



**BLACKETT
MAGUIRE+
GOLDSMITH**

**The National Construction Code
Volume One**

**NCC-BCA Assessment & Access
to Premises Standards 2010 –**

s4.55 Submission

**Nepean Hospital and Integrated
Ambulatory Services
Redevelopment**



**Health
Infrastructure**

Revision 2

Date: 11 July 2019

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A. INTRODUCTION

A.1 BACKGROUND / PROPOSAL

Blackett Maguire + Goldsmith Pty Ltd (BM+G) have been commissioned by CPB Contractors to undertake a high level Building Code of Australia BCA 2016 (Amendment No. 1) assessment of the State Significant Development Application Drawings for the proposed Nepean Hospital Redevelopment. The high level review has been undertaken as part of the proposed section 4.55 submission to the Department of Planning to amend Development Application No. 8766 dated 25 February 2019.

A.2 AIM

The aim of this report is to:

- + Undertake an assessment of the proposed BMDH redevelopment against the Deemed-to-Satisfy (DtS) provisions of Part C, D, E, F, G & J of the BCA 2016 including Amendment No. 1.
- + Identify any BCA compliance issues that require resolution/attention for the proposed redevelopment.
- + Review the design documentation against the Access to Premises Standards 2010.

A.3 PROJECT TEAM

The following BM+G Team Members have contributed to this Report:

- + Adam Durnford (Associate Director)
- + David Blackett (Director)

A.4 DOCUMENTATION

The following documentation has been reviewed, referenced and/or relied upon in the preparation of this report:

- + Building Code of Australia 2016 (Amendment No. 1)
- + Guide to the Building Code of Australia 2016 (Amendment No. 1).
- + Access to Premises Standards 2010
- + State Significant Development Architectural Drawings dated 9 July 2019 prepared by BVN.

A.5 REGULATORY FRAMEWORK

Pursuant to clause 145 of the Environmental Planning and Assessment (EPA) Regulation 2000 all new building work must comply with the current BCA however the existing features of an existing building need not comply with the BCA unless upgrade is required by other clauses of the legislation.

A.6 LIMITATIONS & EXCLUSIONS

The limitations and exclusions of this report are as follows:

- + The following assessment is based upon a review of the architectural documentation.
- + The Report does not address matters in relation to the following:



- + Local Government Act and Regulations.
- + Occupational Health and Safety (OH&S) Act and Regulations.
- + WorkCover Authority requirements.
- + Water, drainage, gas, telecommunications and electricity supply authority requirements.
- + BM+G Pty Ltd do not guarantee acceptance of this report by Local Council, NSW Fire Brigades or other approval authorities.
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A.7 TERMINOLOGY

Building Code of Australia (BCA)

Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in New South Wales (NSW) under the provisions of the EPA Act and Regulation. Building regulatory legislation stipulates that compliance with the BCA Performance Requirements must be attained and hence this reveals BCA's performance based format.

Construction Certificate

Building Approval issued by the Certifying Authority pursuant to Part 4A of the EPA Act 1979.

Construction Type

The construction type is a measure of a buildings ability to resist a fire. The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1, except as allowed for—

- (i) certain Class 2, 3 or 9c buildings in C1.5; and
- (ii) a Class 4 part of a building located on the top storey in C1.3 (b); and
- (iii) open spectator stands and indoor sports stadiums in C1.7.

Note: Type A construction is the most fire-resistant and Type C the least fire-resistant of the types of construction.

Climatic Zone

Is an area defined in BCA Figure A1.1 and in Table A1.1 for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.

Deemed to Satisfy Provisions (DtS)

Provisions which are deemed to satisfy the Performance Requirements.

Effective Height

Means the vertical distance between the floor of the lowest storey including the calculation of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units).

Fire Resistance Level (FRL)

The grading periods in minutes for the following criteria-

- (a) structural adequacy; and



- (b) integrity; and
 - (c) insulation,
- and expressed in that order.

Fire Source Feature (FSF)

The far boundary of a road which adjoins the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

Health-care building –

A building whose occupants or patients undergoing medical treatment generally need physical assistance to evacuate the building during an emergency and includes –

- (a) a public or private hospital; or
- (b) a nursing home or similar facility for sick or disabled persons needing full-time care; or
- (c) a clinic, day surgery or procedure unit where the effects of the predominant treatment administered involve patients becoming non-ambulatory and requiring supervised medical care on the premises for some time after the treatment.

National Construction Code Series (NCC)

The NCC was introduced 01 May 2011 by the Council of Australian Governments. The BCA Volume One (Class 2 to 9 Buildings) is now referenced as the National Construction Code Series Volume One — BCA.

Occupation Certificate

Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 4A of the EPA Act 1979.

Open Space

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

Performance Solution

A method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.

Patient care area

a part of a health-care building normally used for the treatment, care, accommodation, recreation, dining and holding of patients including a ward area and treatment area.

Performance Requirements of the BCA

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

Compliance with the Performance Requirements can only be achieved by-

- (a) complying with the DtS Provisions; or
- (b) formulating an Alternative Solution which-
 - (i) complies with the Performance Requirements; or



- (ii) is shown to be at least equivalent to the DtS Provisions; or
(c) a combination of (a) and (b).

Sole occupancy Unit (SOU)

A room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes a dwelling.

Treatment area

An area within a patient care area such as an operating theatre and rooms used for recovery, minor procedures, resuscitation, intensive care and coronary care from which a patient may not be readily moved.

Ward area

That part of a patient care area for resident patients and may contain areas for accommodation, sleeping, associated living and nursing facilities.



B. BUILDING CHARACTERISTICS

B.1 BUILDING CLASSIFICATION

The following table presents a summary of relevant building classification items of the proposed Acute Services Building at Nepean Hospital:

+ BCA Classification:	Class 9a (Health-care Building) Class 5 (Professional Consultation Offices) Class 3 (Overnight Rooms)
+ Storeys Contained:	The total number of storeys contained is fifteen (15)
+ Rise in Storeys:	The entire building has a rise in storeys of fifteen (15)
+ Effective Height:	The building has an effective of: > 50m
+ Type of Construction:	Type A Construction
+ Sprinklers	Yes – The ASB is proposed to be protected throughout with an Automatic Fire Suppression System in accordance with AS 2118.6 – 2012 & AS 2118.1 –2017.
+ Climate Zone:	Energy Efficiency Zone 6
+ Importance Level:	Importance Level 4
+ Maximum Floor Area:	Max. 8,000m ² compartments for Class 5 buildings. Max. 5,000m ² compartments for Class 9a Health Care buildings. <i>Note:- 2,000m² compartments applies to all Patient Care Areas within the building.</i>
+ Maximum Volume:	Max 48,000m ³ compartments for Class 5 buildings. Max 30,000m ³ compartments for Class 9a Health Care buildings.
+ Largest Fire Compartment:	TBC

Table No. 1 – Summary of building classification items



C. SUMMARY OF KEY COMPLIANCE/ FIRE ENGINEERING ISSUES

Based on the Design Architectural Documentation reviewed, the following is a summary of the key compliance issues identified associated with the proposed Acute Services Building.

No.	KEY COMPLIANCE ISSUE	DtS Clause
1.	Based on the rise in storeys of the proposed Acute Services Building, the building has an effective height exceeding 50m. Issues that arise from the proposed building having an effective height greater than 25m & 50m include: + Provision of a dedicated Fire Control Room which is accessed from two paths of travel. + Provision of a Grade 1 Water Supply for the Sprinkler System. + Provision of on-site water storage tanks for the Automatic Fire Suppression System and Fire Hydrant System. + Provision of a ring main for the Fire Hydrant System. + Provision of Fire Brigade Relay Pumps to enable relay boosting of each 50m pressure gauge. + Provision of a Zone Smoke Control System throughout the entire building.	A1.1
2.	The new Acute Services building will be required to be designed and constructed in accordance with the requirements of Importance Level 4 including structure and services as detailed in Clause B1.2 of the BCA.	B1.2
3.	The building is required to be constructed in Type A Construction in accordance with Specification C1.1.	C1.1
4.	An external wall in a building required to be constructed of Type A Construction is required to be non-combustible in accordance with Clause C1.9. If aluminium panels are proposed on the external façade of the building, the panels will be required to consist of a single piece of pre-finished metal sheeting having a combustible surface finish not exceeding 1mm thickness and where the Spread of Flame Index of the product is not greater than 0. The product selected will be required to have a current Certificate of Conformity or other appropriate Test Report.	C1.9



5.	A number of smoke compartments within treatment and ward areas are greater than the maximum 500m² (ward areas) and 1000m² (treatment areas) threshold permitted by the DtS Provisions. The excessive smoke compartment are noted as being proposed to be assessed as part of the proposed Fire Engineering Assessment to be undertaken by the Fire Safety Engineer.	C2.5
6.	An external wall in a building required to be constructed of Type A Construction is required to be non-combustible. If it is proposed to use an Aluminium Composite Panel as part of the external wall of the building, it will be required to be assessed as part of a Performance Assessment to be undertaken by a qualified Fire Safety Engineer (if the panel contains combustible elements) or be subject to a Certificate of Conformity and large scale fire test. This will ensure compliance with Health Infrastructure's Design Guidance Note No. 32 for the use of Aluminium Composite Panels on Hospital Buildings.	Spec. C1.1
7.	Based on the Architectural Drawings assessed to date, we have undertaken an egress assessment in terms of egress travel distance to an exit. As a result of the review, there are a number of areas identified where travel distance currently exceeds the maximum distance permitted by the DtS provisions of the BCA. The excessive travel distances are noted as being within acceptable fire engineering limitations. In this instance the excessive travel distances to a point of choice and to an exit and between alternative exits are proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.	D1.4
8.	Each fire isolated stairway is required to discharge via its own fire isolated stairway to open space. It is noted that the two (2) of the fire isolated stairways that are located within the southern part of the floor discharge within the Level 1 of the building which is contrary to the requirements of Clause D1.7. The discharge of the fire isolated stairways is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.	D1.7



9.	A technical non-compliance exists in terms of travel via the non fire isolated stairway serving the Helipad on Level 13 in that it does not provide direct discharge via its own flight to the level at which egress to a road or open space is provided. Occupants using the non fire isolated stairway from the Helipad exit down to Level 12 where they will have the point of choice of two (2) alternative exits being the fire isolated stairways serving Level 12. The proposed non fire isolated stairway serving the Helipad on Level 13 and its discharge on Level 12 is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.	D1.9
10.	A technical non-compliance occurs in terms of travel via horizontal exits from within multiple fire compartments within building. Having regard to the proposed design, there are numerous instances whereby occupants will egress from one compartment into an adjoining compartment which will not be provided with direct access to a fire isolated stairway or exit discharging directly to open space. The proposed design is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.	D1.11
11.	A fire hydrant service is required to be provided throughout the entire building. The system which forms part of a combined Hydrant and Sprinkler System will be required to be designed in accordance with AS 2419.1 – 2005 and AS 2118.6 – 2012. <i>Fire Hydrant Performance</i> Based on the building having an effective height of greater than 50m, the following is required to be provided: On site water storage is required to be provided for the hydrant system in accordance with Section 4 of AS 2419.1 – 2005. A fire hydrant ring main is required to be provided to the entire building in accordance with Section 8 of AS 2419.1 - 2005. Provision of Fire Brigade Relay Pumps to enable boosting of each 50m pressure guage. The hydraulic consultant is to provide confirmation that the flow rate of the hydrant system has been designed for the required number of hydrants simultaneously flowing at the appropriate flow rate i.e. 2 hydrants flowing simultaneously at 10 L/s which equates to a minimum flow rate of 20 L/s @ 700kPa. <i>Hydrant to Mid Landing of Stairway serving the Helipad</i> It is understood that a fire hydrant is proposed to be located on the mid landing of the non fire isolated stairway serving the helipad due to the fact that it cannot be located on the helipad. The location of	E1.3



	the fire hydrant on the mid landing is a technical non-compliance with AS 2419.1 – 2015. The location of the fire hydrant on the mid landing is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA. <i>Fire Hydrant Booster</i> A fire hydrant booster needs to be located in a manner where it is within sight of the main entrance of the building and adjoins a primary vehicular entrance and is situated within 8m of a hardstand access to permit Brigade access. In this regard it is noted that the fire hydrant booster is located on the Eastern side of the building adjacent to the Fire Control Room and Fire Services Pump Room which is not within sight of the main entrance of the building on the Western Elevation. The location of the booster in terms of proximity and sight to the main entrance of the building is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.	
12.	A Fire Hose Reel System will be required to be installed throughout the building. It is noted that a small percentage of rooms that are fire separated from the remainder of the building may not be provided with compliant fire hose reel coverage. In this instance, the likely omission of Fire Hose Reel coverage to isolated rooms will be assessed as a Performance Assessment to be undertaken by a qualified Fire Safety Engineer.	E1.4
13.	An Automatic Fire Suppression System is required to be installed throughout the building in accordance with AS 2118.6 – 2012 and AS 2118.1 – 2017. As detailed above, due to the fact that the building has an effective height exceeding 25m & 50m, the following additional measures are required to be installed as part of the Automatic Fire Suppression System installation: + Provision of a Grade 1 Water Supply; and + Provision of on-site water storage tanks. <i>Sprinklers in Linkways</i> The enclosed linkways on Levels 6 & 7 are required to be protected throughout with an Automatic Fire Suppression System. The enclosed linkways on Levels 1 - 3 which provide access to the existing non sprinkler protected buildings are required to be protected throughout unless the openings leading to the linkways	E1.5



	from the new ASB are protected by construction achieving an FRL - /120/120 which extends top to bottom and side to side of the passageway with the doorways protected by -/12/30 Fire Doors. If the fire rated construction occurs at the junction of the non sprinkler protected building, then the Automatic Fire Suppression System will be required to be extended to the linkways. If any part of the design differs from the above requirements of AS 2118.1 – 1999, then the design will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA. <i>Zoning of Sprinkler System with Zone Smoke Control System</i> If the Automatic Fire Suppression System is not zoned in accordance with the Zone Smoke Control System as required by Clause 9 of Specification E1.5, then the design will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA. <i>Location of Sprinkler Valve Sets</i> Having regard to the fact that the sprinkler system is designed as part of a combined Fire Hydrant and Sprinkler System, the sprinkler control valves are required to be located within the fire isolated stairways on each level with direct access being provided to the stairway from open space for FRNSW personnel. As detailed in Clause D1.7 above, Fire Isolated Stairways 1 & 2 do not discharge directly to open space but rather in the Level 1 foyer which is fire separated from the remainder of the Ground Floor and from the alternative stairway as part of the Fire Engineering Design. The non provision of direct access to the fire isolated stairways from open space for FRNSW personnel is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements.	
14.	A Fire Control Centre (Fire Control Room) is required to be located within a building. It is noted that the proposed design consists of the Fire Control Room being located remote from the building adjacent to the Fire Hydrant Booster and Pumps and Valve Room etc. The location of the Fire Control Room is a technical non-compliance and is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.	E1.8
15.	<i>Zone Smoke Control System</i>	E2.2



	A Zone Smoke Control System is required to be installed throughout the Acute Services Building having regard to the fact that the building has an effective height exceeding 25m. The Zone Smoke Control System will be required to be designed in accordance with AS 1668.1 – 2015. It is noted that it is proposed to rationalise the zone smoke control system in a manner where the pressure differential between fire compartments on the same floor will not be required to achieve a 20pa pressure differential. The proposed rationalisation of the zone smoke control system will be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer. <i>Stairway Pressurisation</i> Each of the fire isolated stairways are required to be provided with a system of Stairway Pressurisation in accordance with AS 1668.1 – 2015. The pressurisation system is required to be extended throughout the entire fire isolated stairway system. It is noted that due to the design of Fire Isolated Stairways 1 & 2, which contain rising and descending stair flights separated by a smoke wall, it is not proposed to provide a system of stairway pressurisation to the flights within both fire isolated stairways that ascend from Level 0 to Level 1. + The omission of a system of stairway pressurisation from the subject flights is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer.	
16.	An Automatic Fire Detection & Alarm System is required to be installed throughout the building in accordance with AS 1670.1 – 2015. The System is required to be extended to all ceiling voids, riser shafts, lift shafts, cupboards etc. Consistent with other recent HI Hospital projects, it is understood that the extend of smoke detectors within the ceiling voids will be rationalised consistent with an extended grid system so as to ensure that each smoke and fire compartment is provided with adequate coverage. The proposed rationalisation of the smoke detection system within the ceiling void will be required to be to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.	
17.	A minimum number of two (2) emergency lifts will be required to be provided to serve each storey of the building that are served by the passenger lifts.	E3.4



18.	A Sound System and Intercom System for Emergency Purposes is required to be installed throughout the building in accordance with AS 1670.4 - 2015. It is understood that is likely to omit SSISEP speakers from ward and treatment rooms including patient bedrooms, operation theatres and other sensitive environments where the activation of the speaker within the room may cause trauma to the patient. Any rationalisation of SSISEP system from within patient care areas will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.	E4.9
19.	Sanitary facilities for a person with a disability will be required to be provided throughout each floor of the building. Facilities will be required to consist of: + Suitable provision of unisex sanitary facilities for both staff and patients / public. + Suitable provision of unisex ambulant sanitary compartments for both staff and patients / public.	F4.2

Table No. 2 – Summary of key compliance items



D. BCA ASSESSMENT

D.1 BCA DEEMED-TO-SATISFY COMPLIANCE ISSUES:

The following comments have been made in relation to the relevant BCA compliance issues associated with the proposed new Acute Services Hospital Building as part of the Nepean Hospital Redevelopment.

SECTION A – GENERAL PROVISIONS

1. Part A1 – Interpretation

The effective height of the building is a measurement determined in accordance with BCA of the vertical difference between the top-most occupied level (excluding plant rooms) and the lowest level providing direct egress to open space.

The proposed ASB Building has an effective height which exceeds 25m and 50m as a result of the effective height of the building, specific design elements are required to be incorporated into the design which are detailed within Section E – Services & Equipment.

SECTION B – STRUCTURE

2. Part B1 – Structural Provisions

Structural engineering details prepared by an appropriately qualified structural engineer to be provided to demonstrate compliance with Part B1. This will include the following Australian Standards (where relevant):

1. AS 1170.0 – 2002 General Principles
2. AS 1170.1 – 2002, including certification for balustrading (dead and live loads)
3. AS 1170.2 – 2002, Wind loads
4. AS 1170.4 – 2007, Earthquake loads
5. AS 3700 – 2001, Masonry code
6. AS 3600 – 2009, Concrete code
7. AS 4100 – 1998, Steel Structures and/or
8. AS 4600 – 2005, Cold formed steel.
9. AS 2047 – 1999, Windows in buildings.
10. AS 1288 – 2006, Glass in buildings.

3. Importance Level

The new Hospital Building will be required to be designed and constructed in accordance with the requirements of Importance Level 4 (post disaster operations) including structure and services as detailed in Clause B1.2 of the BCA.

Verification will be required from the Structural Engineer and respective Services Engineers that the building structure and services have been designed in accordance with the requirements for Importance Level 4.

SECTION C – FIRE RESISTANCE

4. Clause C1.1 – Type of Construction Required

The building is required to be construction in Type A Construction.

The new building elements will be required to be constructed in accordance with the FRL's detailed in Table 3 of Specification C1.1 for Type A Construction (refer to table below).



TYPE A CONSTRUCTION	
BUILDING ELEMENT	CLASS 5 & 9A
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any fire-source feature to which it is exposed is – <i>For load bearing parts-</i> less than 1.5m 1.5m to less than 3m 3m or more <i>For non-load bearing parts-</i> less than 1.5m 1.5m to less than 3m 3m or more	 120/120/120 120/90/90 120/60/30 -/120/120 -/90/90 -/-/-
EXTERNAL COLUMN not incorporated in an external wall – For loadbearing columns For non-loadbearing columns	 120/-/- -/-/-
COMMON WALLS & FIRE WALLS	120/120/120
INTERNAL WALLS Fire Resisting lift and stair shafts – Loadbearing Non-loadbearing Ventilating, pipe, garbage, and the like shafts not used for the discharge of hot products of combustion – Loadbearing Non-loadbearing	 120/120/120 -/120/120 120/90/90 -/90/90
OTHER LOADBEARING INTERNAL WALLS & COLUMNS	120/-/-
FLOORS	120/120/120
ROOF	120/60/30

Table No. 3 – Required FRL's for building elements

5. Specification C1.9 – Non Combustible Construction

In a building required to be constructed of Type A Construction, external walls including all components incorporated in them including all façade covering, framing and insulation are required to be constructed of non-combustible construction.



Due to the proposed changes in BCA 2019 which will prohibit the use of bonded laminated material i.e. ACP's in accordance with DtS Provisions and the current policy of HI, no external wall panels consisting of bonded laminated materials will be permissible.

If aluminium panels are proposed on the external façade of the building, the panels will be required to consist of a single piece of pre-finished metal sheeting having a combustible surface finish not exceeding 1mm thickness and where the Spread of Flame Index of the product is not greater than 0. The product selected will be required to have a current Certificate of Conformity or other appropriate Test Report.

6. Clause C2.5 – Class 9a Buildings

Fire & Smoke separation is required to be provided throughout the Patient Care Areas in accordance with Clause C2.5.

All Patient Care Areas must be divided into fire compartments not exceeding 2,000m². It is noted that the Schematic Architectural Drawings indicate compliance in this instance.

Ward and Treatment Areas are required to be designed in accordance with the following table.

Area Use		Max. Compartment Size		
Patient Care Area (max 2,000m ²)	Ward Area	Where total floor area is <u>less</u> than 500m ² :	Where total floor area is <u>greater</u> than 500m ² , but <u>less</u> than 1000m ² :	Where total floor area is <u>greater</u> than 1000m ² :
		Separate from other areas with Smoke Walls	Separate with smoke walls into areas less than 500m ²	Separate with smoke walls with an FRL of not less 60/60/60 into areas less than 1000m ²
	Treatment Area	Where total floor area is <u>less</u> than 1000m ² :	Where total floor area is <u>greater</u> than 1000m ² :	
		Separate from other areas with Smoke Walls	Separate with smoke walls into areas less than 1000m ²	

Note:-

Walls identified above which are required to achieve an FRL or be smoke separated must be of non-combustible construction i.e. no timber framed stud walls.

Table No. 4 – Required fire and smoke compartmentation for patient care areas

The following table provides a summary of compliance achieved by the fire and smoke compartments throughout each floor of the building and is based on the Draft – Work In Progress Compartmentation Drawings issued by BVN on 27.09.2018. Updated Drawings will be required to be assessed as the design developments to ensure that the below figures remain accurate.

LEVEL	COMPARTMENT SIZE	USE
Level 0	1,191 m ² (smoke)	Treatment Area 00.1A
	1,285 m ² (smoke)	Treatment Area 00.3A
	1,085 m ² (smoke)	Treatment Area (00.6A)



Level 1	501 m ² (smoke) 640 m ² (smoke) 512 m ² (smoke)	Ward Area 01.1A Ward Area 01.2A Ward Area 01.2B
Level 2	Complies	Patient Care & Non Patient Care
Level 3	Complies	Patient Care & Non Patient Care
Level 4	Complies	Non Patient Care Area
Level 5	Shell Space	Treatment Areas
Level 6	557 m ² (smoke) 620 m ² (smoke)	Ward Area 06.2A Ward Area 06.4A
Level 7	Shell Space	Ward Areas
Level 8	635m ² (smoke) 635 m ² (smoke)	Ward Area 08.1A Ward Area 08.5A
Level 9	639 m ² (smoke) 640 m ² (smoke)	Ward Area 09.1A Ward Area 09.5A
Level 10	640 m ² (smoke) 640 m ² (smoke)	Ward Area 10.1A Ward Areas 10.5A
Level 11	639 m ² (smoke) 639 m ² (smoke)	Ward Area 11.1A Ward Areas 11.5A
Level 12	640 m ² (smoke) 640 m ² (smoke)	Ward Area 12.1A Ward Areas 12.5A
Level 13	Complies	Non Patient Care

Table No. 5 – Summary of excessive fire and smoke compartment sizes

Having regard to the above table we note the following:

- + A number of smoke compartments within treatment and ward areas are greater than the maximum 500m² (ward areas) and 1000m² (treatment areas) threshold permitted by the DtS Provisions.

Based on the above table, the abovementioned compartment sizes which exceed the DtS Provisions of the BCA are noted as being proposed to be assessed as part of the proposed Fire Engineering Assessment to be undertaken by the Fire Safety Engineer.

The excessive compartment sizes which exceed the DtS Provisions of the BCA are considered to be within acceptable fire engineering limitations for a Performance Solution and are consistent with other recent HI projects subject to approval by FRNSW.



SECTION D - ACCESS & EGRESS

7. Clause D1.2 – Number of Exits Required

A minimum of two (2) exits (in addition to any horizontal exit) must be provided from each part of each storey within the building which contains patient care areas.

8. Clause D1.3 – When Fire Isolated Stairs are Required

All stairways serving the Acute Services Building will be required to be fire isolated stairways.

Non fire isolated stairways are permitted to be located within non patient care areas if they do not connect more than 3 storeys.

9. Clause D1.4 – Exit Travel Distances

Based on the WIP Issue Drawings assessed to date, we have undertaken an egress assessment in terms of egress travel distance to an exit.

As a result of the review, there are a number of areas identified where travel distance currently exceeds the maximum distance permitted by the DtS provisions of the BCA. The excessive travel distances are noted as being within acceptable fire engineering limitations.

In this instance the excessive travel distances to a point of choice and to an exit are proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

10. Clause D1.5 – Distances Between Alternative Exits

Based on the WIP Issue Drawings assessed to date, we have undertaken an egress assessment in terms of egress travel distance to an exit.

As a result of the review, there are a number of areas identified where travel distance currently exceeds the maximum distance permitted by the DtS provisions of the BCA. The excessive travel distances are noted as being within acceptable fire engineering limitations.

In this instance the excessive travel distances to a point of choice and to an exit are proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

11. Clause D1.7 -Travel via Fire Isolated Exits

Each fire isolated stairway is required to discharge via its own fire isolated stairway to open space.

It is noted that the two (2) of the fire isolated stairways that are located within the southern part of the floor discharge within the Level 1 of the building which is contrary to the requirements of Clause D1.7.

The discharge of the fire isolated stairways is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

It is understood that as part of the proposed Fire Engineering Assessment, the following will be required to be undertaken:

- + The lobby space in which the two fire isolated stairways discharge within will be required to be fire separated from the remainder of the storey and be a sterile area.
- + The two fire isolated stairways will be required to be fire separated from one another. In this instance a further fire will be required to be constructed within Compartment



01.6A to ensure that the discharge points of both stairways are not compromised; and

- + Direct and independent egress to open space will be required to be provided from both fire stairs.

12. Clause D1.9 – Travel via Non Fire Isolated Stairways

A technical non-compliance exists in terms of travel via the non fire isolated stairway serving the Helipad on Level 13 in that it does not provide direct discharge via its own flight to the level at which egress to a road or open space is provided.

Occupants using the non fire isolated stairway from the Helipad exit down to Level 12 where they will have the point of choice of two (2) alternative exits being the fire isolated stairways serving Level 12.

The proposed non fire isolated stairway serving the Helipad on Level 13 and its discharge on Level 12 will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

13. Clause D1.11 – Horizontal Exits

A technical non-compliance occurs in terms of travel via horizontal exits from within multiple fire compartments within building. In accordance with the BCA, a horizontal exit may be counted as a required exit 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.

Having regard to the proposed design, there are numerous instances whereby occupants will egress from one compartment into an adjoining compartment which will not be provided with direct access to a fire isolated stairway or exit discharging directly to open space.

The proposed design will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

14. D3 – Access Requirements for People with Disabilities

The new Acute Services Building will comply with BCA Part D3 and the Access to Premises Standards 2010 in terms of access and facilities for people with disabilities.

This will in essence ensure the design satisfies the requirements of the DDA.

Access for persons with disabilities must be provided, at a minimum, to and within all areas normally used by the occupants. This includes to and within all beds, throughout all patient care areas, staff areas and communal areas.

Access need not be provided to:

- + An area where access would be inappropriate because of the particular purpose for which the area is used.
- + An area that would pose a health or safety risk for people with a disability.
- + Any path of travel providing access only to an area exempted by (a) or (b).



SECTION E – SERVICES AND EQUIPMENT

15. Part E1 – E4 – Essential Fire Safety Measures

The following essential fire safety measures are required to be installed within the building based on an effective height greater than 50m:

ESSENTIAL FIRE AND OTHER SAFETY MEASURES	STANDARD OF PERFORMANCE
Access Panels, Doors & Hoppers	BCA Clause C3.13 AS 1530.4 - 2005
Alarm Signalling Equipment	AS1670.3 – 2004
Automatic Fail Safe Devices	BCA Clause D2.21
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a AS 1670.1 – 2015 / 2018
Automatic Fire Suppression System	BCA Spec. E1.5 AS2118.1 – 2017
Emergency Lighting	BCA Clause E4.4 AS 2293.1 - 2018
Emergency Lifts	BCA Clause E3.4 AS 1735.2 - 2001
Emergency Evacuation Plan	AS 3745 - 2002
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8 AS 2293.1 – 2018
Fire Dampers	BCA Clause C3.15 AS 1668.1 - 2015 AS 1682.1 & 2 – 2015
Fire Doors	BCA Clause C2.12, C2.13, C3.5, C3.8 AS 1905.1 – 2005
Fire Hose Reels	BCA Clause E1.4 AS 2441 – 2005
Fire Hydrant Systems	Clause E1.3 AS 2419.1 - 2005
Fire Seals	BCA Clause C3.15 AS 1530.4 – 2005 AS 4072.1 – 2005
Fire Walls	BCA Spec. C1.1



ESSENTIAL FIRE AND OTHER SAFETY MEASURES	STANDARD OF PERFORMANCE
Lightweight Construction	BCA Clause C1.8 AS 1530.3 – 1999
Manual Call Points	BCA Section E
Mechanical Air Handling Systems (automatic shutdown)	BCA Clause E2.2 AS/NZS 1668.1 – 2015 AS 1668.2 – 2012
Paths of Travel	EP & A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 AS 2444 – 2001
Pressurisation Systems (Fire Isolated Stairways and associated Passageways)	BCA Clause E2.2 AS/NZS 1668.1 – 2015 AS 1668.2 – 2012
Required Exit Doors (power operated)	BCA Clause D2.19(d)
Smoke Dampers	AS/NZS 1668.1 – 1998
Smoke Doors	BCA Spec. C3.4 & C2.5
Smoke Walls	BCA Spec. C2.5
Smoke Hazard Management System – Zone Smoke Control System	BCA Clause E2.2 AS/NZS 1668.1 – 2015 AS 1668.2 – 2012
Sound System & Intercom System for Emergency Purposes	BCA Clause E4.9 AS 1670.4 – 2004
Wall-Wetting Sprinklers	BCA Clause C3.4 AS 2118.2 – 2010
Warning & Operational signs	Section 183 of the EP & A Regulations 2000, AS 1905.1 – 2005, BCA Clause D2.23.

Table No. 6 – Required essential fire safety measures

Note1: -

The measures included and the standards of performances nominated above may vary as a result of the proposed Fire Engineering Assessment.

Note2: -

The above list is a schedule of fire safety measures required under Section E of the BCA only and does not take into consideration any other measures that may be required in the building as a result of other requirements of the BCA or other statutory standards together with the proposed Fire Engineering Assessment.



Clause E1.3 – Fire Hydrants

A fire hydrant service is required to be provided throughout the entire building. The system which forms part of a combined Hydrant and Sprinkler System will be required to be designed in accordance with AS 2419.1 – 2005 and AS 2118.6 – 2012.

System Performance

Based on the fact that the building contains 3 storeys or more together with the fact that the Fire Compartments will exceed 500m², the maximum number of fire hydrants that are required to flow simultaneously is 2 in accordance with Table 2.1 of AS 2419.1 – 2005.

Having regard to the above, the hydraulic consultant is to provide confirmation that the flow rate of the hydrant system has been designed for the required number of hydrants simultaneously flowing at the appropriate flow rate i.e. 2 hydrants flowing simultaneously at 10 l/s which equates to a minimum flow rate of 20 l/s.

Hydrant Locations

External hydrants if relied upon, are required to be set back a minimum distance of 10m from the external walls of the building unless protected by construction having an FRL of 90/90/90 which extends 3m above and 2m beyond either side of the hydrant outlet.

Internal Hydrants are to be located within each of the fire isolated stairways. Additional hydrants located for coverage may be located within the confines of each storey within 4m of a horizontal exit or non fire isolated exit i.e. exit discharging directly to open space on lower levels of the building.

A minimum of one fire hydrant is required to serve each fire compartment unless covered by a fire hydrant within a fire isolated stairway or an external hydrant.

Hydrant to Mid Landing of Stairway serving the Helipad

It is understood that a fire hydrant is proposed to be located on the mid landing of the non fire isolated stairway serving the helipad due to the fact that it cannot be located on the helipad. The location of the fire hydrant on the mid landing is a technical non-compliance with AS 2419.1 – 2015.

The location of the fire hydrant on the mid landing is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

System Design

Due to the fact that the building has an effective height greater than 25 and 50m, the following additional provisions are required in association with the Fire Hydrant System:

- + Provision of on-site water storage tanks;
- + Provision of a fire hydrant ring main; and
- + Provision of Fire Brigade Relay Pumps to enable relay boosting of each 50m pressure gauge.

Fire Hydrant Booster

A fire hydrant booster needs to be located in a manner where it is within sight of the main entrance of the building and adjoins a primary vehicular entrance and is situated within 8m of a hardstand access to permit Brigade access.

In this regard it is noted that the fire hydrant booster is located on the Eastern side of the building adjacent to the Fire Control Room and Fire Services Pump Room which is not within sight of the main entrance of the building on the Western Elevation.



The location of the booster in terms of proximity and sight to the main entrance of the building will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

As detailed above, the proposed location is to facilitate a hardstand area within 8m of the booster.

16. Clause E1.4 – Hose Reels

Fire hose reels are required to be installed throughout the building in accordance with AS 2441 – 2005.

Location

Fire hose reels are required to be located within 4m of an exit (including a horizontal exit) or adjacent to an internal fire hydrant (other than hydrants within a fire isolated stairway).

Fire Hose Reel Coverage to Fire Separated Rooms

It is noted that there may be small percentage of rooms that are fire or smoke separated from the remainder of the building that may not be provided with compliant fire hose reel coverage.

In this instance, the omission of Fire Hose Reel coverage to isolated rooms will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

In this instance, the likely omission of Fire Hose Reel coverage to isolated rooms will be assessed as a Performance Assessment to be undertaken by a qualified Fire Safety Engineer.

17. Clause E1.5 – Sprinklers

An Automatic Fire Suppression System is required to be installed throughout the building in accordance with AS 2118.6 – 2012 and AS 2118.1 – 2017.

As detailed above, due to the fact that the building has an effective height exceeding 25m & 50m, the following additional measures are required to be installed as part of the Automatic Fire Suppression System installation:

- + Provision of a Grade 1 Water Supply; and
- + Provision of on-site water storage tanks.

Sprinklers in Linkways

The enclosed linkways on Levels 6 & 7 are required to be protected throughout with an Automatic Fire Suppression System.

The enclosed linkways on Levels 1 - 3 which provide access to the existing non sprinkler protected buildings are required to be protected throughout unless the openings leading to the linkways from the new ASB are protected by construction achieving an FRL -/120/120 which extends top to bottom and side to side of the passageway with the doorways protected by -/12/30 Fire Doors. If the fire rated construction occurs at the junction of the non sprinkler protected building, then the Automatic Fire Suppression System will be required to be extended to the linkways.



If any part of the design differs from the above requirements of AS 2118.1 – 1999, then the design will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

Zoning of Sprinkler System with Zone Smoke Control System

If the Automatic Fire Suppression System is not zoned in accordance with the Zone Smoke Control System as required by Clause 9 of Specification E1.5, then the design will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

Location of Sprinkler Valve Sets

Having regard to the fact that the sprinkler system is designed as part of a combined Fire Hydrant and Sprinkler System, the sprinkler control valves are required to be located within the fire isolated stairways on each level with direct access being provided to the stairway from open space for FRNSW personnel.

As detailed in Clause D1.7 above, Fire Isolated Stairways 1 & 2 do not discharge directly to open space but rather in the Level 1 foyer which is fire separated from the remainder of the Ground Floor and from the alternative stairway as part of the Fire Engineering Design.

The non provision of direct access to the fire isolated stairways from open space for FRNSW personnel is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements.

An Automatic Fire Suppression System will be required to be installed throughout the entire Acute Services Building in accordance with AS 2118.1 – 1999.

Due to the fact that the building has an effective height exceeding 25m & 50m, the following additional measures are required to be installed as part of the Automatic Fire Suppression System installation:

- + Provision of a Grade 1 Water Supply; and
- + Provision of on-site water storage tanks.

The sprinkler valves are required to be located in a room which has direct egress to a road or open space.

18. Clause E1.8 – Fire Control Centres

A Fire Control Centre (Fire Control Room) is required to be located within a building.

It is noted that the proposed design consists of the Fire Control Room being located remote from the building adjacent to the Fire Hydrant Booster and Pumps and Valve Room etc.

The location of the Fire Control Room is a technical non-compliance and is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.



19. Clause E2.2 – Smoke Hazard Management

In terms of the requirements for smoke hazard management throughout the building, the following key items are noted:

Automatic Fire Detection & Alarm System

An Automatic Fire Detection & Alarm System is required to be installed throughout the building in accordance with AS 1670.1 – 2015. Photoelectric type smoke detectors are required to be installed in patient care areas and in paths of travel to exits from patient care areas.

Consistent with other recent HI Hospital projects, it is understood that the extend of smoke detectors within the ceiling voids will be rationalised consistent with an extended grid system so as to ensure that each smoke and fire compartment is provided with adequate coverage.

The proposed rationalisation of the smoke detection system within the ceiling void will be required to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

Zone Smoke Control System

A Zone Smoke Control System is required to be installed throughout the Acute Services Building having regard to the fact that the building has an effective height exceeding 25m.

The Zone Smoke Control System will be required to be designed in accordance with AS 1668.1 – 2015.

It is noted that it is proposed to rationalise the zone smoke control system in a manner where the pressure differential between fire compartments on the same floor will not be required to achieve a 20pa pressure differential. The proposed rationalisation of the zone smoke control system will be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer.

Mechanical Air Handling Systems

Any air-handling system which does not form part of the Zone Smoke Control System (other than non-ducted systems with a capacity not more than 1000 litres/second, systems serving critical treatment areas and miscellaneous exhaust air system installed in accordance with Sections 5 and 6 of AS/NZS 1668.1) must shut down automatically on the activation of the Automatic Fire Detection & Alarm System and Automatic Fire Suppression System.

Fire Isolated Stairway Pressurisation

Each of the fire isolated stairways are required to be provided with a system of Stairway Pressurisation in accordance with AS 1668.1 – 2015. The pressurisation system is required to be extended throughout the entire fire isolated stairway system.

It is noted that due to the design of Fire Isolated Stairways 1 & 2, which contain rising and descending stair flights separated by a smoke wall, it is not proposed to provide a system of stairway pressurisation to the flights within both fire isolated stairways that ascend from Level 0 to Level 1.

The omission of a system of stairway pressurisation from the subject flights is proposed to be assessed as part of the Fire Engineering Assessment to be undertaken by the Fire Safety Engineer.



Fire Indicator Panels

For any buildings which are physically connected to the new tower via direct internal connections or alternatively via enclosed link ways, there will be a requirement for connectivity between the FIP's between the buildings so that staff can be made aware of the fact that there may be a fire related emergency in the adjoining building.

20. Clause E3.4 – Emergency Lifts

A minimum number of two (2) emergency lifts will be required to be provided to serve each storey of the building that are served by the passenger lifts.

21. Clause E4.9 – Sound System and Intercom System for Emergency Purposes

A Sound System and Intercom System for Emergency Purposes is required to be installed throughout the entire building in accordance with AS 1670.4 - 2015.

It is noted that all external areas from which an occupant is required to re-enter the building (e.g. courtyards, balconies, terraces etc.) are also required to be provided with compliant SSISEP speakers.

It is understood that is likely to omit SSISEP speakers from ward and treatment rooms including patient bedrooms, operation theatres and other sensitive environments where the activation of the speaker within the room may cause trauma to the patient.

Any rationalisation of SSISEP system from within patient care areas will be required to be to be assessed as part of the Fire Engineering Assessment to be undertaken by the appointed Fire Safety Engineer in order to demonstrate compliance with the nominated Performance Requirements of the BCA.

SECTION F – HEALTH & AMENITY

22. Clause F2.3 – Facilities in Class 3 to 9 Buildings

The Class 9a facility is required to have:

- + Kitchen facilities
- + Laundry facilities
- + A shower for each 8 patients or part thereof
- + One island-type plunge bath in each storey containing Ward Areas

Required Sanitary Facilities

- + BCA2016 Part F requires sanitary facilities with the Class 9a facilities as follows:-

(a) Facilities for Staff:-

Toilet facilities for staff are to be provided in accordance with the following:-

User Group	Closet Pans		Urinals		Washbasins	
	Design Occupancy	Number	Design Occupancy	Number	Design Occupancy	Number
Male Employees	1-20	1	1	0	1-30	1
			11-25	1		
			26-50	2		
	>20	Add 1 per 20	>50	Add 1 per 50	>30	Add 1 per 30
Female Employees	1-15	1	N/A		1-30	1
	> 15	Add 1 per 15			> 30	Add 1 per 30



Table No. 14– Sanitary facilities required for staff members

(b) Facilities for Patients:

User Group	Closet Pans		Urinals		Washbasins	
	Design Occupancy	Number	Design Occupancy	Number	Design Occupancy	Number
Male Patients	1-16	1			1-8	1
	> 16	Add 1 per 16			>8	Add 1 per 8
Female Patients	1-16	1			1-8	1
	> 16	Add 1 per 16			> 8	Add 1 per 8

Table No. 15– Sanitary facilities required for patients

23. Clause F2.4 – Accessible Sanitary Facilities

Facilities for a person with a disability must be provided in accordance with the following:

- + Accessible sanitary facilities for use by a person with a disability are required to be provided on each floor adjacent to a bank of male and female sanitary facilities.
- + Where more than 1 bank of sanitary compartments containing male and female sanitary compartments is provided on a level, an accessible unisex facility must be provided at not less than 50% of those banks.

Note:-

Ensuites associated with beds in Ward Areas are not required to be accessible wc's in accordance with AS 1428.1.

- + Within each bank of male and female sanitary facilities, an ambulant sanitary compartment must be provided for each sex for use by a person with an ambulant disability.
- + The design should allow for the following for patients / members of the public on each level of the building having regard to the size and layout of each floor:
 - + A suitable number of unisex accessible sanitary facilities distributed throughout the floor so that all patients / members of the public have access to
 - + A suitable number of unisex ambulant sanitary compartments distributed throughout the floor.

Note: The accessible sanitary facilities should be a mix of LH and RH installations throughout.

- + The design is to allow adequate provision of accessible sanitary facilities for members of staff on each level of the building have regard to the size and layout of each floor:
 - + A suitable number of unisex accessible sanitary facilities distributed throughout the floor
 - + A suitable number of unisex ambulant sanitary compartment available for staff use.

Note: - Where separate male and female staff toilets / changes rooms are provided, male and female ambulant sanitary compartments are to be provided.

Having regard to the above requirements, we note that the design is able to achieve compliance with the above.



24. Clause F3.1 – Height of Rooms

The floor to ceiling heights throughout shall comply with the following:

- + in a patient care area, treatment room, clinic, waiting room, passageway, corridor or the like – 2400mm; and
- + in an operating theatres or delivery rooms – 3000mm; and
- + Bathroom, shower room, sanitary compartment, airlock, tea preparation room, pantry, store room or the like must achieve a minimum height of 2.1m.
- + Fire isolated exits – 2.0m.

25. Clause F4.1 – Provision of Natural Light

Natural light is required to be provided to all ward areas used for sleeping purposes.

A window providing natural light to a room used for sleeping person that 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 of 3m from such.

SECTION J – ENERGY EFFICIENCY

26. Parts J1 – J8

The energy efficiency provisions of Section J are applicable to the new Acute Service Building.

In this regard Parts J1 - Building Fabric, J2 - External Glazing, J3 - Building Sealing and J5 - Air Conditioning and Mechanical Ventilation, Part J6 - Artificial Lighting and Power, and Part J7 - Hot water supply & Part J8 – Access for Maintenance is required to be provided.

If the proposed design will not comply with the DtS provisions of the BCA, then a JV3 Assessment will be required to be undertaken to demonstrate compliance with the Performance Requirements of the BCA.



F. CONCLUSION

This report contains a high level BCA2016 (Amendment No. 1) and Access to Premises Standards 2010 assessment of the referenced the State Significant Development Application Drawings for the proposed Nepean Hospital Redevelopment. The high level review has been undertaken as part of the proposed section 4.55 submission to the Department of Planning to amend Development Application No. 8766 dated 25 February 2019. Concept Design Architectural Documentation for the proposed Acute Services Building to be constructed as part of the Nepean Hospital Redevelopment.

Arising from our assessment we are satisfied that the project design will be able to satisfy the requirements of the BCA2016 and the Access to Premises Standards 2010 if the works are designed and constructed in accordance with the requirements of the BCA and associated Australian Standards and the subsequent Fire Engineering Assessment and Access Report / Performance Solution Report to be undertaken for the building.