ENVIRONET CONSULTANCY PTY LTD

PLANNING, BUILDING & ENVIRONMENTAL CONSULTANTS

BCA COMPLIANCE REPORT

IN RESPECT OF

BAY 4 & 5

1-3 HICKSON ROAD THE ROCKS

PREPARED BY

ENVIRONET CONSULTANCY PTY LTD

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Report PR-425/2016-cl94

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Revision	Date issued	Prepared by	Checked and reviewed by
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PART 1.0 INTRODUCTION

The subject property known as Bay 5, 1- 3 Hickson Road The Rocks is the subject of a development application which proposes to convert 2 existing theaters previously approved as Class 9b P.O.P.E. venues to a Class 5 office use. The works the subject of the proposal will include the demolition of the existing theaters and the reinstatement of intermediate floor levels within Bay 5 to align with Bay 4 floor levels as well as the provision of interconnection between Bay 4 and 5 to allow for disabled access via the refurbishment of the existing lifts and new disabled entry ramp.

The following report is intended to outline the capacity of the proposed change of use and associated building works to satisfy the relevant Deemed-to-Satisfy (Dts) provisions of the National Construction Code Volume 1- The Building Code of Australia (BCA-2016).

The property known as 1- 3 Hickson Road comprises a 5 storey state heritage listed building known as the ASN Co. Building and currently accommodates Class 5 & Class 9b building uses as defined under Part A3 of the BCA. The building is bounded along 3 of its property boundaries by Hickson Road, Circular Quay west and Circular Quay west access road. The building configuration contains 5 distinctive bays numbered 1-5 inclusive that stand upon a single allotment of land having a real property description of Lot 1 – DP60061.
Bay 5 is the southernmost bay of the building.

1.1 REFERENCED DOCUMENTS

Building Code of Australia – (BCA -2016)

Architectural drawings prepared by TDK Architects

Project. No. 170058 - Drawing Numbers AR.TD.1101-P2, AR.TD.1102-P3, AR.TD.1103-P2, AR.TD.3005-P2, AR.TD.3007-P2, AR.TD.3008-P1

1.2 PURPOSE

The purpose of this report is to articulate the capacity of the building works proposed with respect to Bay 4 & 5, 1-3 Hickson Road The Rocks is able to meet the requirements of the National Construction Code -Building Code of Australia – Volume 1 (BCA-2016).

1.3 METHODOLOGY

The methodology adopted in compiling the report has given due regard to the structure of the BCA. In this regard it is noted that compliance with the Performance requirements prescribed within the BCA can only be achieved by:-

1. Satisfying the Deemed-To-Satisfy (Dts) provisions of the Building code Of Australia; or
2. Formulating alternative solutions which comply with the performance requirements prescribed by the BCA or is shown to be at least equivalent with the DTS provisions
3. Or a combination of 1 & 2 above.

Having regard to the above, the methodology adopted for the purposes of this report has primarily been based upon a determination of the capacity of the proposed design to satisfy the Dts provisions of the BCA. Where such Dts provisions are not able to be satisfied, the **capacity** of the design to enable the performance requirements to be met by way of a formulated alternative solution has also been considered in so far as identifying the relevant BCA performance requirements to be addressed.

1.4 LIMITATIONS:

The BCA assessment undertaken has been based upon the drawings identified above and is only intended as a general assessment (based upon the available information) of the capacity of the proposed design to meet the relevant Deemed – To – Satisfy (DTS) provisions of Section B, C, D, E, F & G & the National Construction Code – BCA 2016. No assessment with respect to Section J has been undertaken within the context of this assessment.

The assessment contained within this report is not intended to demonstrate that the requirements of clause 98 of the Environmental Planning & Assessment Regulation 2000 P&A Act have been satisfied but rather are capable of being met as such conclusion can only be made following a detailed assessment of all plans documentation and the like submitted with any subsequent Construction Certificate application.

Where alternative solutions are identified as a means by which DTS compliance issues may be addressed, such alternative solutions will need to be properly formulated by a person accredited by the Building Professionals Board and submitted with any future construction certificate application for assessment and review.

1.5 CLAUSE 94 STATUTORY PROVISIONS:

As the proposed development will be undertaken within the context to of an existing building, the relevant statutory provisions of Clause 94 of the EP&A Regulation 2000, will apply. These provisions are outlined as follows:

"Clause 94 Consent authority may require buildings to be upgraded

(1) This clause applies to a development application for development involving the rebuilding, alteration, enlargement or extension of an existing building where:

(a) the proposed building work, together with any other building work completed or authorised within the previous 3 years, represents more than half the total volume of the building, as it was before any such work was commenced, measured over its roof and external walls, or

(b) the measures contained in the building are inadequate:

(i) to protect persons using the building, and to facilitate their egress from the building, in the event of fire, or

(ii) to restrict the spread of fire from the building to other buildings nearby.

(c) (Repealed)

(2) In determining a development application to which this clause applies, a consent authority is to take into consideration whether it would be appropriate to require the existing building to be brought into total or partial conformity with the Building Code of Australia.

(2A), (2B) (Repealed)

(3) The matters prescribed by this clause are prescribed for the purposes of section 79C (1) (a) (iv) of the Act."

The determination as to whether or not the existing building or its elements will be required to be upgraded to comply with the BCA is ultimately a discretionary function which is only able to be exercised by the consent authority i.e. the Council determining the development application. However, given that compliance with BCA requirements in respect of proposed building works to Bay 4 & 5 will invariably require ancillary works to be carried out in respect of other portions of the building, it is likely that the clause 94 provisions will be applied to the extent of those ancillary works.

1.6 ABBREVIATIONS REFERRED TO IN THE REPORT

S.O.U.....Sole occupancy unit.

F.I.S..... Fire isolated stairway

N.F.I.S. ..... Non Fire Isolated Stairway

BCA..... Building Code of Australia (BCA-2014)

EP&A Act..... Environmental Planning & Assessment Act, 1979

EP&A Regs 2000….. Environmental planning and assessment Regulation 2000

FRL..... Fire Rating Level

PFE ..... Portable Fire Extinguisher

FH..... Fire Hydrant

FHR..... Fire Hose Reel

N/A…….. Not Applicable

CC…….. Construction Certificate

Dts…… Deemed To Satisfy provisions under the BCA

2.0 SUMMARY OF BCA – DTS COMPLIANCE ISSUES IDENTIFIED

In so far as is able to be determined based upon the information and details provided within the development schematic plans referenced and the subject of this assessment, the proposed building works associated with Bay 4 & 5 is considered to be substantially capable of meeting the Deemed- To - Satisfy (Dts) requirements of National Construction Code -Building Code of Australia – Volume 1 (BCA-2016), other than as identified in the summary Table below.

However, noting that the BCA is also a performance based building code, the option is available for the respective BCA-Dts compliances issues identified to be addressed by way of a performance based assessment in lieu of compliance with the Deemed-To-Satisfy provisions. Such approach would require a performance based assessment report to be prepared in accordance with Section AO.1-AO.7 (inclusive) of the building Code of Australia.

DTS Compliance Summary Table - Summary Table

BCA-Dts NON - COMPLIANCE BAY 4 & 5	PARTICULARS	PERFORMANCE MEASURES
Clause C1.10 & Specification C1.10 - Fire hazard properties	Fire hazard properties associated with the timber floor /ceiling construction does not satisfy the fire hazard properties of Clause C1.10 & Specification C1.10.	**CP4**
C2.12 Separation of equipment	Existing fire pump room within Bay 2 is not fire separated from the remainder of the building.	**CP2 & CP6**
Clause C2.9 Separation of classifications in different storey's	Classifications between storey's results in class 5 & Class 9b uses that are not fire separated between storey's - Bay 2-4.	**CP2**
Clause C3.12 Openings in floors and ceilings for services	Requirements of C3.12 are not able to be satisfied due to the absence of fire rated construction associated with the floor construction between storey's.	**CP8**
Specification C1.1- FRL construction building elements Table 3 –Type A construction	Existing and proposed buildings elements such as floors, beams and columns do not achieve any fire resistance level of construction.	**CP1,CP2 & CP4**
D2.13 Goings and risers	The treads associated with Stair 1, 2 & 5 (the existing fire stairs) do not incorporate a surface with a slip resistance (or nosing) that achieves a slip resistance classification not less than that listed in Table D2.14-BCA.	**DP2**
Specification C1.1 –clause 2.2, Fire protection for a support of another part	Existing and proposed buildings elements such as floors, beams and columns do not achieve any fire resistance level of construction	**CP1**
Clause D1.7(b) Travel via fire-isolated exits	Fire stair No 1 discharges to within the confines of the building contrary to the requirements of D1.7(b)	**DP4 & DP5**
Clause D2.4 Separation of rising and descending stair flights	Stair 2 & 3 incorporates rising and descending flights contrary to the requirements of Clause D2.4 of the BCA.	**DP5**

BCA-Dts NON - COMPLIANCE BAY 4 & 5	PARTICULARS	PERFORMANCE MEASURES
D2.16 Balustrades or other barriers	The balustrade associated with Stair 1,2 & 5 does not satisfy the requirements of D2.16 of the BCA.	**DP1**
E1.3 Hydrant installation	The existing standard of performance associated with the fire hydrant system does not satisfy the requirements of clause E1.3 & AS2419.1-2005. Additionally coverage to within Bay 5 is not able to be achieved from the existing hydrant landing valves located within Bay 4 noting that the bounding wall between Bay 4 & 5 is required to function as a fire wall for the purposes of enabling the requirements of C2.8 of the BCA to be satisfied.	**EP1.3**
E1.4 Fire hose reels	The existing standard of performance associated with the fire hose reel system does not satisfy the requirements of clause E1.3 & AS2419.1-2005.	**EP1.1**
E3.2 stretcher lifts	The refurbished lifts will not be of sufficient size to accommodate a standard sized stretcher.	**EP3.1**

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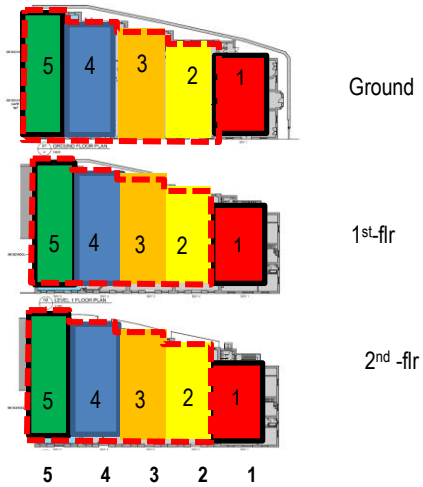
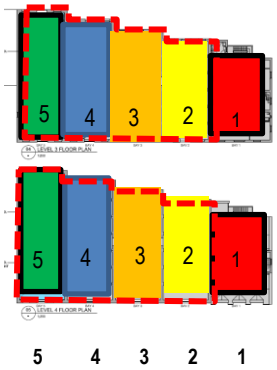
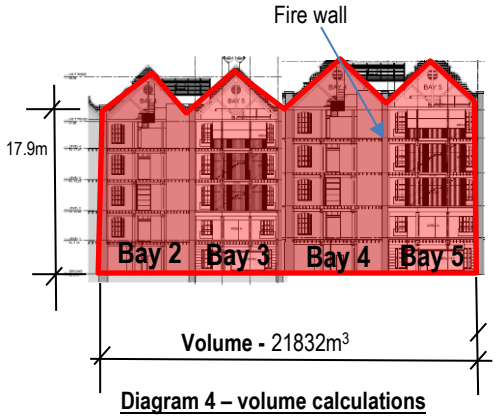
PART 3.0 - CLAUSE BY CLAUSE ASSESSMENT (Section C, D, E, F & G - BCA)

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
A3.2 Classifications	Refer to comments	Existing building comprises Class 5 & 9b uses **Bay - (4) EXISTING** Ground - Ancillary amenities space to Class 9b use Bay 3 1st - Class 5 2nd - Class 9b – Gallery 3rd - Class 9b business and hospitality school 4th - Class 9b business and hospitality school **Bay - (5) EXISTING** Ground - Storage 1st - Storage / former lower level 9b POPE 2nd - Class 6 (former Class 9b Lobby) 3rd - Class 9b (former POPE) 4th - Void Proposed building comprises Class 5 & 9b uses **BAY - (4) PROPOSED** Ground - Class 9b business and hospitality school 1st - Class 5 2nd - Class 9b- Gallery 3rd - Class 9b business and hospitality school 4th - Class 9b business and hospitality school **BAY - (5) PROPOSED** Ground - Class 5 1st - Class 5 2nd - Class 5 3rd - Class 5 4th - Class 5
PART B1 STRUCTURAL PROVISIONS		
B1.0 Deemed-to-satisfy provisions B1.1 Resistance to actions B1.2 Determination of individual actions B1.3 * B1.4 Determination of structural resistance of materials & forms of construction B1.5 Structural software	Yes	The building is an existing structure and as such any base building works or change of use associate with part or whole of the building will require the structural adequacy associated with the existing condition and maintenance of the structure to be reviewed by a Structural Engineer for the purposes of satisfying Part B1 of the BCA. Further details to be provided at CC stage.
PART B2 DESIGN OF BUILDINGS IN CYCLONIC AREAS	N/A	
SECTION C FIRE RESISTANCE		
PART C1 FIRE RESISTANCE AND STABILITY		
C1.0 Deemed-to-Satisfy Provisions	For notation	
C1.1 Type of construction required	(Type A)	Due to the rise in storey all proposed building works are required to meet the relevant Dts -Type A construction requirements. Refer to comments –Specification C1.1. Where compliance is not able to be achieved, the relevant performance requirements of of CP1,CP2 & CP4 is to be demonstrated as having been satisfied by way of a performance based fire engineering assessment.
C1.2 Calculation of rise in storey's	5	The building is considered to have a rise in Storey of 5 and will have an effective height of <25m.

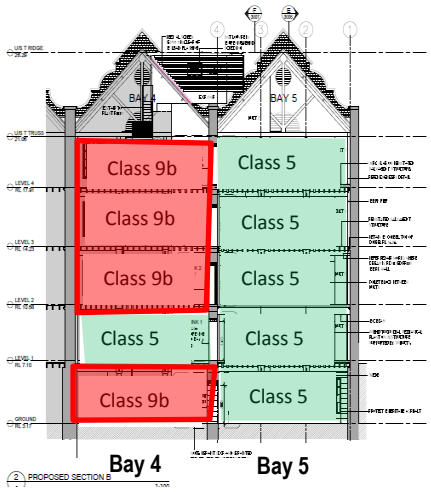
BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		L5 **L4** **L3** **L2** **L1** **BAY 4** **BAY 5** **Diagram 1- illustrating rise in storey**
C1.3 Buildings of multiple classification	**For notation**	Refer to A3.2 above
C1.4 Mixed types of construction	**N/A**	
C1.5 Two storey Class 2, 3 or 9c buildings	**N/A**	
C1.6 Class 4 parts of buildings	**N/A**	
C1.7 Open spectator stands and indoor sports stadiums	**N/A**	
C1.8 Lightweight construction	**For notation**	
C1.10 Fire Hazard Properties *(a) The fire hazard properties of the following linings, materials and assemblies in a Class 2 to 9 building must comply with Specification C1.10:* *(i) Floor linings and floor coverings.* *(ii) Wall linings and ceiling linings.* *(iii) Air-handling ductwork.* *(iv) Lift cars.* *(v) In Class 9b buildings used as a theatre, public hall or the like—* *(A) fixed seating in the audience area or auditorium; and* *(B) a proscenium curtain required by Specification H1.3.* *(vi) Escalators, moving walkways and non-required non fire-isolated stairways or pedestrian ramps subject to Specification D1.12.* *(vii) Sarking-type materials.* *(viii) Attachments to floors, ceilings, internal walls and the internal linings of external walls.* *(ix) Other materials including insulation materials other than sarking-type materials.* *(b) Paint or fire-retardant coatings must not be used to achieve compliance with the required fire hazard properties.* *(c) The requirements of (a) do not apply to a material or assembly if it is—* *(i) plaster, cement render, concrete, terrazzo, ceramic tile or the like; or* *(ii) a fire-protective covering; or* *(iii) a timber-framed window; or* *(iv) a solid timber handrail or skirting; or* *(v) a timber-faced solid-core door or timber-faced fire door; or* *(vi) an electrical switch, socket-outlet, cover plate or the like; or* *(vii) a material used for—* *(A) a roof insulating material applied in continuous contact with a substrate; or* *(B) an adhesive; or* *(C) a damp-proof course, flashing, caulking, sealing, ground moisture barrier, or the like; or* *(viii) a paint, varnish, lacquer or similar finish, other than nitro-cellulose lacquer; or* *(ix) a clear or translucent roof light of glass fibre-reinforced polyester if— (A) the roof in which it is installed forms part of a single storey building required to be Type C construction; and* *(B) the material is used as part of the roof covering; and* *(C) it is not closer than 1.5 m from another roof light of the same type; and* *(D) each roof light is not more than 14 m^2 in area; and* *(E) the area of the roof lights per 70 m^2 of roof surface is not more than 14 m^2; or* *(x) a face plate or neck adaptor of supply and return air outlets of an air handling system; or* *(xi) a face plate or diffuser plate of light fitting and emergency exit signs and associated electrical wiring and electrical components; or* *(xii) a joinery unit, cupboard, shelving, or the like; or* *(xiii) an attached non-building fixture and fitting such as—*	**No**	All new floor lining material associated with Bay 4 & 5 will need to demonstrate compliance with C1.10 & Specification C1.10, this will include all new (proposed) timber floors. On the basis that such timber floors and supporting elements remain exposed, they will need to demonstrate a capacity to achieve a critical radiant heat flux of not less than that identified within Table 2 Specification C1.10 i.e. a CRF in kW/m 2 of not less than 1.2. Where compliance with the Dts requirements of Clause C1.10 & Spec C1.10 is not able to be achieved a fire engineered performance based assessment will be required which demonstrates compliance with performance requirement CP4. The extent to which existing timber floors within both Bay 5 and Bays 1-4 are required to be made compliant with C1.10 & Specification C1.10 of the BCA will depend upon the extent to which the consent authority requires upgrade pursuant to clause 94 of the EP&A Regulation 2000 as part of the DA assessment. However given the heritage significance of the building and its fabric and in consideration of the overall enhancements required to be undertaken with respect to buildings active fire safety systems within the context of the Bay 5 works, it is considered unlikely that there would be any justifiable basis to require existing floor linings to be upgraded to comply with C1.10.

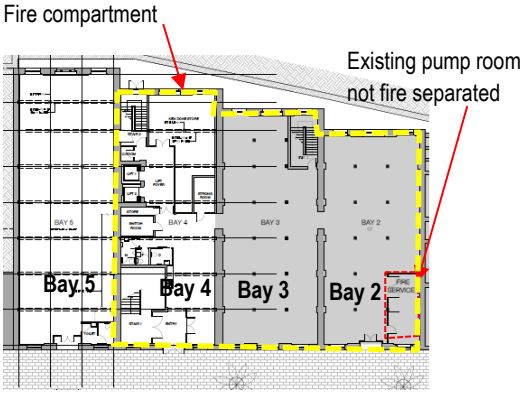
BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(A) a curtain, blind, or similar decor, other than a proscenium curtain required by Specification H1.3; and *(B) a whiteboard, window treatment or the like; or* *(xiv) timber treads, risers, landings and associated supporting framework installed in accordance with D2.25 where the Spread-of-Flame Index and the Smoke-Developed Index of the timber does not exceed 9 and 8 respectively; or* *(xv) any other material that does not significantly increase the hazards of fire.*		
C1.11 Performance of external walls in fire	**N/A**	
C1.12 Non-combustible materials *The following materials, though combustible or containing combustible fibres, may be used wherever a non-combustible material is required:* *(a)Plasterboard.* *(b)Perforated gypsum lath with a normal paper finish.* *(c)Fibrous-plaster sheet.* *(d)Fibre-reinforced cement sheeting.* *(e)Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0.* *(f)Bonded laminated materials where—* *(i)each laminate is non-combustible; and* *(ii)each adhesive layer does not exceed 1 mm in thickness; and* *(iii) the total thickness of the adhesive layers does not exceed 2 mm; and* *(iv) the Spread-of-Flame Index and the Smoke-Developed Index of the laminated material as a whole does not exceed 0 and 3 respectively.*	**For notation**	Full details of materials and finishes are to be provided at CC stage.
PART C2 COMPARTMENTATION & SEPARATION		
C2.0 Deemed-to-Satisfy Provisions	**For Notation**	
C2.1 Application of Part	**For Notation**	
C2.2 General floor area and volume limitations ***Note:*** *The requirements of C2.2 excludes carparks that are fully sprinkler protected and do not apply to Class 2 buildings. The provisions of C2.2 are however applicable with respect to commercial components of the development.* **Table C2.2 MAXIMUM SIZE OF FIRE COMPARTMENTS OR ATRIA** Classification / Type of construction of building: Type A / Type B / Type C 5, 9b or 9c *aged care building* — max *floor area*— 8 000 m² / 5 500 m² / 3 000 m² max volume— 48 000 m³ / 33 000 m³ / 18 000 m³  	**Yes**	The building comprised of Bays 1-5 stands on a single lot referred to as Lot 1- DP 60061. As no fire resistance construction between consecutive stories throughout Bays 1,2,3 & 4 is achieved that would enable fire separation of the building parts, and openings in the bounding walls between bays exists, they are considered to form a single fire compartment. Bay 1 also incorporates timber floors but does not incorporate any interconnection with bay 2 thru the bounding wall and as such can be considered to form a separate fire compartment. Whilst bay 5 currently incorporates openings thru the bounding wall with Bay 4 it can be considered a separate fire compartment to that of bay 2-4 due to the fire rated doors installed within the bounding walls. Within the context of the proposed alterations to Bay 5, the reliance and interconnection with Bay 4 will be maintained particularly for the purposes of satisfying BCA-Dts accessibly and egress requirements. In terms of Table C2.2 of the BCA the maximum fire compartment permitted for a Class 5 or 9 building – Type A construction is 8000m2 in respect of Class 9b building. On the basis that Bays 2-5 inclusive are considered to form a single fire compartment by aggregating the combined floor area, a total area of 4,694m2 is achieved. Given that the fire compartment will contain both Class 5 & 9b uses the lesser maximum threshold of 8000m2 would apply. On this basis the maximum floor area of the resulting fire compartment achieved by Bay 2-5 inclusive would comply with Table C2.2. A summary of the respective floor areas contained within Bays 1-5 inclusive is summarized as follows:

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
 **Diagram 2- illustrating floor areas per bay**  **Diagram 3- illustrating resulting fire compartment areas** Compartment 1 =1,340m2 Compartment 2 =3354 m2 Compartment 3 = 920m2		Compartment 1= 920m2 Compartment 2 =1,030m2 Compartment 3 = 1,120m2 Compartment 4 = 1,204m2 Compartment 5 = 1,340m2 Compartment 2-4 = 4694m2 However in terms of the overall volume of the fire compartment achieved it is noted that for a Class 5 or 9 building the maximum volume permissible for a building of Type A construction is 48,000m3. The overall volume achieved as a result of the proposed fire compartments formed by Bay 2-5 inclusive is outlined as follows and illustrated within Diagram 4 below. Bay 2-5 = Floor area 4694m2 & Volume - **21832m³** Within the context of the proposed Bay 5 works, the existing fire compartment size will not change and will be able to satisfy the requirements of Table C2.2.  **Diagram 4 – volume calculations**
C2.3 Large isolated buildings	**N/A**	Building not deemed large isolated building
C2.4 Requirements for open spaces and vehicular access	**N/A**	Building not deemed large isolated building
C2.5 Class 9a and 9c buildings	**N/A**	Building is not a class 9 building.
C2.6 Vertical separation of openings in external walls	**Yes**	The building is fully sprinkler protected
C2.7 Separation by fire walls *(a) Construction —A fire wall must be constructed in accordance with the following:* *(i) The fire wall has the relevant FRL prescribed by Specification C1.1 for each of the adjoining parts, and if these are different, the greater FRL, except where Tables 3.9, 4.2 and 5.2 of Specification C1.1 permit a lower FRL on the carpark side.* *(ii) Any openings in a fire wall must not reduce the FRL required by SpecificationC1.1 for the fire wall, except where permitted by the Deemed-to-Satisfy Provisions of Part C3.* *(iii) Building elements, other than roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not pass through or cross the fire wall unless the required fire resisting performance of the fire wall is maintained.* *(b) Separation of buildings — A part of a building separated from the remainder of the building by a fire wall may be treated as a separate building for the purposes of the Deemed-to-Satisfy Provisions of Sections C, D and E if it is constructed in accordance with (a) and the following:*	**Yes**	Bay 5 is currently separated from the remainder of the building by bounding construction capable of achieving an FRL of 120/120/120. Within the context of the proposed works, the interconnection between Bay 4 & 5 by way of door openings in the bounding wall construction is proposed to be retained. Noting that the overall fire compartment associated with Bays 2-5 will be less than the maximum 8000m2 permissible by Table C2.2 of the BCA there is no requirement for the existing "fire wall" formed by the existing bounding construction between Bay 4 & 5 to be retained for the purposes of Clause 2.2 of the BCA. However fire separation by way of a fire wall is required in terms of Bay 4 & 5 for the purposes of C2.8 (Refer to C2.8 below)

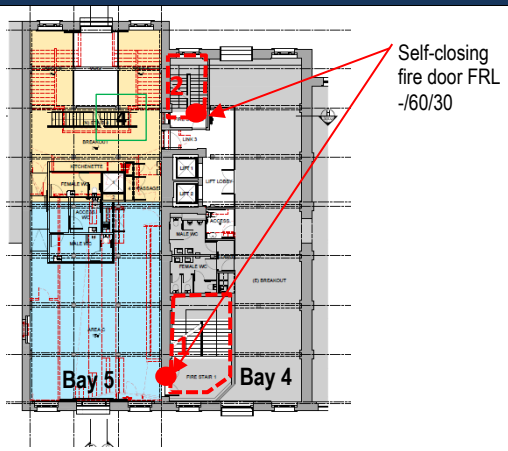
BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(i) The fire wall extends through all storeys and spaces in the nature of storeys that are common to that part and any adjoining part of the building. *(ii) The fire wall is carried through to the underside of the roof covering.* *(iii) Where the roof of one of the adjoining parts is lower than the roof of the other part, the fire wall extends to the underside of—* *(A) the covering of the higher roof, or not less than 6 m above the covering of the lower roof; or* *(B) the lower roof if it has an FRL not less than that of the fire wall and no openings closer than 3 m to any wall above the lower roof; or* *(C) the lower roof if its covering is non-combustible and the lower part has a sprinkler system complying with Specification E1.5.* *(c) Separation of fire compartments — A part of a building separated from the remainder of the building by a fire wall may be treated as a separate fire compartment if it is constructed in accordance with (a) and the fire wall extends to the underside of—* *(i) a floor having an FRL required for a fire wall; or* *(ii) the roof covering.*		
C2.8 Separation of classifications in the same storey *If a building has parts of different classifications located alongside one another in the same storey—* *(a) each building element in that storey must have the higher FRL prescribed in Specification C1.1 for that element for the classifications concerned; or* *(b) the parts must be separated in that storey by a fire wall having—* *(i) the higher FRL prescribed in Table 3 or 4; or* *(ii) the FRL prescribed in Table 5,* *of Specification C1.1 as applicable, for that element for the Type of construction and the classifications concerned; or* *(c) where one part is a carpark complying with Table 3.9, 4.2 or 5.2 of Specification C1.1, the parts may be separated by a fire wall complying with the appropriate Table.*	Yes Refer to comments	All levels except for Level 1 (Bay 4 & 5) will result in Class 9b & 5 located side by side on the same storey (Refer to Diagram 5 below). Clause C2.8 requires that different classifications situated side by side on the same level be separated by a fire wall or incorporate building elements comprising the higher FRL for the particular classification as determined by the Type of construction applicable which in this instance is Type A construction. Whilst the relevant FRL associated with building elements for a Class 5 & 9b building are similar, it is noted that the existing elements such as floors and supporting beams and columns throughout Bay 1-5 are not fire rated and therefore unable to satisfy the requirements of clause C2.8(a). However reliance upon the bounding wall between Bay 4 & 5 to function as a fire wall for the purposes of clause C2.8(b) is feasible and consistent with the existing characteristics of the bounding wall i.e. is considered capable of aching an FRL of 120/120/120, extends vertically thru all storey's to the underside of the roof and existing doors in the wall comprising self-closing fire doors having an FRL of -/120/30. On the basis that all doors existing and proposed comprise self-closing fire doors having an FRL of -/120/30 the requirements of C2.8(b) are considered capable of being satisfied.
C2.9 Separation of classifications in different storey's *If parts of different classification are situated one above the other in adjoining storeys they must be separated as follows:* *(a) Type A construction — The floor between the adjoining parts must have an FRL of not less than that prescribed in Specification C1.1 for the classification of the lower storey.* *(b) Type B or C construction — If one of the adjoining parts is of Class 2, 3 or 4, the floor separating the part from the storey below must—* *(i) be a floor/ceiling system incorporating a ceiling which has a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or* *(ii) have an FRL of at least 30/30/30; or* *(iii) have a fire-protective covering on the underside of the floor, including beams incorporated in it, if the floor is combustible or of metal.*	**No** **Refer to comments**	Within the context of Bay 5 the overall classification will be Class 5. As such, the requirements of clause C2.9 are not triggered. However in respect of the remaining portions of the existing building i.e. Bay 2-4 instances exist whereby different classifications are situated above/below one another and are not fire separated by a floor having the required FRL.- (Refer to diagram 5 below). Whilst some minor works are proposed to Bay 4 for the purposes of supporting the change of use and building works associated with Bay 5, there are no physical works relevant to Bay 2 & 3 other than as may be trigger pursuant to clause 94 of the EP&A Reg 2000. As such the extent to which compliance with C2.9 is required within the context of clause 94 of the EP&A Regs as part of the DA determination will largely depend upon the attitude of the consent authority i.e. whether or not partial or full compliance with the requirement of clause C2.9 would be required. However as the building has heritage classification, it is likely that any Clause 94 requirements triggered by the development application assessment for the purposes of addressing concerns relating to the spread of fire throughout the building,

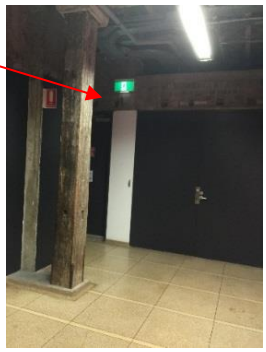
BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		would include a requirement for a performance based approach to be utilized. The relevant performance requirement to be addressed in this regard is CP2. The extent to which such fire engineering assessment would support the omission of any passive fire resistant construction would largely depend upon the degree to which alternative fire safety enhancements, strategies or active fire safety systems are incorporated within the building. In this regard it is noted that the active fire safety systems required to be installed within Bay 5 for the purposes of achieving BCA compliance will invariably require such systems to also extent across all bays of the building in order for the current BCA standard of performance to be achieved. Further the retention and enhancement of existing fire safety systems such as the automatic fire suppression system and introduction of a sound & intercom system for emergency purposes, would undoubtedly provide a level of fire safety enhancement that does not presently exist. Whilst ultimately the fire engineering assessment would need to demonstrate the validity of the performance measure utilising one of the assessment methods identified by the BCA, supported by the Fire Engineering Guidelines, the overall conclusions and justifications formulated within the context of any fire engineered performance based assessment would undoubtedly give considerable weighting to such fire safety enhancements introduced to the heritage listed building for the purposes of demonstrating compliance with the BCA performance requirement. The quantum of fire safety enhancements required to achieve BCA -Dts compliance include: • Installation of smoke detection and alarm system throughout the building in accordance with clause 4-Specifciaotn E2.2a & AS1670.1-2015, • Fire alarm monitoring in accordance with AS1670.3-2004. • The existing fire hydrant system is to be upgraded to comply with AS2419.1-2005; • Existing fire hose reels to be upgraded to comply with AS2441-2005. • The building is to be provided with a sound & intercom systems for emergency purposes in accordance with AS1670.4 -2015. Additional enhancements associated with the sprinkler system should achieve compliance with the following: • Automatic fire suppression system to be upgraded to comply with AS2118.1-1999 or (AS2118.1-2017 noting its likely introduction as part of the series of Amendments [1] to BCA 2016).

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		 **Diagram 5** - Bounding building classifications
C2.10 Separation of lift shafts *(a) Any lift connecting more than 2 storeys, or more than 3 storeys if the building is sprinklered, (other than lifts which are wholly within an atrium) must be separated from the remainder of the building by enclosure in a shaft in which—* *(i) in a building required to be of Type A construction—the walls have the relevant FRL prescribed by Specification C1.1; and* *(ii) in a building required to be of Type B construction — the walls—* *(A) if loadbearing, have the relevant FRL prescribed by Table 4 of Specification C1.1; or* *(B) if non-loadbearing, be of non-combustible construction.* *(b) Any lift in a patient care area in a Class 9a health-care building or a resident use area in Class 9c building must be separated from the remainder of the building by a shaft having an FRL of not less than—* *(i) in a building of Type A or B construction — 120/120/120; or* *(ii) in a building of Type C construction — 60/60/60.* *(c) An emergency lift must be contained within a fire-resisting shaft having an FRL of not less than 120/120/120.* *(d) Openings for lift landing doors and services must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C3.*	**Yes**	The existing lifts are located within Bay 4 and are contained within a reinforced masonry shaft. No lift is proposed within Bay 5. The existing lifts are contained within a reinforced concrete shaft capable of achieving the required FRL prescribed by Table 3 – Specification C1.1 – BCA and are to remain not withstanding that the lift cars within such shaft will be upgraded. Note: All penetrations associated with the lift shaft are to be treated in accordance with the relevant Dts requirements of Clause C2.10 & C3.15 so as to ensure that the FRL integrity of the shaft is not compromised.
C2.11 Stairways and lifts in one shaft *A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.*	**Yes**	Further details to be provided at CC stage
C2.12 Separation of equipment *(a) Equipment other than that described in (b) and (c) must be separated from the remainder of the building with construction complying with (d), if that equipment comprises—* *(i) lift motors and lift control panels; or* *(ii) emergency generators used to sustain emergency equipment operating in the emergency mode; or* *(iii) central smoke control plant; or* *(iv) boilers; or* *(v) a battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours.* *(b) Equipment need not be separated in accordance with (a) if the equipment comprises—* *(i) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification E2.2b; or* *(ii) stair pressurising equipment installed in compliance with the relevant provisions of AS/NZS 1668.1; or* *(iii) a lift installation without a machine-room; or* *(iv) equipment otherwise adequately separated from the remainder of the building.* *(c) Separation of on-site fire pumps must comply with the requirements of AS 2419.1. (d) Separating construction must have—* *(i) except as provided by (ii)—* *(A) an FRL as required by Specification C1.1, but not less than 120/120/120; and* *(B) any doorway protected with a self-closing fire door having an FRL of not less than –/120/30; or*	**Yes** **Refer to comments**	Within the context of Bay 4 & 5 the requirements of C2.12 are considered capable of being satisfied. Further details to be provided at CC stage. Note: The extent to which the existing fire services pump, plant and equipment located within the ground floor of Bay 2 is not currently fire isolated from the remainder of the building, is likely to require consideration within the context of a performance based fire engineering assessment as part of any Clause 94 considerations applied by the consent authority. This is due to the fact that the pump associated with the hydrant and sprinkler system:-: • Is not fire separated from the remainder of the building as required by Clause C2.12; • Is situated within the same fire compartment as Bay 2-4; • Is required to sustain emergency equipment in the emergency mode. The relevant performance requirements sot be addressed include CP2 & CP6.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(ii) when separating a lift shaft and lift motor room, an FRL not less than 120/–/–.		Fire compartment  **Diagram 6** – Fire compartment associated with pump room
C2.13 Electricity supply system *(a) An electricity substation located within a building must—* *(i) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and* *(ii) have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30.* *(b) A main switchboard located within the building which sustains emergency equipment operating in the emergency mode must—* *(i) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and* *(ii) have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30.* *(c) Electrical conductors located within a building that supply—* *(i) a substation located within the building which supplies a main switchboard covered by (b); or* *(ii) a main switchboard covered by (b), must—* *(iii) have a classification in accordance with AS/NZS 3013 of not less than—* *(A) if located in a position that could be subject to damage by motor vehicles — WS53W; or* *(B) otherwise — WS52W; or* *(iv) be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120.* *(d) Where emergency equipment is required in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from the non-emergency equipment switchgear.* *(e) For the purposes of (d), emergency equipment includes but is not limited to the following:* *(i) Fire hydrant booster pumps.* *(ii) Pumps for automatic sprinkler systems, water spray, chemical fluid suppression systems or the like.* *(iii) Pumps for fire hose reels where such pumps and fire hose reels form the sole means of fire protection in the building.* *(iv) Air handling systems designed to exhaust and control the spread of fire and smoke.* *(v) Emergency lifts.* *(vi) Control and indicating equipment.* *(vii) Sound systems and intercom systems for emergency purposes.*	**Yes** **Refer to comments**	Generally able to be satisfied however instances exist where by penetrations in the bounding wall exist. Such penetrations are to be treated so as to enable the integrity of the 120/120/120 bounding FRL construction to be maintained. Further details to be provided at CC stage.
C2.14 Public corridors in Class 2 and 3 buildings	**N/A**	
PART C3 PROTECTION OF OPENINGS		
C3.0 Deemed-to-Satisfy Provisions	**For Notation**	
C3.1 Application of Part	**For Notation**	
C3.2 Protection of openings in external walls *Openings in an external wall that is required to have an FRL must—* *(a) if the distance between the opening and the fire-source feature to which it is exposed is less than—* *(i) 3 m from a side or rear boundary of the allotment; or* *(ii) 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or* *(iii) 6 m from another building on the allotment that is not Class 10, be protected in accordance with C3.4 and if wall-wetting sprinklers are used, they are located externally; and*	**Yes** **Refer to comments**	The openings within the southern wall of Bay 5 level 1 & 3 (Grid reference F-G & 1) are to be sealed with the construction of fire rated construction capable of achieving an FRL of 120/120/120.

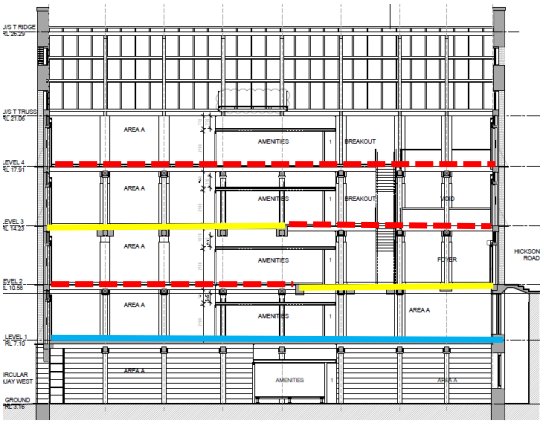
BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(b) if required to be protected under (a), not occupy more than 1/3 of the area of the external wall of the storey in which it is located unless they are in a Class 9b building used as an open spectator stand.		
C3.3 Separation Openings in different fire compartments	**N/A**	
C3.4 Acceptable methods of protection	**For Notation**	
C3.5 Doorways in fire walls *(a) The aggregate width of openings for doorways in a fire wall, which are not part of a horizontal exit, must not exceed ½ of the length of the fire wall, and each doorway must be protected by—* *(i) 2 fire doors or fire shutters, one on each side of the doorway, each of which has an FRL of not less than ½ that required by Specification C1.1 for the fire wall except that each door or shutter must have an insulation level of at least 30; or* *(ii) a fire door on one side and a fire shutter on the other side of the doorway, each of which complies with (i); or* *(iii) a single fire door or fire shutter which has an FRL of not less than that required by Specification C1.1 for the fire wall except that each door or shutter must have an insulation level of at least 30.* *(b)* *(i) A fire door or fire shutter required by (a)(i), (a)(ii) or (a)(iii) must be self-closing, or automatic closing in accordance with (ii) and (iii).* *(ii) The automatic closing operation must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located on each side of the fire wall not more than 1.5 m horizontal distance from the opening.* *(iii) Where any other required suitable fire alarm system, including a sprinkler system complying with Specification E1.5, is installed in the building, activation of the system in either fire compartment separated by the fire wall must also initiate the automatic closing operation.*	**Yes**	Existing fire rated doors associated with openings within the bounding wall between Bay 4 & 5 are to be retained i.e. comprise self-closing -/120/30 fire doors. Such requirement arises due to the different classifications occurring between Bay 4 & 5 at ground level, level 2,3&4 having regard to the requirements of C2.8(b) of the BCA.
C3.6 Sliding fire doors	**N/A**	No sliding fire-doors exist
C3.7 Protection of doorways in horizontal exits *(a) A doorway that is part of a horizontal exit must be protected by either—* *(i) a single fire door that has an FRL of not less than that required by SpecificationC1.1 for the fire wall except that the door must have an insulation level of at least 30; or* *(ii) in a Class 7 or 8 building — 2 fire doors, one on each side of the doorway, each with an FRL of not less than ½ that required by Specification C1.1 for the fire wall except that each door must have an insulation level of at least 30.* *(b)* *(i) Each door required by (a) must be self-closing, or automatic-closing in accordance with (ii) and (iii).* *(ii) The automatic-closing operation must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located on each side of the fire wall not more than 1.5 m horizontal distance from the opening.* *(iii) Where any other required suitable fire alarm system, including a sprinkler system complying with Specification E1.5, is installed in the building, activation of the system in either fire compartment separated by the fire wall must also initiate the automatic-closing operation.*	**Yes**	The egress strategy associated with Bay 5 requires travel thru doorways formed within the bounding wall between Bay 4 & 5. Whilst the bounding wall is not required to function as a fire wall for the purposes of achieving fire compartmentation or separation of the building in terms of C2.2 of the BCA, it does function as a fire wall for the purposes of enabling fire separation between different classifications within the same storey arising from the change of use to Bay5. (Refer to C2.8 above). As such the doorways thru the fire wall are considered to be horizontal exits. Refer (Diagram 4 below). On the basis that such doors comprise self-closing fire rated doors having an FRL of at least -/120/30 the requirements of C3.7 are considered to be satisfied. (Refer also to comments in section D1.11 below).
C3.8 Openings in fire-isolated exits *(a)* *(i) Doorways that open to fire-isolated stairways, fire-isolated passageways or fire-isolated ramps, and are not doorways opening to a road or open space, must be protected by –/60/30 fire doors that are self-closing, or automatic-closing in accordance with (ii) and (iii).* *(ii) The automatic-closing operation must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located not more than 1.5 m horizontal distance from the approach side of the doorway.* *(iii) Where any other required suitable fire alarm system, including a sprinkler system complying with Specification E1.5, is installed in the building, activation of the system must also initiate the automatic-closing operation.* *A window in an external wall of a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp must be protected in accordance with C3.4 if it is within 6 m of, and exposed to, a window or other opening in a wall of the same building, other than in the same fire-isolated enclosure*	Yes	The requirements of C3.8 are satisfied on the basis that self-closing fire doors having an FRL of -/60/30 are provided to the doors bounding fire stair 1 & 2.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		 **Diagram 7** Typical exit door location to existing FIS
C3.9 Service penetrations in fire-isolated exits *Fire-isolated exits must not be penetrated by any services other than—* *(a) electrical wiring permitted by D2.7(e) to be installed within the exit; or* *(b) ducting associated with a pressurisation system if it—* *(i) is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and* *(ii) does not open into any other part of the building; or* *(c) water supply pipes for fire services.*	**Yes**	Further details to be provided at CC stage
C3.10 Openings in fire-isolated lift shafts *Doorways — If a lift shaft is required to be fire-isolated, an entrance doorway to that shaft must be protected by –/60/– fire doors that—* *(i) comply with AS 1735.11; and* *(ii) are set to remain closed except when discharging or receiving passengers, goods or vehicles.* *(b) Lift indicator panels — A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than* *–/60/60 if it exceeds 35 000 mm^2 in area.*	**Yes**	Further details to be provided at CC stage
C3.11 Bounding construction: Class 2, 3 and 4 buildings	**N/A**	
C3.12 Openings in floors and ceilings for services *(a) Where a service passes through—* *(i) a floor that is required to have an FRL with respect to integrity and insulation; or* *(ii) a ceiling required to have a resistance to the incipient spread of fire, the service must be installed in accordance with (b).* *(b) A service must be protected—* *(i) in a building of Type A construction, by a shaft complying with Specification C1.1; or* *(ii) in a building of Type B or C construction, by a shaft that will not reduce the fire performance of the building elements it penetrates; or* *(iii) in accordance with C3.15.* *(c) 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.*	**No** **Refer to comments**	As the floor construction throughout Bay 2-4 comprises timber and Bay 5 comprises part timber part concrete, the required overall FRL identified by Table 3-Type A construction in respect of the floor construction is not considered to be achieved. As such the application of the requirements of C3.12 in such circumstances is considered to be somewhat superfluous unless services are able to be contained within a fire resistant shaft or the consent authority requires compliance pursuant to clause 94 of the EP&A Regulation 2000. Within the context of the works proposed to be undertaken to Bay 5, the areas where penetrations thru floors will occur are localized to within wet areas where sanitary compartments / kitchenettes are proposed. From the available details it is also noted that a services shaft is proposed adjacent to such areas i.e. at grid reference C-D & 3. As the shaft is symmetrical throughout all storey's of the building and is a new shaft it should be constructed to meet the construction requirements of Table 3-Type A construction i.e. achieve an FRL of at least -/90/90 if non- load bearing. Whilst penetrations thru the shaft bounding wall by services could and should be protected, no effective protection of services outside the shaft is considered practicable or feasible noting the non-fire rating of the floor.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		The existing anomaly that arises with respect to the Dts requirements of C2.13 will need to be addressed within the context of a fire engineered performance based report which demonstrated that the relevant performance requirements of CP8 of the BCA are satisfied.
C3.13 Openings in shafts *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—* *(a) if it is in 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* *(b) a self-closing –/60/30 fire door or hopper; or* *(c) an access panel having an FRL of not less than –/60/30; or* *(d) if the shaft is a garbage shaft — a door or hopper of non-combustible construction*	Yes Refer to comments	All penetrations /openings within the proposed services shaft within Bay 5 at grid reference C-D & 3 are to be protected in accordance with C3.13. Further details to be provided at CC stage. The extent to which existing shafts situated within Bay 2-4 satisfy the requirements of C3.13 is unknown. It would be prudent for existing shafts required to be fire rated to have all penetrations and openings protected in accordance with C3.13 or as otherwise required by the consent authority pursuant to clause 94 of the EP&A Regulation 2000.
C3.14 *		
C3.15 Openings for service installations *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 with respect to integrity or insulation or a resistance to the incipient spread of fire, that installation must comply with any one of the following:* *(a) Tested systems* *(i) The service, building element and any protection method at the penetration are identical with a prototype assembly of the service, building element and protection method which has been tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the required FRL or resistance to the incipient spread of fire.* *(ii) It complies with (i) except for the insulation criteria relating to the service if—* *(A) the service is a pipe system comprised entirely of metal (excluding pipe seals or the like); and* *(B) any combustible building element is not located within 100 mm of the service for a distance of 2 m from the penetration; and* *(C) combustible material is not able to be located within 100 mm of the service for a distance of 2 m from the penetration; and* *(D) it is not located in a required exit.*	**No**	Where services penetrate building elements such as bounding wall between Bay 4 & 5, lift shaft, lift motor room /electrical meter room etc. they are to be suitable sealed and protected in accordance with the requirements of C3.15. In this regard instance existing whereby penetrations in building elements required to be fire rated where not protected as required by C3.15.  Photo 1- penetrations thru wall bounding main electrical switch room and path of travel. Photo -2 illustrating potential penetrations in bounding construction of fire stair. – Ground floor Bay 4 
C3.16 Construction joints *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.*	**N/A**	
C3.17 Columns /lightweight construction -RL	**N/A**	

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
SPECIFICATION C1.1 FIRE-RESISTING CONSTRUCTION		
1. SCOPE	**For Notation**	
2. GENERAL REQUIREMENTS	**For Notation**	
2.1 Exposure to fire-source features	**For Notation**	
2.2 Fire protection for a support of another part *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.*	**No**	The floors and supporting structural elements associated with Bay 5 comprise a combination of timber and concrete and are not considered to satisfy the requirements of clause 2.2 of Specification C1.1. Similarly the existing floors within the same fire compartment i.e. Bay2-4 do not achieved any FRL. The existing anomaly that arises with respect to the Dts requirements of clause 2.2 of Specification C1.1 will need to be addressed within the context of a fire engineered performance based report which demonstrated that the relevant performance requirements of CP1 of the BCA are satisfied.
2.3 Lintels *A lintel must have the FRL required for the part of the building in which it is situated, unless it does not contribute to the support of a fire door, fire window or fire shutter, and—* *(a) it spans an opening in—* *(i) a wall of a building containing only one storey; or* *(ii) a non-loadbearing wall of a Class 2 or 3 building; or* *(b) it spans an opening in masonry which is not more than 150 mm thick and—* *(i) not more than 3 m wide if the masonry is non-loadbearing; or* *(ii) not more than 1.8 m wide if the masonry is loadbearing and part of a solid*	**Yes**	
2.4 Attachments not to impair fire-resistance *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 Specification C1.10; 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.*	**N/A**	No attachments identified
2.5 General concessions *Steel columns — A steel column, other than one in a fire wall or common wall, need not have an FRL in a building that contains only 1 storey; or) 2 storeys in some of its parts and 1 storey only in its remaining parts if the sum of the floor areas of the upper storeys of its 2 storey parts does not exceed the lesser of—* *(A) 1/8 of the sum of the floor areas of the 1 storey parts; or* *(B) in the case of a building to which one of the maximum floor areas specified in Table C2.2 is applicable — 1/10 of that area; or* *(C) in the case of a building to which two or more of the maximum floor areas specified in Table C2.2 is applicable — 1/10 of the lesser of those areas.* *(b) Timber columns — A timber column may be used in a single storey building if—* *(i) ina fire wall or common wall the column has an FRL not less than that listed in the appropriate Table 3, 4 or 5; and* *(ii) in any other case where the column is required to have an FRL in accordance with Table 3, 4 or 5, it has an FRL of not less than 30/–/–.* *(c) Structures on roofs —A non-combustible structure situated on a roof need not comply with the other provisions of this Specification if it only contains—* *(i) lift motor equipment; or* *(ii) one or more of the following:* *(A) Hot water or other water tanks.* *(B) Ventilating ductwork, ventilating fans and their motors.* *(C) Air-conditioning chillers.* *(D) Window cleaning equipment.*	**N/A**	

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(E) Other service units that are non-combustible and do not contain flammable or combustible liquids or gases. *(d) Curtain walls and panel walls — A requirement for an external wall to have an FRL does not apply to a curtain wall or panel wall which is of non-combustible construction and fully protected by automatic external wall-wetting sprinklers.* *(e) ****** *(f) Balconies and verandahs — A balcony, verandah or the like and any incorporated supporting part, which is attached to or forms part of a building, need not comply with Tables 3, 4 and 5 if—* *(i) it does not form part of the only path of travel to a required exit from the building; and* *(ii) in Type A construction—* *(A) it is situated not more than 2 storeys above the lowest storey providing direct egress to a road or open space; and* *(B) any supporting columns are of non-combustible construction.*		
2.6 Mezzanine floors: Concession	**N/A**	No mezzanine exists
2.7 Enclosure of shafts *Shafts required to have an FRL must be enclosed at the top and bottom by construction having an FRL not less than that required for the walls of a non-loadbearing shaft in the same building, except that these provisions need not apply to—* *(a) the top of a shaft extending beyond the roof covering, other than one enclosing a fire-isolated stairway or ramp; or* *(b) the bottom of a shaft if it is non-combustible and laid directly on the ground*	**Yes**	The top and bottom of the proposed shafts within Bay 5 are required to be provided with construction having an FRL of not less than -/90/90. Further details to be provided at CC stage. If this is not able to be achieved it will require a performance based fire engineered assessment to be undertaken that demonstrates the performance requirements of CP8 have been satisfied.
2.8 Carparks in Class 2 and 3 buildings	**N/A**	
2.9 Residential aged care building: Concession	**N/A**	
3. TYPE A FIRE-RESISTING CONSTRUCTION		
3.1 Fire-resistance of building elements – Specification C1.1 **Table 3 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, 7a or 9** | **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 1.5 m: 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 m 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*— For *loadbearing* columns—: 90/–/– | 120/–/– | 180/–/– | 240/–/– For non-*loadbearing* columns—: –/–/– | –/–/– | –/–/– | –/–/– **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	**Yes**	The following FRL construction requirements are identified and applicable to Type A construction **CLASS 5 & 9** **1. External walls** Load bearing <1.5mFSF – FRL 120/120/120 Non load bearing < 3mFSF – FRL -/90/90 **Comment:** Existing external walls are considered capable of satisfying this requirement. **1. Common / Fire Walls** FRL- 120/120/120 **Comment:** Existing walls bounding Bay 4 & 5 are considered capable of achieving an FRL of 120/120/120. **2. Internal walls** **Between fire resisting lift/stair shaft & services shaft** Generally Load bearing - FRL 120/120/120 Non load bearing- FRL -/120/120 **Comment:** Existing walls bounding the lift and stair 1 & 2 are constructed of masonry and appear capable of achieving the required FRL of 120/120/120.proposed new services shaft to achieve FRL identified. **3. Bounding SOU and Corridor**

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		Load bearing - FRL 120/-/- Non load bearing- FRL -/-/- **Comment:** N/A no public corridors exist as such. **4. Bounding walls between SOU** Load bearing - FRL 120/-/- Non load bearing- FRL -/-/- **Comment:** Existing SOU's within the context of Bay 4 & 5 can be considered in terms of Class 5 & 9b uses. As such the existing masonry construction associated with the bounding wall between Bay 4 & 5 enables the required FRL to be achieved noting that any openings in such wall will be required to be protected with -/120/30 fire doors. **5. Floors** FRL 120/120/120 **Comment:** The floors within Bay 1- 4 are existing and are comprised of timber throughout and do not achieve any FRL. However as the BCA provisions only apply to proposed building works, there is no requirement for the existing building or its elements (e.g. floors) to satisfy BCA requirements except in circumstances where compliance is required by a consent authority in accordance with Clause 94 of the EP&A Regulation 2000. In terms of Bay 5 it is noted that the floor construction will comprise both timber and concrete floors as illustrated in Diagram 8 below and are not considered to achieve the required FRL of 120/120/120.  **Diagram 8-** Section thru Bay 5 illustrating floor construction Key New Timber floor Concrete floor Concrete over timber The deficiencies associated with the floor ire resistance level of construction in respect of Bay 5 will need to be addressed within the context of a fire engineered performance based report which demonstrated that the relevant performance requirements of CP1 & CP2 of the BCA are satisfied

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		6. Columns and other load bearing walls Generally FRL of 120/-/- applies. **Concession:** - For columns walls located in the storey immediately below the roof an FRL of 60/60/60 applies. **Comment:** There are no columns proposed within Level 4 –Bay 4. The existing columns located on level 4-Bay 5 are part of the heritage fabric and not part of Bay 5 scope of works. 2 new columns are however proposed at Grid Reference A2 & A3. Whilst such columns will comprise of a material that is will not archive the required FRL and as such will need to bemonstratet As such the BCA provisions' are not considered to apply other than to the extent that may be required by the certifying authority pursuant to clause 94 of the EP& A Regulation 20000. **7. Roof** Generally FRL of 120/60/30 applies. **Concession:** Roof need not comply with FRL requirements provided it is covering is noncombustible and has sprinkler system installed throughout. **Comment:** As the building is fully sprinkler protected throughout the concession apply and is satisfied.
3.2 Concessions for floors *A floor need not comply with Table 3 if—* *(a) it is laid directly on the ground; or* *(b) in a Class 2, 3, 5 or 9 building, the space below is not a storey, does not accommodate motor vehicles, is not a storage or work area, and is not used for any other ancillary purpose; or* *(c) it is a timber stage floor in a Class 9b building laid over a floor having the required FRL and the space below the stage is not used as a dressing room, store room, or the like; or* *(d) it is within a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building; or* *(e) it is an open-access floor (for the accommodation of electrical and electronic services and the like) above a floor with the required FRL.*	**For Notation**	
3.3 Floor loading of Class 5 and 9b buildings: Concession *If a floor in a Class 5 or 9b building is designed for a live load not exceeding 3 kPa—* *(a) the floor next above (including floor beams) may have an FRL of 90/90/90; or* *(b) the roof, if that is next above (including roof beams) may have an FRL of 90/60/30.*	**For Notation**	
3.4 Roof superimposed on concrete slab: Concession *A roof superimposed on a concrete slab roof need not comply with Clause 3.1 as to fire-resisting construction if—* *(a) the superimposed roof and any construction between it and the concrete slab roof are non-combustible throughout; and* *(b) the concrete slab roof complies with Table 3.*	**N/A**	
3.5 Roof: Concession *A roof need not comply with Table 3 if its covering is non-combustible and the building—*	**Yes**	Building is fully sprinkler protected.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(a) has a sprinkler system complying with Specification E1.5 installed throughout; or *(b) has a rise in storeys of 3 or less; or* *(c) is of Class 2 or 3; or* *(d) has an effective height of not more than 25 m and the ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space of not less than 60 minutes.*		
3.6 Rooflights *If a roof is required to have an FRL or its covering is required to be non-combustible, rooflights or the like installed in that roof must—* *(a) have an aggregate area of not more than 20% of the roof surface; and* *(b) be not less than 3 m from—* *(i) any boundary of the allotment other than the boundary with a road or public place; and* *(ii) any part of the building which projects above the roof unless that part has the FRL required of a fire wall and any openings in that part of the wall for 6 m vertically above the rooflight or the like are protected in accordance with C3.4; and* *(iii) any rooflight or the like in an adjoining sole-occupancy unit if the walls bounding the unit are required to have an FRL; and* *(iv) any rooflight or the like in an adjoining fire-separated section of the building; and* *(c) if a ceiling with a resistance to the incipient spread of fire is required, be installed in a way that will maintain the level of protection provided by the ceiling to the roof space.*	**N/A**	No roof lights identified
3.7 Internal columns and walls: Concession	**No Refer to comments**	For columns walls located in the storey immediately below the roof an FRL of 60/60/60 applies**.** In terms of Bay 5 there are no columns proposed within Level 4. The existing columns located on level 4-Bay 4 are part of the heritage fabric and not part of Bay 5 scope of works.
3.8 Open spectator stands and indoor sports stadiums: Concession	**N/A**	
3.9 Carparks	**N/A**	
3.10 Class 2 buildings: Concession	**N/A**	
SPECIFICATION C1.8 STRUCTURAL TESTS FOR LIGHTWEIGHT CONSTRUCTION		
SPECIFICATION C1.10 FIRE HAZARD PROPERTIES - GENERAL		
1. Scope	**For Notation**	
2. Application	**For Notation**	
3. Floor linings and floor coverings *A floor lining or floor covering must have—* *(a) a critical radiant flux not less than that listed in Table 2; and* *(b) in a building not protected by a sprinkler system complying with Specification E1.5,a maximum smoke development rate of 750 percent-minutes; and* *(c) a group number complying with Clause 6(b), for any portion of the floor covering that is continued more than 150 mm up a wall.* *Table 2 CRITICAL RADIANT FLUX (CRF in kW/m ^{2}) OF FLOOR MATERIALS AND FLOOR COVERINGS*	**No**	All new floor lining and floor covering material associated with Bay 5 will need to demonstrate compliance with C1.10 & Specification C1.10, this will include all new (proposed) timber floors. On the basis that such timber floors and supporting elements remain exposed, they will need to demonstrate a capacity to achieve a critical radiant heat flux of not less than that identified within Table 2 Specification C1.10 i.e. a CRF in kW/m 2 of not less than 1.2. Where compliance with the Dts requirements of Clause C1.10 & Spec C1.10 is not able to be achieved a fire engineered performance based assessment will be required which demonstrates compliance with performance requirement CP2. The extent to which existing timber floors within both Bay 5 and Bays 1-4 are required to be made compliant with C1.10 & Specification C1.10 of the BCA will depend upon the extent to which the consent authority requires upgrade pursuant to clause 94 of the EP&A Regulation 2000 as part of the DA assessment. However given the heritage significance of the building and its fabric and in consideration of the overall enhancements required to be undertaken with respect to buildings active fire safety systems within the context of the Bay 5 works, it is considered unlikely that there would be any justifiable basis to require existing floor linings to be upgraded to comply with C1.10.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS

Class of building	General		Fire-isolated exits and fire control rooms
	Building not fitted with a sprinkler system complying with Specification E1.5	Building fitted with a sprinkler system complying with Specification E1.5	
Class 2, 3, 5, 6, 7, 8 or 9b, excluding— (i) Class 3 accommodation for the aged; and (ii) Class 9b as specified below.	2.2	1.2	2.2
Class 3 Accommodation for the aged.	4.5	2.2	4.5
Class 9a			
Patient care areas.	4.5	2.2	4.5
Areas other than *patient care areas.*	2.2	1.2	4.5
Class 9b auditorium or audience seating area used mainly for—			
(i) indoor swimming or ice skating; and	1.2	1.2	2.2
(ii) other sports or multi-purpose functions.	2.2	1.2	2.2
Class 9c			
Resident use areas.	—	2.2	4.5
Areas other than *resident use areas.*	—	1.2	4.5

4. Wall and ceiling linings

(a) A wall or ceiling lining system must comply with the group number specified in Table 3 and for buildings not fitted with a sprinkler system complying with Specification E1.5 have—
(i) a smoke growth rate index not more than 100; or
(ii) an average specific extinction area less than 250 m²/kg.
(b) A group number of a wall or ceiling lining and the smoke growth rate index or average specific extinction area must be determined in accordance with AS 5637.1.
Table 3 WALL AND CEILING LINING MATERIALS (Material Groups permitted)

Class of building	Fire-isolated exits and fire control rooms	Public corridors		Specific areas		Other areas
	Wall/ceiling	Wall	Ceiling	Wall	Ceiling	Wall/ceiling
Class 2 or 3						
Excluding accommodation for the aged, people with disabilities, and children						
Unsprinklered	1	1, 2	1, 2	1, 2, 3	1, 2, 3	1, 2, 3
Sprinklered	1	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3
Class 3 or 9a						
Accommodation for the aged, people with a disability, children and *health-care buildings*						
Unsprinklered	1	1	1	1, 2	1, 2	1, 2, 3
Sprinklered	1	1, 2	1, 2	1, 2, 3	1, 2, 3	1, 2, 3
Class 5, 6, 7, 8 or 9b *schools*						
Unsprinklered	1	1, 2	1, 2	1, 2, 3	1, 2	1, 2, 3
Sprinklered	1	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3
Class 9b other than *schools*						
Unsprinklered	1	1	1	1, 2	1, 2	1, 2, 3
Sprinklered	1	1, 2	1, 2	1, 2, 3	1, 2, 3	1, 2, 3
Class 9c						
Sprinklered	1	1, 2	1, 2	1, 2, 3	1, 2, 3	1, 2, 3

For the purpose of this Table—
1. "Sprinklered" means a building fitted with a sprinkler system complying with Specification E1.5.
2. "Specific areas" means within—
(a) for Class 2 and 3 buildings, a *sole-occupancy unit*; and
(b) for Class 5 buildings, open plan offices with a minimum floor dimension/floor to ceiling height ratio > 5; and
(c) for Class 6 buildings, shops or other building with a minimum floor dimension/floor to ceiling height ratio > 5; and
(d) for Class 9a *health-care buildings*, *patient care areas*; and
(e) for Class 9b theatres and halls, etc, an auditorium; and
(f) for Class 9b *schools*, a classroom; and
(g) for Class 9c buildings, *resident use areas*.

No

The ceilings within Bay 5 comprise the exposed floor and supporting structure to the storey above and is comprised of timber. As such it is not considered that the ceiling (underside of timber floor) will achieve the relevant group number identified in Table 3 - Clause 4 Specification C1.10 i.e. group 1,2 3. The ceilings within the wet areas (WC) if constructed of plasterboard is considered to satisfy the requirements of clause 4. Noncompliance with Clause 4 generally in respect of ceilings will need to be addressed in conjunction with performance assessment relating to Clause C1.10 general i.e. demonstrate compliance with performance requirement CP2 of the BCA.

5. Air-handling ductwork

Air-handling ductwork. – must comply with the fire hazard properties set out in AS 4254 Parts 1 and 2.

Yes

All new air conditioning ductwork is required to comply with the fire hazard properties set out in AS4254 Part 1 & 2.

6. Lift cars

Lift cars. - floor linings and floor coverings must have a critical radiant flux not less than 2.2 and wall and ceiling linings must be a material that does not reach flashover when exposed to 100 kW for 600 seconds followed by exposure to 300 kW for 600 seconds or flashover following exposure to 300 kW within 600 seconds after not reaching flashover when exposed to 100 kW for 600 seconds.

Yes

It is understood that the proposed Bay 5 scope will include new lift car installations. As such floor lining and coverings are required to have a critical radiant flux not less than 2.2 – wall and ceiling linings to be Group 1 material or group 2 material in accordance with AS5637.1

7. Other materials

Materials and assemblies in a Class 2 to 9 building not included in Clauses 3, 4, 5 or 6 must not exceed the indices set out in Table 4.
Table 4 OTHER MATERIALS

For Notation

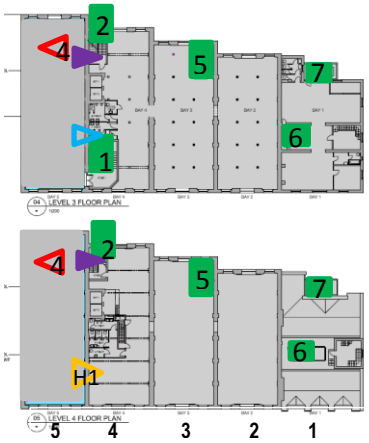
BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS

Material or assembly location	Flammability Index	Spread-of-Flame Index	Smoke-Developed Index
Fire control rooms subject to Specification E1.8 and fire-isolated *exits*, other than a *sarking-type material* used in a ceiling or used as an attachment or part of an attachment to a building element. Note 1	—	0	2
Class 9b buildings used as a theatre, public hall or the like:			
(a) Any part of fixed seating in the audience area or auditorium.	—	0	5
(b) A proscenium curtain *required* by Specification H1.3.	—	0	3
Escalators, moving walkways or non-*required* non-*fire-isolated stairways* or pedestrian ramps subject to Specification D1.12.	—	0	5
Sarking-type material:			
(a) In a fire control room subject to Specification E1.8 or a fire-isolated *exit* or fire control room used in the form of an exposed wall or ceiling.	0	—	—
(b) In other locations. Note 2	5	—	—
Other materials or locations and insulation materials other than *sarking-type materials*. Notes 2 and 3	—	9	8 if the *Spread-of-Flame Index* is more than 5

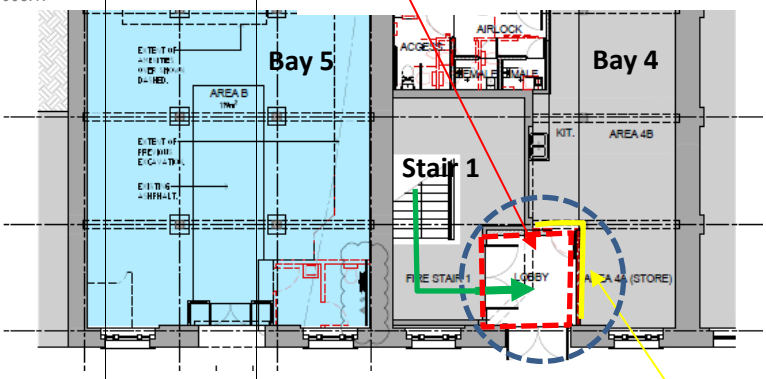
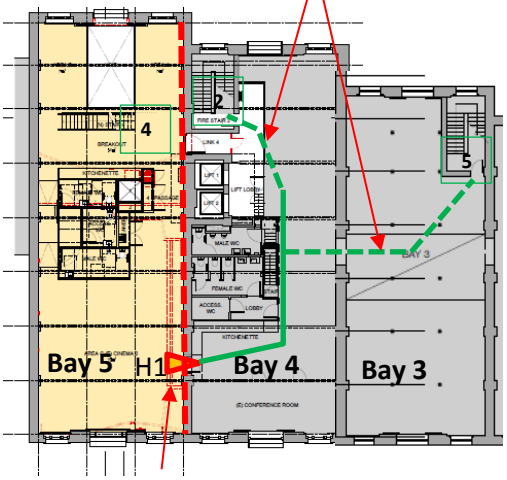
Notes:

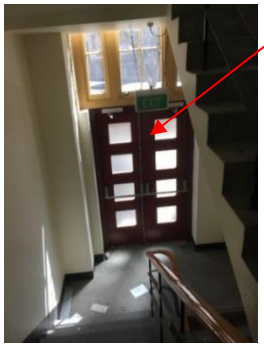
1. In a fire control room or *fire-isolated stairway*, a material used as an attachment or part of an attachment to a building element must, if *combustible*, be attached directly to a *non-combustible* substrate and not exceed 1 mm finished thickness.
2. A material, other than one located within a fire-isolated *exit* or fire control room, may be covered on all faces by concrete or masonry not less than 50 mm thick, as an alternative to meeting the specified indices.
3. In the case of a composite member or assembly, the member or assembly must be constructed so that when assembled as proposed in a building—
   (a) any material which does not comply with this Table is protected on all sides and edges from exposure to the air; and
   (b) the member or assembly, when tested in accordance with Specification A2.4, has a *Spread-of-Flame Index* and a *Smoke-Developed Index* not exceeding those prescribed in this Table; and
   (c) the member or assembly retains the protection in position so that it prevents ignition of the material and continues to screen it from access to free air for a period of not less than 10 minutes.

SPECIFICATION C1.11 PERFORMANCE OF EXTERNAL WALLS IN FIRE	**N/A**	
SPECIFICATION C3.4 FIRE DOORS, SMOKE DOORS, FIRE WINDOWS AND SHUTTERS	**For notation**	
SPECIFICATION C3.15 PENETRATION OF WALLS, FLOORS AND CEILINGS BY SERVICES	**No**	Refer comments C3.12 & C3.15 above
PART D1 PROVISION FOR ESCAPE		
D1.0 Deemed-to-Satisfy Provisions	**For notation**	
D1.1 Application of Part	**For notation**	
D1.2 Number of exits required *(a) All buildings — Every building must have at least one exit from each storey.* *(b) Class 2 to 8 buildings — In addition to any horizontal exit, not less than 2 exits must be provided from the following:* *(i) Each storey if the building has an effective height of more than 25 m.* *(ii) A Class 2 or 3 building subject to C1.5.* *(c) Basements — In addition to any horizontal exit, not less than 2 exits must be provided from any storey if egress from that storey involves a vertical rise within the building of more than 1.5 m, unless—* *(i) the floor area of the storey is not more than 50 m²; and* *(ii) the distance of travel from any point on the floor to a single exit is not more than 20 m.* *……* *(g) Access to exits — Without passing through another sole-occupancy unit every occupant of a storey or part of a storey must have access to—* *(i) an exit; or* *(ii) at least 2 exits, if 2 or more exits are required.*	**Yes**	Each level of Bay 5 will have access to at least 2 exits. Similarly egress from Bay 1-4 will have 2 means of egress available from each storey. 

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		 **Diagram 9 -**Exit locations **KEY** FIS stair way Exit discharge direct to open space Non required stair Horizontal exit No.1 Exit thru bounding wall Bay 4/5 Non require exit thru bounding wall Bay 4 / 5 Required non FIS
D1.3 When fire-isolated exits are required *(a) Class 2 and 3 buildings — ……..* *(b) Class 5, 6, 7, 8 or 9 buildings — Every stairway or ramp serving as a required exit must be fire-isolated unless—* *(i) in a Class 9a health-care building — it connects, or passes through or passes by not more than 2 consecutive storeys in areas other than patient care areas; or* *(ii) it is part of an open spectator stand; or* *(iii) in any other case except in a Class 9c building, it connects, passes through or passes by not more than 2 consecutive storeys and one extra storey of any classification may be included if—* *(A) the building has a sprinkler system complying with Specification E1.5 installed throughout; or* *(B) the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having—* *(aa) an FRL of –/60/60, if non-loadbearing; and* *(bb) an FRL of 90/90/90 for Type A construction or 60/60/60 for Type B construction, if loadbearing; and* *(cc) no opening that could permit the passage of fire or smoke.*	**Yes**	The egress strategies associated with Bay 5 are such that they primarily rely upon the following exits: Ground Floor - Exit direct to open space & Exit 2 Level 1 - Exit 2 & Exit 1 Level 2 - Exit direct to open space & Exit 1 Level 3 - Exit 4 & Exit 1 Level 4 - Exit 4 & Horizontal exit H1 In this regard Exit 1, 2 & 5 comprise FIS Exit No.4 connect not more than 3 storey's within a building that is sprinkler protected throughout and therefore is not required to be fire isolated as per D1.3(b)(iii). Horizontal exit H1 is satisfied on the basis that the bounding wall between Bay 4 & 5 is deemed a fire wall and any opening the wall such as an exit door comprises a self-closing fire door having an FRL of at least -/120/30. (Refer to diagram 9 for exit door locations)
D1.4 Exit travel distances *(c) Class 5, 6, 7, 8 or 9 buildings — Subject to (d), (e) and (f)—* *(i) no point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40 m; and* *(ii) in a Class 5 or 6 building, the distance to a single exit serving a storey at the level of access to a road or open space may be increased to 30 m.*	**Yes**	
D1.5 Distance between alternative exits *Exits that are required as alternative means of egress must be—*	**Yes**	

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(a) distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas; and *(b) not less than 9 m apart; and* *(c) not more than—* *(i) in a Class 2 or 3 building — 45 m apart; or* *(ii) in a Class 9a health-care building, if such required exit serves a patient care area — 45 m apart; or* *(iii) in all other cases — 60 m apart; and* *(d) located so that alternative paths of travel do not converge such that they become less than 6 m apart.*		
D1.6 Dimensions of exits and paths of travel to exits *In a required exit or path of travel to an exit—* *(a) the unobstructed height throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm; and* *(b) the unobstructed width of each exit or path of travel to an exit, except for doorways, must be not less than—* *(i) 1m;or ……..* *(c) if the storey, mezzanine or open spectator stand accommodates more than 100 persons but not more than 200 persons, the aggregate unobstructed width, except for doorways, must be not less than—* *(i) 1 m plus 250 mm for each 25 persons (or part) in excess of 100; or* *(d) if the storey, mezzanine or open spectator stand accommodates more than 200 persons, the aggregate unobstructed width, except for doorways, must be increased to—* *(i) 2 m plus 500 mm for every 60 persons (or part) in excess of 200 persons if egress involves a change in floor level by a stairway or ramp with a gradient steeper than 1 in 12; or* *(ii) in any other case, 2 m plus 500 mm for every 75 persons (or part) in excess of 200; and* *(e) ……* *(f) ……* *(g) the unobstructed width of a required exit must not diminish in the direction of travel to a road or open space, except where the width is increased in accordance with (b)(ii) or (f)(i); and* *(h) the required width of a stairway or ramp must—* *(i) be measured clear of all obstructions such as handrails, projecting parts of barriers and the like; and* *(ii) extend without interruption, except for ceiling cornices, to a height not less than 2 m vertically above a line along the nosings of the treads or the floor surface of the ramp or landing; and* *(i) to determine the aggregate unobstructed width, the number of persons accommodated must be calculated according to D1.13.*	**Yes Refer to comments**	Aggregate exit widths available in respect of Bay 5 will result in at least 2000mm exit width available noting the required aggregate exit width for a deemed population of less than 100 is only 1000mm. The deemed population per floor within Bay 5 is 22.
D1.7 Travel via fire-isolated exits *(a) A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from—* *(i) a public corridor, public lobby or the like; or* *(ii) a sole-occupancy unit occupying all of a storey; or* *(iii) a sanitary compartment, airlock or the like.* *(b) Each fire-isolated stairway or fire-isolated ramp must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway—* *(i) to a road or open space; or* *(ii) to a point—* *(A) ina storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/3 of its perimeter; and* *(B) from which an unimpeded path of travel, not further than 20 m, is available to a road or open space; or* *(iii) into a covered area that—* *(A) adjoins a road or open space; and* *(B) is open for at least 1/3 of its perimeter; and* *(C) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and* *(D) provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m.* *(c) Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have—* *(i) an FRL of not less than 60/60/60; and*	No	Stair 1 discharges within the ground floor of Bay 4 and into an enclosed space that is not open for at least 1/3 of its perimeter and is therefore contrary to the requirements of D1.7(b). Whilst Stair 1 and its discharge configuration is existing the requirements of D1.7(b) would need to be addressed within the context of the quantum of building works being undertaken with respect to Bay 5 noting that Stair 1 forms a significant part of the egress strategies for that Bay. On the basis that the proposed layout as illustrated in diagram 10 below is retained it will be necessary for a fire engineered performance based assessment to be undertaken that demonstrates that the discharge of Stair 1 is able to satisfy the performance requirement of DP4 & DP5 of the BCA. Further details are to be provided in respect of the bounding wall construction adjacent to the discharge of Stair 1 as illustrated in diagram 10. Subject to the findings of the fire engineering assessment, the required fire separation to be achieved is • -/120/120 for any non-load bearing element; and • 120/120/120 for load bearing components. The doors within such wall are to achieve an FRL of -/120/30 and be fitted with medium temperature smoke seals.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(ii) any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. *(d) If more than 2 access doorways, not from a sanitary compartment or the like, open to a required fire-isolated exit in the same storey—* *(i) a smoke lobby in accordance with D2.6 must be provided; or* *(ii) the exit must be pressurised in accordance with AS/NZS 1668.1.*		Stair 1 discharge  **Diagram 10 -** Stair 1 discharge **Ground floor level** Bounding wall to be fire rated
D1.8 External stairways in lieu of fire-isolated exits	**N/A**	
D1.9 Travel by non-fire-isolated stairways or ramps	**Yes**	
D1.10 Discharge from exits	**YES**	
D1.11 Horizontal exits *(a) Horizontal exits must not be counted as required exits—* *(i) between sole-occupancy units; or* *(ii) in a Class 9b building used as an early childhood centre, primary or secondary school.* *(b) In a Class 9a health-care building or Class 9c building, horizontal exits may be counted as required exits if the path of travel from a fire compartment leads by one or more horizontal exits directly into another fire compartment which has at least one required exit which is not a horizontal exit.* *(c) In cases other than in (b), horizontal exits must not comprise more than half of the required exits from any part of a storey divided by a fire wall.* *(d) Horizontal exits must have a clear area on the side of the fire wall to which occupants are evacuating, to accommodate the total number of persons (calculated under D1.13) served by the horizontal exit of not less than—* *(i) 2.5 m^2 per patient/resident in a Class 9a health-care building or Class 9c building; and* *(ii) 0.5 m^2 per person in any other case.* *(e) Where a fire compartment is provided with only two exits, and one of those exits is a horizontal exit, the clear area required by (d) is to be of a size that accommodates all the occupants from the fire compartment being evacuated.* *(f) The clear area required by (d) must be connected to the horizontal exit by an unobstructed path that has at least the dimensions required for the horizontal exit and may include the area of the unobstructed path.*	**Yes**	Egress from Level 4 will require one of the required exits to comprise a horizontal exit i.e. Exit No. H1 refer to Diagram 11. Path of travel from within Bay 4 must be maintained accessible for occupants within Bay 5.  **Diagram 11** – Horizontal exit Level **4** In order for the horizontal exit provisions to be applied in respect of exit H1, the bounding wall between Bay 4 & 5 will have to be considered a fire wall. As such the wall is required to achieve an FRL of at least 120/120/120 and any opening sin such wall to comprise a minimum FRL of -/120/30. It is further noted that: • Exit H1 will only comprise 1 of the 2 exits required to serve level 4; • The area within Bay 4 is sufficient to accommodate the deemed population of Bay 5-Level 4 which is less than 30.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		On the basis that the openings within the bounding wall between Bay 4 & 5 achieves the required FRL and the openings are fitted with the required fire doors the requirements of D1.11 are considered capable of being satisfied. It should be noted however that the path of travel from within Bay 4 (opposite H1) will need to enable a clear path of travel to Stair 2 & 5. As the tenancy within Bay 4 may not be the same tenancy as Bay 5, consideration will need to be given in terms of how access to the available exists (is Stair 2 & 5) is provided from within Bay 4 and thereafter, maintained.
D1.12 Non-required stairways, ramps or escalators	**Yes**	Stair 3 is considered to be a non-required stair that connects ground floor and Level 1 only.
D1.13 Number of persons accommodated *Commercial use occupancy is determined as follows.* *Class 5 1 person/10m2*	**For Notation**	The deemed population associated with a Class 5 use in respect of Bay 5 is determined on the basis of 1 person / m2 of floor area. The floor area per floor excluding the central amenities core and Stair 3/4 is approximately 220m2. This equates to a deemed population of approximately 22.
D1.14 Measurement of distances	**For Notation**	
D1.15 Method of measurement	**For Notation**	
D1.16 Plant rooms and lift machine rooms: Concession	**Yes**	Further details to be provided at CC stage.
D1.17 Access to lift pits	**N/A**	Further details to be provided at CC stage.
PART D2 CONSTRUCTION OF EXITS		
D2.0 Deemed-to-Satisfy Provisions	**For Notation**	
D2.1 Application of Part	**For Notation**	
D2.2 Fire-isolated stairways and ramps *A stairway or ramp (including any landings) that is required to be within a fire-resisting shaft must be constructed—* *(a) of non-combustible materials; and* *(b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft.*	**Yes** **Refer to comments**	Existing fire stairs are constructed of reinforced concrete. Whilst the handrails that are formed on the metal balustrade within Stair 2 incorporate timber and are deemed combustible, they are existing and not part of the proposed building works. As such their replacement with a noncombustible handrail would only be required should the consent authority require such as a result of triggering Clause 94 of the EP&A Regs.
D2.3 Non-fire-isolated stairways and ramps *In a building having a rise in storeys of more than 2, required stairs and ramps (including landings and any supporting building elements) which are not required to be within a fire-resisting shaft, must be constructed according to D2.2, or only of—* *(a) reinforced or prestressed concrete; or* *(b) steel in no part less than 6 mm thick; or* *(c) timber that—* *(i) has a finished thickness of not less than 44 mm; and* *(ii) has an average density of not less than 800 kg/m^3 at a moisture content of 12%; and* *(iii) has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.*	**Yes**	Further details are to be provided at CC stage regarding the construction details and materials associated with Stair 4 for the purposes of satisfying requirements of D2.3.
D2.4 Separation of rising and descending stair flights  Photo -3 Stair 3 discharge – L2  Photo -4	**No**	Stair 2 & 5 are required FIS serving ground floor to level 4. The configuration of the stairs are such that they discharges as follows: Stair 2 – Discharges within Bay 4 – Level 2 into the main entry lobby. Note: Whilst Stair 2 extends to the ground floor Bay 4, the swing of the exit door is in the opposite direction of egress and therefore not considered to discharge at ground floor. (Refer Diagram 12).

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		Path of travel to open space achieved at ground level within 30m (base building). Note:- This is based upon an open floor plan and may vary with tenancy fitout .

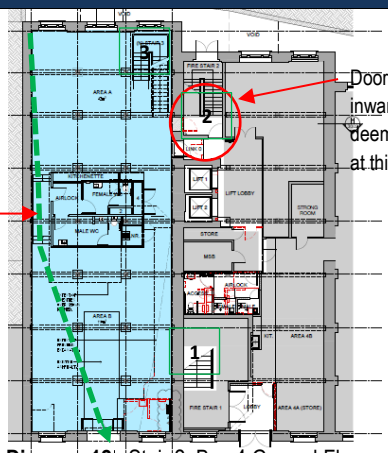


Diagram 12 –Stair 2 Bay 4 Ground Floor

Stair 2 discharge onto Level 2 Bay 4 adjacent to entry lobby.

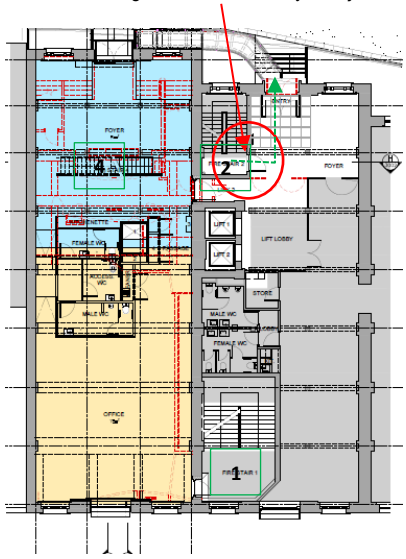


Diagram 13 –Stair 2 Bay 4 Level 2

Typical rising and descending stair arrangement Stair 2 & 5

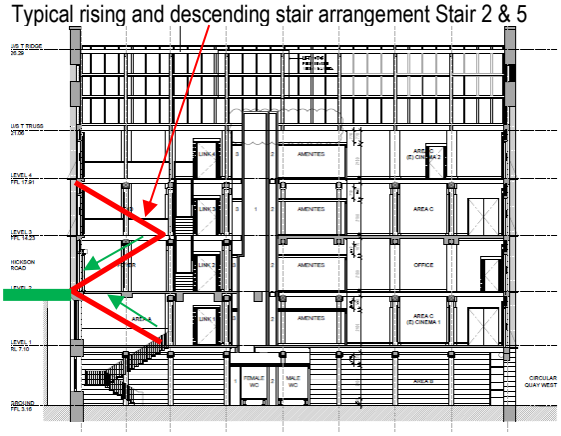
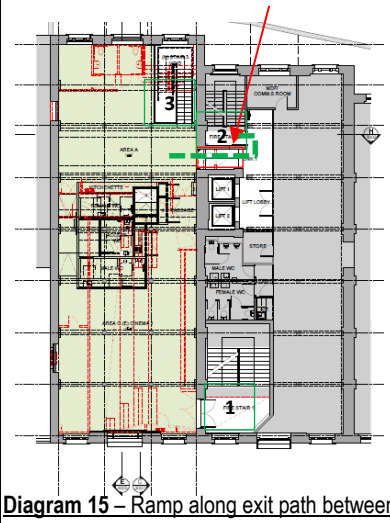


Diagram 14 – Rising & Descending configuration Stair 2 & 5

Stair 5 – Discharges at Level 2 – Bay 3 onto Hickson Road.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		On the basis of the discharge points being Level 2, both stairs are considered to incorporate rising and descending flights within the same shaft in order to reach open space. Within the context of the egress strategies associated with Bay 5, Stair 2 & 5 will be relied upon as follows: • Level 4 -Horizontal exit provisions associated with Level 4 i.e. Exit No. H1 will require access to both Stair 2 & 5 • Level 1- alternative exits. **Note**: Egress from the ground floor of Bay 5 appears to be achieved within 30m to the exit door bounding the eastern boundary which satisfies the requirements of D1.4. However this is based upon an open floor plate and could change depending upon the fitout of the space. As a tenancy fitout would have the effect of extending existing paths of travel there would have to be a reliance upon Stair 2 & 5 for egress purposes in such situation. Whilst both Stair 2 & 5 are existing and ordinarily would only require compliance with the BCA on the basis that such a requirement is triggered pursuant to clause 94 of the EP&A Regs, the degree to which they are relied upon by Bay 5 for the purposes of satisfying egress requirements, warrants consideration within the context of a fire engineered performance based solution report that demonstrates the following performance requirements have been satisfied i.e. DP5 of the BCA.
D2.5 Open access ramps and balconies	**N/A**	
D2.6 Smoke lobbies	**N/A**	
D2.7 Installations in exits and paths of travel (a) *Access to service shafts and services other than to fire-fighting or detection equipment as permitted in the Deemed-to-Satisfy Provisions of Section E, must not be provided from a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp.* *(b) An opening to any chute or duct intended to convey hot products of combustion from a boiler, incinerator, fireplace or the like, must not be located in any part of a required exit or any corridor, hallway, lobby or the like leading to a required exit.* ***(c) Gas or other fuel services must not be installed in a required exit.*** *(d) 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, may be installed in—* *(iv) a required exit, except for fire-isolated exits specified in (a); or* *(v) in any corridor, hallway, lobby or the like leading to a required exit,* *if the services or equipment are enclosed by non-combustible construction or a fire-protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure.* *(e) Electrical wiring may be installed in a fire-isolated exit if the wiring is associated with—* *(i) a lighting, detection, or pressurisation system serving the exit; or* *(ii) a security, surveillance or management system serving the exit; or* *(iii) an intercommunication system or an audible or visual alarm system in accordance with D2.22; or* *(iv) the monitoring of hydrant or sprinkler isolating valves*	**Yes**	Existing electrical meter cupboards and main meter room are to have inside face of door lined with non-combustible material and smoke seals fitted. Further details to be provided at CC stage
D2.8 Enclosure of space under stairs and ramps ***If*** *the space below a required fire-isolated stairway or fire-isolated ramp is within the fire-isolated shaft, it must not be enclosed to form a cupboard or similar enclosed space.* *Non fire-isolated stairways and ramps — The space below a required non fire-isolated stairway (including an external stairway) or non fire-isolated ramp must not be enclosed to form a cupboard or other enclosed space unless—*	**For notation**	Whilst no instances have been identified where by enclosure under required stairways is proposed, the provisions of D2.8 should be noted. Further details to be provided at CC stage

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(i) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and *(ii) any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door.*		
D2.9 Width of stairways *A required stairway or ramp that exceeds 2 m in width is counted as having a width of only 2 m unless it is divided by a handrail or barrier continuous between landings and each division has a width of not more than 2 m.*	**Yes**	Further details to be provided at CC stage.
D2.10 Pedestrian ramps	**Yes**	One of the alternative exits serving Level 1-Bay 5 requires travel thru the bounding wall into Bay 4 in order to gain access to Stair 2. Due to the alignment levels across Bay 4 & 5 a ramp has been detailed within the architectural plans. Whilst no cross section or details associated with the ramp have been included within the referenced plans, it is noted that a Step Ramp complying with Clause 10.6.0 - AS1428.1-2009 could be installed provided the ramp does not commence any point closer to the doorway than a distance that is equal to the width of the door leaf. Further details are to be submitted with the CC application. Ramp is required to comply with AS1428.1-2009  **Diagram 15** – Ramp along exit path between Bay 4 & 5 Level 1
D2.11 Fire-isolated passageways *Fire-isolated passageways* *(a) The enclosing construction of a fire-isolated passageway must have an FRL when tested for a fire outside the passageway in another part of the building of—* *(i) if the passageway discharges from a fire-isolated stairway or ramp — not less than that required for the stairway or ramp shaft; or* *(ii) in any other case — not less than 60/60/60.* *(b) Notwithstanding (a)(ii), the top construction of a fire-isolated passageway need not have an FRL if the walls of the fire-isolated passageway extend to the underside of—* *(i) a non-combustible roof covering; or* *(ii) a ceiling having a resistance to the incipient spread of fire of not less than 60 minutes separating the roof space or ceiling space in all areas surrounding the passageway within the fire compartment.*	**Yes** **Refer to comments**	Whilst the bounding wall construction associated with Fire stairs 1, 2 & 5 appears to be able to satisfy the requirements of D2.11 the extent to which the ceiling within the stairwell achieves a resistance to the incipient spread of fire of not less than 60 minutes separating the roof space or ceiling space in all areas surrounding the passageway within the fire compartment, is unknown. However as the proposed building works are essentially contained for the most part to within Bay 5 and only some nominal works occurring within Bay 4, the extent to which any enhancement works to the FIS ceiling would be required (if any) would be subject to: • Clause 94 of the EP&A Regs being triggered by the consent authority; or • Fire engineering assessment required to be undertaken within the context of addressing deficient passive fire resistance construction associated with floors and associated building elements within Bay 5.
D2.12 Roof as open space	**N/A**	
D2.13 Goings and risers *(a) A stairway must have—*	**No**	The extent to which slip resistance classification identified by Table D2.14 of the BCA is able to be satisfied in respect of

<table>
<tr><th>BCA REQUIREMENTS</th><th>Compatible with BCA YES/NO</th><th>COMMENTS</th></tr>
<tr><td>
(i) not more than 18 nor less than 2 risers in each flight; and
(ii) except as permitted by (b) and (c), going (G), riser (R) and quantity (2R + G) in accordance with Table D2.13; and
(iii) except as permitted by (b) and (c), goings and risers that are constant throughout in one flight; and
(iv) risers which do not have any openings that would allow a 125 mm sphere to pass through between the treads; and
(v) treads which have—
(A) a surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; or
(B) a nosing strip with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; and
(vi) treads of solid construction (not mesh or other perforated material) if the stairway is more than 10 m high or connects more than 3 storeys; and
(vii) in a Class 9b building, not more than 36 risers in consecutive flights without a change in direction of at least 30°; and
(viii) in the case of a required stairway, no winders in lieu of a landing.
(viii) in the case of a required stairway, no winders in lieu of a landing. NSW D2.13(a)(ix),(x),(xi)
(b) In the case of a non-required stairway—
(i) the stairway must have—
(A) not more than 3 winders in lieu of a quarter landing; and
(B) not more than 6 winders in lieu of a half landing; and
(ii) the going of all straight treads must be constant throughout the same flight and the dimensions of goings (G) is considered constant if the variation between—
(A) adjacent goings, is no greater than 5 mm; and
(B) the largest and smallest going within a flight, does not exceed 10 mm; and
(iii) the going of all winders in lieu of a quarter or half landing may vary from the going of the straight treads within the same flight provided that the going of all such winders is constant.
(c) Where a stairway discharges to a sloping public walkway or public road—
(i) the riser (R) may be reduced to account for the slope of the walkway or road; and
(ii) the quantity (2R+G) may vary at that location.

Table D2.14 SLIP-RESISTANCE CLASSIFICATION
<table>
<tr><th rowspan="2">Application</th><th colspan="2">Surface conditions</th></tr>
<tr><th>Dry</th><th>Wet</th></tr>
<tr><td>Ramp steeper than 1:14</td><td>P4 or R11</td><td>P5 or R12</td></tr>
<tr><td>Ramp steeper than 1:20 but not steeper than 1:14</td><td>P3 or R10</td><td>P4 or R11</td></tr>
<tr><td>Tread or landing surface</td><td>P3 or R10</td><td>P4 or R11</td></tr>
<tr><td>Nosing or landing edge strip</td><td>P3</td><td>P4</td></tr>
</table>
</td><td></td><td>Stair1, 2 & 5 is not known. Given the reliance upon the latter stairs for egress strategies associated with Bay 5, it will be necessary for compliance to be demonstrated at CC stage.</td></tr>
<tr><td>
<u>D2.14 Landings</u>
In a stairway—
(a) 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) a surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; or
(B) a strip at the edge of the landing with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586, where the edge leads to a flight below; and
Table D2.14 SLIP-RESISTANCE CLASSIFICATION
<table>
<tr><th rowspan="2">Application</th><th colspan="2">Surface conditions</th></tr>
<tr><th>Dry</th><th>Wet</th></tr>
<tr><td>Ramp steeper than 1:14</td><td>P4 or R11</td><td>P5 or R12</td></tr>
<tr><td>Ramp steeper than 1:20 but not steeper than 1:14</td><td>P3 or R10</td><td>P4 or R11</td></tr>
<tr><td>Tread or landing surface</td><td>P3 or R10</td><td>P4 or R11</td></tr>
<tr><td>Nosing or landing edge strip</td><td>P3</td><td>P4</td></tr>
</table>
</td><td>Yes</td><td>Further details to be provided at CC stage.</td></tr>
<tr><td>
<u>D2.15 Thresholds</u>

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 –
</td><td>Yes
Refer to comments</td><td>Whilst the general requirements of D2.15 are considered to be satisfied, the alignment levels across Bay 4 & 5 makes it necessary for a ramp to be provided along the path of travel to</td></tr>
</table>

<table>
<tr><th>BCA REQUIREMENTS</th><th>Compatible with BCA YES/NO</th><th>COMMENTS</th></tr>
<tr><td>(c) in a building required to be accessible by Part D3, the doorway—
(i) opens to a road or open space; and
(ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1; or
(d) in other cases—
(i) the doorway opens to a road or open space, external stair landing or external balcony; and
(ii) the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.</td><td></td><td>the available exit as illustrated in Diagram 15 above. The proximity of the ramp must not be closer than that which is identified in clause D2.15.
Further details to be provided at CC stage demonstrating compliance with D2.15.</td></tr>
<tr><td><u>D2.16 Balustrades or other barriers</u>

(a) A continuous barrier must be provided along the side of—
(i) a roof to which general access is provided; and
(ii) a stairway or ramp; and
(iii) a floor, corridor, hallway, balcony, deck, verandah, mezzanine, access bridge or the like; and
(iv) any delineated path of access to a building, if the trafficable surface is 1 m or more above the surface beneath.
(b) The requirements of (a) do not apply to—
(i) the perimeter of a stage, rigging loft, loading dock or the like; or
(ii) areas referred to in D2.18; or
(iii) a retaining wall unless the retaining wall forms part of, or is directly associated with a delineated path of access to a building from the road, or a delineated path of access between buildings; or
(iv) a barrier provided to an openable window covered by D2.24.
(c) A barrier required by (a) must be constructed in accordance with Table D2.16a.

Table D2.16a BARRIER CONSTRUCTION
<table><tr><td colspan="2">1. Barrier heights</td></tr><tr><td>Location</td><td>Minimum height</td></tr><tr><td>(a) Stairways or ramps with a gradient of 1:20 or steeper.
(b) Landings to a stair or ramp where the barrier is provided along the inside edge of the landing and does not exceed 500 mm in length.</td><td>865 mm</td></tr><tr><td>(d) In all other locations.</td><td>1 m</td></tr><tr><td colspan="2">Notes:
1. Heights are measured vertically from the surface beneath, except that for stairways the height must be measured above the nosing line of the stair treads.
2. A transition zone may be incorporated where the barrier height changes from 865 mm on a stair flight or ramp to 1 m at a landing or floor.</td></tr><tr><td colspan="2">2. Barrier openings</td></tr><tr><td>Location</td><td>Maximum Opening</td></tr><tr><td>(a) Fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, excluding—
(i) external stairways; and
(ii) external ramps.</td><td>A 300 mm sphere must not be able to pass through any opening; or

where rails are used—</td></tr><tr><td colspan="2">3. Barrier climbability</td></tr><tr><td>Location</td><td>Requirement</td></tr><tr><td>(a) Fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, excluding—
(i) external stairways; and
(ii) external ramps.
(b) Class 7 (other than carparks) and Class 8 buildings.</td><td>No requirement.</td></tr><tr><td>(c) For floors more than 4 m above the surface beneath in all other locations.</td><td>Any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing.</td></tr></table>
Where a required barrier is constructed of wire, it is deemed to meet the requirements of Table D2.16a 2(c), Table D2.16a 2(b) & Table D2.16a 2(d)</td><td>No</td><td>Existing balustrades to stair 1, 2 & 5 do not satisfy the requirements of D2.16.

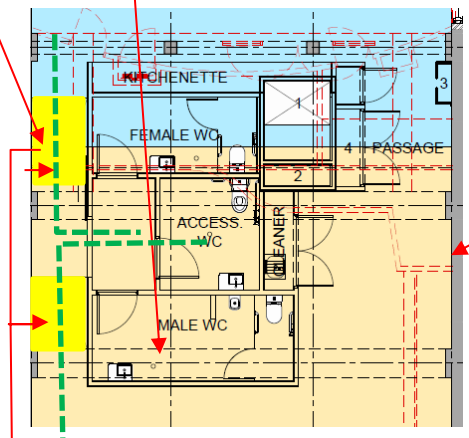
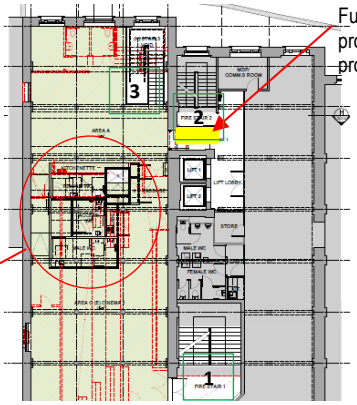
Whilst both Stair 1,2 & 5 are existing and ordinarily would only require compliance with the BCA on the basis that such a requirement is triggered pursuant to clause 94 of the EP&A Regs, the degree to which they are relied upon by Bay 5 for the purposes of satisfying egress requirements, warrants consideration within the context of a fire engineered performance based solution report that demonstrates the following performance requirements have been satisfied i.e. DP2 of the BCA. Further details regarding Stair 3 & 4 are to be provided at CC stage demonstrating compliance with clause D2.16</td></tr>
<tr><td><u>D2.17 Handrails</u>

Except for handrails referred to in D2.18, handrails must be located along at least one side of the ramp or flight; and located along each side if the total width of the stairway or ramp is 2 m or more- in any other case, fixed at a height of not less than 865 mm measured above the nosings of stair treads and the floor surface of the ramp, landing, or the like; and continuous between stair flight landings and have no obstruction on or above them that will tend to break a hand-hold; and in a required exit serving an area required to be accessible, designed and constructed to comply with clause 12 of AS 1428.1.

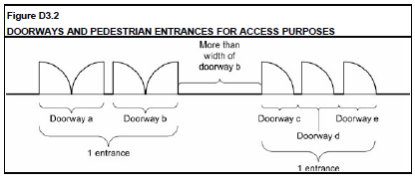
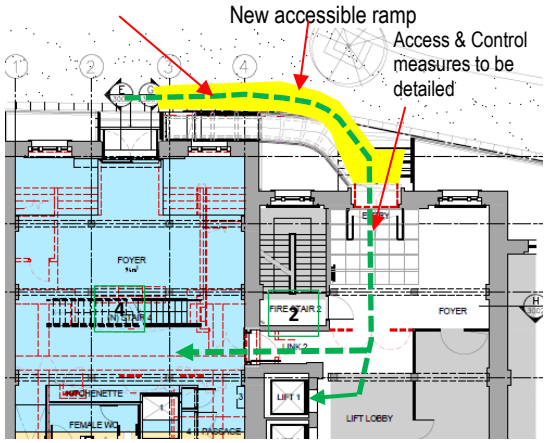
Handrails required to assist people with a disability must be provided in accordance with D3.3.</td><td>Yes</td><td>Refer also to comments D2.2.</td></tr>
</table>

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
Handrails to a stairway or ramp within a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building must be located along at least one side of the flight or ramp; and be located along the full length of the flight or ramp, except in the case where a handrail is associated with a barrier, the handrail may terminate where the barrier terminates; and have the top surface of the handrail not less than 865 mm vertically above the nosings of the stair treads or the floor surface of the ramp; and have no obstruction on or above them that will tend to break a handhold, except for newel posts, ball type stanchions, or the like.		
D2.18 Fixed platforms, walkways, stairways and ladders	**N/A**	Existing access to roof plan is via Bay 4-level 4 and is not affected by the proposed works.
D2.19 Doorways and doors *(b) A doorway serving as a required exit or forming part of a required exit,—* *(i) must not be fitted with a revolving door; and* *(ii) must not be fitted with a roller shutter or tilt-up door unless—* *(A) it serves a Class 6, 7 or 8 building or part with a floor area not more than 200 m^2; and* *(B) the doorway is the only required exit from the building or part; and* *(C) it is held in the open position while the building or part is lawfully occupied; and* *(iii) must not be fitted with a sliding door unless—* *(A) it leads directly to a road or open space; and* *(B) the door is able to be opened manually under a force of not more than 110 N; and* *(iv) if fitted with a door which is power-operated—* *(A) it must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source; and* *(B) if it leads directly to a road or open space it must open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door.* *(c) A power-operated door in a path of travel to a required exit, except for a door in a patient care area of a Class 9a health-care building as provided in (b), must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source*	**Yes**	Further details to be provided at CC stage.
D2.20 Swinging doors *A swinging door in a required exit or forming part of a required exit—* *(a) must not encroach—* *(i) at any part of its swing by more than 500 mm on the required width (including any landings) of a required—* *(A) stairway; or* *(B) ramp; or* *(C) passageway, if it is likely to impede the path of travel of the people already using the exit; and* *(ii) when fully open, by more than 100 mm on the required width of the required exit, and* *the measurement of encroachment in each case is to include door handles or other furniture or attachments to the door; and* *(b) must swing in the direction of egress unless—* *(i) it serves a building or part with a floor area not more than 200 m^2, it is the only required exit from the building or part and it is fitted with a device for holding it in the open position; or* *(ii) it serves a sanitary compartment or airlock (in which case it may swing in either direction); and* *(c) must not otherwise impede the path or direction of egress.*	**Yes**	Further details to be provided at CC stage.
D2.21 Operation of latch *Required exit must be readily openable without a key from the side that faces a person seeking egress, by—* *(i) a single hand downward action on a single device which is located between 900 mm and 1.1 m from the floor and if serving an area required to be accessible by Part D3—* *(A) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and* *(B) have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35 mm and not more than 45 mm; or* *(ii) a single hand pushing action on a single device which is located between 900 mm and 1.2 m from the floor.* *The requirements of (a) do not apply to a door that—*	**Yes**	Further details to be provided at CC stage.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(i) serves a vault, strong-room, sanitary compartment, or the like; or *(ii) serves only, or is within—* *(A) a sole-occupancy unit in a Class 2 building or a Class 4 part of a building; or* *(B) a sole-occupancy unit in a Class 3 building (other than an entry door to a sole-occupancy unit of a boarding house, guest house, hostel, lodging house or backpacker accommodation); or* *(C) a sole-occupancy unit with a floor area not more than 200 m^2 in a Class 5, 6, 7 or 8 building; or* *(D) a space which is otherwise inaccessible to persons at all times when the door is locked; or* *(iii) serves the secure parts of a bank, detention centre, mental health facility, early childhood centre or the like and it can be immediately unlocked—* *(A) by operating a fail-safe control switch, not contained within a protective enclosure, to actuate a device to unlock the door; or* *(B) by hand by a person or persons, specifically nominated by the owner, properly instructed as to the duties and responsibilities involved and available at all times when the building is lawfully occupied so that persons in the building or part may immediately escape if there is a fire; or* *(iv) is fitted with a fail-safe device which automatically unlocks the door upon the activation of any sprinkler system complying with Specification E1.5 or smoke, or any other detector system deemed suitable in accordance with AS 1670.1 installed throughout the building; or* *(v) is in a Class 9a or 9c building and—* *(A) is one leaf of a two-leaf door complying with D1.6(f)(i) or D1.6(f)(iv) provided that it is not held closed by a locking mechanism and is readily openable; and* *(B) the door is not required to be a fire door or smoke door.*		
D2.22 Re-entry from fire-isolated exits *(a) Doors of a fire-isolated exit must not be locked from the inside as follows:* *(i) In a Class 9a health-care building.* *(ii) In a Class 9c building.* *(iii) In a fire-isolated exit serving any storey above an effective height of 25 m, throughout the exit.* *(b) The requirements of (a) do not apply to a door fitted with a fail-safe device that automatically unlocks the door upon the activation of a fire alarm and—* *(i) on at least every fourth storey, the doors are not able to be locked and a sign is fixed on such doors stating that re-entry is available; or* *(ii) an intercommunication system, or an audible or visual alarm system, operated from within the enclosure is provided near the doors and a sign is fixed adjacent to such doors explaining its purpose and method of operation.*	**Yes**	Further details to be provided at CC stage.
D2.23 Signs on doors *A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to a required fire door providing direct access to a fire-isolated exit, except a door providing direct egress from a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building;* ***and*** *Required smoke door - on the side of the door that faces a person seeking egress and, if the door is fitted with a device for holding it in the open position, on either the wall adjacent to the doorway or both sides of the door; and* *Fire door forming part of a horizontal exit; and* *Smoke door that swings in both directions; and* *Door leading from a fire isolated exit to a road or open space, on each side of the door.* *A sign referred to in (a) must be in capital letters not less than 20 mm high in a colour contrasting with the background and state—* *(i) for an automatic door held open by an automatic hold-open device— "FIRE SAFETY DOOR—DO NOT OBSTRUCT"; or* *(ii) for a self-closing door— "FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN"; or* *(iii) for a door discharging from a fire-isolated exit— "FIRE SAFETY DOOR—DO NOT OBSTRUCT".*	**Yes**	Further details to be provided at CC stage.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
D2.24 Protection of openable windows	N/A	The protection of windows pursuant to D2.24 does not apply 5 building - only applies to Class 2, 3 & 9b early childhood centre.
PART D3 ACCESS FOR PEOPLE WITH DISABILITIES		
D3.0 Deemed-to-Satisfy Provisions	**For notation**	
D3.1 Application of Part *Buildings and parts of buildings must be accessible as required by Table D3.1, unless exempted by D3.4.* **Class of building** / **Access requirements** If the building or group of buildings contain— / To and within— 1 to 10 *sole-occupancy units* / 1 *accessible sole-occupancy unit*. 11 to 40 *sole-occupancy units* / 2 *accessible sole-occupancy units*. 41 to 60 *sole-occupancy units* / 3 *accessible sole-occupancy units*. 61 to 80 *sole-occupancy units* / 4 *accessible sole-occupancy units*. 81 to 100 *sole-occupancy units* / 5 *accessible sole-occupancy units*. 101 to 200 *sole-occupancy units* / 5 *accessible sole-occupancy units* plus 1 additional *accessible sole-occupancy unit* for every 25 units or part thereof in excess of 100. 201 to 500 *sole-occupancy units* / 9 *accessiblesole-occupancy units* plus 1 additional *accessiblesole-occupancy unit* for every 30 units or part thereof in excess of 200. more than 500 *sole-occupancy units* / 19 *accessible sole-occupancy units* plus 1 additional *accessible sole-occupancy unit* for every 50 units or part thereof in excess of 500. Class 5 / To and within all areas normally used by the occupants. Class 6 / To and within all areas normally used by the occupants. Class 7a / To and within any level containing *accessible* carparking spaces. Class 7b / To and within all areas normally used by the occupants. Class 8 / To and within all areas normally used by the occupants. Class 9a / To and within all areas normally used by the occupants. Class 9b *Schools* and *early childhood centres* / To and within all areas normally used by the occupants. An *assembly building* not being a *school* or an *early childhood centre* / To wheelchair seating spaces provided in accordance with D3.9. To and within all other areas normally used by the occupants, except that access need not be provided to tiers or platforms of seating areas that do not contain wheelchair seating spaces. Ramps  **Diagram 17** – Typical amenities core incorporating access ramp Circulation areas are required to comply with AS1428.1-2009 ramp grades to be identified. If steeper than 1:20 they are deemed ramps and must have handrails, kerb rails, tactile and the like incorporated. If 1:20 then they are deemed walkways and accessible features such as handrails etc. does not apply.	**Yes** **Refer to comments**	The proposed disabled access ramp which enables entry to Bay 5 to be gained via Bay 4 will generally enable the requirements of D3.1 to be satisfied. Further details will be required which demonstrates that the ramp construction and circulation areas generally along the ramp, thru the entry point to the building and within the building will need to be provided at CC stage. It is further noted that once in the entry lobby access to all levels of the building will only be possible via the lift. In this regard the lift will need to demonstrate that it is able to satisfy the requirements of AS1735.12. **Note:** Particular attention will need to be given to the ramp that appears to be provided at Grid reference C Bay 4 level 1 which appears to incorporate a ramp. The relationship between the ramp and the threshold of door within the wall bounding Bay 4 & 5 will need to ensure that it satisfies the requirements of D2.15. This will mean that the ramp will need to commence outside the swing of the door. Further details will need to be provided at CC stage identifying ramp grades and compliance with D2.15 & AS1428.1-2009.  **Diagram 16** – Ramp to Bay 4 Level 1 Whilst ramps have also been identified adjacent to the amenities core no details associated with such ramps has been provided. Further details demonstrating compliance with AS1428.1-2009 in respect of the ramp, circulation & turning areas etc is required to be provided at CC stage.
D3.2 General building access requirements *(a) An accessway must be provided to a building required to be accessible—* *(i) from the main points of a pedestrian entry at the allotment boundary; and*	**Yes**	The principal pedestrian entry and accessway to the building is illustrated in Diagram 8 below. Whilst a new accessible ramp is detailed such that access to Bay 5 will be achieved via Bay 4 particular attention will need

Accessible path of travel to and within the building

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(ii) from another accessible building connected by a pedestrian link; and *(iii) from any required accessible carparking space on the allotment.* *(b) In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance, and—* *(i) through not less than 50% of all pedestrian entrances including the principal pedestrian entrance; and* *(ii) in a building with a total floor area more than 500 m^2, a pedestrian entrance which is not accessible must not be located more than 50 m from an accessible pedestrian entrance,* *except for pedestrian entrances serving only areas exempted by D3.4.* *(c) Where a pedestrian entrance required to be accessible has multiple doorways—* *(i) if the pedestrian entrance consists of not more than 3 doorways — not less than 1 of those doorways must be accessible; and* *(ii) if a pedestrian entrance consists of more than 3 doorways — not less than 50% of those doorways must be accessible.* *(d) For the purposes of (c)—* *(i) an accessible pedestrian entrance with multiple doorways is considered to be one pedestrian entrance where—* *(A) all doorways serve the same part or parts of the building; and* *(B) the distance between each doorway is not more than the width of the widest doorway at that pedestrian entrance (see Figure D3.2); and* *(ii) a doorway is considered to be the clear, unobstructed opening created by the opening of one or more door leaves (see Figure D3.2).* *(e) Where a doorway on an accessway has multiple leaves, (except an automatic opening door) one of those leaves must have a clear opening width of not less than 850 mm in accordance with AS 1428.1.*  Figure D3.2 DOORWAYS AND PEDESTRIAN ENTRANCES FOR ACCESS PURPOSES More than width of doorway b Doorway a Doorway b Doorway c Doorway e Doorway d 1 entrance 1 entrance		to be given to the circulation space and turning area dimensions associated with the ramp for the purposes of demonstrating compliance with AS1428.1-2009. Further details to be provided at CC stage.  **Diagram 18**- Disabled access ramp Via Bay 4 It will also be necessary for all access and control measures intended to be implemented on all levels of the building and to the main entry door to the building via Bay4, to be detailed at CC stage. In particular latch side and hinge site door clearances will need to be identified and demonstrate compliance with AS1428.1-2009. Further details to be provided at CC stage.
D3.3 Parts of buildings to be accessible *In a building required to be accessible—* *(a) every ramp and stairway, except for ramps and stairways in areas exempted by D3.4, must comply with—* *(i) for a ramp, except a fire-isolated ramp, clause 10 of AS 1428.1; and* *(ii) for a stairway, except a fire-isolated stairway, clause 11 of AS 1428.1; and* *(iii) for a fire-isolated stairway, clause 11.1(f) and (g) of AS 1428.1; and* *(b) every passenger lift must comply with E3.6; and* *(c) accessways must have—* *(i) passing spaces complying with AS 1428.1 at maximum 20 m intervals on those parts of an accessway where a direct line of sight is not available; and* *(ii) turning spaces complying with AS 1428.1—* *(A) within 2 m of the end of accessways where it is not possible to continue travelling along the accessway; and* *(B) at maximum 20 m intervals along the accessway; and* *(d) an intersection of accessways satisfies the spatial requirements for a passing and turning space; and* *(e) a passing space may serve as a turning space; and* *The carpet pile height or pile thickness dimension, carpet backing thickness dimension and their combined dimension shown in Figure 8 of AS 1428.1 do not apply and are replaced with 11 mm, 4 mm and 15 mm respectively.*	**Yes**	Further details are to be provided at CC stage demonstrating compliance with respect to Section 6-17 of AS1428.1-2009 and AS 1735.12 regarding the passenger lift.
D3.4 Concessions	**N/A**	No concessions are considered to apply
D3.5 Accessible Carparking	**N/A**	
D3.6 Signage	**Yes**	Further details are to be provided at CC stage
D3.7 Hearing augmentation	**N/A**	
D3.8 Tactile indicators *In a building required to be accessible—* *(a) braille and tactile signage complying with Specification D3.6 must—* *(i) incorporate the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1 and identify each—* *(A) sanitary facility, except a sanitary facility within a sole-occupancy unit in a Class 1b or Class 3 building; and* *(B) space with a hearing augmentation system; and* *(ii) identify each door required by E4.5 to be provided with an exit sign and state—*	**Yes**	Further details are to be provided at CC stage

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(A) "Exit"; and *(B) "Level" ; and either (aa) the floor level number; or (bb) a floor level descriptor; or* *(cc) a combination of (aa) and (bb); and* *(b) signage including the international symbol for deafness in accordance with AS 1428.1 must be provided within a room containing a hearing augmentation system identifying—* *(i) the type of hearing augmentation; and* *(ii) the area covered within the room; and* *(iii) if receivers are being used and where the receivers can be obtained; and* *(c) signage in accordance with AS 1428.1 must be provided for accessible unisex sanitary facilities to identify if the facility is suitable for left or right handed use; and* *(d) signage to identify an ambulant accessible sanitary facility in accordance with AS 1428.1 must be located on the door of the facility; and* *(e) where a pedestrian entrance is not accessible, directional signage incorporating the international symbol of access, in accordance with AS 1428.1 must be provided to direct a person to the location of the nearest accessible pedestrian entrance; and* *(f) where a bank of sanitary facilities is not provided with an accessible unisex sanitary facility, directional signage incorporating the international symbol of access in accordance with AS 1428.1 must be placed at the location of the sanitary facilities that are not accessible, to direct a person to the location of the nearest accessible unisex sanitary facility.*		
D3.7 Hearing augmentation	**N/A**	
D3.8 Aged care building	**N/A**	
D3.9 Wheelchair seating spaces in Class 9b assembly buildings	**N/A**	
D3.10 Swimming pools	**N/A**	
D3.11 Ramps *On an accessway—* *(a) a series of connected ramps must not have a combined vertical rise of more than 3.6 m; and* *(b) a landing for a step ramp must not overlap a landing for another step ramp or ramp.*	**Yes**	
D3.12 Glazing on an access way *On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1.*	**Yes**	Further details are to be provided at CC stage.
SPECIFICATION D1.12 NON-REQUIRED STAIRWAYS, RAMPS AND ESCALATORS	**For notation**	
SPECIFICATION D3.6 BRAILLE AND TACTILE SIGNS	**N/A**	
SECTION E SERVICES AND EQUIPMENT		
E1.3 Fire Hydrants *(a) A fire hydrant system must be provided to serve a building—* *(i) having a total floor area greater than 500 m^2; and* *(ii) where a fire brigade is available to attend a building fire.* *(b) The fire hydrant system—* *(i) must be installed in accordance with AS 2419.1, except a Class 8 electricity network substation need not comply with clause 4.2 of AS 2419.1 if—* *(A) it cannot be connected to town main supply; and* *(B) one hour water storage is provided for firefighting; and* *(ii) where internal fire hydrants are provided, they must serve only the storey on which they are located except that a sole-occupancy unit—* *(A) in a Class 2 or 3 building or Class 4 part of a building may be served by a single fire hydrant located at the level of egress from that sole-occupancy unit; or* *(B) of not more than 2 storeys in a Class 5, 6, 7, 8 or 9 building may be served by a single fire hydrant located at the level of egress from that sole-* *occupancy unit* provided the fire hydrant can provide coverage to the whole of the *sole-occupancy unit.*	**No**	It is a statutory requirement Pursuant to clause 98 of the EP&A Reg 2000 that any building work must be carried out in accordance with the BCA. The extent to which compliance with the BCA is required in respect of an existing building (or part) notwithstanding that such part or building will not be altered or form part of the building works, is at the discretion of the consent authority pursuant to Clause 94 of the EP&A Regulation 2000. Within the context of the works proposed to Bay 5, the building is required to be provided with compliant hydrant coverage in accordance with the requirements of Clause E1.3 of the BCA which calls up AS2419.1-2005. Whilst fire hydrants exist within Bay 3 the standard of performance associated with such system is Ministerial Specification No. 10 – Ordinance 70. In circumstances where the consent authority has not trigger clause 94, the extent to which an existing fire hydrant is not required to comply with the current standard i.e. AS2419.1-2009, is subject to the consideration and determination of the Fire Commissioner pursuant to 188 of the EP&A Regulation 2000. In such

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		circumstances an applicant for a DA is able to lodge and objection with the NSW Fire Commissioner that compliance with Category 3 fire safety provision clause E1.3 is unreasonable or unnecessary in the particular circumstances of the case. If the Fire Commissioner is satisfied that the objection is well founded, the Fire Commissioner may exempt the development, either conditionally or unconditionally, from any specified Category 3 fire safety provision as applied by clause 98. The distinction to be made in terms of AS2419.1-2005 compared to Ordinance 70 is that: 1. Hydrant landing valves are required to be located with a fire isolated stair where such stairs exist; 2. Booster assembly requirements are more comprehensive, 3. Water supply, flow and pressure is specifically defined. Within the context and quantum of work proposed with respect to Bay 5 it will be necessary for a hydrant system complying with Clause E1.3 & AS2419.1-2005 be installed. Should it be intended that the existing hydrant system be relied upon for the purposes of satisfying E1.3 of the BCA, it will be necessary for the following to be undertaken: 1. Lodge an application with the NSW Fire Commissioner pursuant to Clause 188 of the EP&A Regulation 2000 seeking dispensations in respect of the existing hydrant system; or 2. Prepare a fire engineered performance based report that addresses the relevant performance requirement of EP1.3.
E1.4 Fire hose reels *A fire hose reel system must be provided—* *(i) to serve the whole building where one or more internal fire hydrants are installed; or* *(ii) where internal fire hydrants are not installed, to serve any fire compartment with a floor area greater than 500 m^2.* *(c) The fire hose reel system must—* *(i) have fire hose reels installed in accordance with AS 2441; and* *(ii) provide fire hose reels to serve only the storey at which they are located, except a sole-occupancy unit of not more than 2 storeys in a Class 5, 6, 7, 8 or 9 building may be served by a single fire hose reel located at the level of egress from that sole-occupancy unit provided the fire hose reel can provide coverage to the whole of the sole-occupancy unit.* *(d) Fire hose reels must be located internally, externally or in combination, to achieve the system coverage specified in AS 2441.* *(e) In achieving system coverage, one or a combination of the following criteria for individual internally located fire hose reels must be met in determining the layout of any fire hose reel system:* *(i) Fire hose reels must be located adjacent to an internal fire hydrant (other than one within a fire-isolated exit), except that a fire hose reel need not be located adjacent to every fire hydrant, provided system coverage can be achieved.* *(ii) Fire hose reels must be located within 4 m of an exit, except that a fire hose reel need not be located adjacent to every exit, provided system coverage can be achieved.* *(iii) Where system coverage is not achieved by compliance with (i) and (ii), additional fire hose reels may be located in paths of travel to an exit to achieve the required coverage.* *(f) Fire hose reels must be located so that the fire hose will not need to pass through doorways fitted with fire or smoke doors, except—* *(i) doorways in walls referred to in C2.5(a)(v) in a Class 9a building and C2.5(b)(iv) in a Class 9c building, separating ancillary use areas of high potential fire hazard; and*	**No**	Within the context of the works proposed to Bay 5, the building is required to be provided with compliant fire hose reel coverage in accordance with the requirements of Clause E1.4 of the BCA which calls up AS2441-2005. Whilst fire hose reels exist throughout the building the standard of performance associated with such system is Ministerial Specification No. 10 – Ordinance 70. Should it be intended that the existing fire hose reel system be relied upon for the purposes of satisfying the requirements of clause E1.4 of the BCA, it will be necessary to demonstrate that the performance requirements of EP1.1 are able to be satisfied.

<table>
<tr><th>BCA REQUIREMENTS</th><th>Compatible with BCA YES/NO</th><th>COMMENTS</th></tr>
<tr><td>
(ii) doorways in walls referred to in C2.12 or C2.13 separating equipment or electrical supply systems; and
(iii) doorway openings to shafts referred to in C3.13.
(g) Where the normal water supply cannot achieve the flow and pressures required by AS 2441, or is unreliable —
(i) a pump; or
(ii) water storage facility; or
(iii) both a pump and water storage facility,
must be installed to provide the minimum flow and pressures required by AS2441.
</td><td></td><td></td></tr>
<tr><td>
E1.5 Sprinklers
A sprinkler system must—
(a) be installed in a building or part of a building when required by Table E1.5; and
(b) comply with Specification E1.5.
Table E1.5 REQUIREMENTS FOR SPRINKLERS
<table>
<tr><th>Occupancy</th><th>When sprinklers are required</th></tr>
<tr><td>All classes—
(a) including an open-deck carpark within a multi-classified building; but
(b) excluding—
(i) an open-deck carpark being a separate building; and
(ii) a Class 8 electricity network substation, with a floor area not more than 200 m², located within a multi-classified building.</td><td>Throughout the whole building if any part of the building has an effective height of more than 25 m.</td></tr>
</table>
</td><td>N/A
Refer to comments</td><td>Ordinarily an automatic fire suppression system would not be required to be installed with the subject building noting its use and effective height being less than 25 m.

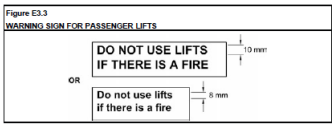
The building is however sprinkler protected throughout.

Such system is likely to have been installed to offset deficiencies in fire separation between storey's and to protect the heritage fabric and address occupant safety.

The existing standard of performance associated with the sprinkler system is AS2118.1-1982. The current standard of performance identified by the BCA is AS2118.1-1999. However it is not clear whether or not the existing sprinkler system and hydrant system are combined notwithstanding the standard of performance listed within the fire safety schedule

Within the context of the overall building works proposed to Bay 5 and fire engineering assessments required to be formulated for the purposes of addressing deficiencies in passive fire resistance construction, the significance of the automatic fire suppression (sprinkler) as a lift safety strategy and measure, cannot be emphasized enough. As such it would be prudent for the sprinkler system to be upgraded to comply with the current standard of performance i.e. either: AS2118.1-1999; or AS2118.6-2012 for a combined hydrant/sprinkler system or AS2118.1-2017 noting such standard is proposed to form part of amendment [1] BCA 2016. Noting that the proposed design will incorporate a fire engineered performance based assessment intended to address particular short falls in passive fire resistance construction it would be prudent not to assume any exemptions which would ordinarily apply in terms of sprinkler spacing locations and the like on the basis that the building will also be provided with an automatic fire detection and alarm system.</td></tr>
<tr><td>
<u>E1.6 Portable fire extinguishers</u>
(a) Portable fire extinguishers must be—
(i) provided as listed in Table E1.6; and
(ii) for a Class 2 or 3 building or Class 4 part of a building, provided—
(A) to serve the whole Class 2 or 3 building or Class 4 part of a building where one or more internal fire hydrants are installed; or
(B) where internal fire hydrants are not installed, to serve any fire compartment with a floor area greater than 500 m², and for the purposes of this clause, a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building is considered to be a fire compartment; and
(iii) subject to (b), selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444.
(b) Portable fire extinguishers provided in a Class 2 or 3 building or Class 4 part of a building must be—
(i) an ABE type fire extinguisher; and
(ii) a minimum size of 2.5 kg; and
(iii) distributed outside a sole-occupancy unit—
(A) to serve only the storey at which they are located; and
</td><td>Yes</td><td>Further details to be provided at CC Stage</td></tr>
</table>

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(B) so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10 m.		
E1.7 *		
E1.8 Fire control room	**N/A**	
E1.9 Fire precautions during construction	**For notation**	
E1.10 Provision for special hazards	**N/A**	No special hazards exist
SPECIFICATION E1.5 FIRE SPRINKLER SYSTEMS		
PART E2 SMOKE HAZARD MANAGEMENT		
E2.0 Deemed-to-Satisfy Provisions	**For Notation**	
E2.1 Application of Part	**For Notation**	
E2.2 General requirements *(a) A building must comply with (b), (c), (d) and—* *(i) Table E2.2a as applicable to Class 2 to 9 buildings such that each separate part complies with the relevant provisions for the classification; and* *(ii) Table E2.2b as applicable to Class 6 and 9b buildings such that each separate part complies with the relevant provisions for the classification.* *(b) An air-handling system which does not form part of a smoke hazard management system in accordance with Table E2.2a or Table E2.2b and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must —* *(i) be designed and installed to operate as a smoke control system in accordance with AS/NZS 1668.1; or* *(ii)* *(A) incorporate smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and* *(B) be arranged such that the air-handling system is shut down and the smo dampers are activated to close automatically by smoke detectors compl clause 4.10 of AS/NZS 1668.1; and* *for the purposes of this provision, each sole-occupancy unit in a Class 2 or 3 building is treated as a separate fire compartment.* *(c) Miscellaneous air-handling systems covered by Sections 5 and 11 of AS/NZS 1668.1 serving more than one fire compartment (other than a carpark ventilation system) and not forming part of a smoke hazard management system must comply with that Section of the Standard.* *(d) A smoke detection system must be installed in accordance with Clause 5 of Specification E2.2a to operate AS/NZS 1668.1 systems that are provided for zone smoke control and automatic air pressurisation for fire-isolated exits.*	**Yes** **Refer to comments**	Due to the rise in storey the building is required to be provided with either a fire detection system complying with Clause 4 Specification C1.1 & AS1670.1-2015 or an automatic fire suppression system complying with AS2118.1-1999. According to the Annual Fire Safety Statement the building is presently provided with both systems albeit not to current BCA standards. Within the context of the works proposed to be undertaken with respect to Bay 5 and having regard to the existing deficiencies associated with passive fire resistance constriction throughout the building generally, both systems should be retained and made compliant with the current BCA standard of performance.(Refer comments Clause 4 Specification E2.2a below)
E2.3 Provision for special hazards	**N/A**	
SPECIFICATION E2.2a SMOKE DETECTION AND ALARM SYSTEMS		
1. Scope	**For notation**	
2. Type of system	**For notation**	
3. Smoke alarm system	**N/A**	
4. Smoke detection system *(a) A smoke detection system must—* *(i) subject to (c) and (d), comply with AS 1670.1 except for the provisions of—* *(A) Clause 3.26(f); and* *(B) ****** *(C) ****** *(ii) activate a building occupant warning system in accordance with Clause 6.* *(b) In kitchens and other areas where the use of the area is likely to result in smoke detectors causing spurious signals—* *(i) any other detector deemed suitable in accordance with AS 1670.1 may be installed provided that smoke detectors are installed elsewhere in the sole-occupancy unit in accordance with Clause 3(c)(i); or* *(ii) an alarm acknowledgement facility may be installed,* *except where the kitchen or other area is sprinklered, the detectors need not be installed in the kitchen or other areas likely to result in spurious signals.* *(c) In a Class 2 building or part of a building smoke detectors must be installed—* *(i) within each sole-occupancy unit, in accordance with the requirements for alarms in Clause 3(c)(i); and* *(ii) in a building not protected with a sprinkler system, in public corridors and other internal public spaces.*	**Yes**	The building is required to be served by a fire detection and alarm system in accordance with Clause 4- Specification E2.2a & AS1670.1-2015. Noting that the proposed design will incorporate a fire engineered performance based assessment intended to address particular short falls in passive fire resistance construction it would be prudent **not to** assume any exemptions which would ordinarily apply in terms of detector locations and the like on the basis that the building will also be provided with an automatic fire suppression system
5. Smoke detection for smoke control systems	**N/A**	
6. Building occupant warning system	**Yes**	Details to be provided at CC stage

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
Subject to E4.9, a building occupant warning system provided as part of a smoke hazard management system must comply with clause 3.22 of AS 1670.1 to sound through all occupied areas except— *(a) in a Class 2 building or part of a building provided with a smoke alarm system in accordance with Clause 3(c)(ii)—* *(i) the sound pressure level need not be measured within a sole-occupancy unit if a level of not less than 85 dB(A) is provided at the door providing access to the sole-occupancy unit; and* *(ii) the inbuilt sounders of the smoke alarms may be used to wholly or partially meet the requirements; and* *(b) in a Class 2 building or part of a building provided with a smoke detection system in accordance with Clause 4(c), the sound pressure level from a building occupant warning system need not be measured within a sole-occupancy unit if a level of not less than 100 dB(A) is provided at the door providing access to the sole-occupancy unit.*		
7. System monitoring *The following installations must be connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre in accordance with AS 1670.3:* *(a) A smoke detection system in a Class 3 building provided in accordance with Clause 2(a)(ii).* *(b) A smoke detection system in a Class 9a health-care building, if the building accommodates more than 20 patients.* *(c) A smoke detection system in a Class 9c building.* *(d) Smoke detection in accordance with Clause 5 provided to activate—* *(i) a smoke exhaust system in accordance with Specification E2.2b; or* *(ii) smoke-and-heat vents in accordance with Specification E2.2c. NSW Spec E2.2a 7(e)*	**N/A Refer to comments**	The existing fire detection system includes system monitoring not withstanding that such monitoring is not required by the BCA. The existing monitoring of the system should be maintained and achieve compliance with AS1670.3-2004. Further details to be provided at CC stage.
PART E3 LIFT INSTALLATIONS		
E3.0 Deemed-to-Satisfy Provisions	**For notation**	
E3.1 Lift installation *An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification E3.1.*	**For notation**	
E3.2 Stretcher facility in lifts *(a) A stretcher facility in accordance with (b) must be provided—* *(i) in at least one emergency lift required by E3.4; or* *(ii) where an emergency lift is not required, if passenger lifts are installed to serve any storey above an effective height of 12 m, in at least one of those lifts to serve each floor served by the lifts.* *(b) A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level.*	**No**	The lift cars do not appear to be capable of satisfying the stretcher lift requirements. On the basis that the building is existing and the limited capacity to alter the lift size, it will be necessary for a performance based assessment to be undertaken. The relevant performance requirement to be addressed is EP3.1
E3.3 Warning use of lifts in fire *A warning sign must—* *(a) be displayed where it can be readily seen—* *(i) near every call button for a passenger lift or group of lifts throughout a building; except* *(ii) a small lift such as a dumb-waiter or the like that is for the transport of goods only; and* *(b) comply with the details and dimensions of Figure E3.3 and consist of—* *(i) incised, inlaid or embossed letters on a metal, wood, plastic or similar plate securely and permanently attached to the wall; or* *(ii) letters incised or inlaid directly into the surface of the material forming the wall.*  Figure E3.3 WARNING SIGN FOR PASSENGER LIFTS DO NOT USE LIFTS IF THERE IS A FIRE 10 mm OR Do not use lifts if there is a fire 8 mm	**Yes**	Details to be provided at CC stage
E3.4 Emergency lifts *(a) At least one emergency lift complying with (d) must be installed in—* *(i) a building which has an effective height of more than 25 m;* *(b) An emergency lift may be combined with a passenger lift and must serve those storeys served by the passenger lift so that all storeys of the building served by passenger lifts are served by at least one emergency lift.* *(c) Where two or more passenger lifts are installed and serve the same storeys, excluding a lift that is within an atrium and not contained wholly within a shaft—* *(i) at least two emergency lifts must be provided to serve those storeys; and*	**N/A**	

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(ii) if located within different shafts, at least one emergency lift must be provided in each shaft. *(d) An emergency lift must—* *(i) be contained within a fire-resisting shaft in accordance with C2.10; and* *(ii) in a Class 9a building serving a patient care area—* *(A) have minimum dimensions, measured clear of all obstructions, including handrails, etc complying with Table E3.4; and* *(B) be connected to a standby power supply system where installed; and* *(iii) if the building has an effective height of more than 75 m, have a rating of at least—* *(A) 600 kg if not provided with a stretcher facility; or* *(B) 900 kg if provided with a stretcher facility.*		
E3.5 Landings *Access and egress to and from liftwell landings must comply with the Deemed-to-Satisfy Provisions of Section D.*	**Yes**	Details to be provided at CC stage
E3.6 Facilities for the disabled *In an accessible building, every passenger lift must—* *(a) be one of the types identified in Table E3.6a, subject to the limitations on use specified in the Table; and* *(b) have accessible features in accordance with Table E3.6b; and* *(c) not rely on a constant pressure device for its operation if the lift car is fully enclosed.*	**Yes**	Details to be provided at CC stage
E3.7 Fire service controls *Where lifts serve any storey above an effective height of 12m, the following must be provided:* *(a) A fire service recall control switch complying with E3.9 for—* *(i) a group of lifts; or* *(ii) a single lift not in a group that serves the storey.* *(b) A lift car fire service drive control switch complying with E3.10 for every lift.*	**Yes**	Details to be provided at CC stage
E3.8 Aged care buildings	**N/A**	
E3.9 Fire services recall control switch *(a) Each group of lifts must be provided with one fire service recall control switch required by E3.7 that activates the fire service recall operation at (e). The switch must—* *(i) be located at the landing nominated by the appropriate authority; and* *(ii) be labelled "FIRE SERVICE" in indelible white lettering on a red background; and* *(iii) have two positions with an "OFF" and an "ON" position identified; and* *(iv) be operable only by the use of a key that is removable in either the "OFF" position or the "ON" position.* *(b) Adhesive labels must not be used for compliance with (a)(ii) and (a)(iii).* *(c) The key in (a)(iv) must be able to turn all fire service recall control switches in the building and must have a different key combination to other keys used for lifts in the building.* *(d) The fire service recall operation must be activated by—* *(i) switching the fire service recall control switch in (a) to "ON"; or* *(ii) a signal from a fire management system approved by the appropriate authority.* *(e) The activation of the fire service recall operation at (d) must—* *(i) cancel all registered car and landing calls; and* *(ii) inactivate all door reopening devices that may be affected by smoke; and* *(iii) ensure lift cars travelling toward the nominated floor continue to the nominated floor without stopping; and* *(iv) ensure lift cars travelling away from the nominated floor stop at or before the next available floor without opening the doors (either automatically or by the door open button), reverse direction and travel without stopping to the nominated floor; and* *(v) for lifts stopped at a floor other than the nominated floor, close the doors and travel without stopping to the nominated floor; and* *(vi) ensure that lifts stay at the nominated floor with doors open; and* *(vii) permit all lifts to return to normal service if the fire service recall control switch at* *(a) is switched to the "OFF" position during or after the fire service recall operation.* *(f) The requirements of (e) do not apply to lifts on inspection service or when the lift car fire service control switch required by E3.10 is in the "ON" position.* *(g) Lifts having manual controls must signal an alert to the lift for the lift to return to the nominated floor containing the recall switch that activated the signal.*	**Yes**	The fire services recall switch is to be located on the ground floor and suitably labeled as per E3.9(a)(ii) & (iii). Details to be provided at CC stage.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
E3.10 Lift car fire service drive control switch *(a) The lift car fire service drive control switch required by E3.7 must be activated from within the lift car. The switch must—* *(i) be located between 600 mm and 1500 mm above the lift car floor; and* *(ii) be labelled "FIRE SERVICE" by indelible white lettering on a red background; and* *(iii) have two positions with an "OFF" and an "ON" position identified; and* *(iv) operate only by the use of a key that is removable in either the "OFF" position or the "ON" position.* *(b) Adhesive labels must not be used for compliance with (a)(ii) or (a)(iii).* *(c) When the lift car fire service drive control switch at (a) is turned to the "ON" position, the lift must—* *(i) not respond to the fire service recall control switch; and* *(ii) cancel all registered lift car and landing calls; and* *(iii) override all lift car call access control systems; and* *(iv) inactivate all door reopening devices that may be affected by smoke; and* *(v) allow the registration of lift car call by lift car call buttons, however the lift doors must not close in response to the registration of lift car calls; and* *(vi) activate door closing by constant pressure being applied on the "door close" button unless the button is released before the doors are fully closed, in which case the doors must reopen and any registered lift car calls must be cancelled; and* *(vii) when the doors are closed, move the lift in response to registered lift car calls while allowing additional lift car calls to also be registered; and* *(viii) travel to the first possible floor in response to registered lift car calls and cancel all registered lift car calls after the lift stops; and* *(ix) ensure doors do not open automatically, rather by constant pressure being applied on the "door open" button unless the button is released before the doors are fully open, in which case the doors must re-close; and the requirements of (c)(i) to (c)(ix) do not apply to a lift operating on inspection service.* *(d) A multi-deck lift installation must have systems in place that—* *(i) are able to communicate to the fire officer that the fire service drive control switch will not operate until all decks have been cleared of passengers; and* *(ii) ensure there is an appropriate method of clearing all deck landings of passengers; and* *(iii) maintain all doors to deck landings not containing the fire service control switch closed and inoperative while the lift is on fire service drive control.*	**Yes**	Details to be provided at CC stage
SPECIFICATION E3.1 LIFT INSTALLATIONS		
1. Scope	**For notation**	
2. Lift car exposed to solar radiation *(a) A lift car exposed to solar radiation directly, or indirectly by re-radiation, must have—* *(i) mechanical ventilation at a rate of one air change per minute; or* *(ii) mechanical cooling.* *(b) A 2 hour alternative power source for ventilation or mechanical cooling at (a) must be provided in the event of normal power loss.*	**N/A**	
3. Cooling of lift shaft *While a lift in a lift shaft is in service, the cooling of the lift shaft must—* *(a) ensure that the dry bulb air temperature in the lift shaft does not exceed 40°C; and* *(b) if the cooling is by a ventilation system, be provided with an air change rate determined using a temperature rise of no more than 5 K.*	**Yes**	Details are to be provided at CC stage
3. Lift foyer access *Where there is a security foyer in a building, access may be via locked security doors provided—* *(a) security doors revert to the unlocked state in the event of—* *(i) power failure; or* *(ii) fire alarm; and* *(b) locked foyer areas are monitored by closed circuit television and intercom system to a 24 hour staffed location.*	**Yes**	Details to be provided at CC stage.
4. Emergency access door in single enclosed shaft	**N/A**	

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(a) Where a lift is installed in a single enclosed lift shaft having a distance between normal landing entrances greater than 12.2 m, emergency access doors must be provided and constructed as follows: *(i) The clear opening size of emergency doors must be not less than 600 mm wide x 980 mm high.* *(ii) Hinged doors must not open towards the interior of the lift shaft.* *(iii) Doors must be self-closing and self-locking.* *(iv) Doors must be marked on the landing side with the letters not less than 35 mm high:* *"DANGER LIFTWELL ACCESS" "KEEP FURNITURE AND FIXTURES CLEAR".* *(v) Doors from the landing side must only be openable by a tool.* *(vi) Each emergency door must be provided with a positive breaking electrical contact, wired into the control circuit to prevent movement of the lift until the emergency door is both closed and locked.* *(b) In single enclosed lift shafts where—* *(i) ropes are installed; and* *(ii) the vertical distance between the lift car sill and the landing door head is less than 600 mm; and* *(iii) the counterweight is resting on its fully compressed buffer,* *emergency egress from the lift car must be provided in the form of an interlocked door with clear opening dimensions not less than 600 mm x 600 mm, accessible from the lift car entrance or the lift car roof (where the door is located in the wall of the lift shaft).*		
PART E4 EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS		
E4.2 Emergency lighting *An emergency lighting system must be installed—* *(a) in every fire-isolated stairway, fire-isolated passageway or fire-isolated ramp; and* *(b) in every storey of a Class 5, 6, 7, 8 or 9 building where the storey has a floor area more than 300 m^2 —* *(i) in every passageway, corridor, hallway, or the like, that is part of the path of travel to an exit; and* *(ii) in any room having a floor area more than 100 m^2 that does not open to a corridor or space that has emergency lighting or to a road or open space; and* *(iii) in any room having a floor area more than 300 m^2; and* *(c) in every passageway, corridor, hallway, or the like, having a length of more than 6 m from the entrance doorway of any sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building to the nearest doorway opening directly to—* *(i) a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp; or* *(ii) an external stairway serving instead of a fire-isolated stairway under D1.8; or* *(iii) an external balcony leading to a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp; or* *(iv) a road or open space; and* *(d) in every required non-fire-isolated stairway; and* *(e) ina sole-occupancy unit in a Class 5, 6 or 9 building if—* *(i) the floor area of the unit is more than 300 m^2; and* *(ii) an exit from the unit does not open to a road or open space or to an external stairway, passageway, balcony or ramp, leading directly to a road or open space; and* *(f) in every room or space to which there is public access in every storey in a Class 6 or 9b building if—* *(i) the floor area in that storey is more than 300 m^2; or* *(ii) any point on the floor of that storey is more than 20 m from the nearest doorway leading directly to a stairway, ramp, passageway, road or open space; or* *(iii) egress from that storey involves a vertical rise within the building of more than 1.5 m, or any vertical rise if the storey concerned does not admit sufficient light; or* *(iv) the storey provides a path of travel from any other storey required by (i), (ii) or (iii)to have emergency lighting;* *(i) in every required fire control centre.*	**Yes**	Details to be provided at CC stage.
E4.3 Measurement of distance	**For notation**	
E4.4 Design emergency lighting *Every required emergency lighting system must comply with AS 2293.1.*	**For notation**	
E4.5 Exit signs *(a) door providing direct egress from a storey to—* *(i) an enclosed stairway, passageway or ramp serving as a required exit; and*	**Yes**	Details to be provided at CC stage

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(ii) an external stairway, passageway or ramp serving as a required exit; and *(iii) an external access balcony leading to a required exit; and* *(b) door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space; and* *(c) horizontal exit; and* *(d) door serving as, or forming part of, a required exit in a storey required to be provided with emergency lighting in accordance with E4.2.*		
E4.6 Direction signs If *an exit is not readily apparent to persons occupying or visiting the building, then exit signs must be installed—* *(a) in appropriate positions in corridors, hallways, lobbies, foyers, auditoria, and the like, indicating the direction to a required exit; and* *(b) in a Class 9b building used as an entertainment venue — in any external egress path to a road where the exit does not open directly onto a road.*	**Yes**	Details to be provided at CC stage
E4.7 Class 2 and 3 buildings and Class 4 parts: Exemptions *E4.5 does not apply to—* *(a) a Class 2 building in which every door referred to is clearly and legibly labelled on the side remote from the exit or balcony—* *(i) with the word "EXIT" in capital letters 25 mm high in a colour contrasting with that of the background; or* *(ii) by some other suitable method; and* *(b) an entrance door of a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building.*	**N/A**	
E4.8 Design and operation of exit signs ***Every required exit sign must comply with—*** ***(a) AS 2293.1; or*** ***(b) for a photoluminescent exit sign, Specification E4.8; and*** *be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.*	**For notation**	
E4.9 Sound & intercom systems for emergency purposes *AS 1670.4 must be installed—* *(a) in a building with an effective height of more than 25 m; and* *(b) in a Class 3 building having a rise in storeys of more than 2 and used as—* *(i) the residential part of a school; or* *(ii) accommodation for the aged, children or people with a disability; and* *(c) in a Class 3 building used as a residential aged care building, except that the system—* *(i) must be arranged to provide a warning for occupants; and* *(ii) in areas used by the residents, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of residents; and*	**Yes**	Whilst Bay 5 will not incorporate a Class9b use it is contained with a building where Class 9b school uses are active and greater than 3 storey's. As such the building is required to be served by a Sound & Intercom System For Emergency Purposes. Such system is required to extend to Bay 5 as it is part of the overall building comprised of Bay 1-5 inclusive. Further details to be provided at CC stage.
PART F1 DAMP AND WEATHERPROOFING		
F1.1 Storm water drainage Stormwater drainage must comply with AS/NZS 3500.3.	**N/A**	Existing
F1.2 …….	**N/A**	
F1.3……..	**N/A**	
F1.4 External above ground membranes *Waterproofing membranes for external above ground use must comply with AS 4654 Parts 1 and 2.*		
F1.5 Roof coverings *A roof must be covered with—* *(a) concrete roofing tiles complying with AS 2049 and fixed, except in cyclonic areas, in accordance with AS 2050, as appropriate; or* *(b) terracotta roofing tiles complying with AS 2049 and fixed, except in cyclonic areas, in accordance with AS 2050; or* *(c) cellulose cement corrugated sheeting complying with AS/NZS 2908.1 and installed in accordance with AS/NZS 1562.2; or* *(d) metal sheet roofing complying with AS 1562.1; or*	**N/A**	Existing to remain unchanged and is unaffected by the proposed works

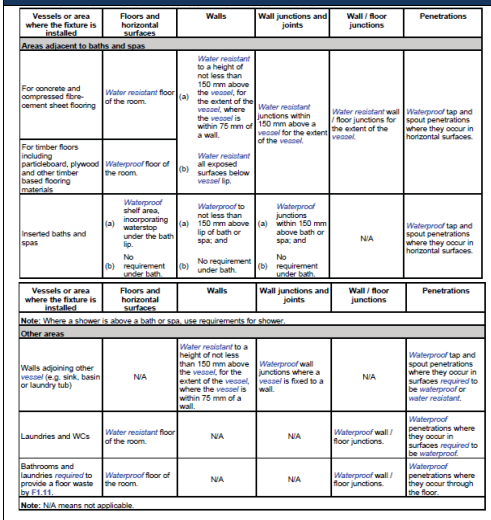
<table>
<tr><th>BCA REQUIREMENTS</th><th>Compatible with BCA YES/NO</th><th>COMMENTS</th></tr>
<tr><td>(e) plastic sheet roofing designed and installed in accordance with AS/NZS 4256 Parts 1, 2, 3 and 5 and AS/NZS 1562.3; or
(f) asphalt shingles complying with ASTM D3018-90, Class A</td><td></td><td></td></tr>
<tr><td><u>F1.6 Sarking</u>

Sarking-type materials used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 2.</td><td>N/A</td><td>Existing to remain unchanged and is unaffected by the proposed works</td></tr>
<tr><td><u>F1.7 Waterproofing of wet areas in buildings</u>

(a) In a Class 2 and 3 building and a Class 4 part of a building, building elements in wet areas must—
(i) be water resistant or waterproof in accordance with Table F1.7; and
(ii) comply with AS 3740.
(b) In a Class 5, 6, 7, 8 or 9 building, building elements in the bathroom or shower room, a slop hopper or sink compartment, a laundry or sanitary compartment must—
(i) be water resistant or waterproof in accordance with Table F1.7; and
(ii) comply with AS 3740, as if they were in a Class 2 or 3 building or a Class 4 part of a building.
(c) Where a slab or stall type urinal is installed—

(i) the floor surface of the room containing the urinal must—
(A) be an impervious material; and
(B) where no step is installed— (aa) be graded to the urinal channel for a distance of 1.5 m from the urinal channel; and (bb) the remainder of the floor be graded to a floor waste; and
(C) where a step is installed— (aa) the step must have an impervious surface and be graded to the urinal channel; and (bb) the floor behind the step must be graded to a floor waste; and
(ii) the junction between the floor surface and the urinal channel must be impervious.
(d) Where a wall hung urinal is installed—
(i) the wall must be surfaced with impervious material extending from the floor to not less than 50 mm above the top of the urinal and not less than 225 mm on each side of the urinal.
(ii) the floor must be surfaced with impervious material and graded to a floor waste.
(e) In a room with timber or steel framed walls and containing a urinal—
(i) the wall must be surfaced with an impervious material extending from the floor to not less than 100 mm above the floor surface. and
(ii) the junction of the floor surface and the wall surface must be impervious.

Table F1.7 WATERPROOFING AND WATER-RESISTANCE REQUIREMENTS FOR BUILDING ELEMENTS IN WET AREAS
<table><tr><th>Vessels or area where the fixture is installed</th><th>Floors and horizontal surfaces</th><th>Walls</th><th>Wall junctions and joints</th><th>Wall / floor junctions</th><th>Penetrations</th></tr><tr><td colspan="6">Shower area (enclosed and unenclosed)</td></tr><tr><td>With hob</td><td rowspan="3">Waterproof floor in shower area (including any hob or step-down).</td><td rowspan="3">(a) Waterproof all walls in shower area to a height the greater of—
(i) not less than 150 mm above floor substrate; or
(ii) not less than 25 mm above maximum retained water level; and
(b) Water resistant walls in shower area to not less than 1800 mm above finished floor level of the shower.</td><td rowspan="3">Waterproof wall junctions within shower area.</td><td rowspan="3">Waterproof wall / floor junctions within shower area.</td><td rowspan="3">Waterproof penetrations in shower area.</td></tr><tr><td>With step-down</td></tr><tr><td>Without hob or step-down</td></tr></table>
<table><tr><th>Vessels or area where the fixture is installed</th><th>Floors and horizontal surfaces</th><th>Walls</th><th>Wall junctions and joints</th><th>Wall / floor junctions</th><th>Penetrations</th></tr><tr><td>With preformed shower base</td><td>N/A</td><td>Water resistant walls in shower area to not less than 1800 mm above finished floor level of the shower.</td><td>Waterproof wall junctions within shower area.</td><td>Waterproof wall / floor junctions within shower area.</td><td>Waterproof penetrations in shower area.</td></tr><tr><td colspan="6">Area outside shower area</td></tr><tr><td>For concrete and compressed fibre-cement sheet flooring</td><td>Water resistant floor of the room.</td><td rowspan="2">N/A</td><td rowspan="2">N/A</td><td rowspan="2">Waterproof wall / floor junctions.</td><td rowspan="2">N/A</td></tr><tr><td>For timber floors including particleboard, plywood and other timber based flooring materials</td><td>Waterproof floor of the room.</td></tr></table></td><td>Yes</td><td>Further details to be provided as CC stage.</td></tr>
</table>

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
		
F1.9 Damp-proofing *(a) Except for a building covered by (c), moisture from the ground must be prevented from reaching—* *(i) the lowest floor timbers and the walls above the lowest floor joists; and* *(ii) the walls above the damp-proof course; and* *(iii) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders.* *(b) Where a damp-proof course is provided, it must consist of—* *(i) a material that complies with AS/NZS 2904; or* *(ii) impervious termite shields in accordance with AS 3660.1.* *(c) The following buildings need not comply with (a):* *(i) A Class 7 or 8 building where in the particular case there is no necessity for compliance.* *(ii) A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes.* *(iii) An open spectator stand or open-deck carpark.*	**N/A**	Existing to remain unchanged and is unaffected by the proposed works
F1.10 Damp-proofing of floors on the ground	**N/A**	Existing to remain unchanged and is unaffected by the proposed works
F1.11 Provision of floor wastes	**N/A**	
F1.12 Sub-floor ventilation	**N/A**	
F1.13 Glazed assemblies *(a) Subject to (b) and (c), the following glazed assemblies in an external wall, must comply with AS 2047 requirements for resistance to water penetration:* *(i) Windows.* *(ii) Sliding and swinging glazed doors with a frame, including french and bi-fold doors with a frame.* *(iii) Adjustable louvres.* *(iv) Shopfronts.* *(v) Window walls with one piece framing.* *(c) The following glazed assemblies need not comply with (a):* *(i) All glazed assemblies not in an external wall.* *(ii) Revolving doors.* *(iii) Fixed louvres.* *(iv) Skylights, roof lights and windows in other than the vertical plane.* *(v) Sliding and swinging glazed doors without a frame.* *(vi) Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047.* *(vii) Second-hand windows, re-used windows and recycled windows.* *(viii) Heritage windows.*	**Yes**	Details to be provided at CC stage

<table>
<tr><th>BCA REQUIREMENTS</th><th>Compatible with BCA YES/NO</th><th>COMMENTS</th></tr>
<tr><td>PART F2 SANITARY AND OTHER FACILITIES</td><td></td><td></td></tr>
<tr><td>F2.1 Facilities in residential buildings</td><td>N/A</td><td></td></tr>
<tr><td>F2.2 Calculation of number of occupants and facilities</td><td></td><td>Deemed population summary table identifies a total deemed population of 110 i.e. 1 person per 10m2 floor area.

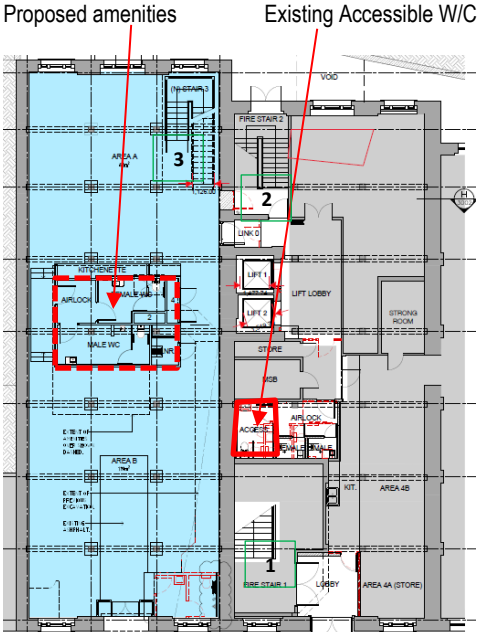
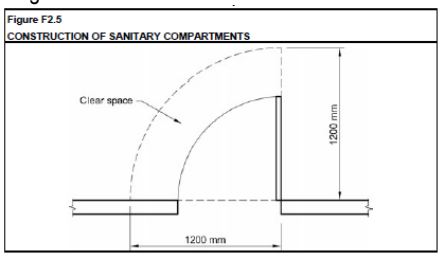
<table>
<tr><th>Bay 5</th><th>Population</th></tr>
<tr><td>Ground</td><td>22</td></tr>
<tr><td>1st</td><td>22</td></tr>
<tr><td>2nd</td><td>22</td></tr>
<tr><td>3rd</td><td>22</td></tr>
<tr><td>4th</td><td>22</td></tr>
<tr><td>Total</td><td>110</td></tr>
</table></td></tr>
<tr><td>F2.3 Facilities in Class 3 to 9 buildings

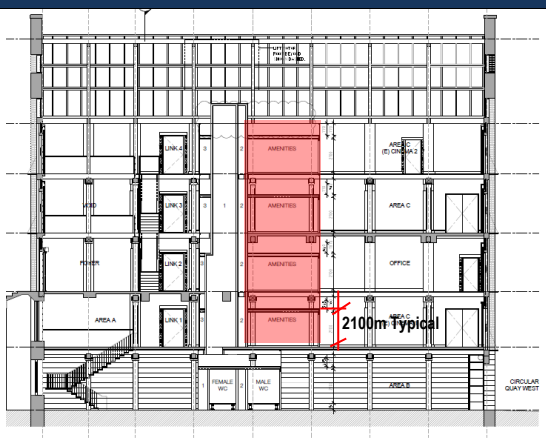
(a) Sanitary facilities must be provided for Class 3, 5, 6, 7, 8 or 9 buildings in accordance with Table F2.3.
(b) If not more than 10 people are employed, a unisex facility may be provided instead of separate facilities for each sex.
(c) If the majority of employees are of one sex, not more than 2 employees of the other sex may share toilet facilities if the facilities are separated by means of walls, partitions and doors to afford privacy.
(d) Employees and the public may share the same facilities in a Class 6 and 9b building (other than a school or early childhood centre) provided the number of facilities provided is not less than the total number of facilities required for employees plus those required for the public.
(e) Adequate means of disposal of sanitary towels must be provided in sanitary facilities for use by females.</td><td>Yes</td><td>Sanitary facilities required within Bay 5 per storey are listed in the following Table and have been determine don the basis of a 50/50 split between male and female occupants i.e. 11 male & 11 female

<table>
<tr><th rowspan="2">Description</th><th rowspan="2">Required</th><th colspan="5">Proposed</th></tr>
<tr><th colspan="5">Level
G 1 2 3 4</th></tr>
<tr><td>Pan-M</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Pan-F</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Urinal</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Basin-M</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Pan-F</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
</table>
Note: ambulant facilities are required at each bank of facilities for male and female i.e. 1 per sex. Also disabled sanitary facilities are also required to be provided on each level to serve Bay 4 & 5. In this regard no accessible sanitary facilities have been identified within the 2nd and the extent to which existing accessible sanitary facilities satisfy the requirements of AS1428.1-2009 is unknown or unable to be determined based upon the referenced plans.</td></tr>
<tr><td>F2.4 Facilities for people with disabilities

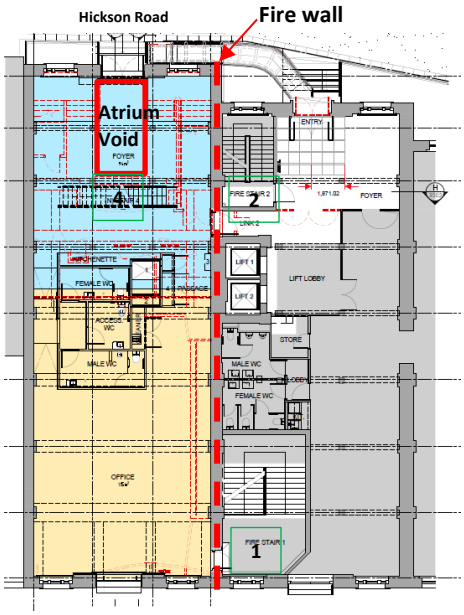
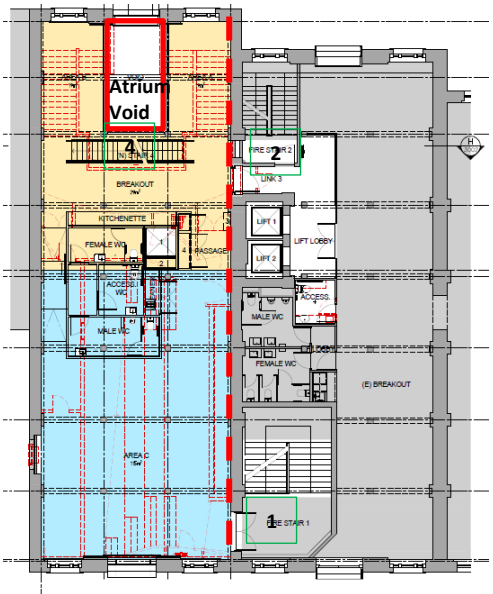
In a building required to be accessible—
(a) accessible unisex sanitary compartments must be provided in accessible parts of the building in accordance with Table F2.4(a); and
(b) accessible unisex showers must be provided in accordance with Table F2.4(b); and
(c) at each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1 must be provided for use by males and females; and
(d) an accessible unisex sanitary compartment must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary towels; and
(e) the circulation spaces, fixtures and fittings of all accessible sanitary facilities provided in accordance with Table F2.4(a) and Table F2.4(b) must comply with the requirements of AS 1428.1; and
(f) an accessible unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only; and
(g) where two or more of each type of accessible unisex sanitary facility are provided, the number of left and right handed mirror image facilities must be provided as evenly as possible; and
(h) where male sanitary facilities are provided at a separate location to female sanitary facilities, accessible unisex sanitary facilities are only required at one of those locations; and
(i) an accessible unisex sanitary compartment or an accessible unisex shower need not be provided on a storey or level that is not required by D3.3(f) to be provided with a passenger lift or ramp complying with AS 1428.1.</td><td>Yes
Refer to comments</td><td>Accessible sanitary facilities is outlined in table below.

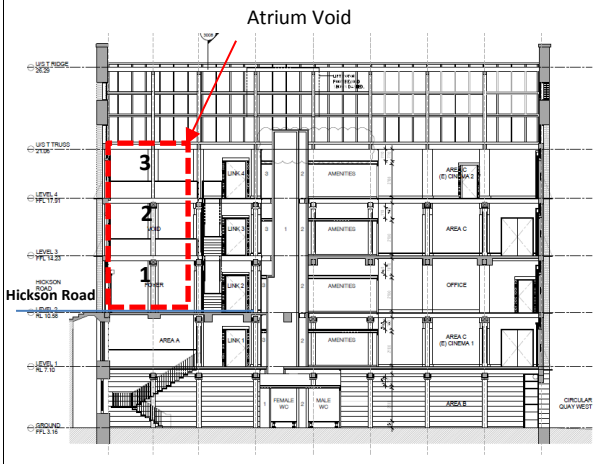
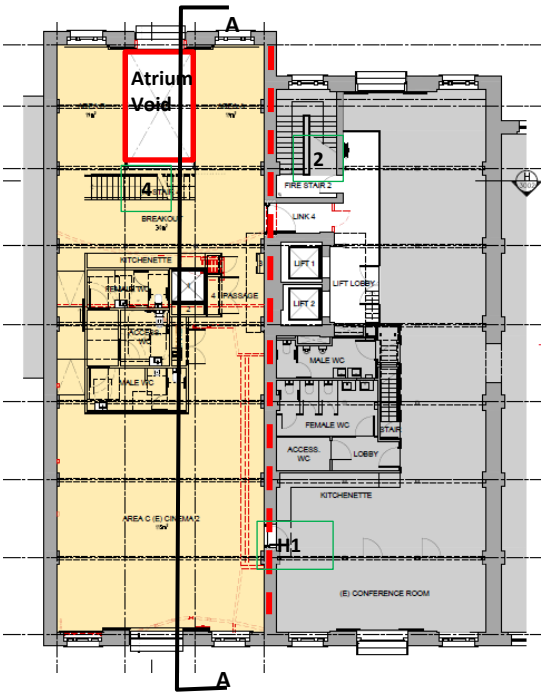
<table>
<tr><th rowspan="2">Description</th><th rowspan="2">Required</th><th colspan="5">Proposed</th></tr>
<tr><th colspan="5">Level
G 1 2 3 4</th></tr>
<tr><td>Unisex accessible W/C</td><td>1</td><td>-</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td colspan="7">Ambulant facilities</td></tr>
<tr><td>Male</td><td>1</td><td>-</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Female</td><td>1</td><td>-</td><td>1</td><td>1</td><td>1</td><td>1</td></tr>
</table>
Note: Disabled sanitary facilities have been identified within each of the levels within Bay 5 except for the ground floor. The disabled sanitary facility within the ground floor of Bay 5 appears to rely upon the existing disabled facility located within the ground floor of Bay 4.</td></tr>
</table>

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
Table F2.4(a) ACCESSIBLE UNISEX SANITARY COMPARTMENTS Class of building: Class 5, 6, 7, 8 or 9 — except for within a *ward area* of a Class 9a *health-care building* Minimum accessible unisex sanitary compartments to be provided: Where F2.3 requires closet pans— (a) 1 on every *storey* containing *sanitary compartments*; and (b) where a *storey* has more than 1 bank of *sanitary compartments* containing male and female *sanitary compartments*, at not less than 50% of those banks.		Proposed amenities Existing Accessible W/C  **Diagram 19** – Amenities Ground floor Whilst sanitary amenities associated with the Class 5 use of Bay 5 can be aggregated with the remainder of the Bays at ground floor level, particular attention will need to be given to compliance with AS1428.1-2009 regarding circulation space to and within the accessible W/C. Further details will need to be provided at CC stage demonstrating compliance with AS1428.1-2009 and in particular the existing ground floor accessible WC.
F2.5 Construction of sanitary compartments *(a) Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend—* *(i) from floor level to the ceiling in the case of a unisex facility; or* *(ii) to a height of not less than 1.5 m above the floor if primary school children are the principal users; or* *(iii) 1.8 m above the floor in all other cases.* *(b) The door to a fully enclosed sanitary compartment must—* *(i) open outwards; or* *(ii) slide; or* *(iii) be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2 m, measured in accordance with Figure F2.5, between the closet pan within the sanitary compartment and the doorway.*	**Yes**	Further details are to be provided at construction certificate stage.  Figure F2.5 CONSTRUCTION OF SANITARY COMPARTMENTS Clear space 1200 mm 1200 mm **Diagram 20** Required door clearance for WC
F2.6 Interpretation: Urinals and washbasins	**For Notation**	
F2.7 Microbial (legionella) control	**N/A**	
F2.8 Waste management	**N/A**	
PART F3 ROOM SIZES		
F3.0 Deemed-to-Satisfy Provisions	**For Notation**	
F3.1 Height of rooms and other spaces *The ceiling height must be not less than—* *(a) in a Class 2 or 3 building or Class 4 part of a building—* *(i) a kitchen, laundry, or the like — 2.1 m; and* *(ii) a corridor, passageway or the like — 2.1 m; and* *(iii) a habitable room excluding a kitchen — 2.4 m; and* *(iv) in a room or space with a sloping ceiling or projections below the ceiling line within—* *(A) a habitable room—* *(aa) in an attic — a height of not less than 2.2 m for not less than two-thirds of the floor area of the room or space; and* *(bb) in other rooms — a height of not less than 2.4 m for not less than two-thirds of the floor area of the room or space; and*	**Yes** **Refer to comments**	The requirements of F3.1 regarding height of rooms appears to be capable of being satisfied, including the floor to ceiling height associated with the proposed amenities core which is detailed as being 2.1m. considerations will however need to be given to service installations incorporated within the ceiling which may project below the 2.1m height from an occupational hazard point of view.

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(B) a non-*habitable room* — a height of not less than 2.1 m for not less than two-thirds of the floor area of the room or space; and when calculating the floor area of a room or space, any part that has a ceiling height of less than 1.5 m is not included; and (b) in a Class 5, 6, 7 or 8 building— (i) except as allowed in (ii) and (f) — 2.4 m; and (ii) a corridor, passageway, or the like — 2.1 m; and …… *(f) in any building—* *(i) a bathroom, shower room, sanitary compartment, airlock, tea preparation room, pantry, store room, garage, car parking area, or the like — 2.1 m; and* *(ii) a commercial kitchen — 2.4 m; and* *(iii) above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like.*		 **Diagram 21** - Amenities core floor to ceiling heights
Part F4 Light and ventilation		
F4.0 Deemed-to-Satisfy Provisions	**For Notation**	
F4.1 Provision of natural light	**Yes**	
F4.2 Methods and extent of natural lighting *(a) Required natural lighting must be provided by—* *(i) windows, excluding roof lights, that—* *(A) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 10% of the floor area of the room; and* *(B) are open to the sky or face a court or other space open to the sky or an open verandah, carport or the like; or* *(ii) roof lights, that—* *(A) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 3% of the floor area of the room; and* *(B) are open to the sky; or* *(iii) a proportional combination of windows and roof lights required by (i) and (ii).* *(b) Except in a Class 9c building, in a Class 2, 3 or 9 building or Class 4 part of a building a required window that faces a boundary of an adjoining allotment or a wall of the same building or another building on the allotment must not be less than a horizontal distance from that boundary or wall that is the greater of—* *(i) generally — 1 m; and* *(ii) in a patient care area or other room used for sleeping purposes in a Class 9a building — 3 m; and* *(iii) 50% of the square root of the exterior height of the wall in which the window is located, measured in metres from its sill.*	**For notation**	
F4.3 Natural light borrowed from adjoining room *Natural lighting to a room in a Class 2 building or Class 4 part of a building or in a sole-occupancy unit of a Class 3 building, may come through a glazed panel or opening from an adjoining room (including an enclosed verandah) if—* *(i) both rooms are within the same sole-occupancy unit or the enclosed verandah is on common property; and* *(ii) the glazed panel or opening has an area of not less than 10% of the floor area of the room to which it provides light; and* *(iii) the adjoining room has—* *(A) windows, excluding roof lights, that—* *(aa) have an aggregate light transmitting area of not less than 10% of the combined floor areas of both rooms; and* *(bb) are open to the sky or face a court or other space open to the sky or an open verandah, carport or the like; or* *(B) roof lights, that— (aa) have an aggregate light transmitting area of not less than 3% of the combined floor areas of both rooms; and (bb) are open to the sky; or* *(C) a proportional combination of windows and roof lights required by (A) and (B).* *(b) The areas specified in (a)(ii) and (a)(iii) may be reduced as appropriate if direct natural light is provided from another source.*	**N/A**	
F4.4 Artificial lighting	**Yes**	Further details to be provided at CC stage

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(a) *Artificial lighting must be provided—* *(i) in required stairways, passageways, and ramps; and* *(ii) if natural lighting of a standard equivalent to that required by F4.2 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency, in—* *(A) Class 4 parts of a building — to sanitary compartments, bathrooms, shower rooms, airlocks and laundries; and* *(B) Class 2 buildings — to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building; and* *(C) Class 3, 5, 6, 7, 8 and 9 buildings — to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress.* *(b) The artificial lighting system must comply with AS/NZS 1680.0.*		
F4.5 Ventilation of rooms *A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have—* *(a) natural ventilation complying with F4.6; or* *(b) a mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS/NZS 3666.1.*	**Yes**	
F4.6 Natural ventilation *(a) Natural ventilation provided in accordance with F4.5(a) must consist of permanent openings, windows, doors or other devices which can be opened—* *(i) with an aggregate opening or openable size not less than 5% of the floor area of the room required to be ventilated; and* *(ii) open to—* *(A) a suitably sized court, or space open to the sky; or* *(B) an open verandah, carport, or the like; or* *(C) an adjoining room in accordance with F4.7.*	**Yes**	Further details to be provided at CC stage
F4.7 Ventilation borrowed from adjoining room	**N/A**	
F4.8 Restriction on position of water closets and urinals *A room containing a closet pan or urinal must not open directly into—* *(a) a kitchen or pantry; or* *(b) a public dining room or restaurant; or* *(c) a dormitory in a Class 3 building; or* *(d) a room used for public assembly (which is not an early childhood centre, primary school or open spectator stand); or* *(e) a workplace normally occupied by more than one person.*	**Yes**	Further details are to be provided at construction certificate stage.
F4.9 Airlocks *If a room containing a closet pan or urinal is prohibited under F4.8 from opening directly to another room—* *(a) in a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building—* *(i) access must be by an airlock, hallway or other room; or* *(ii) the room containing the closet pan or urinal must be provided with mechanical exhaust ventilation; and* *(b) in a Class 5, 6, 7, 8 or 9 building (which is not an early childhood centre, primary school or open spectator stand)—* *(i) access must be by an airlock, hallway or other room with a floor area of not less than 1.1 m^2 and fitted with self-closing doors at all access doorways; or* *(ii) the room containing the closet pan or urinal must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.*	**Yes**	Further details are to be provided at construction certificate stage.
F4.10 *	**N/A**	
F4.11 Carparks *Every storey of a carpark, except an open-deck carpark, must have—* *(a) a system of mechanical ventilation complying with AS 1668.2; or* *(b) a system of natural ventilation complying with Section 4 of AS 1668.4.*	**N/A**	
F4.12 Kitchen local exhaust ventilation *AS/NZS 1668.1 and AS 1668.2 where—*	**N/A**	

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
(a) any cooking apparatus has— *(i) a total maximum electrical power input exceeding 8 kW; or* *(ii) a total gas power input exceeding 29 MJ/h; or* *(b) the total maximum power input to more than one apparatus exceeds—* *(i) 0.5 kW electrical power; or* *(ii) 1.8 MJ gas, per m^2 of floor area of the room or enclosure.*		
PART F5 SOUND TRANSMISSION AND INSULATION		
SPECIFICATION F5.2 SOUND INSULATION FOR BUILDING ELEMENTS		
SPECIFICATION F5.5 IMPACT SOUND — TEST OF EQUIVALENCE		
PART G3 ATRIUM CONSTRUCTION		
G3.1 Application of Part *This Part does not apply to an atrium which—* *(a) connects only 2 storeys; or* *(b) connects only 3 storeys if—* *(i) each storey is provided with a sprinkler system complying with Specification E1.5 throughout; and* *(ii) one of those storeys is situated at a level at which there is direct egress to a road or open space.*  **Diagram 22** – Atrium ground floor	**For Notation**	Due to the configuration of Bay 5 - level 2 & Level 4 between Grid Reference C –V the Bay 5 is considered to result in an atrium being formed. An Attrium is defined by the BCA as follows: ***"Atrium** means a space within a building that connects 2 or* *more storeys, and—* *(a) is wholly or substantially enclosed at the top by a floor or roof (including a glazed roof structure); and* *(b) includes any adjacent part of the building not separated by an appropriate barrier to fire; but* *(c) does not include a stairwell, rampwell or the space within a shaft."* The relevant provision of the BCA that relate to the construction of an Atrium are contained with Part G3 of the BCA. In this regard the provisions of Part G3 do not apply to an atrium that: "connects only 2 *storeys*; or (b) connects only 3 *storeys* if— (i) each *storey* is provided with a sprinkler system complying with **Specification E1.5** throughout; and (ii) one of those *storeys* is situated at a level at which there is direct egress to a road or *open space*. " As the subject atrium does not connect more than 3 storeys and the building is sprinkler protected throughout, the provisions of G3 of the BCA do not apply.  **Diagram 23** – Atrium Level 3

BCA REQUIREMENTS	Compatible with BCA YES/NO	COMMENTS
 **Diagram 24** Section A:A Atrium void		 **Diagram 25** – Atrium Level 4

PART 4.0 CONCLUSION

The BCA compliance assessment undertaken with respect to the proposed development architectural drawings referenced within this report indicates that it is substantially capable of enabling the requirements of the Deemed To Satisfy (DTS) provisions of the National Construction Code –Volume 1 of the Building Code of Australia - BCA 2016 to be satisfied, other than as summarised in section 2.0 of this report.

It is also concluded that the provisions of Clause 94 of the Environmental Planning & Assessment Regulation 2000 are likely to be triggered by the consent authority as part of the development application process (in respect of the existing building) to the extent that is reflected in the measures and standard of performance listed within the fire safety schedule identified din Part 5.0 of this report..

PART 5.0 FIRE SAFETY SCHEDULE 1-3 HICKSON ROAD THE ROCKS

MEASURE	STANDARD OF PERFORMANCE
Fire doors	Clause C3.11 - BCA 2016 and AS1905.1-2005
Automatic fire detection and alarm system	Clause 4 & 6 of Spec E2.2a (BCA 2016) and AS1670.1-2015
Automatic fire suppression (sprinkler) system	AS2118.1-1999 or (AS2118.1-2017 pending Amendment[1] BCA2016)
Fire alarm and monitoring	AS 1670.3-2004
Sound System and Intercom System for Emergency Purposes (EWIS)	Clause E4.9-BCA 2016 & AS1670.4-2015.
Emergency lighting system	Clause E4.2 & E4.4 – BCA2016 and AS2293.1-2005 Part 1 & Part 3
Exit signs	BCA 2016 Clauses E4.5, E4.6 & E4.8, AS2293.1-2005 Part 1 & Part 3
Fire hose reel system	Clause E1.4 – BCA2016 and AS2441-2005
Fire hydrant system	Clause E1.3 – BCA2016 and AS2419.1-2005
Portable fire extinguishers	Clause E1.6 – BCA2016 and AS2444-2001
Automatic fail safe devices	BCA 2016 clause D2.21
Lightweight fire resistant construction	Clause 1.8 & Specification C1.8 BCA-2016
Fire Seals protecting openings to fire resisting components of the building.	BCA- 2016 clause C3.12, C3.15 & AS 1530.4
Fire dampers	BCA- 2016 clause C3.13, C3.15 & AS 1682.1-2015
Warning & Operational Signs	Clause D2.23 & E3.3 – (BCA 2016) & Clause 183 EP & A Regulation 2000