Appendix J

BCA report

Blackett Maguire + Goldsmith

BLACKETT MAGUIRE+ GOLDSMITH

Preliminary BCA Report

33 BLIGH STREET, SYDNEY
Office Tower & CEZS

Investa Property Group

23 September 2011
Revision 2

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1. INTRODUCTION

Blackett Maguire + Goldsmith Pty Ltd (BM+G) have been commissioned by Investa Property Group, to undertake a preliminary review of the proposed commercial tower component of the new development, against the deemed-to-satisfy (DTS) provisions of the Building Code of Australia 2011 (BCA) pursuant to the provisions of clause 145 of the *Environmental Planning & Assessment Regulation 2000* and clause 18 of the *Building Professionals Regulation 2007*.

2. PROJECT DESCRIPTION

The subject development consists of the construction of a commercial office tower development over the new City East Zone Substation (CEZS) facility. In this regard the commercial office tower consists of an independent 22 storey structure built on top of the CEZS, with 3 levels of plant room, 20 office levels and a sky lobby on Level 14. In addition, the office tower also includes the commercial lobby on Level 7 and the Building Management area on Level 6 that are within the substation levels.

It is understood that the CEZS consists of 7 above ground levels and 4 basement storeys, incorporating two levels of basement carpark. The CEZS is the subject of a separate BCA Report prepared by City Plan Services.

3. COMPLIANCE STATEMENT OBJECTIVES

The objectives of this report are to:

- Undertake an assessment of the proposed commercial office tower component of the development against the deemed-to-satisfy (DTS) provisions of the BCA.
- Identify any non-compliance with the (DTS) provisions of the BCA that are required to be addressed as part of the Construction Certificate Application.
- Assess any proposed Performance Based solutions to the DTS provisions of the BCA that may be required to address non-compliance issues.
- Identify essential fire safety measures applicable to the subject building.

4. LIMITATIONS

The limitations of this report are as follows:

- Blackett Maguire + Goldsmith Pty Ltd cannot guarantee acceptance of this report by Local Council, Fire & Rescue NSW or other approval authorities.
- This report does not provide advice on the Access to Premises Standard Legislation, of which will be undertaken by other parties with suitable recommendations for compliance being provided.
- This report does not provide advice on CEZS component of the development which has been assessed by City Plan Services as documented in their BCA Report.
- No part of this document may be reproduced in any form or by any means without written permission from Blackett Maguire + Goldsmith Pty Ltd. This report is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.
- The Report does not address issues in relation to the following:
  i. Local Government Act and Regulations.
  ii. Occupational Health and Safety Act and Regulations.
  iii. WorkCover Authority requirements.
  iv. Water, drainage, gas, telecommunications and electricity supply authority requirements.

5. TERMINOLOGY

Alternative Solution – means a Building Solution which complies with the Performance Requirements other than by reason of satisfying the Deemed to Satisfy Provisions.

Building Code of Australia - Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.

Construction Certificate – Building Approval issued by the Certifying Authority pursuant to Part 4A of the Environmental Planning & Assessment regulation 1979.

Occupation Certificate – Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 4A of the Environmental Planning & Assessment regulation 1979.

Crown Building Work – means development (other than exempt development), or an activity within the meaning of Part 5, by the Crown that comprises

(a) the erection of a building
(b) the demolition of a building;
(c) the doing of anything that is incidental to the erection of a building or the demolition of a building or work

Deemed to Satisfy Provisions – means provisions which are deemed to satisfy the Performance Requirements.

Effective Height – means the height to 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) from the floor of the lowest storey providing direct egress to a road or open space.

Fire Resistance Level (FRL) - means the grading periods in minutes for the following criteria-

(a) structural adequacy; and
(b) integrity; and
(c) insulation,
and expressed in that order.

Fire Source Feature (FSF) - the far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

Mezzanine – means an intermediate floor within a room

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

Performance Requirements of the BCA - A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must meet.

Compliance with the Performance Requirements can only be achieved by-

(a) complying with the Deemed-to-Satisfy Provisions; or
(b) formulating an Alternative Solution which-
  (i) complies with the Performance Requirements; or
  (ii) is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or
(c) a combination of (a) and (b).

Rise In Storeys – means the greatest number of storeys calculated in accordance with BCA Clause C1.2.

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 dwelling

Storey - means a space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above, but not-

- a space that contains only a;
  - a lift shaft, stairway or meter room, or
  - a bathroom, shower room, laundry, WC or other sanitary compartment;
  - accommodation intended for not more than 3 vehicles, or
  - a combination of the above
- a Mezzanine

6. REFERENCED DOCUMENTATION

This report has been prepared based on a review of:

- Architectural plans prepared by Fitzpatrick + Partners:

Drawing No.	Revision	Date	Drawing No.	Revision	Date
SK-037	H	8/8/11	SK-063	C	29/7/11
SK-038	H	8/8/11	SK-064	C	29/7/11
SK-039	H	8/8/11	SK-065	C	29/7/11
SK-040	H	8/8/11	SK-066	C	29/7/11
SK-041	H	8/8/11	SK-067	C	29/7/11
SK-042	H	8/8/11	SK-068	C	29/7/11
SK-043	H	8/8/11	SK-069	C	29/7/11
SK-044	H	8/8/11	SK070	C	29/7/11
SK-045	H	8/8/11	SK-075	F	31/8/11
SK-046	H	8/8/11	SK-076	F	31/8/11
SK-047	H	8/8/11	SK-077	F	31/8/11
SK-058	C	29/7/11	SK-086	A	15/7/11
SK-059	C	29/7/11	SK-087	A	15/7/11
SK-060	C	29/7/11	SK-088	A	15/7/11
SK-061	C	29/7/11	SK-090	D	6/9/11
SK-062	C	29/7/11	SK-091	C	26/8/11

7. BUILDING CLASSIFICATION

The new commercial office tower component of the development have been classified as follows:

▪ **BCA CLASSIFICATION:**	Class 5 *(Offices)* Class 7a *(Basement Carpark)* Class 8 *(Substation)*
▪ **RISE IN STOREYS:**	31
▪ **TYPE OF CONSTRUCTION:**	Type A
▪ **EFFECTIVE HEIGHT:**	Greater than 50m - TBA
▪ **FIRE COMPARTMENTS:**	Less than 8,000m^2 and 48,000m^3
▪ **CLIMATE ZONE:**	5

8. SUMMARY OF KEY COMPLIANCE ISSUES

The following comprises a summary of the key compliance issues identified under the clause-by-clause assessment in Appendix 1 of this report that are to be addressed in the Construction documentation:

8.1 BCA MATTERS REQUIRING FIRE ENGINEERED ALTERNATIVE SOLUTIONS

	BCA CLAUSE/S	DESCRIPTION
1.	*C2.10/C3.10*	As the proposed lifts in the office tower components of the building are not proposed to be fire isolated an alternative solution is required to address Performance Requirement CP2.
2.	*C3.2*	The openings in the façade formed by the curved landings of FS03 and FS04 and the area adjacent to the escalator from O'Connell St footpath on Levels 05 and 06 are not provided with protection from the north-eastern allotment boundary in accordance with C3.2 and as such an alternative solution is required to address Performance Requirement CP2 and DP5.

	BCA CLAUSE/S	DESCRIPTION
3.	*Spec. C1.1*	Non-Load-bearing SW External Walls (Glass Curtain Wall) on Levels 14 to 31 - portions of the external wall are within 3m of the stepped side allotment boundary and neither fire rating in accordance with Table 3, nor external drenchers in accordance Clause 2.5(d) are proposed. Therefore, an alternative solution is required to address Performance Requirement CP2.
4.	*D1.2*	The provision of only one point of egress from the Level 7 office tower entry lobby, is required to be addressed an alternative solution in order to address Performance Requirement DP4 and EP2.2.
5.	*D1.4*	The egress distance non-compliances identified in Appendix 1 below are required to be addressed by either design modifications or an alternative solution that demonstrates compliance with Performance Requirements DP4 and EP2.2.
6.	*D1.5*	The distance between alternative exits non-compliances identified in Appendix 1 below are required to be addressed by either design modifications or an alternative solution that demonstrates compliance with Performance Requirements DP4 and EP2.2.
7.	*D1.7*	The discharge of FS04 on Level 4 within the building does not comply with D1.7 and as such an alternative solution is required to address Performance Requirement DP5.
8.	*D1.8*	The use of external stairs in lieu of fire isolated stairs to provide egress from the levels above an effective height of 25m (Level 11 and above) does not comply with D1.8 and as such requires a design modification or alternative solution to address Performance Requirements DP4 and DP5. In addition, the protection of the external stairs from the glazed facades of the office levels (as identified below) does not fully comply with D1.8 and as such an alternative solution is required to address Performance Requirement DP5.
9.	*D2.22*	If the security provisions of the building will not allow for re-entry from the fire/exit stairs into the building, an alternative solution will be required to address Performance Requirement DP4.
10.	*E1.3*	As it is proposed to provide separate stand-alone fire hydrant systems for the two portions of the building being the Office Tower and CEZS areas in lieu of a single system serving the entire building – referral to FRNSW required pursuant to Cl.144 of the Environmental Planning & Assessment Regulation 2000.
11.	*E1.5*	As it is proposed to provide separate stand-alone sprinkler systems for the two portions of the building being the Office Tower and CEZS areas in lieu of a single system serving the entire building – referral to FRNSW required pursuant to Cl.144 of the Environmental Planning & Assessment Regulation 2000.
12.	*E1.8*	As it is proposed to provide separate stand-alone fire control rooms for the two portions of the building being the Office Tower and CEZS areas in lieu of a single fire control room serving the entire building – referral to FRNSW required pursuant to Cl.144 of the Environmental Planning & Assessment Regulation 2000.

	BCA CLAUSE/S	DESCRIPTION
13.	*E2.2*	It is proposed to provide separate stand-alone smoke hazard management systems for the two portions of the building being the Office Tower and CEZS areas in lieu of a single system serving the entire building – referral to FRNSW required pursuant to Cl.144 of the Environmental Planning & Assessment Regulation 2000. *Note: Refer to BCA report on the CEZS component of the building for details on the proposed smoke hazard management alternative solutions in the substation areas.*
14.	*E4.9*	It is proposed to provide separate stand-alone sound system and intercom system for emergency purposes for the two portions of the building being the Office Tower and CEZS areas in lieu of a single system serving the entire building – referral to FRNSW required pursuant to Cl.144 of the Environmental Planning & Assessment Regulation 2000.

9. CONCLUSION

This report contains an assessment of the referenced architectural documentation for the proposed office tower component of the commercial development at 33 Bligh St, Sydney against the deemed-to-satisfy provisions of the BCA, and consideration is also given to the BCA Report prepared by City Plan Services on the CEZS component of the development.

Based on the information provided in the architectural drawings outlined above together with additional notations made within the assessment report enclosed under Appendix 1, we hereby confirm that compliance with the relevant requirements of the BCA is readily achievable.

APPENDIX 1: CLAUSE-BY-CLAUSE BCA ASSESSMENT

OFFICE TOWER

KEY:

- **Complies**: The referenced plans show compliance with this clause
- **Does not comply**: The referenced plans do not comply with this clause
- **Alternative Solution**: An alternative solution is proposed / required to address this item.
- **Compliance Readily achievable**: A design statement or specification The referenced plans do not show sufficient information to establish compliance with this clause. Further details and/or design certification, should be submitted with the application for Construction Certificate to the satisfaction of the Accredited Certifier.
- **Noted**: Provisions contained within this BCA clause are provided for guidance, or are to be read in conjunction with other BCA clauses.
- **Not applicable**: This clause is not applicable to the proposed development.

CLAUSE	REFERENCE	COMMENT / ACTION
SECTION A – GENERAL PROVISIONS		
Part A3.2	Classification	Class 5 (staff areas) and 6 (retail area on Level 7 – to be advised upon confirmation of details and floor area), Class 7a (Basement Carpark), and Class 8 (CEZS Substation)
SECTION B – STRUCTURE		
Part B1	***Structural Provisions***	
B1.2	Determination of individual actions	*Compliance Readily Achievable*. Structural engineering design statement prepared by an appropriately qualified structural engineer is to be provided.
B1.3	Loads	As above
B1.4	Materials & Forms of Construction	*Compliance Readily Achievable* As above, and including ▪ Glazed Assemblies: (i) The following glazed assemblies in an external wall must comply with AS 2047: (A) Windows excluding those listed in (ii). (B) Sliding doors with a frame. (C) Adjustable louvres. (D) Shopfronts. (E) Window walls with one piece framing. (ii) All glazed assemblies not covered by (i) including the following glazed assemblies must comply with AS 1288 as applicable to the subject development:

CLAUSE	REFERENCE	COMMENT / ACTION
		(A) All glazed assemblies not in an external wall. (B) Hinged doors, including French doors and bi-fold doors. (C) Revolving doors. (D) Fixed louvres. (F) Sliding doors without a frame. (G) Shopfront doors. ▪ Termite Risk Management: Where a primary building element is subject to attack by subterranean termites: AS 3660.1.
SECTION C - FIRE RESISTANCE		
Part C1	***Fire Resistance & Stability***	
C1.1	Type of Construction	Type A Construction is required. Building elements are required to achieve the required FRL's nominated under Table 4 of Specification C1.1 (refer to comments below under Specification C1.1 & Appendix 2).
C1.2	Calculation of Rise In Storeys	The building has a Rise in Storeys of 31 including the CEZS and the office tower component above. The Level 37 plantroom area does not constitute a *Rise In Storeys* due to the fact that it is located at the top of the building and contains only heating, ventilating or lift equipment, water tanks or similar service units or equipment.
C1.3	Buildings of Multiple Classification	Noted. Type A Construction applies.
C1.4	Mixed Types of Construction	Not applicable
C1.5	Two Storey Class 2, 3 or 9c Buildings	Not applicable
C1.6	Class 4 Parts of Buildings	Not applicable
C1.7	Open Spectator Stands & Indoor Sports Stadiums	Not applicable
C1.8	Lightweight Construction	*Compliance Readily Achievable*. Any proposed Lightweight Construction must comply with Specification C1.8 if it is used in a wall system that is required to have an FRL. If lightweight construction is used for the fire-resisting covering of a steel column or the like, and if— (i) the covering is not in continuous contact with the column, then the void must be filled solid, to a height of not less than 1.2 m above the floor to prevent indenting; and (ii) the column is liable to be damaged from the movement of vehicles, materials or equipment, then the covering must be protected by steel or other suitable material.
C1.9	*Repealed*	-

CLAUSE	REFERENCE	COMMENT / ACTION
C1.10	Early Fire Hazard Properties	*Compliance Readily Achievable* The fire hazard properties of any proposed floor or wall finishes, assemblies, insulation or sarking materials are to comply with Specification C1.10
C1.11	Performance of External Walls	Not applicable.
C1.12	Non-Combustible Material	Noted. Materials listed in clause C1.12, though combustible or containing combustible fibres, may be used wherever a non-combustible material is required.
Part C2	***Fire Compartmentation & Separation***	
C2.1	Application	Noted.
C2.2	General Floor Area Limitations	Complies. The proposed floor area and volume of the fire compartments in the office tower components of the building are within the fire compartment limitations prescribed for Type A Construction for the classifications concerned. Note 2: This issue will require further assessment if an atrium or open staircase is proposed in the Low, Mid or High Rise Levels as shown on drawing no.'s SK-075, SK-076, and SK-077. Note 2: Refer to the City Plan Services BCA report in relation to CEZS.
C2.3	Large Isolated Buildings	Not applicable
C2.4	Requirements for open space	Not applicable
C2.5	Class 9a & 9c Buildings	Not applicable
C2.6	Vertical separation of openings in external Walls	Not applicable to the office tower component of the building as it is required to be sprinkler protected throughout. Note: Refer to the City Plan Services BCA report in relation to the CEZS, whereby an alternative solution is proposed to address this requirement.
C2.7	Separation by fire walls	*Compliance Readily Achievable* Fire Walls are required to be provided to separate the CEZS component of the building and the office tower entry lobby, service areas and amenities on the CEZS lower levels. In this regard the proposed fire walls are required to have an FRL of 240/240/240 (applicable to the Class8 areas of CEZS), must have any openings protected in accordance with Part C3, must not be penetrated by other building elements, and must extend to the underside of a floor with an equivalent FRL above. Details of the proposed fire walls will be required to be provided for further assessment in this regard.
C2.8	Separation of classifications in the same storey	*Compliance Readily Achievable* As indicated above separation is required between the CEZS and the office tower main entry, services areas & amenities on CEZS Levels to separate the Class8

CLAUSE	REFERENCE	COMMENT / ACTION
		substation areas from the other classifications on each level.
C2.9	Separation of classifications in different storeys	*Compliance Readily Achievable* Where different classification are located above and below one another in the building the floor slab between them must be constructed with the FRL from Spec. C1.1 applicable to the lower storey.
C2.10	Separation of lift shafts	**Alternative Solution** All of the lifts serving the office component of the building connect more than 3 levels and as such are required to be enclosed in a fire rated shaft with FRL applicable to each relevant classification per Spec. C1.1 Table 3 – Refer to Appendix 2 for applicable FRL requirements. As glazed lift shafts are proposed to the transporter lifts, low rise lifts, and high rise lifts an alternative solution will be required to address Performance Requirement CP2.
C2.11	Stairways and lifts in one shaft	Not Applicable
C2.12	Separation of equipment	*Compliance Readily Achievable* Equipment must be separated from the remainder of the building with 2hr fire rated (120/120/120 FRL) construction if the equipment comprises— (i) lift motors and lift control panels, except that the separating construction between the lift *shaft* and the lift motor room need only be 120/–/–; or (ii) emergency generators or central smoke control plant; (iii) boilers or battery storage enclosures Where on-site fire pumps are required, separation must comply with the requirements of E1.3.
C2.13	Electricity supply system	*Compliance Readily Achievable* Where the proposed main switchroom serving the office tower will sustain emergency equipment operating in the emergency mode it must be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and have any doorway in that construction protected with a self-closing fire door having an FRL of not less than - /120/30. All switchboards in the electrical distribution system, which sustain the electricity supply to the emergency equipment, must provide full segregation by way of enclosed metal partitions designed to prevent the spread of any fault from non-emergency equipment switchgear to the emergency equipment switchgear.
C2.14	Public corridors in Class 2 & 3 buildings	Not applicable
Part C3	***Protection of Openings***	
C3.1	Application of Part	Noted

CLAUSE	REFERENCE	COMMENT / ACTION
C3.2	Protection of openings in external walls	**Alternative Solution** Openings in external walls will be situated less than 3m from the allotment boundaries, on the north-eastern side of the building, adjacent to FS03 from Level 7 up to Level 37, on Levels 5, 6 and 7 adjacent to the escalators up from the O'Connell St footpath up to the Level 7 office tower entry lobby, and on Levels 8 to 37 adjacent to FS04. These areas effectively occur at the building edge and are not strictly within an external wall however the provisions of C3.4 are still applicable. In addition,l To address the non-compliances either a design modification will be required to limit the exposure of the openings to the adjoining side allotment boundary per Spec. C1.1 Clause 2.1 or an alternative solution will need to be considered, having regard to Performance Requirement CP2 and DP5.
C3.3	Separation of openings in different fire compartments	Not applicable
C3.4	Acceptable methods of protection	Where protection is required, doorways, windows and other openings must be protected as follows: (i) Doorways: wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing, or –/60/30 fire doors (self-closing or automatic closing). (ii) Windows: wall-wetting sprinklers as appropriate used with windows that are automatic or permanently fixed in the closed position, –/60/– fire windows (automatic or permanently fixed in the closed position) or –/60/— automatic fire shutters. (iii) Other openings: wall-wetting sprinklers as appropriate or construction having an FRL not less than –/60/–.
C3.5	Doorways in fire walls	If any doorways are proposed within the proposed fire walls are required to be protected with fire doors of an equivalent fire rating the required FRL of the fire wall
C3.6	Sliding fire doors	Not applicable
C3.7	Protection of doorways in horizontal exits	Not applicable
C3.8	Openings in fire isolated exits	*Compliance Readily Achievable* All doors providing access into the fire isolated exits within the building are required to be protected with self-closing -/60/30 FRL fire doors installed in accordance with AS 1905.1.
C3.9	Service penetrations in fire Isolated exits	*Compliance Readily Achievable* Fire isolated exits are not permitted to be penetrated by services except as permitted under D2.7 and where the services penetrations relate to fire services or stair pressurisation systems.

CLAUSE	REFERENCE	COMMENT / ACTION
C3.10	Openings in fire isolated lift shafts	**Alternative Solution** All openings into the fire isolated lift shafts are required to be protected with -/60/- FRL lift landing doors. In addition, all lift control panels and the like are to be backed by a fire rated panel with a 60/60/60 FRL where it exceeds 35,000mm². As an alternative solution is proposed for the fire rating of the lift shaft on the low rise, high rise and transporter lifts, an alternative solution will also be required to address the corresponding lack of fire rating to the lift landing doors on this level as appropriate.
C3.11	Bounding construction Class 2, 3 and 4 buildings	Not applicable
C3.12	Openings in floors and ceilings for services	*Compliance Readily Achievable* Where a service passes through the new floors, or a ceiling required to have a resistance to the incipient spread of fire, the service must be protected by a shaft complying with Specification C1.1, or in accordance with C3.15. Where a service passes through a floor which is required to be protected by a fire-protective covering, the penetration must not reduce the fire performance of the covering.
C3.13	Openings in shafts	*Compliance Readily Achievable* Any access panels, doors or hoppers providing access to fire isolated risers shafts in the building are required to be protected in accordance with the fire rating requirements of this clause.
C3.14	Repealed	-
C3.15	Openings for service installations	*Compliance Readily Achievable*. Where an electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrates a building element (other than an external wall or roof) that is required to have an FRL or a resistance to the incipient spread of fire, that installation must comply with clause C3.15.
C3.16	Construction Joints	*Compliance Readily Achievable*. Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 1530.4 to achieve the required FRL.
C3.17	Columns protected with lightweight construction to achieve an FRL	*Compliance Readily Achievable*. A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire.

CLAUSE	REFERENCE	COMMENT / ACTION
SPEC C1.1 Fire Resistance Construction		
1.	Scope	Noted – Refer to Appendix 2 for FRL requirements applicable to the building.
2.2	Fire protection for support of another part	(a) Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part, subject to (b), must— (i) have an FRL not less than that required by other provisions of this Specification; and (ii) if located within the same fire compartment as the part it supports have an FRL in respect of structural adequacy the greater of that required— (A) for the supporting part itself; and (B) for the part it supports; and (iii) be non-combustible— (A) if required by other provisions of this Specification; or (B) if the part it supports is required to be non-combustible. (b) The following building elements need not comply with (a)(ii) and (a)(iii)(B): (i) A roof providing lateral support it complies with Clause 3.5(a), (b) or (d); (ii) A column providing lateral support to a wall where the column complies with Clause 2.5(a) and (b). (iii) An element providing lateral support to a fire wall or fire-resisting wall, provided the wall is supported on both sides and failure of the element on one side does not affect the fire performance of the wall.
2.4	Attachments not to impair fire-resistance	(a) A combustible material may be used as a finish or lining to a wall or roof, or in a sign, sunscreen or blind, awning, or other attachment to a building element which has the required FRL if— (i) the material is exempted under C1.10 or complies with the fire hazard properties prescribed in— (A) Clause 2 of Specification C1.10; or (B) Clause 2 and 3 of Specification C1.10a; and (ii) it is not located near or directly above a required exit so as to make the exit unusable in a fire; and (iii) it does not otherwise constitute an undue risk of fire spread via the facade of the building. (b) The attachment of a facing or finish, or the installation of ducting or any other service, to a part of a building required to have an FRL must not impair the required FRL of that part.
2.5	General Concessions	It is noted that portions of the SW external wall (that is proposed to be constructed as a glass curtain wall) is located within 3m of certain sections of the adjoining stepped side allotment boundary. As such this wall requires an FRL in accordance with Table 3 of Spec. C1.1.

CLAUSE	REFERENCE	COMMENT / ACTION
		In accordance with Clause 2.5(d), a concession may be applied to the glass curtain wall where it would not require an FRL if provided with external wall wetting drenchers. It is understood that it is not proposed to provide either an FRL or external drenchers to this wall and as such an alternative solution will be required to address compliance with Performance Requirement CP2.
SECTION D - ACCESS AND EGRESS		
PART D1	***Provision for Escape***	
D1.1	Application	Part D1 applies to the subject building.
D1.2	Number of exits required	**Alternative Solution** All parts of the building are required to have access to at least two exits as the effective height exceeds 25m. In this regard the office tower component of the building is considered to comply with this requirement with the exception of the Level 7 main entry lobby area which has only one exit point via the entry door to the Bligh Street concourse area. Either additional exits or an alternative solution will be required to address this non-compliance issue. In addition, confirmation is required that egress is available to both exits (FS03 & FS04) on Level 26 given the proposed plant layout and location of the LOR & LMR Room.
D1.3	When Fire isolated exits are required	Complies All exits in the building are required to be fire isolated exits as they connect greater than 3 levels. Note: Refer to comments under D1.8 below in relation to the use of external stairs in lieu of fire isolated on the north-eastern side of the building (FS03 & FS04) – alternative solution required.
D1.4	Exit Travel Distances	**Alternative Solution** Exit Travel Distances from the worst affected point on a floor may not exceed 40m to the nearest exit, whilst the distance to a point of choice to alternative exits may not exceed 20m. In this regard, the following non-compliances have been noted as a result of our assessment: • Level 04 Central Rack area in Bicycle Storage in basement carpark, appears to be slightly in excess of 40m (Approx. 41m) from FS01 and FS03. • Level 05 – End of corridor from FS04 adjacent to driveway is 27m to open space at O'Connell St entry (assuming door at end of corridor into fire services area will be secure at all times). • Level 07 – Main Entry Lobby has only a single exit via the entry from Bligh St concourse area, which results in exit travel distance of approx. 47m – the provision of an additional exit or an alternative solution will be

CLAUSE	REFERENCE	COMMENT / ACTION
		required to address both this non-compliance and the D1.2 non-compliance identified above. • Level 14 Sky Lobby – Approx. 35m to a point of choice to alternative exits and 57m to the nearest exit from within the Sky Lobby enclosure (south end) and Approx. 43m to a point of choice to alternative exits and 64m to the nearest exit from the south end of the Outdoor Terrace area. Note: The point of choice to alternative exits non-compliances are excessive and may require design modifications to address if an alternative solution is not possible – comment from Fire Safety Engineer required. • Level 26 Plantroom – confirmation of egress paths and access to both FS03 & FS04 required to confirm compliance. Note: A re-assessment of egress distances will be required on the Low, Mid and High Rise levels of the office tower if an atrium is proposed in one or more of the potential zones shown on drawings SK-05, SK-076, SK-077.
D1.5	Distances between alternative exits.	**Alternative Solution**. Alternative exits must be located no or than 60m apart and no less than 9m apart. Where alternative exits are required, they should be located so that paths of travel do not converge such that they become less than 6m apart. In this regard, the following distance between alternative exits non-compliances are noted: • Levels 03 & 04 – Approx. 75m between FS01 and FS03 when measured through point of choice on northern side of driveway ramp.
D1.6	Dimensions of exits	*Compliance Readily Achievable* The following requirements are applicable to the office tower components of the building: • the unobstructed height throughout must be not less than 2m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm; • the unobstructed width of each exit or path of travel to an exit, except for doorways, must be not less than 1m; • the unobstructed width of a doorway must be not less than the unobstructed width of each exit minus 250mm. • As FS03 and FS04 provide the two means of egress from the office tower levels they provide a maximum exit width from the floors of 2m. This allows for a a maximum population per floor of 200 persons. Based upon a population calculation at 1 person per 10m² from the net lettable area per floor compliance with the requirements of D1.6(d) appears to be achieved, however, final confirmation of the NLA per floor is required to carry out a final calculation.
D1.7	Travel via fire isolated	**Alternative Solution**.

CLAUSE	REFERENCE	COMMENT / ACTION
	exits	The following non-compliance issues with the provisions of D1.7(a) and (b) require consideration by the Fire Safety Engineer under an alternative solution having regard to Performance Requirement DP5: • On Level 08 the external stair FS04 transfers via a fire isolated passageway into a fire isolated exit stair (also known as FS04) which subsequently discharges adjacent to the driveway within the building on Level 05. The discharge point is approx. 22m from open space adjacent to the O'Connell St footpath. This arrangement is not considered to comply with D1.7(b)(ii). • On Level 12 FS01 and FS02 open directly into the Tenant Plant Rooms, which does not comply with D1.7(a).
D1.8	External stairways in lieu of fire-isolated exits	**Alternative Solution**. External stairs in lieu of fire isolated exits may be utilised when the effective height of the storeys they serve are less than 25m. In this regard, the external stairs (FS03 & FS04) serve the upper levels of the building that are in excess of an effective height of 25m and as such the use of external stairs is non-compliant with D1.8(a). Either an alternative solution or consideration as to the use of external stairs in lieu of fire stairs will need to be given to address this non-compliance. In addition, on the Low, Mid and High Rise Levels, Level 26 Plantroom and Level 36 Sky Garden, the façade of the north-eastern external walls are located within 6m of both FS03 & F04. In this regard, D1.8(c) states that any part of the external wall within 6m must achieve a minimum FRL of 60/60/60; any portion within 3m of the external stair must not incorporate any window or other openings; and within 3m and 6m from the external stairs all openings protected internally in accordance with C3.4. The proposed design does not comply with these requirements given the non-fire rated glazed façade in these areas and as such consideration will need to be given to an alternative solution to address Performance Requirement DP5.
D1.9	Travel by non fire isolated stairways or ramps	Not Applicable.
D1.10	Discharge from exits	*Compliance Readily Achievable*
D1.11	Horizontal exits	Not Applicable
D1.12	Non-Required stairways ramps or escalators	Not applicable
D1.13	Number of persons accommodated	Noted. Final Population calculations to be provided upon confirmation of the Net Lettable areas of each of the office levels.
D1.14	Measurement of distances	Noted

CLAUSE	REFERENCE	COMMENT / ACTION
D1.15	Method of measurement	Noted
D1.16	Plant rooms & lift motor rooms: Concession	Not applicable – fire stair egress provided to all plantrooms in the office tower component of the building.
D1.17	Access to lift pits	*Compliance Readily Achievable* Access to lift pits to comply with BCA clause D1.17, and additional provisions are required where the lift pit is greater than 3m in depth.
PART D2	***Construction of Exits***	
D2.1	Application of Part	Noted.
D2.2	Fire-Isolated stairways & ramps	*Compliance Readily Achievable* All proposed fire stairs and external stairs must be non-combustible throughout and design to comply with the structural requirements of D1.2(b).
D2.3	Non-Fire-Isolated stairways and ramps	Not Applicable
D2.4	Separation of rising and descending stair flights	*Compliance Readily Achievable* The separation of rising and descending stair flights on Levels 05 (FS01) and Level 07 (FS02 and FS03) are required to comply with the following provisions: • No direct connection between the rising and descending flights, and • Separating construction between the rising and descending flights must be non-combustible and smoke proof pursuant to Clause 2 of Spec. C2.5.
D2.5	Open access ramps and balconies	Not applicable
D2.6	Smoke lobbies	Not Applicable
D2.7	Installations in exits and paths of travel	*Compliance Readily Achievable* Services or equipment comprising— i. electricity meters, distribution boards or ducts; or ii. central telecommunications distribution boards or equipment; or iii. electrical motors or other motors serving equipment in the building, Are to be enclosed by non-combustible construction or a fire-protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure where they are located in a corridor or the like that forms a path of travel to an exit.
D2.8	Enclosure of space under stairs and ramps	Not Applicable
D2.9	Width of stairways	Complies
D2.10	Pedestrian ramps	Not applicable. There are no proposed pedestrian ramps serving as exits in this building.

CLAUSE	REFERENCE	COMMENT / ACTION
D2.11	Fire isolated passageways	*Compliance Readily Achievable* Fire Isolated passageway on Level 08 for the transfer of FS04 is required to be compliant with the fire rating provisions of D2.11.
D2.12	Roof as open space	Not Applicable.
D2.13	Treads and risers	*Compliance Readily Achievable* The design of the treads and risers of all stairs in the building are required to comply with Table D2.13. Details and design certification from the Architect will be required to confirm compliance with these requirements. Note: It is noted that a circular stairs is proposed between the Level 14 Sky Lobby and the amenities on Level 13 below – the treads and risers of this stair are to be measured in accordance with Note (b) in Table D2.13.
D2.14	Landings	*Compliance Readily Achievable* In a stairway landings having a maximum gradient of 1:50 may be used in any building to limit the number of risers in each flight and each landing must: (i) be not less than 750 mm long, and where this involves a change in direction, the length is measured 500 mm from the inside edge of the landing; and (ii) 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.
D2.15	Thresholds	*Compliance Readily Achievable* The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf, unless the doorway opens to a road or open space, external stair landing or external balcony; and the door sill is not more than 190mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.
D2.16	Balustrades	*Compliance Readily Achievable.* The following requirements are to be addressed in the design of the balustrades in the building: ▪ Balustrades to all areas in the building must be a minimum 1m above FFL or 865mm from the nosing of a stair tread, with a maximum opening of 125mm. ▪ For balustrades within the fire stairs (excluding FS03 & FS04 as they are external stairs) the space between balusters or the width of any opening must not be more than 300 mm. Where rails are used, a rail must be provided at a height of not more than 150 mm above the nosings of the stair treads or the floor of the landing, or the like and the space between rails must not be more than 460 mm. ▪ For all floors more than 4m above the surface beneath, any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing.
D2.17	Handrails	*Compliance Readily Achievable.*

CLAUSE	REFERENCE	COMMENT / ACTION
		Handrails are to be provided to all stairs and ramps in accordance with D2.17. Note: Where the width of a stair or ramp exceeds 2m handrails are required on either side of the stair or ramp. Handrail design is to be assessed by Access Consultant for compliance with the Part D3, AS 1428.1 & DDA provisions for access for persons with a disability.
D2.18	Fixed platforms, walkways stairways and ladders	Noted
D2.19	Doorways and doors	Complies. All doors in a path of travel are swinging doors.
D2.20	Swinging doors	Complies. All proposed doors forming an exit are proposed to swing in the direction of egress.
D2.21	Operation of latch	*Compliance Readily Achievable* All doors in a required exit, forming part of a required exit or in the path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by a single hand downward action or pushing action on a single device which is located between 900mm and 1100mm from the floor.
D2.22	Re-entry from fire isolated exits	*Compliance Readily Achievable or Potential Alternative Solution* Doors to exits serving levels above an effective height must be not locked from inside of the stairs, or the doors are to be fitted with a fire alarm fail safe device and every fourth floor the doors must not be able to be locked. This requirement applies to all of the Fire Stairs from Level 11 up to Level 37. Details demonstrating compliance will be required or consideration may need to give to an alternative solution if the building's security requirements to the stairs are not able to comply with the above options.
D2.23	Signs on doors	*Compliance Readily Achievable* Signage to be provided on all doors into the fire isolated exits and discharging from the fire isolated exits are to be provided with signage in accordance with D2.23(b).
PART D3	***Access for people with disabilities***	
D3.1	Application of part	Noted
D3.2 – D3.12	Access to building	Refer to Accessibility Report prepared by MGAC.
SECTION E - SERVICES AND EQUIPMENT		
PART E1	***Fire fighting equipment***	
E1.3	Fire Hydrants	**Alternative Solution** The subject building is required to be served throughout

CLAUSE	REFERENCE	COMMENT / ACTION
		by a compliant fire hydrant system in accordance with AS 2419.1. It is noted that it is currently proposed to have the two components of the building (being the Office Tower and CEZS) served by separate stand-alone fire hydrant systems. The provision of two independent systems does not comply with E1.3 and as such an alternative solution will be required to be provided by the Fire Safety Engineer to address Performance Requirement EP1.3 and referral to FRNSW will be required pursuant to Cl.144 of the Environmental Planning & Assessment Regulation 2000. In addition to the above potential non-compliance issues the following issues require further consideration and potential design modifications: ▪ The proposed pump room on Level 05 does not appear to have direct egress/access to a road or open space. ▪ Details of the fire hydrant booster assembly location are required to be detailed. In accordance with AS 2419.1 the hydrant booster is required to be within site of the main entry to the building and separated by a construction with a FRL of not less than 90/90/90 FRL for a distance of not less than 2m each side of and 3m above the upper hose connections.
E1.4	Hose Reels	*Compliance Readily Achievable* Design and installation to comply with BCA clause E1.4 & AS 2441-2005. Fire hose reels must provide coverage throughout the building and located within 4m of an exit or be adjacent to an internal fire hydrant.
E1.5	Sprinklers	**Alternative Solution** The subject building is required to be served throughout by a compliant sprinkler system in accordance with AS 2118.1. It is noted that it is currently proposed to have the two components of the building (being the Office Tower and CEZS) served by separate stand-alone sprinkler systems. The provision of two independent systems does not comply with Spec.E1.5 and as such an alternative solution will be required to be provided by the Fire Safety Engineer to address Performance Requirement EP1.4 and referral to FRNSW will be required pursuant to Cl.144 of the Environmental Planning & Assessment Regulation 2000. Note: refer to the City Plan Services BCA report in relation to alternative solutions required for sprinkler protection in the CEZS component of the building.
E1.6	Portable Extinguishers	*Compliance Readily Achievable.* Required to cover Class AE or E fire risks associated with emergency services switchboards and Class F fire risks involving cooking oils and fats in kitchens. To comply with clause E1.6 and AS 2444-2001.
E1.7	Repealed	-

CLAUSE	REFERENCE	COMMENT / ACTION
E1.8	Fire Control Centres	**Alternative Solution** The subject building is required to be with a single fire control room as the effective height of the building is greater than 50m. It is noted that it is currently proposed to have the two components of the building (being the Office Tower and CEZS) served by separate stand-alone fire control rooms. In addition, details of the location of the proposed Fire Control Room for the office tower in order to confirm if it complies with E1.8. Regardless, an alternative solution will be required to be provided by the Fire Safety Engineer to address Performance Requirement EP1.6 and referral to FRNSW will be required pursuant to Cl.144 of the Environmental Planning & Assessment Regulation 2000.
E1.9	Fire precautions during construction	Note for contractor. In a building under construction, not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit.
E1.10	Provision for special hazards	Refer to City Plan Services BCA Report for applicable requirements relating to the CEZS component of the building.
PART E2	***Smoke Hazard Management***	
E2.1	Application of Part	Noted
E2.2	General requirements (including Tables E2.2a & b)	*Compliance Readily Achievable.* As the effective height of the building exceeds 25m the following Smoke Hazard Management requirements are applicable throughout the building: • Pressurisation of Fire Stairs serving Levels 11 and above (FS01 & FS02) in accordance with AS/NZS 1668.1. Note: this requirement does not apply to external stairs (FS03 & FS04). • Zone Smoke Control System (including a smoke detection system) in accordance with AS/NZS 1668.1. Note: Refer to City Plan Services BCA Report in relation to required alternative solutions applicable to the CEZS building.
E2.3	Provision for special hazard	Not considered applicable to the Office Tower component of the building.
PART E3	***Lift Installations***	
E3.1	Repealed	-
E3.2	Stretcher facility in lifts	*Compliance Readily Achievable.* As the effective height of the building exceeds 12m a Stretcher facility is required to be provided in all required Emergency Lifts in the building – refer to E3.4 below.

CLAUSE	REFERENCE	COMMENT / ACTION
E3.3	Warning against use of lifts in fire	*Compliance Readily Achievable.* Warning sign will be required adjacent to entry to all lifts in accordance with clause E3.3.
E3.4	Emergency lifts	*Compliance Readily Achievable.* As the effective height of the building exceeds 25m all levels served by lifts must be served by a compliant emergency lift and where multiple banks of lifts are proposed at least one emergency lift is required in every bank of lift. Note: Lift Consultant to provide details demonstrating compliance.
E3.5	Landings	*Compliance Readily Achievable*. The provisions of Clause A3.2 - "Access to Landings" of Appendix A of 1 and Clause 12.2- "Access" of AS 1735.2 do not apply.
E3.6	Facilities for people with disabilities	Noted Refer to MGAC report which contains recommendations for compliance of the passenger lifts.
E3.7	Fire Service Controls	*Compliance Readily Achievable.* Details demonstrating compliance to be provided by the Lift Consultant.
E3.8	Aged Care Buildings	Not applicable
PART E4	***Emergency lighting, exit signs and warning systems***	
E4.1	Repealed	-
E4.2	Emergency Lighting	*Compliance Readily Achievable*. Details to be provided from design engineer for electrical services to comply with AS2293.1-2005
E4.3	Measurement of distances	Noted.
E4.4	Design and operation of emergency lighting	*Compliance Readily Achievable.* Details to be provided from design engineer for electrical services to comply with AS2293.1-2005.
E4.5	Exit signs	Noted. Exit signs to be provided to identify exit locations in accordance with E4.5.
E4.6	Direction signs	Noted. If an exit is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit.
E4.7	Class 2 and 3 Buildings and Class 4 parts exemptions	Not Applicable
E4.8	Design and operation of exit signs	Noted. Design and installation to comply with E4.2 & AS/NZS 2293.1.

CLAUSE	REFERENCE	COMMENT / ACTION
E4.9	Sound Systems and Intercom Systems for Emergency Purposes (SSISEP)	**Alternative Solution** As the effective height of the building exceeds 25m it is required to be served throughout by a compliant Sound System & Intercom System for Emergency Purposes in accordance with AS 1670.4. As with the other required fire services in the building it is assumed that two separate stand-alone systems are proposed for the Office Tower and CEZS components of the building and as an alternative solution will be required to address Performance Requirement EP4.3.
SECTION F - HEALTH AND AMENITY		
PART F1	***Damp & Weatherproofing***	
F1.1	Stormwater drainage	*Compliance Readily Achievable*. Stormwater drainage engineering details prepared by an appropriately qualified engineer are to be submitted with the application for Construction Certificate and are to comply with AS 3500 & Council requirements where applicable.
F1.2	Repealed	-
F1.3	Repealed	-
F1.4	Repealed	-
F1.5	Roof coverings	*Compliance Readily Achievable.* Metal sheet roofing complying with AS 1562.1.
F1.6	Sarking	*Compliance Readily Achievable.* New sarking-type materials used for weatherproofing of roofs and walls to comply with AS/NZS 4200 Parts 1 and 2.
F1.7	Waterproofing of wet areas in buildings	*Compliance Readily Achievable.* Water proofing of new wet areas to comply with the relevant parts of AS 3740.
F1.8	Repealed	-
F1.9	Damp-proofing	*Compliance Readily Achievable.* Damp-proofing to be provided in accordance with clause F1.9.
F1.10	Damp-proofing of floors on the ground.	Not applicable to new building works
F1.11	Provision of floor wastes	Not applicable
F1.12	Sub-floor ventilation	Not Applicable
F1.13	Glazed assemblies	*Compliance Readily Achievable.* Glazed assemblies in an external wall to comply with AS 2047 requirements for resistance to water penetration.

CLAUSE	REFERENCE	COMMENT / ACTION
PART F2	***Sanitary & Other facilities***	
F2.1	Facilities in residential buildings	Not Applicable
F2.2	Calculation of number of occupants and fixtures	Complies. An accessible toilet facility can be counted once for each sex.
F2.3	Facilities in Class 3 to 9 Buildings, Table F2.3	*Compliance Readily Achievable*. A final population count on each floor will be required to confirm if the proposed facilities on the Low, Mid & High Rise levels complies with BCA Table F2.3.
F2.4	Facilities for people with disabilities	*Compliance Readily Achievable*. Refer to MGAC report in relation to compliance with the provisions of Table F2.4.
F2.5	Construction of sanitary compartments	*Compliance Readily Achievable.* The doors to the fully enclosed sanitary compartments are to be openable from the outside should the distance from the door to the toilet pan be less than 1.2m.
F2.6	Interpretation: urinals and wash basins	Note. (a) A urinal may be— (i) an individual stall or wall-hung urinal; or (ii) each 600 mm length of a continuous urinal trough; or (iii) a closet pan used in place of a urinal. (b) A washbasin may be— (i) an individual basin; or (ii) a part of a hand washing trough served by a single water tap.
F2.7	Microbial control	Clause F2.7 does not apply in NSW.
F2.8	Waste management	Not applicable
PART F3	***Room Sizes***	
F3.1	Height of rooms	*Compliance Readily Achievable* The ceiling height must be not less than: (i) Generally: 2.4m. (ii) Commercial Kitchen: 2.4m (iii) A corridor, passageway, or the like: 2.1m (iv) A sanitary compartment, airlock, tea preparation room, pantry, store room, or the like: 2.1m.
PART F4	***Light & Ventilation***	
F4.1	Provision of Natural light	Not Applicable
F4.2	Methods and extent of natural lighting	Not Applicable

CLAUSE	REFERENCE	COMMENT / ACTION
F4.3	Natural light borrowed from adjoining room	Not Applicable
F4.4	Artificial lighting	*Compliance Readily Achievable.* Artificial lighting to comply with AS/NZS 1680.0 and provided to stairways and passageways, and all rooms that are frequently occupied, other circulation spaces and paths of egress.
F4.5	Ventilation of rooms	*Compliance Readily Achievable.* Habitable rooms, sanitary compartments, and any other room occupied by a person for any purpose must have natural ventilation complying with F4.6; or mechanical ventilation or air-conditioning system complying with AS 1668.2.
F4.6	Natural ventilation	Not Applicable
F4.7	Ventilation borrowed from adjoining rooms	Not Applicable
F4.8	Restriction on position of water closets and urinals	*Compliance Readily Achievable*.
F4.9	Airlocks	*Compliance Readily Achievable*. The WCs on Level 13 and the Low, Mid & High Rise Levels are required to be provided with mechanical ventilation (exhaust).
F4.10	Repealed	-
F4.11	Carparks	*Compliance Readily Achievable*. Refer to mechanical consultant.
F4.12	Kitchen local exhaust ventilation	Not Applicable.
PART F5	***Sound Transmission & Installation***	
F5.1	Application of Part	Not Applicable
SECTION G - ANCILLARY PROVISIONS		
G1.1	Swimming pools	Not applicable
G1.2	Coolrooms, strongrooms etc.	Not applicable
G1.101	Provision for cleaning of windows	Not Applicable
G2	***Heating Appliances***	Not Applicable
G3	***Atriums***	
G3.1	Application of Part	Not Applicable. The proposed development does not contain any atriums connecting more than three storeys in a sprinkler protected building. However, if atriums are proposed in the future in the potential zones marked on drawings SK-075, SK-076 and

CLAUSE	REFERENCE	COMMENT / ACTION
		SK-077, further assessment of the provisions of Part G3 would be required.
G4	***Alpine Areas***	
G4.1	Application of Part	Not Applicable.
G5	***Bushfire Protection***	
G5.2 (NSW)	Application of Part	Not Applicable. The proposed development does not constitute a building that is Special Fire Protection Purpose.
SECTION H - SPECIAL USE BUILDINGS		
H1	Application of Part	Not Applicable
H102	Temporary Structures	Not Applicable
H103	Drive-in theatres	Not Applicable
SECTION I – MAINTENANCE		
I1.1 (NSW)	Safety Measures	*Compliance Readily Achievable*. The provisions of BCA Section I apply following completion of the development. Essential Fire Safety Measures must be maintained in accordance with the provisions of the Environmental Planning & Assessment Regulations 2000.
SECTION J - ENERGY EFFICIENCY		
The building is subject to compliance with the Energy Efficiency Provisions of BCA Section J relating to: - J1: Building Fabric - J2: External Glazing - J3: Building Sealing - J5: Air-conditioning and ventilation systems - J6: Artificial lighting and power - J7: Hot water supply - J8: Access for maintenance The final Construction documentation from the architect, mechanical, electrical, and hydraulic engineers are to incorporate details demonstrating compliance with the above provisions (as applicable to their respective disciplines). In this instance, we recommend that a 'Section J Energy Efficiency' Report be obtained from an appropriately qualified ESD consultant prior to issue of the Construction Certificate.		

Appendix 2: Table 3 Specification C1.1 (Type A Construction)

BUILDING ELEMENT	Class 5 & 7a	Class 6	Class 8 CEZS
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 *load bearing* parts-			
less than 1.5m	120/120/120	180/180/180	240/240/240
1.5m to less than 3m	120/90/90	180/180/120	240/180/180
3m or more	120/60/30	180/120/90	240/180/90
For *non-load bearing* parts-			
less than 1.5m	-/120/120	-/180/180	-/240/240
1.5m to less than 3m	-/90/90	-/180/120	-/240/180
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 3m	120/-/-	180/-/-	240/-/-
3m or more	-/-/-	-/-/-	-/-/-
COMMON WALLS & FIRE WALLS	120/120/120	180/180/180	240/240/240
INTERNAL WALLS			
Fire Resisting lift and stair shafts –			
Loadbearing	120/120/120	180/120/120	240/120/90
Non-loadbearing	-/120/120	-/120/120	-/120/120
Bounding public corridors, public hallways and the like –			
Loadbearing	120/-/-	180/-/-	240/-/-
Non-loadbearing	-/-/-	-/-/-	-/-/-
Between or bounding SOU's –			
Loadbearing	120/-/-	180/-/-	240/-/-
Non-loadbearing	-/-/-	-/-/-	-/-/-
Ventilating, pipe, garbage, and the like shafts not used for discharge of hot products of combustion –			
Loadbearing	120/90/90	180/120/120	240/120/90
Non-loadbearing	-/90/90	-/120/120	-/120/120
OTHER LOADBEARING INTERNAL WALLS & COLUMNS	120/-/-	180/-/-	240/-/-
FLOORS	120/120/120	180/180/180	240/240/240
ROOFS	120/60/30	180/60/30	240/90/60

Spec. C1.1 Notes

- All building elements will need to comply with the FRL's detailed in the following table.
- All internal walls that are required to have a fire rating must extend to the underside of the slab above.
- All loadbearing internal walls must be constructed of concrete or masonry.
- Due to the fact that the building is required to be constructed of Type A Construction, the FRL to the external walls applies in both directions i.e. FRL must be achieved from both sides of the external wall. *Note: This applies to the load bearing element of the external wall.*
- The external walls are required to be non combustible. If any external cladding that is proposed to be used is combustible, it must comply with the relevant fire hazard properties of Specification C1.10 and be deemed not to contribute to vertical fire spread via the façade of the building.
- All fire rated shafts i.e. fire isolated stairways and lift shafts must be enclosed at the top and bottom by a construction having an FRL of not less than -/120/120.

APPENDIX 3: PRELIMINARY FIRE SAFETY SCHEDULE

STATUTORY FIRE SAFETY MEASURE	DESIGN/INSTALLATION STANDARD
Access Panels, Doors & Hoppers	BCA Clause C3.13 & AS 1530.4 - 2005
Alarm Signalling Equipment	AS1670.3 – 2004
Automatic Fail Safe Devices	BCA Clause D2.21
Automatic Fire Detection System	BCA Spec. E2.2a & AS/NZS 1668.1 – 198
Automatic Fire Suppression Systems	BCA Spec. E1.5 & AS 2118.1-1999 or AS2118.4, 6 - 1995
Building Occupant Warning System activated by the Sprinkler System	BCA Spec E1.5 Clause 8 and/ or Clause 3.22 of AS 1670.1 – 2004
Emergency Lifts	BCA Clause E3.4 & AS 1735.2 – 2001
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 - 2005
SSISEP	BCA Clause E4.9 & AS 1670.4 – 2004
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8 and AS 2293.1 - 2005
Fire Control Room	BCA Spec E1.8
Fire Dampers	BCA Clause C3.15, AS 1668.1 - 1998 & AS 1682.1 & 2 - 1990
Fire Doors	BCA Clause C2.12, C2.13, C3.2, C3.4, C3.5, C3.6 & C3.7, C3.8, C3.11 and AS 1905.1 – 2005
Fire Hose Reels	BCA Clause E1.4 & AS 2441 – 2005
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 - 2005
Fire Seals	BCA Clause C3.15, AS 1530.4 & AS4072.1 - 2005
Lightweight Construction	BCA Clause C1.8 & AS 1530.3 – 1999
Mechanical Air Handling Systems	BCA Clause E2.2, AS/NZS 1668.1 - 1998 & AS 1668.2 – 1991
Paths of Travel	EP & A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001
Pressurising Systems	BCA Clause E2.2 & AS/NZS 1668.1 - 1998
Required Exit Doors (power operated)	BCA Clause D2.19(b)
Residential Automatic Sprinkler System	AS 2118.4 – 1995
Smoke Hazard Management System / Zone Smoke Control	BCA Part E2 & AS/NZS 1668.1 - 1998
Wall-Wetting Sprinklers	BCA Clause C3.4 & AS 2118.2 – 1995
Warning & Operational signs	Section 183 of the EP & A Regulations 2000, AS 1905.1 - 2005, BCA Clause D2.23, E3.

NOTE: Additional fire safety measures may be required arising from the required fire engineered Alternative Solutions