

# **BCA & Fire Safety Assessment Report**

**1-12/93 Castlereagh Street Liverpool**

Report submitted to: **Women's Housing Company**

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## REPORT REGISTER

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The following report register documents the development and issue of this Report as undertaken by this office.

Reference	Issue No.	Name of Person	Category	Date	Remarks
04-9157	1.0	Bharath Reddy	BCA	10/02/26	Issued to WHC

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# 1 INTRODUCTION

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## 1.1 PURPOSE OF REPORT

This report has been prepared by Resource Risk Management for Women's Housing Company ("WHC"), and relates to an existing building at 93 Castlereagh Street Liverpool. The building is a three-storey residential Class 2 and Class 7a pursuant to Clause A6G3, A6G8(b) of the Building Code of Australia ("BCA").

The purpose of this report is to assess the building's compliance requirements with BCA 2022 Volume 1.

## 1.2 BASIS OF REPORT

The content of this report is based on:

- The National Construction Code ("NCC 2022") Volume 1; and

## 1.3 LIMITATIONS, EXCLUSIONS AND ASSUMPTIONS

This report does not cover the following:

### Limitations;

- 1.3.1 A visual site inspection conducted on 6<sup>th</sup> February 2026.

### Exclusions;

- 1.3.3 Matters related to Work Health and Safety (e.g. slips, trips and falls) have not been considered.
- 1.3.4 Matters related to the structural integrity of the building have not been assessed.
- 1.3.5 Assessment of compliance with the accessibility requirements of the BCA D4.

# 2 DESCRIPTION OF BUILDING

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## 2.1 BUILDING LAYOUT AND CONSTRUCTION

The subject building is a block of 12 two bedroom units, 4 storeys in height with the ground floor being carpark for 12 cars

There is a single required stair serving the building which is compliant if any point on the floor is <20m to the exit. We found the furthest point on the floor, not a balcony, was 10m.

## 2.2 BUILDING DETAILS AND CLASSIFICATION

Description	Details	Comments
Building Classifications	Class 2 [Residential] Class 7a [Car Park]	
Usage	Residential Car Park	12 Residential Units 12 x ground level open car space for 6 x cars
Residential mix	12   2 two bed	
Car park mix	Undercover Garage X 12 Cars  Open Car space for 6 X Cars approx.	
Total Floor Area	1340 m <sup>2</sup> (approx.) in total.	Including Garages
Number of Storeys	3 residential storeys and one storey ground level car park  Total Height 12 m	
Effective Height	<25m	
Year of Construction	UK	
Required Type of Construction	Type A	

Site and Surrounds	Residential	Medium density residential
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### 3 BUILDING CODE OF AUSTRALIA ASSESSMENT

#### 3.1 GENERAL

The BCA Assessment has been undertaken for the subject building for each DTS provision, which has been categorised as follows:

- DTS provision Noted (**Noted**).
- DTS provision Not Applicable (**N/A**).
- Compliant with the DTS provision (**Compliant**).
- Non-Compliant with the DTS provision (**Non-Compliant**).
- Compliance with the DTS provision Unknown (**Unknown**).
- Compliance with the DTS provision Assumed (**Assumed Compliant**).
- Performance provision is noted in lieu of a DTS provision (**Performance**).

BCA Clause	Compliance Requirement	Status	Comments & Recommendations on Compliance
<b>Section C - Fire Resistance</b>			
<b>C2 - Fire Resistance and Stability</b>			
C2D1	Deemed-to-Satisfy Provisions	Noted	
C2D2	Type of construction required	Non-Compliant	Type A- Common roof without separation between top floor units and common areas and the ceiling is not a 60/60/60 incipient spread ceiling.
C2D3	Calculation of rise in storeys	Noted	4-storeys
C2D4	Buildings of multiple classification	Noted	Class 2 and Class 7a
C2D5	Mixed types of construction	N/A	
C2D6	Two storey Class 2, 3 or 9c buildings	Noted	
C2D7	Class 4 parts of buildings	N/A	
C2D8	Open stands and indoor stadiums	N/A	

C2D9	Lightweight construction	N/A	
C2D10	Non-Combustible building elements	N/A	
C2D11	Fire hazard properties	Compliant	
C2D12	Performance of external walls in fire	Noted	
C2D13	Ancillary elements	N/A	
C2D14	Fire Protected Timber	N/A	
C2D15	Fixing of bonded laminated cladding panels	N/A	
<b>C3 - Compartmentation and Separation</b>			
C3D1	Deemed-to-Satisfy Provisions	Noted	
C3D2	Application of part	Noted	
C3D3	General floor area and volume limitations	Compliant	
C3D4	Large isolated buildings	N/A	
C3D5	Requirements for open spaces and vehicle access	N/A	
C3D6	Class 9a and 9c buildings	N/A	
C3D7	Vertical separation of openings in external walls	Compliant	
C3D8	Separation by fire walls	Compliant	
C3D9	Separation of classifications in the same storey	N/A	
C3D10	Separation of classifications in different storeys	Compliant	Double Brick achieves higher FRL then required
C3D11	Separation of lift shafts	N/A	
C3D12	Stairways and lifts in the one shaft	N/A	
C3D13	Separation of equipment	N/A	
C3D14	Electricity supply system	Assumed Compliant	

C3D15	Public corridors in Class 2 and 3 buildings	Compliant	All corridors <40m.
<b>C4 - Protection of Openings</b>			
C4D1	Deemed-to-Satisfy Provisions	DTS applicable	
C4D2	Application of Part	Noted	
C4D3	Protection of openings in external walls	Compliant	All openings are >3m
C4D4	Separation of external walls and openings in different fire compartments	Compliant	
C4D5	Acceptable methods of protection	N/A	
C4D6	Doorways in fire walls	N/A	
C4D7	Sliding fire doors	N/A	
C4D8	Protection of doorways in horizontal exits	N/A	
C4D9	Openings in fire-isolated exits	N/A	
C4D10	Service penetrations in fire-isolated exits	N/A	
C4D11	Openings in fire-isolated lift shafts	N/A	
<b>C4D12</b>	<b>Bounding construction: Class 2, 3 and 4 buildings</b>	<b>Non-Compliant</b>	<b>Fire doors are tagged with -/60/30 but the door frames are not tagged.</b>
C4D13	Openings in floors and ceilings for services	Non-Compliant	
C4D14	Openings in shafts	N/A	
<b>C4D15</b>	<b>Openings for service installations</b>	<b>Non-Compliant</b>	<b>Service penetrations need to be resealed with proper fire rated sealants in the ceiling spaces in level 1 &amp; 2</b>
C4D16	Construction Joints	N/A	
C4D17	Columns protected with lightweight construction to achieve an FRL	N/A	

Section D - Access and Egress			
D1 - Provision for Escape			
D2D1	Deemed-to-Satisfy Provisions	Noted	
D2D2	Application of Part	Noted	DTS applicable
D2D3	Number of exits required	Compliant	
D2D4	When fire-isolated stairways and ramps are required	N/A	
D2D5	Exit travel distances	Compliant	
D2D6	Distance between alternative exits	N/A	
D2D7	Height of exits and paths of travel to exits and doorways	Compliant	
D2D8	Width of exits and paths of travel to exits	Compliant	
D2D9	Width of doorways in exits or paths of travel to exits	Compliant	
D2D10	Exit width not to diminish in direction of travel.	Compliant	
D2D11	Determination and measurement of exits and paths of travel to exits	Compliant	
D2D12	Travel via fire-isolated exits	N/A	
D2D13	External stairways or ramps in lieu of fire-isolated exits	N/A	
D2D14	Travel by non-fire-isolated stairways or ramps	Compliant	
D2D15	Discharge from exits	Non-Compliant	
D2D16	Horizontal exits	N/A	
D2D17	Non-required stairways, ramps or escalators	N/A	
D2D18	Number of persons accommodated	Compliant	

D2D19	Measurement of distances	Noted	
D2D20	Method of measurement	Noted	
D2D21	Plant rooms, lift machine rooms and electrical network substations: Concession	N/A	
D2D22	Access to lift pits	N/A	
D2D23	Egress from primary schools	N/A	
<b>D2 - Construction of Exits</b>			
D3D1	Deemed-to-Satisfy Provisions	Noted	
D3D2	Application of Part	Noted	
D3D3	Fire-isolated stairways and ramps	N/A	
D3D4	Non-fire-isolated stairways and ramps	Compliant	
D3D5	Separation of rising and descending stair flights	N/A	
D3D6	Open access ramps and balconies	N/A	
D3D7	Smoke lobbies	N/A	
D3D8	Installation in exits and paths of travel	N/A	
D3D9	Enclosure of space under stairs and ramps	N/A	
D3D10	Width of stairways	Compliant	<2m.
D3D11	Pedestrian ramps	N/A	
D3D12	Fire-isolated passageways	N/A	
D3D13	Roof as open space	N/A	
D3D14	Goings and risers	Compliant	
D3D15	Landings	Compliant	
D3D16	Thresholds	N/A	
D3D17	Barriers to prevent falls	Compliant	
D3D18	Height of Barriers	Complaint	
D3D19	Openings in Barriers	Complaint	The openings in the barriers are <125mm:however there is one barrier missing at level 2.
D3D20	Barrier Climb ability	Complaint	

D3D21	Wire Barriers	N/A	
D3D22	Handrails	Compliant	Handrails in the staircase are compliant >865mm measured above the nosing of stair treads
D3D23	Fixed platforms, walkways, stairways and ladders	N/A	
D3D24	Doorways and doors	Noted	
D3D25	Swinging doors	Compliant	SOU door open against the direction of Egress as the floor area if SOU is <200m <sup>2</sup> it is considered as compliant
D3D26	Operation of latch	Compliant	SOU Doors and Final Exit Doors have single hand downward action device
D3D27	Re-entry from fire-isolated exits	N/A	
D3D28	Signs on doors	N/A	
<b>D3D29</b>	<b>Protection of openable windows</b>	<b>Non-Compliant</b>	<b>All the SOU's the window latches are not fitted and don't limit the window opening to less than 125 mm.</b>
D3D30	Timber stairway: Concession	N/A	
<b>Section E – Services and Equipment</b>			
<b>E1 – Fire Fighting Equipment</b>			
E1D1	Deemed-to-Satisfy Provisions	Noted	
E1D2	Fire hydrants	Compliant	<b>Although the fire</b>
<b>E1D3</b>	<b>Fire hose reels</b>	<b>Non-Compliant</b>	<b>Hose reels are not installed</b>
E1D4	Sprinklers	N/A	Sprinklers are not required because the ground floor, intended only for car parking, is not considered a full storey, despite the building having four storeys
E1D5	Where sprinklers are required: all classifications	N/A	
E1D6	Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings	N/A	
E1D7	Where sprinklers are required: Class 3 buildings used as a residential care building	N/A	
E1D8	Where sprinklers are required: Class 6 building	N/A	
E1D9	Where sprinklers are required: Class 7a, other than an open-deck carpark	N/A	

E1D10	Where sprinklers are required: Class 9a health-care building used as a residential care building and Class 9c buildings	N/A	
E1D11	Where sprinklers are required: Class 9b buildings	N/A	
E1D12	Where sprinklers are required: additional requirements	N/A	
E1D13	Where sprinklers are required: occupancies of excessive hazard	N/A	
E1D14	Portable fire extinguishers	Compliant	
E1D15	Fire control centres	N/A	
E1D16	Fire precautions during construction	N/A	
E1D17	Provision for special hazards	N/A	
<b>E2 - Smoke Hazard Management</b>			
E2D1	Deemed-to-Satisfy Provisions	Noted	
E2.1	Application of Part	Noted	Fire Hydrants Comply in accordance to NSW Fire + Rescue Fire Hydrant concessions for existing buildings
<b>E2.2</b>	<b>General requirements</b>	<b>Non-Compliant</b>	<b>Existing smoke alarms are &gt;10years old. Requires replacement</b>
E2D4	Fire-isolated exits	N/A	
E2D5	Buildings more than 25m in effective height: Class 2 and 3 buildings and Class 4 part of building	N/A	
E2D6	Buildings more than 25m in effective height: Class 5, 6, 7b, 8 and 9b buildings	N/A	
E2D7	Buildings more than 25m in effective height: Class 9a building	N/A	
<b>E2D8</b>	<b>Buildings not more than 25m in effective height: Class 2 and 3 buildings and Class 4 part of building</b>	<b>Non-Compliant</b>	<b>Existing smoke alarms are &gt;10years old. Requires replacement</b>
E2D9	Buildings not more than 25m in effective height:	N/A	

	Class 5, 6, 7b, 8 and 9b buildings	
E2D10	Buildings not more than 25m in effective height: Large isolated building	N/A
E2D11	Buildings not more than 25m in effective height: Class 9a, and 9c buildings.	N/A
E2D12	Class 7a buildings	N/A
E2D13	Basements (other than Class 7a buildings)	N/A
E2D14	Class 6 buildings – in fire compartments more than 2000m <sup>2</sup> : Class 6 building (not containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit)	N/A
E2D15	Class 6 buildings – in fire compartments more than 2000m <sup>2</sup> : Class 6 building (containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit)	N/A
E2D16	Class 9b – assembly buildings: nightclubs, discotheques and the like	N/A
E2D17	Class 9b – assembly buildings: exhibition halls	N/A
E2D18	Class 9b – assembly buildings: theatres and public halls	N/A
E2D19	Class 9b – assembly buildings: theatres and public halls (not listed in E2D18) including lecture theatres and cinema/auditorium complexes	N/A
E2D20	Class 9b – assembly buildings: other assembly buildings (not listed in E2D16 to E2D19)	N/A
E2D21	Provisions for special hazards	N/A

<b>E3 - Lift Installations</b>			
E3D1	Deemed-to-Satisfy Provisions	Noted	
E3D2	Lift installations	N/A	
E3D3	Stretcher facility in lifts	N/A	
E3D4	Warning against use of lifts in fire	N/A	
E3D5	Emergency lifts	N/A	
E3D6	Landings	N/A	
E3D7	Passenger lifts	N/A	
E3D8	Accessible features required for passenger lifts	N/A	
E3D9	Fire service controls	N/A	
E3D10	Residential care building	N/A	
E3D11	Fire service recall operation switch	N/A	
E3D12	Lift car fire service drive control switch	N/A	
<b>E4 - Emergency Lighting, Exit Signs and Warning Systems</b>			
E4D1	Deemed-to-Satisfy Provisions	Noted	
E4D2	Emergency lighting requirements	Non-Compliant	No Emergency Lights are installed
E4D3	Measurement of distance	Noted	No Emergency Lights are installed
E4D4	Design and operation of emergency lighting	Non-Compliant	
E4D5	Exit signs	Non-Compliant	No Exit signages are installed
E4D6	Direction signs	N/A	
E4D7	Class 2 and 3 buildings and Class 4 parts: Exemptions	N/A	
E4D8	Design and operation of exit signs	N/A	
E4D9	Sound system and intercom system for emergency purposes	N/A	

## 4 SUMMARY

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### 4.1 GENERAL

The issues identified can be categorised as:

1. The inspection noticed that the PVC penetration in the garages are not sealed properly. All the PVC penetrations are required to be properly sealed fire collars and copper penetration with fire rated sealants to limit the spread of fire
2. Inspection noticed that the top floor units' roof is common roof no separation wall to underside of the non-combustible roof. Suggest to upgrade the ceiling to fire rated for the top floor units to be confirmed by the contractors on site if the ceiling is fire rated
3. Inspection found that old smoke alarm installed in the common staircase, however these smoke alarms are not interconnected. Smoke alarm has exceeded its service life and requires replacement.
4. All the SOUs smoke alarms have exceeded the service life and requires replacement; we recommended to replace the smoke alarms with hard wired 240 v smoke alarms
5. All SOU entrance doors were identified as fire doors but the door frames are missing the tag. Recommend to submit the manufacturers certification or test and retag them
6. SOUs don't have window latches or restrictors to limit the window opening to less than 125 mm. BCA 2022 (NCC 2022) stipulates that openable window sash must be restricted so that a 125mm sphere subjected to a 250 N (equivalent to 25kg) force cannot pass through the opening.
7. Balcony balustrades are <1m in height. Replacement/upgrade of balustrades is required to achieve compliance
8. The inspection identified that illuminated exit signage and emergency lighting are not provided within the property. Provide and install compliant illuminated exit signage and emergency lighting to ensure occupants can safely and easily navigate the building during an emergency.

9. The inspection identified that fire hose reels are not provided at each level of the building. Provide and install fire hose reels at every storey in accordance with NCC/BCA requirements and AS 2441, ensuring they are suitably located for effective coverage, readily accessible, and clearly visible for occupant use during a fire emergency.

## 5 COST ESTIMATE AND FIRE SAFETY SCHEDULE

The orders of costs associated with the recommended fire safety upgrade works are given below:

Scope of Works	Cost Estimate	Comments
<b>Upgrade to current Class 2 requirements</b>		
Renew single fire door and frame and hardware (-/120/30)		Install fire door for main switchboard room
Test and Certify SOU door frames		Test and certify the fire door frames. FRL tags to be installed.
Replace door hardware - excluding door closer		Replace knob with single action device for 2x Entry/exit doors
Hilti CP636 firestop mortar - to firestop openings		RegROUT the metal penetration openings in garage
Hilti CP601S elastic fire stop sealant (310ml cartridge)		Seal all cable penetrations
Proprietary hinged prefinished metal sound rated non-fire rated access panel (up to and including 450mm x 450mm) to non-fire rated riser shaft bulkhead or ceiling including cutting openings and supporting framework as required. Panel to achieve sound rating of 25Rw + Ctr(airborne).		Supply and install non fire rated access panel in the bathrooms for units 1-8
New Fire Hose Reel		Supply and Install 3 X Fire Hose reels
Replace missing barrier at level 2 staircase		Replace missing barrier at level 2 staircase
Replace the balustrades for the SOU balcony approx 148m	12 SOUs with balustrade (20m each for 6 SOU's and 8m each for 6 SOU)	

Supply and install light to assist occupants' evacuation in case of an emergency. The evacuation light shall be interconnected to the smoke detection system in the building.	Supply and install 6 X Emergency Lights in the common areas
Interconnection of a group of up to 5 smoke alarms in common areas	Interconnect common area smoke alarms
Replace photoelectric type smoke alarm	Replace photoelectric type smoke alarm
Illuminated exit sign	Illuminated exit sign
Interconnection of a group of up to 6 to 10 smoke alarms in common areas	Interconnect exit signs and emergency lights
Supply and install a test switch to AS2293 for emergency lighting and exit sign on a separate circuit	Supply and install a test switch to AS2293 for emergency lighting and exit sign on a separate circuit
Window Winder Restrictable to 125MM Opening	Each unit about \$500 to upgrade restrict able window.
New fire rated ceiling cornice for old - in 2BD SOU	Fire rated ceiling for top floor SOU's. To be confirmed only if current ceiling is not fire rated
Bulkheads for PVC penetration	Supply and install bulkheads for vertical PVC penetrations X 4
Replace with (-/60/30) door frame up to 2.1m	Replace with (-/60/30) door frame up to 2.1m
Tenmat FF109 downlight cover - 150mm dia	Downlight cover for all light fitting and smoke alarms penetrating through fire rated ceiling

## 6 APPENDIX

Photos	Comments
<p><u>Photo 1.</u></p> 	<p><input type="checkbox"/> Front view</p>
<p><u>Photo 2.</u></p> 	<p><input type="checkbox"/> Smoke alarm in SOU</p>
<p><u>Photo 3.</u></p> 	<p><input type="checkbox"/> Cables to be sealed</p>

Photo 4.



- Non-Compliant Balustrade in the SOU

Photo 5.



- PBVC penetration without fire collars

Photo 6.

- Common roof without separation



Photo 7.

- Fire door with tag. Frame missing tags



Photo 9.

Main switchboard



Photo 10.

Metal penetration with properly sealed



Photo 11.



- Vertical penetration with proper seals

Photo 12.



- LHS > 3 meters to the adjacent boundary

Photo 13.

HWS located in laundry



Photo 14

Windows without restrictors

