STEVE WATSON & PARTNERS

BUILDING REGULATIONS CONSULTANTS
BUILDING CERTIFIERS
FIRE SAFETY ENGINEERS
SYDNEY • BRISBANE

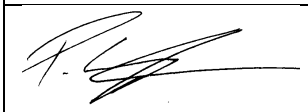
75 Mary Street, St Peters

BCA Assessment Report

REPORT 2014/1658 R1.4
September 2015

Steve Watson and Partners Pty Ltd • Sydney
Level 17, 456 Kent Street, Sydney NSW 2000 Phone: +61 2 9283 6555 Fax: +61 2 9283 8500
info@swpartners.com.au www.swpartners.com.au
ABN 33 600 478 402

Report Revision History

Revision	Date	Reason for Revision	Prepared by	Reviewed	Approved by
R1.0	23.10.2014	Draft	Paul Curjak	Andrew Rys	
R1.1	30.10.2014	Draft – updated following TZG comments	Paul Curjak	Andrew Rys	
R1.2	17.02.2015	Draft – updated following TZG comments	Paul Curjak	Andrew Rys	
R1.3	27.08.2015	Final – updated following TZG updated drawings	Paul Curjak	Andrew Rys	
R1.4	17.09.2015	Final – minor changes to scheme	Paul Curjak	Andrew Rys	
					

EXECUTIVE SUMMARY

An assessment of the proposed design of 75 Mary Street, St Peters has been undertaken against the Deemed-to-Satisfy provisions of the relevant sections of the BCA.

We confirm the design as shown on the drawings referenced are capable of achieving compliance with the BCA. Some aspects of the design are proposed to be addressed by way of a fire engineered Alternative Solution to meet the meet the relevant Performance Requirements of the BCA.

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1. INTRODUCTION

This report presents the findings of an assessment of the design of 75 Mary Street, St Peters against the Deemed-to-Satisfy (DTS) provisions of the relevant sections of the Building Code of Australia (BCA).

It has been prepared by building regulations consultants and certifiers Steve Watson and Partners for Tonkin Zulaikha Greer Architects.

2. PURPOSE

The purpose of this report is to provide an assessment of the design documentation for the proposed project against the current requirements of the BCA.

The assessment is undertaken for submission with the Planning Approval to Council under Part 4 of the Environmental Planning and Assessment Act.

3. SCOPE AND LIMITATIONS

3.1. SCOPE

The scope of this assessment is limited to the design documentation referenced in Appendix B of this report.

3.2. LIMITATIONS

The following limitations apply to the assessment:

- The plans are assessed to the extent necessary for submission with the Planning Approval to Council under Part 4 of the Environmental Planning and Assessment Act. This means the design has been assessed to be capable of complying with the BCA without necessarily having all the details required to issue a Construction Certificate.
- Details in regard to access for people with disabilities have been assessed to the extent of the deemed-to-satisfy provisions of the BCA only. An assessment against AS 1428 is outside the scope of this report.
- The assessment does not consider the requirements of legislation other than the nominated sections of the EP&A Act which might address building works such as OH&S, Construction Safety or the like.
- Generally the assessment does not incorporate the detailed requirements of the Australian Standards.

4. STATUTORY FRAMEWORK

The following table summarises the key statutory issues relating to fire safety and the BCA in relation to the certification of new building works.

Issue	EPAR Clause Ref	Comment	Relevant section of this report
New Work	145	All new works must comply	8 and 11

4.1. NEW WORK

Clause 145 of the Environmental Planning and Assessment Regulation 2000 (EPAR) requires that all new work comply with the current requirements of the BCA.

This means that all works proposed in the plans are required to comply but that existing features of an existing building need not comply with the BCA unless required to under other clauses of the

legislation.

4.2. RESIDENTIAL FLAT DEVELOPMENT

Clause 143A of the EPAR requires a qualified designer to provide a statement that verifies that the plans and specifications achieve or improve the design quality of the development having regard to the design quality principles set out in Part 2 of the *State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development* (SEPP 65) prior to the issue of a Construction Certificate.

Clause 154A of the EPAR requires a qualified designer to provide a statement that verifies that the residential flat development achieves the design quality of the development as shown in the plans and specifications having regard to the design quality principles set out in Part 2 of SEPP 65 prior to issuing an Occupation Certificate.

5. METHODOLOGY

5.1. PROCESS ADOPTED

The following method of assessment has been used in the preparation of this report:

1) Determine the basic assessment data for the building.
2) Assess the design of the building against the current Deemed-to-Satisfy requirements of Sections B, C, D, E, F, G and J of the BCA. Establish the status of each clause into the following categories:
   a) Clause is administrative information only **(Noted)**.
   b) Clause is or is not relevant to the proposed work **(Applicable or Not Applicable)**.
   c) The proposed work complies with the requirements of the clause **(Complies)**.
   d) Compliance with the requirements of the clause is unable to be determined from the documentation provided **(Compliance Readily Achievable)**. A recommendation in the "Comments" column will indicate what is required to achieve compliance. The design and construction teams are responsible to ensure compliance is achieved.
   e) Compliance with the requirements of the clause is unable to be determined from the documentation provided. Additional details or relevant information required to verify compliance (**Additional Details Required**);
   f) Proposed work does not comply with the requirements of the clause **(Does Not Comply)**. An indication will be given in the Comments field as to the nature of the issue and whether an alternative solution has been proposed to address the issue.
   g) Proposed work is to be addressed on a performance basis via an Alternative Solution satisfying the relevant Performance Requirements. (**Alternative Solution**).
3) Nominate the status of the design against each BCA requirement.
4) Provide comments against each BCA requirement as appropriate

6. DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed development comprises several residential blocks over common car park with some commercial use as follows:

- Building 1 – existing 3 storey building with additional 4 storeys of commercial floor space Building 2 – existing 3 storey building with commercial use & extension of commercial floorspace
- Building 6 – existing 3 storey building with commercial use, new lifts and stairs
- Building 7 – part existing 3 storey commercial with adjacent new 5 storey commercial building
- Building 8 – 5 storey residential building, with garden on roof
- Building A – 6 storey residential building over common basement car park
- Building B - 4 storey residential building over common basement car park
- Building C – 8 storey residential building over common basement car park
- Common 2 storey below ground car park under buildings A, B, C

7. ASSESSMENT DATA SUMMARY

The following basic assessment data has been drawn from the provisions of the BCA 2014.

7.1. ASSUMPTIONS

Assumptions made in the preparation of this report are listed below:

1. The basement car park is proposed to be sprinkler protected;

7.2. INTERPRETATIONS

A number of issues within the BCA are recognised to be interpretive in nature. Where these issues are encountered, interpretations are made that are consistent with Standard Industry Practise and/or Steve Watson & Partners policy formulated in regard of each issue.

1. No interpretations were made as part of our assessment.

7.3. BUILDING CHARACTERISTICS

The following assessment data has been drawn from the provisions of the BCA.

7.3.1. Classification

The significant spaces in the proposed design have been classified in accordance with the

requirements of Clause A3.2 of the BCA and are summarised in the table below:

Floor	*Space*	*Classification*
BUILDING 1		
Ground to level 6	Commercial	5
BUILDING 2		
Ground to level 2	Commercial	5
BUILDING 6		
Ground to level 2	Commercial	5
BUILDING 7		
Ground to level 4 (new)	Commercial	5
Ground to level 2 (old)	Industrial	8
BUILDING 8		
Ground to level 1	Commercial	5
Level 2 to level 4	Residential	2
Roof	Retail	6
BUILDING A		
Basement car park	Car park	7a
Ground to level 5	Residential	2
BUILDING B		
Ground to level 3	Residential	2
BUILDING C		
Basement car park	Car park	7a
Ground	Commercial	5
Levels 1 to level 7	Residential	2

7.3.2. Summary of construction determination

The type of construction required for the proposed design is summarised in the table below. Refer to Appendix A for further detailed assessment data on the proposed development.

Building 1

Classification	5
Number of storeys contained	7
Rise in storeys	7
Type of construction required	A
Effective height	TBC

Building 2

Classification	5
Number of storeys contained	3

Rise in storeys	3
Type of construction required	B
Effective height	TBC

Building 7

Classification	5 and 8
Number of storeys contained	5
Rise in storeys	5
Type of construction required	A
Effective height	TBC

Building 6

Classification	8
Number of storeys contained	3
Rise in storeys	3
Type of construction required	B
Effective height	TBC

Building 8, A, B, C

Classification	2, 5 and 7a
Number of storeys contained	8
Rise in storeys	8
Type of construction required	A
Effective height	22.4m (Building C)

8. ISSUES REQUIRING RESOLUTION

8.1. ISSUES REQUIRING AMENDMENTS TO PLANS

No design issues need to be resolved prior to submission of the Development Application.

8.2. ALTERNATIVE SOLUTIONS PROPOSED / REQUIRED

It is proposed to satisfy a number of BCA following non-compliances by alternative solutions. The alternative solutions will be detailed in the BCA report for Development Application.

9. STATUTORY FIRE SAFETY MEASURES

The Statutory Fire Safety Measures listed in Appendix D of this report are required to be certified upon completion of the project and prior to occupation of the building by the owner of the building, by issuing a Final Fire Safety Certificate under the Act.

The owner is also required under the Act to certify each of the Fire Safety Measures annually by issuing a Fire Safety Statement.

10. CONCLUSIONS

The design is capable of complying with the requirements of the relevant sections of the BCA subject to resolution of the identified areas of non-compliance and compliance with the recommendations provided within the report.

11. APPENDIX A – BCA ASSESSMENT

11.1. SECTION B – STRUCTURE

Detailed design drawings and certification will be required from an appropriately qualified structural engineer with regards to the design. The building will need to be designed to achieve compliance with Clauses B1.1 to B1.6 as appropriate.

Note additional requirements at Section C below.

11.2. SECTION C - FIRE RESISTANCE

Clause C1.1 - The type of construction required for each building type is referenced in Appendix C.

The fire hazard properties of linings materials and assemblies must comply with Specification C1.10 and NSW Specification C1.10.

Buildings 8, A, B, C and 7 are not proposed to be sprinkler protected. As such, spandrel protection must be provided. The spandrel must be not less than 900mm in height, extended not less than 600mm above the upper surface of the intervening floor and be of non-combustible material having an FRL of not less than 60/60/60.

A fire wall separating Building C and 2 is required to have an FRL of 240/240/240.

The following areas have different classifications situated one above the other that must be separated in accordance with the DTS provisions of the BCA:

- Building 8, A, B, C – class 7a car park below class 2 residential and/or class 5 commercial

Any lift connecting more than 2 storeys or more than 3 storeys in a sprinkled building must be separated from the remainder of the building as specified in Clause C2.10.

The following Buildings have lifts that connect more than 2 storeys:

- Building 8, A, B, C, 1

Openings for lift landing doors and services must be protected in accordance with the DTS provisions of Part C3 of the BCA.

The following areas have openings that are located within 3m of the property boundary or 6m from another building on the same allotment:

- along Eastern façade of Buildings A and B (less than 3m from boundary)
- between Building 6 and 7 (less than 6m between buildings)

These openings shall be protected by sprinklers, fire doors, fire windows etc, in accordance with Clause C3.4 of the BCA.

A sliding fire door is likely to be required to separate sprinklered and unsprinklered portions of the building within the basement car park connection to the upper levels.

Clause C3.11 - Doorways which open into a public corridor, public lobby or the like are to have self-closing -/60/30 fire doors fitted.

11.3. SECTION D – ACCESS AND EGRESS

Building A - The entrance doorways from Class 2 SOU's on Levels 1 – 5, exceeds 6m from an exit (approx. 6.5m from the furthest doorway). This issue may be address via a fire engineered alternative solution satisfying the Performance Requirements of the BCA.

Building A, B, C, D & 8 – basement car park

- Approx. 100m between alternative exits (max 60m permitted)

This issue may be addressed via a fire engineered alternative solution satisfying the Performance Requirements of the BCA.

Building 8, A, B, C – a number of fire isolated exit stairways are proposed to discharge within the Ground Floor lobby area.

A fire isolated stairway is required to discharge directly to road or open space. This issue may be address via a fire engineered alternative solution satisfying the Performance Requirements of the BCA.

Where a path of travel from the point of discharge of a fire isolated exit passes within 6m of any part of an external wall of the same building, that part of the wall must have:

i) An FRL of not less than 60/60/60; and

ii) Any openings protected internally in accordance with Clause C3.4,

for a distance of 3m above or below, as appropriate, the level of the path of travel, or for the height of the wall, which level is the lesser.

Fire isolated passageways are to have an FRL equivalent to the fire resisting stair shaft as specified in Specification C1.1.

Landings must comply with the requirements of Clause D2.14 of the BCA. Landings must be not less than 750mm long and have a non-slip finish throughout or an adequate non-skid strip near the edge of the landing where it leads to a flight below.

The following doorways forming part of the required exit do not swing in the path of travel:

- Building B – Discharge of fire isolated exit at ground floor
- Building B – entry doorway into fire isolated exit at level 1
- Building A – entry doorway into fire isolated exit at level 5

The door swing is required to be amended on the drawings for construction certificate.

Window openings must be provided with protection if the floor below the window is 2m or more above the surface beneath in the bedroom of Class 2 buildings.

Protection methods of the windows in accordance with Clause D2.24 are to be provided for Construction Certificate.

Every ramp, except a fire isolated ramp, must comply with Clause 10 if AS 1428.1. Every stairway, except a fire isolated stairway, must comply with Clause 11 of AS 1428.1. A fire isolated stairway must comply with Clause 11(f) and (g) of AS 1428.1. Every passenger lift must comply with Clause E3.6. Accessways must have passing spaces and turning spaces complying with AS 1428.1.

Pile height or pile thickness of carpets shall comply with the requirements of this Clause and AS 1428.1.

Tactile indicators are to be provided to all stairways (other than fire isolated stairways) and ramps.

Tactile ground surface indicators must comply with sections 1 and 2 of AS/NZS 1428.4.1

11.4. SECTION E – SERVICES AND EQUIPMENT

Hydraulic plans identifying the locations of all fire hydrants and booster assembly to be provided. The hydraulic engineer will also need to provide certification certifying that the design complies with Clause E1.3 of the BCA and AS2419.1 – 2005.

Fire hydrants must conform to the pressure and flow requirements and distance limitations specified in AS 2419.1 – 2005.

Fire hose reels are to be installed internally within 4m of an exit or internally adjacent to a fire hydrant so that the fire hose reel will not need to pass through fire and smoke doors.

Additional hose reels are permitted to be installed further then 4m from exit to achieve coverage.

Fire hose reels are to be installed accordance with AS2441.

The basement car park is proposed to be sprinkler protected in accordance with AS2118.1-1999.

Portable fire extinguishers are required to be provided in accordance with Table E1.6 of the BCA and Sections 1, 2, 3 and 4 of AS 2444.

Portable extinguishers to cover Class A risk fires are only required in fire compartments less than 500m^2 not provided with hose reels.

An air-handling system that does not form part of the smoke hazard management system and recycles air from one fire compartment to another must be designed and installed to operate as a smoke control system in accordance with AS/NZS 1668.1 or incorporate smoke dampers and automatically shutdown upon activation of smoke detectors in accordance with Clause 4.10 of AS/NZS 1668.1.

Building 8, A, B, C - The building must be provided with an automatic smoke detection and alarm system complying with Specification E2.2a.

The carpark is to be provided with fans with metal blades suitable for operation at normal temperature and electrical power and control cabling need not be fire rated.

Exit signs are to be provided in accordance with Clause E4.5 of the BCA.

11.5. SECTION F – HEALTH AND AMENITY

Stormwater drainage design shall be in accordance with AS/NZS 3500.3.

Waterproofing membranes for external above ground use must comply with AS 4654 Parts 1 and 2.

Roof coverings are to comply with the relevant Australian Standards as per Clause F1.5.

Sarking type materials used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 2.

The floor of each bathroom and laundry in each sole occupancy of a Class 2 residential portion is to be graded to permit drainage to a floor waste.

Each residential unit requires-

- a kitchen sink and facilities for the preparation and cooking of food; and
- a bath or shower; and
- a closet pan and washbasin.

Additionally each residential unit also requires laundry facilities with clothes washing facility comprising at least one washtub and space for a washing machine as well as space for one heated-operated drying appliance within the same room.

Note: A kitchen sink or washbasin must not be counted as a laundry tub.

Employee sanitary facilities are to be shown on drawings for retail portions.

The following ceiling heights apply-

- Kitchen, laundry, or the like – 2.1m
- Corridor, passageway or the like – 2.1m
- Residential habitable rooms excluding kitchen – 2.4m
- Bathroom, sanitary compartment, store room or the like – 2.1m
- Retail area – 2.4m

Above stairway, landing or the like – 2m measured vertically above nosing of stairway treads or floor surface of landing.

Natural light is required to be provided to all habitable rooms in the Class 2 residential apartments.

Lighting shall be provided throughout the building to comply with AS1680.0 in accordance with the requirements of Clause F4.4 of the BCA.

Ventilation shall be provided throughout the building in by means of natural ventilation complying with Clause F4.6 or mechanical ventilation complying with the requirements of AS1668.2 as required by Clause F4.5 of the BCA.

The carpark is to be provided with ventilation complying with AS1668.2.

Construction required to have an airborne sound insulation rating must have the value for weighted sound reduction index (R_w) or weighted sound reduction index with spectrum adaptation term ($R_w + C_{tr}$) determined in accordance with AS/NZS1276.1 or ISO717.1 using result from laboratory measurements, or comply with Specification F5.2 of the BCA.

A floor required to have an impact sound insulation rating must have the required value for weighted normalised impact sound pressure level with spectrum adaptation term ($L_{n,w}+C_l$) determined in accordance with AS/ISO 717.2 using results from laboratory measurements or comply with Specification F5.2 of the BCA.

A wall in a class 2 portion that is required to have an impact sound insulation rating must be of discontinuous construction.

A wall in a class 2 potion must have an Rw + Ctr of not less than 50 if it separates sole occupancy units and an Rw of 50 if it separates a sole occupancy unit from a plant room, lift shaft, public corridor, public lobby or the like or parts of different classifications. Compliance with F5.3(b) is

required if the wall separates a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room (excluding a kitchen) in another adjoining unit or a sole occupancy unit from a plant room or lift shaft.

A door may be incorporated in a wall in a Class 2 portion that separates a *sole-occupancy unit* from a stairway, *public corridor*, public lobby or the like, provided the door assembly has an R_w not less than 30.

Where a wall required to have sound insulation has a floor above, the wall must continue to the underside of the floor above or a ceiling that provides the sound insulation required for the wall.

11.6. SECTION J – ENERGY EFFICIENCY

The Energy Efficiency provisions to be assessed during detailed design stage. This is likely to require assessment by an Energy Efficiency Consultant.

12. APPENDIX B – REFERENCED DOCUMENTATION

The following documentation was used in the preparation of this report:

Drawing No.	*Title*	*Issue*	*Date*	*Drawn By*
-	Proposed Site Plan	-	-	Tonkin Zulaikha Greer
-	B1 Basement Parking Plan	-	-	Tonkin Zulaikha Greer
-	B2 Basement Parking Plan	-	-	Tonkin Zulaikha Greer
-	Ground Floor	-	-	Tonkin Zulaikha Greer
-	Level 1	-	-	Tonkin Zulaikha Greer
-	Level 2	-	-	Tonkin Zulaikha Greer
-	Level 3	-	-	Tonkin Zulaikha Greer
-	Level 4	-	-	Tonkin Zulaikha Greer
-	Level 5	-	-	Tonkin Zulaikha Greer
-	Level 6	-	-	Tonkin Zulaikha Greer
-	Level 7	-	-	Tonkin Zulaikha Greer
-	Site Sections	-	-	Tonkin Zulaikha Greer

13. APPENDIX C – CONSTRUCTION DETAILS

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, 9 or 7a	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 1.5m	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 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-				
less than 3 m	90/ - / -	120/ - / -	180/ - / -	240/ - / -
3 m or more	- / - / -	- / - / -	- / - / -	- / - / -
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

TYPE B CONSTRUCTION: FRL OF BUILDING ELEMENTS				
Building element	**Class of building - FRL:** (in minutes) Structural adequacy/Integrity/Insulation			
	2, 3 or 4 part	5, 9 or 7a	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 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/60/30	120/ 90/60	180/120/90	240/180/120
3 to less than 9 m	90/30/30	120/ 30/30	180/90/60	240/90/60
9 to less than 18 m	90/30/-	120/30/-	180/60/-	240/60/-
18 m or more	- / - / -	- / - / -	- / - / -	- / - / -
For non-loadbearing parts-				
less than 1.5 m	-/90/90	- /120/120	- /180/180	- /240/240
1.5 to less than 3 m	-/60/30	- / 90/60	- /120/90	- /180/120
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-				
less than 3 m	90/ - / -	120/ - / -	180/ - / -	240/ - / -
3 m or more	- / - / -	- / - / -	- / - / -	- / - / -
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	60/60/60	120/ - / -	180/ - / -	240/ - / -
Non-loadbearing	- /60/60	- / - / -	- / - / -	- / - / -
Between or bounding sole-occupancy units-				
Loadbearing	60/60/60	120/ - / -	180/ - / -	240/ - / -
Non-loadbearing	- /60/60	- / - / -	- / - / -	- / - / -
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES and COLUMNS	60/ - / -	120/ - / -	180/ - / -	240/ - / -
ROOFS	- / - / -	- / - / -	- / - / -	- / - / -

TYPE C CONSTRUCTION: FRL OF BUILDING ELEMENTS				
Building element	**Class of building - FRL:** (in minutes) Structural adequacy/Integrity/Insulation			
	2, 3 or 4 part	5, 9 or 7a	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-				
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	-/-/-	-/-/-	-/-/-	-/-/-
EXTERNAL COLUMN not incorporated in an external wall, where the distance from any fire-source feature to which it is exposed is-				
less than 1.5 m	90/ - / -	90/ - / -	90/ - / -	90/ - / -
1.5 or les than 3 m	- / - / -	60/ - / -	60/ - / -	60/ - / -
3 m or more	- / - / -	- / - / -	- / - / -	- / - / -
COMMON WALLS and FIRE WALLS	90/90/90	90/90/90	90/90/90	90/90/90
INTERNAL WALLS-				
Bounding public corridors, public lobbies and the like-	60/60/60	- / - / -	- / - / -	- / - / -
Between or bounding sole-occupancy units-	60/60/60	-/ - / -	-/ - / -	-/ - / -
Bounding a stair if required to be rated-	60/60/60	- / - / -	- / - / -	- / - / -
ROOFS	- / - / -	- / - / -	- / - / -	- / - / -

14. APPENDIX D – STATUTORY FIRE SAFETY MEASURES

Schedule of Statutory Fire Safety Measures

Building 8, A, B, C

Measure	Standard of Performance
Access panels, doors and hoppers to fire resisting shafts	BCA2015 Clause C3.13 and tested prototypes (AS 1530.4 – 2005)
Automatic fail safe devices	Scheduled devices release upon trip of smoke detection, fire detection or sprinkler activation in accordance with BCA2015 Clause D2.21.
Automatic fire detection and alarm system *(smoke detection system)*	BCA2015 Specification E2.2a and AS 1670.1 – 2004
Automatic fire detection and alarm system *(smoke detection system to automatically shutdown air-handling system or smoke detection system to activate smoke exhaust system or smoke and heat vents)*	BCA2015 Clause 5 and 7 of Specification E2.2a and AS/NZS 1668.1 – 1998
Automatic fire suppression systems *(Sprinklers)*	BCA2015 Specification E1.5 and AS 2118.1 – 1999
Emergency lighting	BCA2015 Clause E4.2, E4.4 and AS 2293.1 – 2005
Exit signs	BCA2015 Clause E4.5, NSW E4.6, E4.7, E4.8 and AS 2293.1 – 2005
Fire dampers	BCA2015 Clause C3.15 and AS/NZS 1668.1 – 1998 (AS 1682.1-1990 and AS 1682.2-1990)
Fire doors	BCA2015 Specification C3.4 and AS 1905.1 – 2005
Fire hydrants systems	BCA2015 Clause E1.3 and AS 2419.1 – 2005
Fire seals protecting opening in fire resisting components of the building	BCA2015 Clause C3.15, Specification C3.15 and AS 1530.4 – 2005 and AS 4072.1 – 2005 and installed in accordance with the tested prototype.
Fire shutters	BCA2015 Specification C3.4 and AS 1905.2 – 2005
Fire windows	BCA2015 Specification C3.4 and AS 1530.4 – 2005
Hose reel system	BCA2015 Clause E1.4 and AS 2441 – 2005
Lightweight construction	BCA2015 Specifications C1.8, Clause A2.3 and AS 1530.4-2005
Mechanical air handling system *(automatic shut down of air-handling system)*	BCA2015 Clause E2.2 and AS/NZ 1668.1-1998
Mechanical air handling system *(carpark mechanical ventilation system)*	BCA2015 Table E2.2a and Clause 5.5 of AS/NZ 1668.1-1998 and fans with metal blades suitable for operation at normal temperature may be used and the electrical power and control cabling need not be fire rated
Portable fire extinguishers	BCA2015 Clause E1.6 and AS 2444 – 2001
Solid core doors	BCA2015 Clause C3.11
Wall wetting sprinkler and drencher systems	BCA2015 Clause C3.4 and AS 2118.2 – 1995

Measure	Standard of Performance
Warning and operational signs	BCA2015 Clauses D2.23 and E3.3.

Note that the fire safety schedule may need to be amended subject to the inclusion of a fire engineered alternative solution.

Building 7

Measure	Standard of Performance
Access panels, doors and hoppers to fire resisting shafts	BCA2015 Clause C3.13 and tested prototypes (AS 1530.4 – 2005)
Automatic fail safe devices	Scheduled devices release upon trip of smoke detection, fire detection or sprinkler activation in accordance with BCA2015 Clause D2.21.
Automatic fire detection and alarm system *(smoke detection system)*	BCA2015 Specification E2.2a and AS 1670.1 – 2004
Emergency lighting	BCA2015 Clause E4.2, E4.4 and AS 2293.1 – 2005
Exit signs	BCA2015 Clause E4.5, NSW E4.6, E4.7, E4.8 and AS 2293.1 – 2005
Fire dampers	BCA2015 Clause C3.15 and AS/NZS 1668.1 – 1998 (AS 1682.1-1990 and AS 1682.2-1990)
Fire doors	BCA2015 Specification C3.4 and AS 1905.1 – 2005
Fire hydrants systems	BCA2015 Clause E1.3 and AS 2419.1 – 2005
Fire seals protecting opening in fire resisting components of the building	BCA2015 Clause C3.15, Specification C3.15 and AS 1530.4 – 2005 and AS 4072.1 – 2005 and installed in accordance with the tested prototype.
Hose reel system	BCA2015 Clause E1.4 and AS 2441 – 2005
Portable fire extinguishers	BCA2015 Clause E1.6 and AS 2444 – 2001
Warning and operational signs	BCA2015 Clauses D2.23 and E3.3.

Building 6

Measure	Standard of Performance
Access panels, doors and hoppers to fire resisting shafts	BCA2015 Clause C3.13 and tested prototypes (AS 1530.4 – 2005)
Emergency lighting	BCA2015 Clause E4.2, E4.4 and AS 2293.1 – 2005
Exit signs	BCA2015 Clause E4.5, NSW E4.6, E4.7, E4.8 and AS 2293.1 – 2005
Fire dampers	BCA2015 Clause C3.15 and AS/NZS 1668.1 – 1998 (AS 1682.1-1990 and AS 1682.2-1990)
Fire doors	BCA2015 Specification C3.4 and AS 1905.1 – 2005
Fire hydrants systems	BCA2015 Clause E1.3 and AS 2419.1 – 2005
Fire seals protecting opening in fire resisting components of the building	BCA2015 Clause C3.15, Specification C3.15 and AS 1530.4 – 2005 and AS 4072.1 – 2005 and installed in accordance with the tested prototype.
Hose reel system	BCA2015 Clause E1.4 and AS 2441 – 2005
Portable fire extinguishers	BCA2015 Clause E1.6 and AS 2444 – 2001
Warning and operational signs	BCA2015 Clauses D2.23 and E3.3.

Building 1

Measure	Standard of Performance
Access panels, doors and hoppers to fire resisting shafts	BCA2015 Clause C3.13 and tested prototypes (AS 1530.4 – 2005)
Emergency lighting	BCA2015 Clause E4.2, E4.4 and AS 2293.1 – 2005
Exit signs	BCA2015 Clause E4.5, NSW E4.6, E4.7, E4.8 and AS 2293.1 – 2005
Fire dampers	BCA2015 Clause C3.15 and AS/NZS 1668.1 – 1998 (AS 1682.1-1990 and AS 1682.2-1990)
Fire doors	BCA2015 Specification C3.4 and AS 1905.1 – 2005
Fire hydrants systems	BCA2015 Clause E1.3 and AS 2419.1 – 2005
Fire seals protecting opening in fire resisting components of the building	BCA2015 Clause C3.15, Specification C3.15 and AS 1530.4 – 2005 and AS 4072.1 – 2005 and installed in accordance with the tested prototype.
Hose reel system	BCA2015 Clause E1.4 and AS 2441 – 2005
Portable fire extinguishers	BCA2015 Clause E1.6 and AS 2444 – 2001
Warning and operational signs	BCA2015 Clauses D2.23 and E3.3.

Building 2

Measure	Standard of Performance
Access panels, doors and hoppers to fire resisting shafts	BCA2015 Clause C3.13 and tested prototypes (AS 1530.4 – 2005)
Emergency lighting	BCA2015 Clause E4.2, E4.4 and AS 2293.1 – 2005
Exit signs	BCA2015 Clause E4.5, NSW E4.6, E4.7, E4.8 and AS 2293.1 – 2005
Fire dampers	BCA2015 Clause C3.15 and AS/NZS 1668.1 – 1998 (AS 1682.1-1990 and AS 1682.2-1990)
Fire doors	BCA2015 Specification C3.4 and AS 1905.1 – 2005
Fire hydrants systems	BCA2015 Clause E1.3 and AS 2419.1 – 2005
Fire seals protecting opening in fire resisting components of the building	BCA2015 Clause C3.15, Specification C3.15 and AS 1530.4 – 2005 and AS 4072.1 – 2005 and installed in accordance with the tested prototype.
Hose reel system	BCA2015 Clause E1.4 and AS 2441 – 2005
Portable fire extinguishers	BCA2015 Clause E1.6 and AS 2444 – 2001
Warning and operational signs	BCA2015 Clauses D2.23 and E3.3.