There is a detached building to the rear of the site also fronting Wyadra Ave. This detached building is not part of this Report.

The proposal is to retain the majority of the real estate office and portions of the residence. A First Floor addition to the residence is proposed.

The proposed works include: -

a) Ground Floor

Internal modifications to the real estate office so that the existing kitchen area and storage area would become part of the residence. The existing lounge to the residence would become part of the real estate office. Doorways in walls between the real estate office and residence are to be infilled where modified. The existing WC located on the northern side is to be modified so that the existing external access only is to be retained.

The Ground Floor of the residence is to be extended westerly including a portion to the towards the northern and southern boundaries. An internal stair is proposed in place of the existing kitchen area of the real estate for access to the First Floor.

b) Upper Floor

The proposed new First Floor is to extend over the existing Ground Floor residence and the real estate office with a terrace above the main office area. The First Floor is not proposed to extend over the existing single garage.

2.2 Classification

For the purposes of the BCA, the building is classified as follows based on the proposed use:

- Class 4 Single Residential Sole Occupancy Unit (SOU)
- Class 5 Real Estate Office

2.3 Rise in Storeys

The building has a rise in storeys of two (2).

2.4 Type of Construction

The building is required to be of Type C Construction.

The building may be required to be Type C Construction due to the top floor being Class 4 residential SOU. As a result of this the provisions of BCA Clause C1.3 (b) is relevant resulting in the classification applicable to the next highest storey (i.e. Ground Floor of Class 5) applies to the top storey.

2.5 Effective Height

The building has an effective height of less than 25m.

2.6 Floor Area / Volume

No floor area and volume limitations apply to the Class 4 portions of the building.

Classification	Type C	
5	Max floor area	3,000m²
	Max volume	18,000m³

2.7 Fire Source Feature

The distances to the nearest Fire Source Feature for the existing building are estimated to be:

- Northern < 3.0m setback to Real Estate (Class 5) and < 1.5m setback to residence (Class 4).
- Southern > 6.0 metres to far side of Wyadra Road.
- Eastern > 6.0 metres to far side of Oliver Street.
- Western > 6.0 metres to adjacent building on site.

3. BCA Assessment

An assessment of the existing building has been undertaken in accordance with the provisions of the Building Code of Australia 2019, Amendment 1 (BCA).

Section 3.1 below outlines the relevant Fire Resistance Levels applicable.

Sections 3.2 and 3.3 below details a summary of the BCA Fire Audit of the existing building with a Recommended Strategy for consideration with the DA.

3.1 BCA Section C – Fire Resistance Levels

The building elements are required to contain a certain Fire Resistance Level (FRL) as required for Type C Construction as set out in Specification C1.1 and Table 5 of the BCA, as follows:

BUILDING ELEMENT	Class 4	Class 5
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 —		
Less than 1.5m	90/90/90	90/90/90
1.5m to less than 3m	-/-/-	90/60/60
3m or more	-/-/-	-/-/-
EXTERNAL COLUMN not incorporated in an external wall, where the distance from any fire-source feature to which it is exposed is –		
Less than 1.5m	90/-/-	90/-/-
1.5m to less than 3m	-/-/-	60/-/-
3m or more	-/-/-	-/-/-
COMMON WALLS & FIRE WALLS-	90/90/90	90/90/90
INTERNAL WALLS		
Between or bounding SOU's. Bounding public corridors, public lobby or the like-		
Loadbearing parts	90/90/90	120/-/-
Non-loadbearing parts	-/60/60	-/-/-
Bounding a stair if required to be fire rated –		
Loadbearing parts	90/90/90	120/120/120
Non-loadbearing parts	-/90/90	-/120/120
ROOFS	-/-/-	-/-/-

Table 3.1 - Fire Resistance Levels

The following additional information is provided:

- (a) External walls required to have an FRL need only be tested from outside to satisfy the FRL.
- (b) Internal walls bounding a SOU or separating adjoining units must comply with BCA Specification C1.8 if it is of lightweight construction and is required to have an FRL.
- (c) Internal walls required to have an FRL for the Class 4 part must extend: -
 - (i) to the underside of the floor next above if that floor has an FRL of at least 30/30/30, or a fire protective covering (e.g. 13mm fire grade plasterboard) on the underside of the floor, or
 - (ii) to the underside of a ceiling having a resistance to the incipient spread of fire to the space above of not less than 60 minutes, or

(iii) to the underside of the roof covering if it is non-combustible, and except for roof battens with dimensions of 75mm x 50mm or less or sarking type material, must not be crossed by timber or other combustible building elements, or

- (iv) 450mm above the roof covering if it is combustible.
- (d) A floor separating storeys of a Class 4 part and any column supporting the floor must: -
 - (i) have an FRL of at least 30/30/30, or
 - (ii) a fire protective covering on the underside of the floor including beams incorporated in it and around the column if the floor or column is combustible or of metal.

3.2 Clause 94 of Planning & Assessment Regulation 2000

In accordance with Clause 94 of the Environmental Planning and Assessment Regulation, consideration whether the egress and spread of fire of the existing building will be appropriate to the proposed building. This has been reviewed and further comment is made with respect to the BCA as outlined in the detailed Recommendation Nos. 1 to 9 and 11 as contained in Table 3.3 of this Report to address the measures in the building: -

- to protect persons using the building, and to facilitate their egress from the building, in the event of fire, or
- (ii) to restrict the spread of fire from the building to other buildings nearby.

3.3 BCA Fire Audit Strategy & Recommendations

In accordance with Clause 94 of the Environmental Planning and Assessment Regulation, the following strategy and recommendations are proposed, in relation to the existing building, for consideration with the DA. Details of the requirements are to be incorporated in the Construction Certificate.

BCA Clause	Description	Strategy and Recommendations
C1.10	Early Fire Hazard Properties:-	Consideration: -
	Materials and assemblies used in the building must comply with the requirements of Specification C1.10.	The existing floor covering in the real estate office is unknown. This is to be either replaced or confirmed as compliant.
		Recommendation:
		1. That the existing floor covering in the real estate office be either confirmed as compliant with the fire hazard properties of BCA Specification C1.10, otherwise is to be replaced with compliant materials. Details to be provided with Construction Certificate documentation.

BCA Clause	Description	Strategy and Recommendations		
C3.2 & C3.4	Protection of openings in external walls:-	Considerations: -		
	Openings in external walls that are required to have an FRL are to be protected if they are exposed to a fire source feature in accordance with Clause C3.4 if: • Wall is less than 3m from a side or rear boundary; • Less than 6m from the far boundary of a road, if not located in a storey at or near ground level; or • Less than 6m from another building on the same allotment. Acceptable methods of protection:- Fixed fire rated glass; self-closing or automatic closing windows with drenchers; automatic fire shutters; automatic closing fire rated windows. Doors to be self-closing or automatic closing.	 Windows / doors in northern external walls require protection as follows: Real estate (i.e. garage and WC) within 3.0m of northern side boundary are currently not protected as required. Due to setback of approximately 2.645m being a minor encroachment and the openings are existing, the proposal is to infill the garage window with fire rated materials and provide 35mm thick self-closing solid core doors in lieu of fire doors. Residence (i.e. proposed Ground Floor addition) is within 1.5m (i.e. 1.215m) of northern side boundary and protected is required. These openings need not be protected where the setback is increased to 1.5m. Recommendations: That the existing doors / windows in the external walls to the garage and WC of the real estate be upgraded as follows: - (i) Window infilled with fire rated materials to achieve an FRL of -/60/60, and (ii) Doors be upgraded with self-closing solid core doors. This is in lieu of the required fire rated doors. That the proposed residence addition be setback at least 1.5m from the northern boundary. Otherwise the openings in the external wall within 1.5m of the boundary require protection in accordance with C3.4. This can impact the available ventilation to the Bedroom 2 windows. Alternatively install fixed radiation heat attenuation screens (eg centra tuff) with/out drenchers that permit windows to be openable to provide ventilation. This is subject to acceptance by the Council/Registered Certifier following an assessment and Alternative Solution Report prepared by a suitably qualified Fire Engineer under the Performance Requirements of the BCA. 		
C3.15	Openings for service installations:-	Considerations: -		
	Electrical, plumbing, mechanical ventilation shafts not to impair the FRL of fire rated building elements	Existing services penetrating separating walls between real estate and residence, such as disused breadbox opening in wall between proposed Ground Floor stairway of Class 4 part and WC of Class 5 part of building to be addressed. Recommendations: 4. That the openings for services and the like (e.g. disused breadbox opening in wall between Ground Floor stairway of residence and WC of real estate) are to be infilled with fire rated materials and or fire sealed in accordance with BCA Clause C3.15, Specification C3.15, AS1530.4 – 2014 and AS4072.1 2005.		

BCA Clause	Description	Strategy and Recommendations		
Specification	Fire Resisting Construction:-	Considerations: -		
C1.1	The building is required to be designed in	Areas to be addressed include: -		
	accordance with Table 4 (Type B Construction) of the BCA Specification C1.1.	Separating floor between Class 4 & 5 part of building is not fire rated. Requires upgrade to achieve FRL of 30/30/30 or equivalent of fire protective covering.		
		Existing external wall of WC (Class 5 part) is timber frame and not fire rated.		
		Infill doors to walls between Class 4 & 5 parts of building to be fire rated as required.		
		Walls separating real estate from residence to be retained are generally masonry and assumed to achieve an FRL of 60/60/60. This requires confirmation from the structural engineer due to the new First Floor works.		
		This is capable of being readily upgraded with fire rated materials as required.		
		Recommendations:		
		5. That the following existing building elements be upgraded;		
		(i) Ceiling throughout the real estate office area including garage, WC and office areas is to be upgrade with fire rated with materials to achieve an FRL of 30/30/30 or equivalent of fire protective covering.		
		(ii) Existing external wall of WC (Class 5 part) is to be upgrade with fire rated materials to achieve an FRL of 60/60/60 measured externally only.		
		(iii) Infilling to existing doors to walls between the real estate and residence is to be infilled with fire rated materials to achieve an FRL of 60/60/60 (loadbearing) or 60/-/- (non-loadbearing).		
		(iv) existing masonry walls separating the real estate from the residence being retained are to be confirmed as achieving an FRL of 60/60/60. This requires confirmation from the structural engineer due to the new First Floor works.		
D2.7	Installations in exits and paths of travel:-	Considerations: -		
	 Access to service shafts must not be from fire exit (unless for fire fighting services); No openings to ducts conveying hot products of combustion; Gas or fuel services not permitted within exit Electrical or service equipment not permitted within fire exit – however can be in a path of travel to an exit if provided with fire protective covering and smoke seals 	Existing EDB is to be reviewed at CC stage and where located in a path of travel for egress is to be lined internally with smoke seals to doors, unless externally located to the building.		
		Recommendations:		
		6. That the existing main switch is to be reviewed at CC stage and where located in a path of travel for egress is to be lined internally with smoke seals to doors, unless externally located to the building.		

BCA Clause	Description				Strategy and Recommendations	
D2.13	Treads and risers:-				Consideration: -	
	Minimum 2 risers and maximum of 18 risers in any flight;			18	The existing steps to the WC & garage and to the internal doorway to the garage of the real estate, has	
	maximum dimensions – treads 250mm			inconsistent riser and tread dimensions with unknown slip resistance. See also further comments at D2.15 to address this.		
				n each		
	0	ne largest and r largest and s oes not excee	smallest g	going		
	Risers not to pass through	o permit a 125 h;	5mm sphe	ere to		
	classificatio	ave slip resist n in accordan AS4586-2013	ice with Ta	able		
	No winders	in lieu of a qu	ıarter land	ding		
D2.15	Thresholds:-				Consideration: -	
	No step or ramp at any point closer to the doorway than the width of the door leaf,				The current real estate doorways are non-compliant, with stairways at the doorway opening, i.e.	
	unless: Door opens to road or open space (and door sill not more than 100mm high):				 Internal door between office area and garage has several steps, and 	
	door sill not more than 190mm high)		11),	 External door from garage has 2 steps with the top step > 190mm, and 		
	Application	Surface Con	ditions		 External door from WC has 4 steps. 	
l		Dry	Wet		It is considered appropriate that with the exception of the small internal stair to the garage, this be	
	Tread or landing surface	P3 or R10	P4 or R11		upgraded with suitable 50mm contrast colour slip resistant nosings being installed to minimise the risk to users.	
	Nosing or	P3	P4		Recommendation:	
	landing edge strip				7. That the existing steps to the external	
	Extract BCA Table D2.14				doorway of the garage and WC be modified so that there is a minimum 750mm deep landing with a step not more than 190mm at the doorway.	
					8. That Council accept the steps at the internal door from the garage to the real estate office need not be upgraded subject to installation of suitable 50mm nosings with 30% contrast colour to each tread to satisfy Table D2.14 and AS4586-2013 (new surface).	

BCA Clause	Description	Strategy and Recommendations	
D2.20	Swinging doors:-	Consideration: -	
	Must not encroach more than 500mm into the required width of the stair, or when fully open not more than 100mm into the width of the exit.	Existing main egress door from real estate swings inwards in lieu of the direction of egress. This is to be provided with hold open device.	
	Door in exit to swing in the direction of	Recommendation:	
	egress unless the door serves a part of the building having an area not more than 200m ² and the door is fitted with a hold open device.	 That the main external exit door from the real estate office that swings inwards be accepted subject to an automatic hold open device (i.e. parrot beak type device). 	
D3.1	General building access requirements:-	Consideration: -	
	Buildings are required to be accessible in accordance with AS 1428.1-2009:	BCA requirements not considered to apply retrospectively to existing real estate office that ha minimal changes to existing. Notwithstanding this, the DA and or Certifier at CC stage may require a review based on the Premises Standard.	
		Recommendation:	
		10. That consideration be given to engaging with an access consultant to review the National Premises Standards provisions for access for people with disabilities.	
E1.3	Fire Hydrants:-	Consideration: -	
	Hydrant system required to serve a building with a floor area >500m² and where the fire brigade is available to attend the fire. System must satisfy AS2419.1 – 2005.	Building total floor area measured over the external walls including garage, covered decks is to be confirmed as being less than 500m ² . Otherwise the street fire hydrant system is to be reviewed.	
		Recommendation:	
		11. That the total floor area of the building be confirmed, i.e. measured over the external walls including garage, covered decks.	
F2.5	Construction of sanitary compartments:-	Consideration: -	
	Doors to fully enclosed sanitary compartments must be constructed at least 1.2m from the pan, or be outward opening,	The bathrooms / ensuites generally appear to be as required, except for the First Floor bathroom requires clarification.	
	or removal from the outside.	Recommendation:	
	Figure F2.6 Construction of sanitary compartments Clear space 1200 mm	12. That the door to the First Floor bathroom be removable from outside the room, except where this has a 1.2m clear space as per Figure F2.5 of the BCA.	

Table 3.3 - BCA Fire Audit Strategy and Recommendations

4. Conclusion

An assessment of the existing building has been undertaken in accordance with the provisions of the Building Code of Australia 2019, Volume 1 (BCA).

It is considered that subject to the Recommendations in Section 3.3 being undertaken, that this is a reasonable strategy to satisfy the requirements of Clause 94 of the Environmental Planning & Assessment Regulation 2000, for acceptance in relation to the existing building, with the DA and to incorporate in the CC in relation to works proposed. It is noted that new works will need to be assessment by the Accredited Certifier when the Construction Certificate is reviewed.