STEVE WATSON & PARTNERS

Justinian House Redevelopment

BCA Assessment Report

REPORT 2007/362 R1.1

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EXECUTIVE SUMMARY

An assessment of the proposed design of the Justinian House Redevelopment has been undertaken against the relevant Deemed-to-Satisfy provisions of the BCA.

The assessment has revealed that the design is capable of complying subject to the following non-compliances being addressed by a fire engineered alternative solution prior to the issue of a Construction Certificate.

Item	Non-Compliance	DTS Clause	Description	Performance Requirement	Comments
1.	Type of construction required	C1.1	The building is proposed to have an FRL less than that nominated in Specification C1.1 for the Class 8 portion of the building. Generally 2 hour fire rated construction in lieu of 4 hour fire rated construction is proposed.	CP1, CP2	To be addressed by Fire Safety Engineer.
2.	Separation of classifications in the same storey	C2.8	Different classifications are located within the same storey and are not proposed to be separated by a fire wall. A Class 8 portion is located on level 1 and the storey is not proposed to be constructed to the higher FRL 4 hours. The building is proposed to be constructed with FRL applicable to Class 5, 7a & 9 being 2 hours	CP1, CP2	To be addressed by Fire Safety Engineer.
3.	Separation of classifications in different storeys	C2.9	The floors to levels 1 and 2 are not proposed to achieve an FRL of 240/240/240 based on the Class 8 laboratory on Level 1. An FRL of 120/120/120 is proposed for the floors.	CP1, CP2	To be addressed by Fire Safety Engineer.
4.	Distance between alternative exits	D1.5	Travel distance between alternative exits exceeds the maximum 60m permitted as follows; • Approximately 68m between exits in basement 2 when measured through the point of choice.	DP4	To be addressed by Fire Safety Engineer.

Not all details are specified on the drawings. To ensure full compliance with the Deemed-to-Satisfy provisions of the BCA the recommendations provided in this report should be incorporated into the design documentation.

Section 9 of this report identifies certain items which are not specified on the design documentation which may become issues if not designed in accordance with the requirements of the BCA.

Whilst not precluding the issue of a Construction Certificate, it is noted that many detailed design issues are not indicated on the drawings. These issues are designated “Not Specified” in the “Status” column of the assessment at Appendix B of the report and should be resolved prior to construction. General guidance is provided in the “Comments” column to assist the designer.

A number of compliance issues rely on assumptions and interpretations as outlined in section 7.1 and 7.2 of this report. These items should be clarified and the method of compliance needs to be confirmed prior to construction.

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1. INTRODUCTION

This report presents the findings of an assessment of the design of the Justinian House Redevelopment against the relevant Deemed-to-Satisfy (DTS) provisions of the Building Code of Australia (BCA). It has been prepared by building regulations consultants and certifiers Steve Watson and Partners for Savills Strategic Project Delivery on behalf of St Vincents & Mater Health Sydney.

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 the purpose of, and to the extent necessary for, construction certification to be issued under Part 4a of the NSW Environmental Planning and Assessment Act 1979 (The Act) and Regulation 2000 (EPAR).

3. SCOPE AND LIMITATIONS

3.1. SCOPE

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

3.2. LIMITATIONS

The following limitations apply to the assessment:

- The plans are assessed to the extent necessary to issue a construction certificate under Part 4a of The Act. This means that the design has been assessed as able to comply with the BCA ie – the submitted plans are consistent with the BCA but certain design details may be not specified at this stage.

- 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 for people with disabilities under the provisions of the Disabilities Discrimination Act 1992.

- 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 13

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.

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, H 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 **(Not Specified)**. A recommendation in the "Comments" column will indicate if further information is required.
   e) 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.
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 involves the construction of a 5 storey mixed-use building. The building consists of:

- 2 levels of basement carpark levels accommodating 118 cars and 12 motor cycles;
- 100 seat auditorium, office, academic research, laboratory and loading area on Level 1 (The auditorium and adjacent areas are not proposed to be a Place of Public Entertainment – POPE, See Assumptions 7.1 below).
- Offices and consultation suites on Level 2; and
- Office, consultation suites and plant room on Level 3.

The top of the building contains only mechanical plant and equipment.

7. ASSESSMENT DATA SUMMARY

The following basic assessment data has been drawn from the provisions of the BCA 2007.

7.1. ASSUMPTIONS

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

1. The building does not form a Class 9a 'health care building' on the basis that patients will not be undergoing medical treatments from which they would require physical assistance to evacuate the building during an emergency.

2. Exit stair 1 is to be fire separated from level 1 to maintain the compartmentation between the two fire compartments (Basement 1–2 and Levels 1-4). Exit 12 is to be separated by FRL 90/90/90 construction at Level 2 such that it does not connect more than 3 consecutive storeys in accordance with Clause D1.3(b)(iii)(B) of the BCA
3. The entire building is to be protected by a fire sprinkler system complying with Specification E1.5 of the BCA.
4. The auditorium, conference room and adjacent breakout area are **not** proposed to be used as a Place of Public Entertainment (POPE) as advised by client.

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. For the purposes of calculating egress from the building, populations are calculated in accordance with Clause D1.13 of the BCA.
2. For the purposes of calculating sanitary facilities, populations have been nominated by the client.
3. The 'auditorium' on level 1 forms a 'school classroom' for the purposes of compliance with the smoke hazard management provisions of NSW Table E2.2b in the BCA.

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 summarised in the table below:

Floor	***Space***	***Classification***
Basement 2	Carpark	7a
Basement 1	Carpark	7a
Level 1	Auditorium / Lecture Theatre	9b
	Office and Academic Research	5
	Laboratory	8
Level 2	Office / Examination / Consultation	5
Level 3	Office and Consultation	5
Level 4	Plant room	5

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 B for further detailed assessment data on the proposed development.

Classification	5, 7a, 8 & 9b
Number of storeys contained	6
Rise in storeys	4
Type of construction required	A
Effective height	< 12m

8. ISSUES REQUIRING RESOLUTION

8.1. ISSUES REQUIRING AMENDMENTS TO PLANS

No specific amendments are required to the plans.

8.2. ALTERNATIVE SOLUTIONS PROPOSED / REQUIRED

It is proposed to satisfy the following non-compliances by alternative solutions:

Item	Non-Compliance	DTS Clause	Description	Performance Requirement	Comments
2.	Type of construction required	C1.1	The building is proposed to have an FRL less than that nominated in Specification C1.1 for the Class 8 portion of the building. Generally 2 hour fire rated construction in lieu of 4 hour fire rated construction is proposed.	CP1, CP2	To be addressed by Fire Safety Engineer.
3.	Separation of classifications in the same storey	C2.8	Different classifications are located within the same storey and are not proposed to be separated by a fire wall. A Class 8 portion is located on level 1 and the storey is not proposed to be constructed to the higher FRL 4 hours. The building is proposed to be constructed with FRL applicable to Class 5, 7a & 9 being 2 hours	CP1, CP2	To be addressed by Fire Safety Engineer.
4.	Separation of classifications in different storeys	C2.9	The floors to levels 1 and 2 are not proposed to achieve an FRL of 240/240/240 based on the Class 8 laboratory on Level 1. An FRL of 120/120/120 is proposed for the floors.	CP1, CP2	To be addressed by Fire Safety Engineer.

Item	Non-Compliance	DTS Clause	Description	Performance Requirement	Comments
5.	Distance between alternative exits	D1.5	Travel distance between alternative exits exceeds the maximum 60m permitted as follows; • Approximately 68m between exits in basement 2 when measured through the point of choice.	DP4	To be addressed by Fire Safety Engineer.

9. ISSUES TO BE RESOLVED PRIOR TO CONSTRUCTION

The following identifies certain items which are not detailed or specified on the design documentation which may become issues if not designed in accordance with the requirements of the BCA. The items below are those items which we have experienced to be regular issues only. Not all unspecified items have been noted below:

Item	Clause	Description	Requirement to Satisfy BCA
1.	C3.15	Openings for services penetrations (mixed metal and PVC plumbing systems)	Metal pipes are allowed to penetrate fire-resisting construction on the basis that a wholly metal pipe system is reasonably resistant to fire and smoke. However, when metal pipework penetrates a floor and PVC is used within the same pipe system it does not comply. When PVC is used it should penetrate the slab and should be protected by a fire collar.
2.	D2.15	Thresholds	External doorway thresholds are generally required to be less than 190 mm and even less for health or aged care facilities. Often the door threshold signals the limit of design responsibility (or attention to design) so that the threshold height is omitted from the design.
3.	D2.16	Balustrades or other barriers (No climbable members for floors 4m above floor beneath)	Balustrades located more than 4 m above the ground below must not be climbable by children. Incorrect balustrade design can result in significant rectification works given that there are often large quantities of balustrading all constructed to the same detail (particularly in residential projects.) The interpretation of “must not facilitate climbing” as required under BCA clause D2.16(g) is the issue that can lead to significant problems as it is not adequately specified under the BCA. The non-climbable zone is between 150 mm and 760 mm from the floor. We therefore recommend that the Pool Fence Code AS1926 be consulted for clarification. The key is that any ledge of greater than 10 mm in width can be held to facilitate climbing if the angle to horizontal is less that 60°. Also, acceptable construction tolerances for building elements means that a complying design detail can easily be constructed so as not to comply. The 10 mm limit is not able to be extended to allow for tolerances. The following items can lead inadvertently to a defective detail: • Split balustrade elements (ie brick hob to 500 mm and then 500 mm clear glazing panel above) will almost certainly create a climbable ledge once built • End fixing points can create footholds where balustrade infill elements are fixed to posts • Not allowing enough height for tiles to be built up to create falls so that the dimensions from the finished floor do not comply • Taps and other fittings fixed to the balustrade Other climbable points located close to but not actually on the balustrade
4.	D2.17	Handrails	Handrails are often omitted from the design of ramps and stairs. Even as little as two steps is counted as a stairway and as such requires a handrail.

Item	Clause	Description	Requirement to Satisfy BCA
5.	D2.21	Operation of latch (door hardware)	BCA Clause D2.21 requires certain types of latches to all doors in the path of egress. This effectively means that every single door in commercial and industrial buildings needs to comply. The problem is that knob type handles do not and cannot comply. Deadlocks do not comply.
6.	D3.2	General building access requirements (Door widths)	The Access standard AS1428.1 has recently been amended to require a minimum of 800 mm wide door way openings. The problem is that a standard 820 mm door leaf is usually trimmed down and fitted to jambs with 10 mm reveals. That is, openings for standard 820 mm doors can never comply.
7.	D3.2	General building access requirements (Raised computer floors)	Often computer floors will be installed only in the computer room to a height of up to 300 mm above the rest of the floor. This creates the following conflicts: • Disabled access – a 1:14 ramp should be provided • Thresholds – attention should be paid to clause D2.15 of the BCA as steps and ramps are not permitted in or leading to doorways without a landing. Stair tread dimensions- do not design a floor height that means the tread dimensions cannot be met (115 mm-190 mm is permissible. A height of between 190-230 mm cannot be designed for)
8.	D3.3	Parts of buildings to be accessible (handrails)	Low rise retail, industrial and commercial premises do not have lifts but are required to have “accessible” stairs. This means that there are special requirements for handrails to the internal stairs including • Handrails to both sides of the stair • Handrails must extend 300 mm beyond the stair • See clause 9 of AS1428.1 for further details.
9.	D3.5	Carparking (disabled carparking)	These car spaces have a special requirement for 2.5 m of clear height to permit roof-mounted wheelchairs to be demounted
10.	D3.8	Tactile indicators	BCA clause D3.8 requires tactile ground indicators to be installed in certain locations. The “tactiles” must be 600 mm in depth and extend for the width of the stair, ramp, kerb ramp or other feature. Tactiles are often seen as a last minute item. However, they are often required to be set into concrete or terrazzo which can lead to costly and time-consuming retrofit activity.
11.	E1.3	Hydrants (Walls adjacent to external hydrants)	External Hydrants are required to be located 10 m from a building. Where this is not proposed, the external wall of the building is required to achieve a 90/90/90 fire rating for 2 m side from the centre of the hydrant outlet and 3 m above the hydrant (or to the roof line if this is lower.) Note that tilt-up concrete panels supported by steel portal frames will not achieve the fire rating unless the supporting structure is also fire-rated.
12.	F2.4	Facilities for people with disabilities	Toilets for people with disabilities are required to comply with AS1428.1 in all respects. The standard regulates the locations, dimensions and details associated with taps, pans, grab rails, roll holders, basins, soap dishes and floor wastes. In fact, almost every element is regulated with respect to heights, offsets from walls, height beneath etc.

10. STATUTORY FIRE SAFETY MEASURES

The Statutory Fire Safety Measures listed in Appendix F of this report are required to be certified upon completion of the project, prior to the Occupation Certificate being issued for the building.

The building owner is required to continue to maintain all nominated measures by issuing an Annual Fire Safety Statement to Council and the NSW Fire Brigades.

11. CONCLUSIONS

The design complies 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.

12. APPENDIX A – DETAILED ASSESSMENT DATA

12.1. FLOOR AREAS AND VOLUMES

Floor	*Approx Area (m^2)*	*Approx Volume (m^3)*	*Comment*
Basement 2	2050	5400	
Basement 1	2000	5300	
Level 1	1600	6400	
Level 2	1600	6500	
Level 3	680	2400	
Level 4	170	380	

12.2. NOMINATED FIRE COMPARTMENTS

Compartment	*Approx Area (m^2)*	*Approx Volume (m^3)*	*Comment*
Basement 1 & 2 (Carpark)	4050	10,700	Sprinkler protected carparks are not required to comply with the fire compartment limitations of Table C2.2.
Levels 1, 2, 3 & 4	4050	15,700	Forms a single fire compartment due to the interconnecting stairs and voids between Levels 1 – 4.

12.3. POPULATION

Relevant populations for the building are set out below.

Location	*Use*	*Class*	*Approx Area (m^2)*	*Density m^2/person*	*Population Calculated by BCA*	*Population provided by client*
Basement 2	Carpark	7a	2050	30	69	
Basement 1	Carpark	7a	2000	30	67	
Level 1	Auditorium / Lecture theatre	9b	128	N/A	102	180
Level 1	Laboratory	8	270	10	27	
Level 1	Office / Academic Research	5	900	10	90	
Level 2	Office / Consultation / Treatment	5	1500	10	150	90
Level 3	Office / Consultation / Treatment	5	550	10	55	30
Level 3	Plant room	5	80	30	3	
Level 4	Plant room	5	170	30	6	

12.4. EXITS

The exits from the building are set out below:

Exit No	*Area*	*Type*	*Grid Ref*	*No of storeys connected*	*Comments*
1.	Basement 1 & 2	Non fire-isolated stair	G-05	2	Discharges to the eastern corner of the site on Level 1. Stair is separated by fire rated construction at Level 1.
2.	Basement 2	External door	A-01	1	Discharges to the western corner of the site.
3.	Basement 1	External door	D-06	1	Discharges to Rocklands Road adjacent to carpark entry/exit.
4.	Basement 1	External door	B-01	1	Discharges to the western corner of the site.
5.	Level 1 - 3	Non fire-isolated stair	G-05	3	Discharges to the eastern corner of the site on Level 1.
6.	Level 1	External door	E-05	1	Discharges to Rocklands Road.
7.	Level 1	External door	C-04	1	Discharges to external terrace.
8.	Level 1	Double external doors	C-03	1	Discharges to external terrace.
9.	Level 1	Non fire-isolated stair	H-02	1	Discharges adjacent to Sinclair Street on Level 2.
10.	Level 2	Non fire-isolated stair	F-04	2	Discharges internally to Level 1 adjacent reception area.
11.	Level 2	Non fire-isolated stair	D-03	2	Discharges internally to Level 1 adjacent Auditorium.
12.	Level 2 - 4	Non fire-isolated stair	H-02	3	Discharges adjacent to Sinclair Street on Level 2. Stair is separated by fire rated construction at Level 2.

13. APPENDIX B – CLAUSE BY CLAUSE ASSESSMENT

13.1. SECTION B - STRUCTURE

Clause	Description	Status	Comments
B1.1	Resistance to actions	Not Specified	The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions.
B1.2	Determination of individual actions	Not Specified	The magnitude of individual actions must be determined in accordance with Clause B1.2 of the BCA.
B1.3	Loads	Not Specified	The building or structure must resist loads determined in accordance with AS 1170 Parts 1 to 4 as listed in Clause B1.3.
B1.4	Determination of structural resistance of materials and forms of construction	Not Specified	The structural resistance of materials and forms of construction must be determined in accordance with the relevant Australian Standards in accordance with Clause B1.4 of the BCA.

13.2. SECTION C - FIRE RESISTANCE

Clause	Description	Status	Comments
C1.1	Type of construction required	Does Not Comply	The building is proposed to have an FRL less than that nominated in Specification C1.1 for the Class 8 portion of the building. Generally 2 hour fire rated construction in lieu of 4 hour fire rated construction is proposed. This non-compliance is required to be addressed by Fire Engineered Alternative Solution.
		Not Specified	The building is to be erected in Type A fire resisting construction in accordance with Specification C1.1 of the BCA. Refer to Appendix D for the relevant fire resisting requirements. The roof is not required to have an FRL if its covering is non-combustible, as the building is proposed to be sprinkler protected throughout.
C1.2	Calculation of rise in storeys	Noted	Refer to Section 0 of this report.
C1.3	Buildings of multiple classification	Noted	The building is required to be constructed of Type A fire resisting construction as the classification of the top storey is a Class 5.
C1.4	Mixed types of construction	Not Applicable	All Type A construction.
C1.5	Two storey Class 2, 3 or 9c buildings	Not Applicable	The building does not contain any Class 2, 3 or 9c components.
C1.6	Class 4 parts of buildings	Not Applicable	The building does not contain a Class 4 component.
C1.7	Open spectator stands and indoor sports stadiums	Not Applicable	

Clause	Description	Status	Comments
C1.8	Lightweight construction	Not Specified	Lightweight construction used in a wall system must comply with Specification C1.8. Lightweight construction used as a fire-resisting covering of a steel column or the like, and where the covering is not in continuous contact with the column must have the voids filled to a height of not less than 1.2m above the floor and where the column is liable to be damaged must be protected by steel or other suitable material.
C1.9	-	-	No provisions.
C1.10	Fire hazard properties	Not Specified	The fire hazard properties of all floor materials, floor coverings, wall and ceiling lining materials must comply with Specification C1.10a. The fire hazard properties of all other materials must comply with Specification C1.10.
C1.11	Performance of external walls in fire	Not Applicable	The building has a rise in storeys of more than 2.
C1.12	Non-combustible materials	Noted	Gypsum, metal and laminated non-combustible materials containing combustible components are deemed to be non-combustible.
C2.1	Application of Part	Applicable	Clauses C2.2, C2.3 and C2.4 do not apply to a sprinkler protected carpark, open deck carpark or open spectator stand.
C2.2	General floor area limitations	Complies	The building does not exceed the maximum size of fire compartment permissible under table C2.2.
C2.3	Large isolated buildings (**NSW** Excludes the need for the additional services in buildings less than18,000m^2)	Not Applicable	
C2.4	Requirements for open spaces and vehicular access	Not Applicable	
C2.5	Class 9a an 9c buildings	Not Applicable	The proposed building does not contain any Class 9a or 9c components (see assumptions).
C2.6	Vertical separation of openings in external walls	Not Applicable	The building is proposed to be protected with a sprinkler system complying with Specification E1.5 of the BCA.
C2.7	Separation by fire walls	Not Specified	Firewalls proposed to separate fire compartments must extend to the underside of a floor having an FRL required for a fire wall (See Specification C1.1).
C2.8	Separation of classifications in the same storey	Does Not Comply	Different classifications are located within the same storey and are not proposed to be separated by a fire wall. A Class 8 portion is located on level 1 and the storey is not proposed to be constructed to the higher FRL 4 hours. The building is proposed to be constructed with FRL applicable to Class 5, 7a & 9 being 2 hours. This is to be addressed by Fire Engineered Alternative Solution.

Clause	Description	Status	Comments
C2.9	Separation of classifications in different storeys	Does Not Comply	The floors to levels 1 and 2 are not proposed to achieve an FRL of 240/240/240 based on the Class 8 laboratory on Level 1. An FRL of 120/120/120 is proposed for the floors. This is to be addressed by Fire Engineered Alternative Solution.
		Not Specified	As different classifications are situated one above the other in adjoining storeys they must be separated in accordance with the DTS provisions of the BCA. The floors between the adjoining parts must have an FRL not less than that prescribed for the classification of the lower storey.
C2.10	Separation of lift shafts	Not Specified	Lifts connecting more than 3 storeys in a sprinkled building must be separated from the remainder of the building as specified in Clause C2.10 and Specification C1.1. Openings for lift landing doors and services must be protected in accordance with the DTS provisions of Part C3 of the BCA.
C2.11	Stairways and lifts in one shaft	Complies	Stairway and lifts are not in the same shaft.
C2.12	Separation of equipment	Not Specified	Equipment that comprises lift motors, lift control panels, central smoke control plant, boilers or batteries must be separated from the remainder of the building by construction with an FRL as required under Specification C1.1 but not less than 120/120/120.
C2.13	Electricity supply system	Not Specified	Electrical substations and main switchboards sustaining emergency equipment operating in the emergency mode must be separated from the remainder of the building by construction with an FRL not less than 120/120/120. All switchboards and electrical conductors are to comply with the requirements of Clause C2.13.
C2.14	Public corridors in Class 2 and 3 buildings	Not Applicable	No Class 2 or 3 portions contained.
C3.1	Application of Part	Applicable	Concessions and definition of certain openings.
C3.2	Protection of openings in external walls (NSW (a) Deleted)	Not Applicable	No window openings are indicated on the northern elevation within 3m of the boundary.
C3.3	Separation of external walls and associated openings in different fire compartments	Not Specified	External walls within the distances specified in Table C3.3 of the BCA are to be protected by construction with an FRL not less than 60/60/60 and the associated openings protected in accordance with Clause C3.4 of the BCA. Protection of window serving Meeting Room 8.6 in south elevation is required to be indicated on hydraulic/architectural drawings prior to issue of Construction Certificate..
C3.4	Acceptable method of protection	Noted	

Clause	Description	Status	Comments
C3.5	Doorways in fire walls	Not Specified	Doorways in firewalls are to be protected by a fire door or fire shutter that has an FRL of not less than that required for the firewall except that the insulation rating must be at least 30.
C3.6	Sliding fire doors	Not Applicable	No sliding fire doors proposed in building.
C3.7	Protection of doorways in horizontal exits	Not Applicable	No horizontal exits proposed in building.
C3.8	Openings in fire isolated exits	Not Applicable	No fire isolated exits proposed.
C3.9	Service penetrations in fire isolated exits	Not Applicable	No fire isolated exits proposed.
C3.10	Openings in fire isolated lift shafts	Not Specified	Openings in lift shafts are to be protected by -/60/- fire doors complying with AS1735.11. Lift indicator panels are to be backed by construction having an FRL of not less than -/60/60 if it exceeds 35,000mm2 (175 X 200 mm).
C3.11	Bounding construction: Class 2, 3, 4 and 9 buildings (NSW Requirements for Class 3 changed and additional requirements for Class 9)	Not Applicable	The auditorium and associated areas are not to be used as a POPE (See Assumptions)
C3.12	Openings in floors for services	Not Specified	Services passing through floors are to be placed within fire resisting shafts or in accordance with Clause C3.15.
C3.13	Openings in shafts	Not Specified	In a building of Type A construction, an opening in a wall providing access to a ventilating, pipe, garbage, or other service shaft must be protected by: • If it is a sanitary compartment - a door or panel which together with its frame, is non combustible or has an FRL of not less than -/30/30, or • A self closing -/60/30 fire door or hopper, or • An access panel with an FRL of not less than -/60/30, or • If the shaft is a garbage shaft - a door or hopper of non-combustible construction.
C3.14	-	-	No provisions
C3.15	Openings for service installation	Not Specified	Methods and materials used are to be identical to tested prototypes and in accordance with AS4072.1 and AS1530.4, and having achieved the required FRL or resistance to the incipient spread of fire or other specified method.
C3.16	Construction Joints	Not Specified	Construction joints are to be installed in accordance with a tested prototype in accordance with AS1530.4.
C3.17	Columns protected with lightweight construction	Not Specified	Columns must be protected in accordance with the identical tested prototype.

13.3. SECTION D – ACCESS AND EGRESS

Clause	Description	Status	Comments
D1.1	Application of Part	Applicable	Does not apply to the internal parts of a sole occupancy unit in a Class 2, 3 or 4 building.
D1.2	Number of exits required (NSW Extra POPE subclause)	Complies	
D1.3	When fire isolated exits are required	Noted	Exits are not required to be fire isolated as they do not connect more than 3 storeys in a sprinkler protected building.
D1.4	Exit travel distances	Complies	
D1.5	Distance between alternative exits	Does Not Comply	Travel distance between alternative exits exceeds the maximum 60m permitted as follows; • Approximately 68m between exits in basement 2 when measured through the point of choice.
D1.6	Dimensions of exits (NSW Differing requirements for P.O.P.E.)	Not Specified	In a required exit or path of travel, the unobstructed height throughout must be not less than 2m, except the unobstructed height of any doorway must be reduced to not less than 1980mm. The unobstructed width of each exit or path of travel to an exit except a doorway must not be less than 1m.
D1.7	Travel via fire-isolated exits	Not Applicable	No fire isolated exits proposed.
D1.8	External stairways in lieu of fire-isolated exits	Not Applicable	
D1.9	Travel by non-fire-isolated stairways or ramps	Complies	
D1.10	Discharge from exits (NSW Additional requirements for P.O.P.E.)	Not Specified	Exits which discharge to open space that is at a different level than the public road to which it is connected, the path of travel must be to the road must be by; • Ramp or incline having a gradient not steeper than 1:8, or • Compliant stairway,
D1.11	Horizontal exits	Not Applicable	No horizontal exits proposed.
D1.12	Non-required stairs, ramps or escalators	Not Applicable	
D1.13	Number of persons accommodated (NSW Differing requirements for P.O.P.E.)	Noted	Refer to Section 12.3 of this report
D1.14	Measurement of distance	Noted	
D1.15	Method of measurement	Noted	
D1.16	Plant rooms and lift machine rooms: Concession	Not Applicable	Stair provided to level 4 plant room.
D1.17	Access to lift pits	Not Specified	Access to lift pits where the pit depth is not more than 3m must be through the lowest landing doors.

Clause	Description	Status	Comments
D2.1	Application of Part (NSW Differing requirements for P.O.P.E.)	Applicable	
D2.2	Fire isolated stairs or ramps	Not Applicable	No fire isolated stairs proposed.
D2.3	Non-fire-isolated stairways and ramps	Not Specified	Required stairs that are not required to be within a fire-resting shaft are to be constructed of concrete, steel, or timber of specified minimum dimensions.
D2.4	Separation of rising and descending stair flights	Not Applicable	Stairs are not required to be fire isolated.
D2.5	Open access ramps and balconies	Not Applicable	
D2.6	Smoke lobbies	Not Applicable	
D2.7	Installations in exits and paths of travel	Not Specified	Electrical boards and the like are to be located within and enclosed by non-combustible construction or have a fire-protective covering with the doorway suitably sealed against smoke spreading from the enclosure. Generally the services or equipment may be enclosed in non-combustible construction such as MDF with a solid core door. Electrical wiring may only be installed in a fire-isolated exit if the wiring is associated with: • a lighting, detection, or pressurisation system serving the exit, or • a security, surveillance or management system serving the exit, or • the monitoring or hydrant or sprinkler isolation valves.
D2.8	Enclosure of space under stairs and ramps	Not Specified	The space below non fire-isolated stairs must not be enclosed to form a cupboard or similar enclosed space unless the enclosing walls have an FRL of not less than 60/60/60 and any doorway to the enclosed space is fitted with a self closing -/60/30 fire door.
D2.9	Width of stairways	Noted	Stairway width is to be measured clear of obstructions such as handrails, projecting parts of balustrades or other barriers and the like and extend to a height of not less than 2m.
D2.10	Pedestrian ramps	Not Applicable	No ramps serving as required exits.
D2.11	Fire-isolated passageways	Not Applicable	No fire isolated passageways are proposed as part of development.
D2.12	Roof as open space	Not Specified	Exits no's: 1, 5, 6, 7, 8 & 12 discharge to a roof of the storey below. This is required to have an FRL of not less than 120/120/120 and not incorporate any roof lights or other openings within 3m of the path of travel.

Clause	Description	Status	Comments
D2.13	Goings and risers (NSW Differing requirements for P.O.P.E.)	Does Not Comply	Stairs are to have risers measuring between 115-190mm and goings between 250-355. Goings and Risers are to satisfy the equation of 2R+G=700(max) and 550(min). Goings and risers are to be consistent throughout in one flight. Any gap between risers must not permit a 125mm sphere to pass through it. All treads to be fitted with non-slip finish or non-skid strips.
D2.14	Landings	Not Specified	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.
D2.15	Thresholds (NSW Differing requirements for P.O.P.E.)	Not Specified	A 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 door opens to a road or open space, external stair landing or external balcony, and the doorsill is not more than 190mm above the finished surface of the ground balcony or the like to which the door opens.
D2.16	Balustrades (NSW Differing requirements for P.O.P.E.)	Not Specified	Balustrades complying with Deemed-to-Satisfy provisions of the BCA are to be provided to where the level of the surface below is 1m or more. Where the level of the surface below is 4m or more, a balustrade or other barrier must not facilitate climbing of horizontal elements between 150mm and 760mm above the floor. Any opening in the balustrade must not permit a 125mm sphere to pass through the balusters. Wire balustrades must be constructed to comply with Clause D2.16(h) and Tables D2.16a and D2.16b.
D2.17	Handrails	Not Specified	Handrails are to be provided to at least one side of stair flights and located not less than 865mm above the nosings of stair treads and the floor surfaces of landings. Handrails must be not more than 2m apart in the case of intermediate handrails. **Note:** that under the requirements of Clause D3.3a handrail may be required to both sides of a stairway or ramp.
D2.18	Fixed platforms walkways, stairways, and ladders	Not Specified	Fixed platforms, walkways, stairways, ladders, landings, handrails, balustrades and any tread or riser providing access to plant on Level 4 is to comply with AS1657.
D2.19	Doorways and doors (NSW Additional requirements for P.O.P.E.)	Not applicable	The auto a sliding door serving the main entry on Level 2 is not required to form an exit therefore does not need to comply with this clause.
D2.20	Swinging doors	Complies	

Clause	Description	Status	Comments
D2.21	Operation of latch (NSW Additional requirements for P.O.P.E.)	Not Specified	The latch of a door in a required exit, forming part of a required exit or in the path of travel is to be readily openable without a key from the side of that faces a person seeking egress. It is to have a single downward action and to be located between 900mm and 1.20m from the floor unless it serves a sanitary compartment. This means lever handles are generally required.
D2.22	Re-entry fire-isolated exits	Not applicable	
D2.23	Signs on doors (NSW Additional requirements for P.O.P.E.)	Not Applicable	No fire isolated or horizontal exits proposed.
NSW D2.101	Doors in path of travel in a P.O.P.E.	Not Applicable	Building is not a Place of Public Entertainment (see Assumptions).
D3.1	Application of Part	Applicable	
D3.2	Access to buildings	Not Specified	Access complying with AS1428.1 is to be provided to the following areas: 1. From the allotment boundary at the major points of entry. 2. To and within all areas normally used by the public or staff. 3. From any accessible carparking space on the allotment. 4. Through the principle public entrance. **Assessment of access to and within the building to be undertaken by Access Consultant.**
D3.3	Parts of buildings to be accessible	Not Specified	Access complying with AS1428.1 is to be provided to the following areas: 1. Any sanitary compartment required for the use of people with disabilities. 2. To areas used by occupants, excluding plantrooms, commercial kitchens, cleaners store rooms, maintenance accessways or the like. 3. The passenger lift The ramp to the auditorium must have handrails on both sides complying with clause 9 of AS 1428.1. **Assessment of access to and within the building to be undertaken by Access Consultant.**
D3.4	Concessions	Noted	
D3.5	Carparking	Complies	3 Carparking spaces have been shown for people with disabilities.
		Not Specified	Compliance with AS2890.1 is required. **Access consultant to confirm compliance with this clause.**

Clause	Description	Status	Comments
D3.6	Identification of access facilities, services and features	Not Specified	Braille and tactile signage complying with Specification D3.6 and incorporating the international symbol of access or deafness is to be provided to the sanitary facilities and the passenger lift within the building in accordance with AS1428.1. **Access consultant to confirm compliance with this clause.**
D3.7	Hearing augmentation	Not Specified	Hearing augmentation installed in accordance with AS1428.1 is required to be equitably distributed in the auditorium and to not less than 15% of the floor area. **Access consultant to confirm compliance with this clause.**
D3.8	Tactile indicators	Not Specified	Tactile indicators are to be shown on the plans provided to all stairways and ramps used by the public. Tactile indicators are to Type B indicators complying with AS1428.4. **Access consultant to confirm compliance with this clause.**

13.4. SECTION E – SERVICES AND EQUIPMENT

Clause	Description	Status	Comments
E1.1	-	-	No provisions
E1.2	-	-	No provisions
E1.3	Fire Hydrants	Not Specified	Fire hydrants must conform to the pressure and flow requirements and distance limitations specified in AS 2419.1. **Hydraulic plans to be provided to SWP to ensure compliant fire hydrant coverage is provided to entire building.**
E1.4	Hose reels	Not Specified	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. Fire hose reels are to be installed accordance with AS2441. **Hydraulic plans to be provided to SWP to ensure compliant fire hose reel coverage is provided to entire building.**
E1.5	Sprinklers	Not Specified	A sprinkler system in accordance with Specification E1.5 is required to serve the basement carpark levels. Levels 1-4 are also proposed to be protected with a sprinkler system throughout in accordance with Specification E1.5. A sprinkler valve enclosure must be located in a secure room or enclosure that has direct egress to road or open space.
E1.6	Portable fire extinguishers	Not Specified	Portable fire extinguishers are required to be provided in accordance with Table E1.6 of the BCA and AS 2444.

Clause	Description	Status	Comments
E1.7	-	-	No provisions.
E1.8	Fire control centres	Not Applicable	
E1.9	Fire precautions during construction	Not Specified	During construction, not less than one fire extinguisher to suit Class A, B and C fires is required for each storey, and is required to be located adjacent to each exit.
E1.10	Provisions for special hazards	Not Applicable	
E2.1	Application of Part	Applicable	Part is not applicable to · open deck car parks · open spectator stands · storerooms, etc less than 30m2 · sanitary compartments · plantrooms or the like
E2.2	General requirements (NSW Replacement of provisions for Class 9b buildings)	Not Specified	An air-handling system that recycles air from one fire compartment to another must be designed incorporate smoke dampers and automatically shutdown upon activation of smoke detectors in accordance with Clause 4.10 of AS/NZS 1668.1. The auditorium must be provided with automatic shutdown of air-handling system on activation of: • smoke detectors complying with Clause 5 of Specification E2.2a; and • the proposed sprinkler system. The carpark mechanical ventilation system 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.
E2.3	Provisions for special hazards	Not Applicable	
E3.1	-	-	No provisions.
E3.2	Stretcher facility in lifts	Not Specified	It is noted that an emergency lift is not 'required' by the BCA, however the client has indicated that an emergency lift will be installed. The stretcher lift is to have the minimum dimension of 600mm wide x 2000mm long and 1400mm high above floor level.
E3.3	Warning against use of lifts in fire	Not Specified	A warning sign is to be displayed where it can be readily seen near every call button of the passenger lift. The warning sign is to comply with the details and dimensions set out in Figure E3.3 of the BCA.

Clause	Description	Status	Comments
E3.4	Emergency lifts	Not Specified	It is noted that an emergency lift is not 'required' by the BCA as the building is not over 25m effective height and not proposed to accommodate a Class 9a portion (see Assumptions), however the client has indicated that an emergency lift will be installed. Both lifts are required to be emergency lifts under this Clause. Lifts are to be within a fire-resisting shaft and comply with AS1735.2 or Appendix A of AS 1735.1. Minimum lift dimensions and clearances apply. Emergency lifts are to be connected to a stand-by power supply system where installed.
E3.5	Landings	Not Specified	Access and egress to and from the lift well landings is to comply with the Deemed-to-Satisfy provisions of Section D of the BCA.
E3.6	Facilities for people with disabilities	Not Specified	The passenger lifts are required to comply with the requirements of AS1735.12 and be fitted with a door sensory device that will detect a 75mm diameter rod across the door opening between 50mm and 1550mm above floor level.
E3.7	Fire Services Control	Not Specified	It is noted that under the BCA fire services controls are not required as the lifts do not serve a storey above an effective height of 12m, however the client has advised these will be installed. Lifts cars are to be provided with fire service controls in accordance with AS1735.2.
E3.8	Aged care buildings	Not Applicable	Not a Class 9c building.
E4.1	-	-	No provisions.
E4.2	Emergency light requirements	Not Specified	Emergency lighting is to be provided throughout the building in accordance with Clause E4.2 of the BCA. Emergency lighting is to be provided in : • Every fire-isolated stairway, fire-isolated ramp or fire-isolated passageway. • Every passageway, hallway, corridor or the like, that is part of the path of travel to an exit. • In every room having a floor area more than 100m^2 that does not open to a corridor or space that has emergency lighting or to a road or open space. • In any room having a floor area more than 300m^2. • In every required non-fire isolated stairway.
E4.3	Measurement of distance	Noted	
E4.4	Design and operation of emergency light	Not Specified	Emergency lighting shall be provided throughout the building in accordance with the requirements of Clause E4.4 of the BCA and AS 2293.1.

Clause	Description	Status	Comments
E4.5	Exit signs	Not Specified	Exit signs are to be provided in accordance with Clause E4.5 of the BCA. Exit signs must be clearly visible to person approaching the exit and must be installed on, above or adjacent to; 1. A door providing direct egress from a storey to a stairway, passageway or ramp serving as a required exit. 2. A door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space. 3. A door serving as or forming part of a required exit in a storey required to be provided with emergency lighting.
E4.6	Direction signs (NSW POPE - External to the building where the exit does not open directly onto a street.)	Not Specified	Where an exit is not readily apparent then exit signs with directional arrows must be installed in appropriate positions in corridors, hallways, lobbies and the like indicating the direction to a required exit in accordance with Clause E4.6 of the BCA. Exit signs required external to the building where the exit does not open directly on the street.
E4.7	Class 2, 3 and 4 buildings: Exemptions	Not Applicable	
E4.8	Design and operation of exit signs	Not Specified	Exit signs are to operate in accordance with AS 2293.1 and be clearly visible at all times while the building is occupied.
E4.9	EWIS systems	Not Specified	An emergency warning and intercommunication system complying with AS 1670.4 and AS 4428.4 must be installed throughout the building due to the Class 9b Auditorium.

13.5. SECTION F – HEALTH AND AMENITY

Clause	Description	Status	Comments
F1.1	Stormwater drainage	Not Specified	Stormwater drainage design shall be in accordance with AS/NZS 3500.3
F1.2	-	-	No provisions
F1.3	-	-	No provisions
F1.4	-	-	No provisions
F1.5	Roof coverings	Not Specified	Roof coverings are to comply with the relevant Australian Standards as per Clause F1.5.
F1.6	Sarking	Not Specified	Sarking type materials used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 2.
F1.7	Waterproofing of wet areas	Not Specified	Shower enclosure surfaces, floor surfaces in bathrooms, shower rooms, slop hoppers, sink compartments, laundry and sanitary compartments is required to be waterproofed in accordance with AS 3740.
F1.8	-	-	No provisions

Clause	Description	Status	Comments
F1.9	Damp-proofing	Not Specified	Moisture from the ground must be prevented from reaching the lowest floor timber and the walls above the lowest floor joists, the walls above the dam proof course and the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. Damp proof course must consist of a material that complies with AS/NZS 2904 or an impervious termite shield in accordance with AS 3660.1.
F1.10	Damp-proofing of floors on the ground	Not Specified	A vapour barrier in accordance with AS2870 is to be provided beneath the lower ground floor slab.
F1.11	Provision of floor wastes	Not Applicable	Building not of Class 2, 3, or 4 part.
F1.12	Sub-floor ventilation	Not Applicable	Slab on ground.
F1.13	Glazed assemblies	Not Specified	Windows, sliding doors with a frame, adjustable louvres, and window walls with one piece framing in an external wall must comply with AS 2047 requirements for resistance to water penetration.
F2.1	Facilities in residential buildings	Not Applicable	Not a Class 2, 3 or 9c building.
F2.2	Calculation of number of occupants and fixtures	Noted	
F2.3	Facilities in Class 3 to 9 buildings	Complies	Refer to Appendix E and Interpretations 7.2.
F2.4	Facilities for people with disabilities	Not Specified	Sanitary facilities for people with disabilities are to be designed in accordance with AS1428.1. **Assessment to be undertaken by Access Consultant.**
F2.5	Construction of sanitary compartments	Not Specified	Doors to the fully enclosed toilets are to open outwards, slide or be readily removable from the outside of the sanitary compartment.
F2.6	Interpretation: Urinals and washbasins	Noted	
F2.7	Warm water installations (NSW – deleted)	Not Applicable	Not Applicable in NSW
F2.8	Waste	Not Applicable	Only applicable to Class 9a and 9c buildings.
F3.1	Height of rooms and other spaces	Not Specified	Ceiling height must not be less than; • Assembly building part, not less than 2.7m, • 2.4m generally, • 2.1m for carpark (except disabled spaces), sanitary compartments, storeroom or the like.
F4.1	Provision of natural light	Not Applicable	
F4.2	Methods and extent of natural light	Not Applicable	

Clause	Description	Status	Comments
F4.3	Natural light borrowed from adjoining room	Not Applicable	
F4.4	Artificial lighting	Not Specified	Lighting shall be provided throughout the building to comply with AS1680.0 in accordance with the requirements of Clause F4.4 of the BCA.
F4.5	Ventilation of rooms (NSW Reference to AS/NZS 3666.1 deleted for NSW)	Not Specified	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.
F4.6	Natural ventilation	Not Applicable	Mechanical ventilation proposed throughout building.
F4.7	Ventilation borrowed from adjoining room	Not Applicable	
F4.8	Restriction on position of water closets and urinals	Complies	
F4.9	Airlocks	Not Applicable	
F4.10	-	-	No Provisions
F4.11	Carparks	Not Specified	The carpark is to be provided with ventilation complying with AS1668.2.
F4.12	Kitchen local exhaust	Not Applicable	No commercial kitchen proposed.
F5.1	Application of part	Not Applicable	Applicable to Class 2, 3 and 9c buildings only.
F5.2	Determination of airborne sound insulation ratings	Not Applicable	
F5.3	Determination of impact sound insulation ratings	Not Applicable	
F5.4	Sound insulation rating for floors	Not Applicable	
F5.5	Sound insulation rating of walls	Not Applicable	
F5.6	Sound insulation rating of services	Not Applicable	
F5.7	Isolation of pumps	Not Applicable	

13.6. SECTION G – ANCILLARY PROVISIONS

Clause	Description	Status	Comments
G1.1	Swimming Pools (NSW – added subclause (c))	Not Applicable	
G1.2	Refrigerated chambers, strong-rooms and vaults	Not Specified	A refrigerator, cooling chamber, strong room or vault that is sufficient in size for a person to enter, must be provided with a door openable from the inside, internal lighting controlled internally, and indicator lamp positioned outside the chamber, and an alarm controllable from within the chamber.

Clause	Description	Status	Comments
G1.101	Provision for cleaning windows	Not Specified	A safe manner of cleaning windows is to be provided as windows are located 3 or more storeys above ground level. The windows must either be able to be cleaned wholly from within the building, or a method complying with the Construction Safety Act 1912 and Regulations is required.
G2.1	-	-	No provisions.
G2.2	Installation of appliances	Not Applicable	
G2.3	Open fireplaces	Not Applicable	
G2.4	Incinerator rooms	Not Applicable	
Part G3	Atrium Construction	Not applicable	
Part G4	Construction in alpine areas.	Not applicable	
Part G5	Construction in bushfire prone areas.	Not Applicable	

13.7. SECTION H – SPECIAL USE BUILDINGS

Clause	Description	Status	Comments
H1.1	Application of part	Applicable	Replaces the requirements for Class 9b buildings in NSW Auditorium is less than 300m^2, therefore NSW provisions require compliance with Clause H1.4 & H1.7.
H1.4	Seating area	Not specified	The maximum height of each step in the stepped floor of the auditorium must not exceed 230mm without an intermediate step complying with Clause H1.4(b).
H1.7	Aisle lights in theatres	Not specified	In any part of the auditorium, the general lighting is dimmed or extinguished during public occupation and the floor is stepped or is inclined at a slope steeper than 1 in 12, aisle lights must be provided to illuminate the full length of the aisle and tread of each step.
NSW H101	Places of Public Entertainment	Not Applicable	NSW Part H101 is applicable to parts of a building proposed to be used as a P.O.P.E. Auditorium is not proposed to be used as a POPE (see Assumptions).

13.8. SECTION J – ENERGY EFFICIENCY

Clause	Description	Status	Comments
NSW J(B)	**Energy Efficiency - Class 3 and Class 5 to 9 Buildings**	**Noted**	**Wollstonecraft: Climate Zone 5**
Section J	Energy Efficiency	Applicable	All applicable provisions of Section J to be addressed by Alternative Solution. **To be addressed by Energy Efficiency Consultant.**

14. APPENDIX C – REFERENCED DOCUMENTATION

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

Drawing No.	*Title*	*Issue*	*Date*	*Drawn By*
DA 1001	Basement Level 2 Floor Plan	P4	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 1002	Basement Level 1 Floor Plan	P4	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 1003	Level 1 - Floor Plan	P4	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 1004	Level 2 - Floor Plan	P4	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 1005	Level 3 – Floor Plan	P4	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 1006	Level 4 – Floor Plan	P4	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 1007	Roof Plan	P1	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 2001	Existing East & West Elevations	P2	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 2002	Proposed North & South Elevations	P2	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 2501	Proposed Sections 01	P3	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 2502	Proposed Sections 02 & 03	P3	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 2503	Proposed Sections 05 & 07	P3	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects
DA 2504	Proposed Sections 06 & 08	P3	15/10/07	Daryl Jackson Robin Dyke Pty Ltd Architects

15. APPENDIX D – 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**

16. APPENDIX E – REQUIREMENTS FOR SANITARY FACILITIES

The status of sanitary facilities required by Part F2 of the BCA are set out below:

Class	**Area**	**Occupant Numbers**			**WC** ***Required*** */ Provided*		**Urinal** ***Required*** */ Provided*		**Basin** ***Required*** */ Provided*	
		Total								
9b	Auditorium and Conference room (Level 1)	140	Male	70	1	2*	2	2	2	2
			Female	70	3	3*	N/A	N/A	2	2
			Unisex Disabled		1	1	N/A	N/A	1	1
5 & 8	Office / Academic Research & Laboratory (Level 1)	40	Male	20	1	1	1	1*	1	1
			Female	20	2	2*	N/A	N/A	1	1
			Unisex Disabled		0	1	N/A	N/A	0	1
5	Office / Consultation / Treatment (Level 2)	90	Male	45	3	3*	2	2*	2	2
			Female	45	3	3	N/A	N/A	2	3
			Unisex Disabled		0	1	N/A	N/A	0	1
5	Office / Consultation / Treatment (Level 3)	30	Male	15	1	1	1	1*	1	1
			Female	15	1	2*	N/A	N/A	1	1
			Unisex Disabled		0	1	N/A	N/A	0	1

* Unisex disabled facility counted once for each sex in accordance with Clause F2.2.

17. APPENDIX F – STATUTORY FIRE SAFETY MEASURES

Schedule of Statutory Fire Safety Measures

Measure	Standard of Performance
Access panels, doors and hoppers to fire resisting shafts	BCA2007 Clause C3.13 and tested prototypes (AS 1530.4 – 2005)
Automatic fire detection and alarm system *(smoke detection system to automatically shutdown air-handling system)*	BCA2007 Clause E2.2a, Table E2.2a, NSW Table E2.2b, Clause 5 of Specification E2.2a and Clause 4.10 of AS/NZS 1668.1 – 1998
Automatic fire suppression systems *(Sprinklers)*	BCA2007 Specification E1.5 and AS 2118.1 – 1999
Emergency lifts	BCA2007 Clause E3.4 and AS 1735.2 – 2001 or Appendix A of AS 1735.1 – 2003
Emergency lighting	BCA2007 Clause E4.2, E4.4 and AS 2293.1 – 2005
Emergency warning and intercommunication system	BCA2007 Clause E4.9, AS 1670.4 – 2004 and AS 4428.4 – 2004
Exit signs	BCA2007 Clause E4.5, NSW E4.6, E4.8 and AS 2293.1 – 2005
Fire dampers	BCA2007 Clause C3.15 and AS/NZS 1668.1 – 1998 (AS 1682.1-1990 and AS 1682.2-1990)
Fire doors	BCA2007 Specification C3.4 and AS 1905.1 – 2005
Fire hydrants systems	BCA2007 Clause E1.3 and AS 2419.1 – 2005
Fire seals protecting opening in fire resisting components of the building	BCA2007 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	BCA2007 Clause E1.4 and AS 2441 – 2005
Lightweight construction	BCA2007 Specifications C1.8, Clause A2.3 and AS 1530.4-2005
Mechanical air handling system *(carpark mechanical ventilation system)*	BCA2007 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	BCA2007 Clause E1.6 and AS 2444 – 2001
Wall wetting sprinkler and drencher systems	BCA2007 Clause C3.4
Warning and operational signs	BCA2007 Clauses E1.4 & E3.3

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