# BCA Assessment Report – DA Stage

## Mayo Private Hospital

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|---|---|
| **Project:** | Mayo Private Hospital |
| **Reference No:** | 115247-BCA-r03 |
| **Date:** | 13 December 2022 |
| **Client:** | Heathe Care Surgical Pty Ltd |
| **Client Contact:** | Melissa Thomas |
| **Email:** | mthomas@slrconsulting.com |
| **BCA Logic Contact:** | Athish Dulichan |
| **Direct:** | 8484 4030 |
| **Email:** | Athish.Dulichan@bcalogic.com.au |

## Document Control

| Revision | Date | Description | |
|---|---|---|---|
| 115247-BCA-r01 | 19 April 2022 | BCA Assessment Report – DA Stage | |
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| | | Prepared by | Verified by |
| | | Hayden David | Cameron Clark |
| | | Building Regulations Consultant<br>Registered Certifier<br>No. BDC 2890 | Manager Building Regulations<br>Registered Certifier – Unrestricted<br>No. BDC 3400 |
| | |  |  |
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| | | Prepared by | Verified by |
| | | Athish Dulichan | Cameron Clark |
| | | Senior Building Regulations Consultant | Manager Building Regulations<br>Registered Certifier – Unrestricted<br>No. BDC 3400 |
| | |  | Cameron Clark Digitally signed by Cameron Clark DN: C=AU, E=cameron.clark@jensenhughes.com, O=Jensen Hughes, OU=Building Regulations, CN=Cameron Clark Date: 2022.12.13 15:10:34+11'00' |

## BCA Logic Acquired by Jensen Hughes

BCA Logic was acquired by Jensen Hughes, the largest specialist fire and safety engineering firm in the world, in September 2021.

A respected global leader in safety, security and risk-based engineering and consulting, Jensen Hughes employs more than 1,400 people across 100 countries. This acquisition marks the company's entry into the Australian market and speaks to BCA Logic's experience and expertise in building legislation and regulations, fire, accessibility, and energy consulting.

Partnering with Jensen Hughes allows BCA Logic to further advance our capabilities in all aspects of fire safety engineering and support our clients with an expanded range of complementary services. Both companies share a commitment to technical excellence and exceptional client service.

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## Tables

## EXECUTIVE SUMMARY

This document provides an assessment of the architectural design drawings for the proposed development at Mayo Private Hospital, against the Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) 2019, Volume One Amendment 1. The building development, the subject of this report, is located at Mayo Private Hospital. The development consists of the extension to existing patient care areas being the Mental Health Ward and Rehabilitation Ward, and the extension of the existing Theatre. Furthermore, the existing lower ground maintenance department will be extended and utilised as general consultancy rooms for private practices with an additional 42 space open air carpark.

Part 3 'Matters for Further Consideration' of this report outlines the identified BCA compliance issues that require further information or consideration and/or assessment as Performance Solutions. Any Performance Solution will need to be detailed in a separate report and must clearly indicate methodologies for achieving compliance with the relevant BCA Performance Requirements.

| Item | Description | BCA Provision |
|---|---|---|
| **Performance Solutions Required** | | |
| 1. | To demonstrate that the construction of external walls is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements. | No DtS Provision – FP1.4 Performance Provisions Only |
| **Building Code of Australia Compliance Matters to be Addressed** | | |
| 1. | Class 9a and 9c Buildings | DtS Provisions – C2.5 |
| 2. | Separation of Lift Shafts | DtS Provisions – C2.10 |
| 3. | Handrails | DtS Provisions – D2.17 |
| 4. | Signage | DtS Provisions – D2.23 |
| 5. | Facilities in a Class 3 to 9 Building | DtS Provisions – F2.3 |
| 6. | Method and Extent of Natural Lighting | DtS Provisions – F4.2 |
| **Further Information Required** | | |
| 1. | Further detail is to be provided around the 'Void' nominated in the courtyard of the Mental Health Ward. The separating slab construction between the lower ground and ground is required to maintain an FRL of 120/120/120 in accordance with Clause C2.5 requirements of the BCA. Principal Certifier to review greater design detail around the 'Void' at Construction Certificate stage. | DtS Provisions – Spec C1.1 & C2.5. |

# 1 BASIS OF ASSESSMENT

## 1.1. Location and Description

The building development, the subject of this report, is located at Mayo Private Hospital. The development consists of the extension to existing patient care areas being the Mental Health Ward and Rehabilitation Ward, and the extension of the existing Theatre. Furthermore, the existing lower ground maintenance department will be extended and utilised as general consultancy rooms for private practices with an additional 42 space open air carpark.


*Site Aerial (Google Maps)*

## 1.2. Purpose

The purpose of this report is to assess the current design proposal against the Deemed-to-Satisfy Provisions of BCA 2019, and to clearly outline those areas (if any) where compliance is not achieved, where areas may warrant redesign to achieve strict BCA compliance or where areas may be able to be assessed against the relevant performance criteria of BCA 2019. Such assessment against relevant performance criteria will need to be addressed by means of a separate Performance Solution Report to be prepared under separate cover.

## 1.3. Building Code of Australia

This report is based on the Deemed-to-Satisfy Provisions of the National Construction Code Series Volume One – Building Code of Australia, (Amdt 1) 2019 Edition (BCA) incorporating the State variations where applicable. Please note that the version of the BCA applicable to new building works is the version applicable at the time of the lodgement of the Construction Certificate application to the Accredited Certifying Authority. The BCA is updated generally on a three-yearly cycle, starting from the 1st of May 2016.

## 1.4. Limitations

This report does not include nor imply any detailed assessment for design, compliance or upgrading for:

(a) the structural adequacy or design of the building;

(b) all existing fire safety measures are assumed to be compliant and maintained under the Annual Fire Safety Statement provisions required by the building owner;

(c) the inherent derived fire-resistance ratings of any proposed structural elements of the building (unless specifically referred to); and

(d) the design basis and/or operating capabilities of any proposed electrical, mechanical or hydraulic services.

This report does not include, or imply compliance with:

(a) the National Construction Code – Plumbing Code of Australia Volume 3

(b) the Disability Discrimination Act 1992 including the Disability ((Access to Premises – Buildings) Standards 2010 – unless specifically referred to);

(c) Demolition Standards not referred to by the BCA;

(d) Work Health and Safety Act 2011;

(e) Requirements of Australian Standards unless specifically referred to;

(f) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Local Council, ARTC, Department of Planning and the like; and

(g) Conditions of Development Consent issued by the Local Consent Authority.

## 1.5. Design Documentation

This report has been based on the Design plans and Specifications listed in Annexure A of this Report.

# 2 BUILDING DESCRIPTION

For the purposes of the Building Code of Australia (BCA) the development may be described as follows.

## 2.1. Rise in Storeys (Clause C1.2)

The building has a rise in storeys of two (2).

## 2.2. Classification (Clause A6.0)

The building has been classified as follows.

Table 1. Building Classification

| Class | Level | Description |
|---|---|---|
| Class 5 | Lower Ground | General Medical Consultancy Rooms and Administrative Offices |
| Class 9a | Ground Floor | Hospital |

*Note: While the current proposed use of the Lower Ground storey containing medical consultancy rooms and administrative offices aptly aligns with a Class 5 classification under Part A6 of the BCA. It is the intent of the client to construct the storey to the same requirements associated with a Class 9a use.*

## 2.3. Effective Height (Clause A1.0)

The building has an *effective height* less than 12 metres.

## 2.4. Type of Construction Required (Table C1.1)

The building is required to be of Type B Construction.

## 2.5. Floor Area and Volume Limitations (Table C2.2)

The building is subject to maximum floor area and volume limits of:-

| | | |
|---|---|---|
| Class 5 | Maximum Floor Area | 5,500m$^2$ |
| | Maximum Volume | 33,000m$^3$ |
| Class 9a | Maximum Floor Area | 3,500m$^2$ |
| | Maximum Volume | 21,000m$^3$ |

## 2.6. Fire Compartments

The following *fire compartments* encompassing the new works have been assumed:

(a) The lower ground floor will be a single fire compartment.

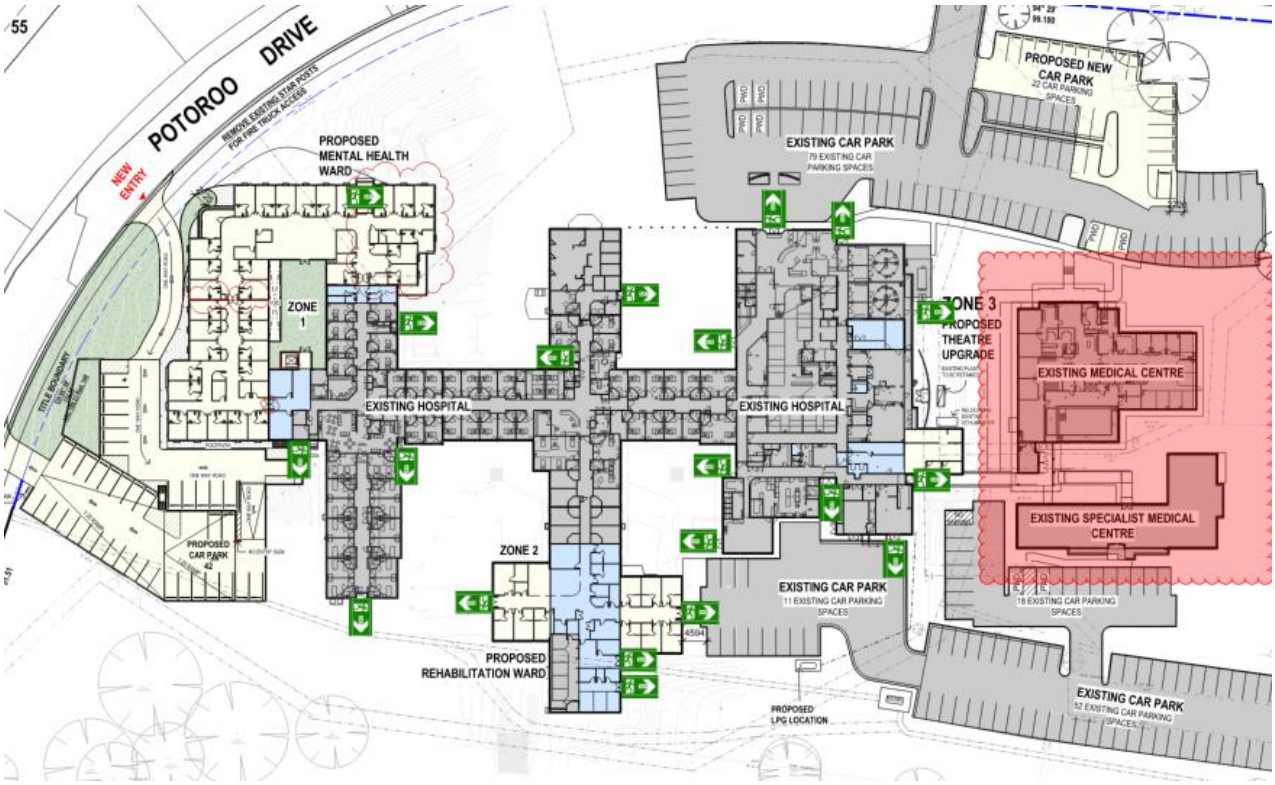
(b) The Mental Health Ward extension comprises of two new fire compartments each being less than 1,000m2 (820m$^2$ & 430m$^2$) and a single fire compartment for the Rehabilitation Ward extension being less than 1,000m$^2$ (945m$^2$).

Compartmentation limits are to satisfy those maximum floor area and volumes as detailed by Clause C2.2 of the BCA and there relevant fire and smoke compartments as detailed by Clause C2.5 of the BCA.

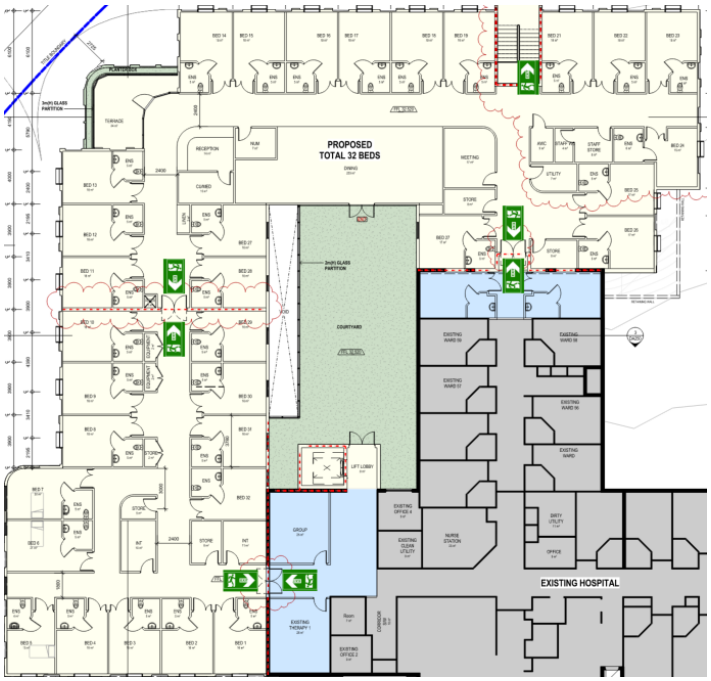
## 2.7. Exits

The following points in the building have been considered as the exits:

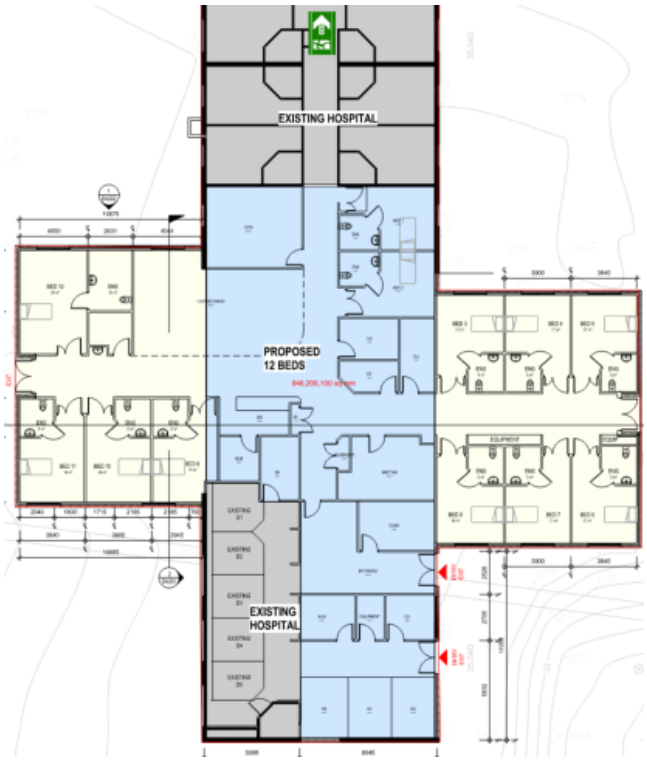
(a) Ground Floor – Existing and Proposed Required Exits – External




(b) Ground Floor – Horizontal Exits Mental Health Ward.



(c) Ground Floor – Horizontal Exit Rehabilitation Ward




(d) Lower Ground Floor – Proposed

## 2.8. Climate Zone (Clause A1.0)

The building is located within Climate Zone 5.

## 2.9. Location of Fire-source features

The fire source features for the subject development are:

| | | | |
|---|---|---|---|
| North: | The far road-side boundary of Potoroo Drive | - | >6m setback existing |
| South: | The side boundary allotment | - | ~4m setback existing |
| East: | The far road-side boundary of Potoroo Drive | - | >6m setback existing |
| West: | The far road-side boundary of Potoroo Drive | - | >6m setback proposed |

In accordance with Clause 2.1 of Specification C1.1, a part of a building element is exposed to a *fire-source feature* if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that–

(a) has an FRL of not less than 30/–/–; and

(b) is neither transparent nor translucent.

# 3 MATTERS FOR FURTHER CONSIDERATION

## 3.1. General

Assessment of the Architectural design documentation against the Deemed-to-Satisfy Provisions of the Building Code of Australia, 2019 (BCA) has revealed the following areas where compliance with the BCA may require further consideration and/or may involve assessment as Performance Based *Performance Solutions*. Any *Performance Solutions* will be required to clearly indicate methodologies for achieving compliance with the relevant *Performance Requirements*.

## 3.2. Dimensions and Tolerances

The BCA contains the minimum standards for building construction and safety, and therefore generally stipulates minimum dimensions which must be met. BCA Logic's assessment of the plans and specifications has been undertaken to ensure the minimum dimensions have been met.

The designer and builder should ensure that the minimum dimensions are met onsite and consideration needs to be given to construction tolerances for wall set outs, applied finishes and skirtings to corridors and bathrooms for example, tiling bed thicknesses and the like which can adversely impact on critical matters such as access for people with disabilities, stair and corridor widths and balustrade heights.

## 3.3. Performance-based Design – Performance Solutions

There are specific areas throughout the development where strict Deemed-to-Satisfy BCA Compliance may not be achieved by the proposed design and site constraints. These matters will need to be addressed in a detailed Performance Solution Report to be prepared for this development under separate cover:

Table 2. Performance Solutions

| Item | Description of Performance Solution | DTS Provision | Relevant Performance Requirements |
|---|---|---|---|
| 1. | To demonstrate that the construction of the external walls is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements. | No DtS Provisions – Nil, Performance Provisions Only | Performance Requirements – FP1.4 |

## 3.4. Façade Construction – Non-combustible

As the building is required to be of Type B Construction, the external façade is required to be *non-combustible* and comply with Clause C1.9 of BCA2019 which states as follows:

(a) In a building required to be of Type A or B construction, the following building elements and their components must be *non-combustible*:
  (i) External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation.
  (ii) The flooring and floor framing of lift pits.
  (iii) Non-*loadbearing* internal walls where they are required to be fire-resisting.

(b) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of *non-combustible* construction in—
  (i) …
  (ii) a building required to be of Type B construction, subject to C2.10, in—
    (A) a Class 2, 3 or 9 building; and
    (B) a Class 5, 6, 7 or 8 building if the shaft connects more than 2 storeys.

(c) A l*oadbearing* internal wall and a *loadbearing fire wall*, including those that are part of a *loadbearing* shaft, must comply with Specification C1.1.

(d) The requirements of (a) and (b) do not apply to gaskets, caulking, sealants, termite management systems, Glass including laminated glass, thermal breaks associated with glazing systems and damp-proof courses.
(e) The following materials, may be used wherever a *non-combustible* material is required:
  (i) Plasterboard.
  (ii) Perforated gypsum lath with a normal paper finish
  (iii) Fibrous-plaster sheet.
  (iv) Fibre-reinforced cement sheeting.
  (v) 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.
  (vi) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5.
  (vii) Bonded laminated materials where—
    (A) each lamina, including any core, is *non-combustible*; and
    (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
    (C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

Further detail of the external façade construction is to be provided to the Principal Certifier at Construction Certificate Stage. It is expected that the new façade construction will match that of the existing double brick construction of the existing building, suggesting compliance may be readily achievable.

## 3.5. Environmental Planning and Assessment Regulations 2021: Clause 64 *Consent Authority May Require Upgrading of Buildings*

Where the development works will be subject to a statutory approval under the *Environmental Planning and Assessment Act 1979 (NSW)* and its supporting Regulations 2021, a review of the existing fire safety and egress measures contained within the building is required to determine where measures are **inadequate** to protect persons using the building, to facilitate egress, and/or contain fire spread from the building. Council may consider upgrading of the existing structure to achieve full or partial compliance with the relevant Performance Requirements of the BCA where it sees reasonable to do so. An excerpt of the applicable clause is provided below:

***64 Consent authority may require upgrade of buildings***

*(1) This section applies to the determination of a development application that involves the rebuilding or alteration of an existing building if—*

*(a) the proposed building work and previous building work together represent more than half of the total volume of the building, or*

*(b) the measures contained in the building are inadequate—*

*(i) to protect persons using the building, if there is a fire, or*

*(ii) to facilitate the safe egress of persons using the building from the building, if there is a fire, or*

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

*(2) The consent authority must consider whether it is appropriate to require the existing building to be brought into total or partial conformity with the Building Code of Australia.*

*(3) In this section—*

***previous building work** means building work completed or authorised within the previous 3 years.*

***total volume** of a building means the volume of the building before the previous building work commenced and measured over the building's roof and external walls.*

A review of the existing building and its existing fire and smoke compartments has found the following information/upgrade recommendations be considered by the Consent Authority in relation to the existing building to determine the adequacy of those provisions listed above:

(a) The existing automatic fire detection and alarm system (including EWIS) may continue to operate in accordance with their originally installed standard of performance being AS1670-2004. However, all new building works shall see fire safety measures designed and installed to the current editions of the Australian Standards, as referenced in Schedule 4 of the BCA (Amdt 1) 2019 and Annexure F of this document.

## 3.6. PART C2 – COMPARTMENTATION AND SEPARATION

### 3.6.1. C2.5 Class 9a and 9c Buildings

The following fire and smoke construction must be considered by the project design for the extension of the Mental Health Ward and Rehabilitation Ward, being Patient Care Areas.

(a) In addition to the two new fire compartments being less than 1,000m$^2$ each the Mental Health Ward is to be further separated into 500m$^2$ floor area smoke compartments with construction complying with Specification C2.5. Any fire wall separating the new fire compartments should achieve and FRL of 120/120/120.

(b) In addition to the new fire compartments being less than 1,000m$^2$ for the Rehabilitation Ward extension the ward is to be further separated into 500m$^2$ floor area smoke compartments with construction complying with Specification C2.5.

(c) The new floor separating the lower ground Class 5 and the Ground Floor Class 9a use is to achieve an FRL of 120/120/120 with spandrels constructed in accordance with Clause C2.6 as for Type A Construction.

*Note: Where the design team seeks to construct the lower ground floor storey to the requirement prescribed for that of a Class 9a use in lieu of the proposed intended use of the space. The fire and smoke resisting construction provisions referenced above should be proposed on any Construction Certificate stage design drawing.*

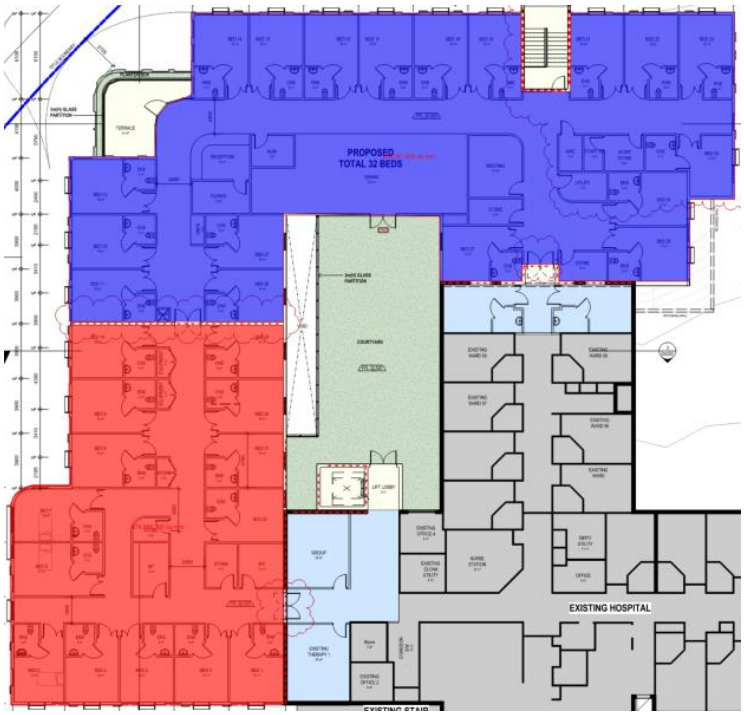



*Figure: New fire compartments formed for Mental Health Ward extension.*

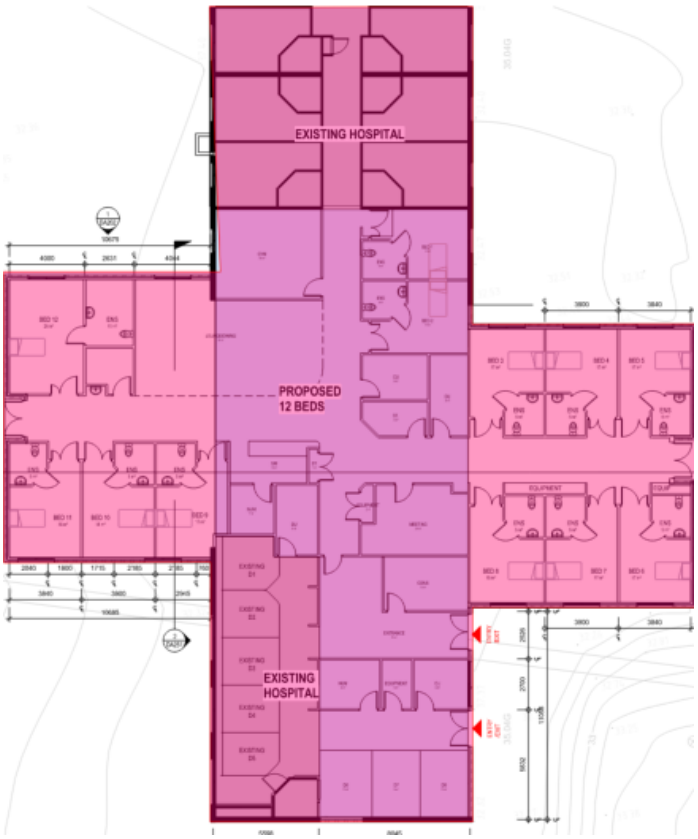



*Figure: New fire compartment Rehabilitation Ward extension.*

### 3.6.2. C2.10 Separation of Lift Shafts

Where there is direct connection between the lower ground Class 5 and the ground floor Class 9a patient care area via the proposed lift shaft the construction of the shaft is to achieve an FRL of 120/120/120 and the door opening protected in accordance with Clause C3.10.

## 3.7. PART D2 – CONSTRUCTION OF EXITS

### 3.7.1. D2.17 Handrails

Each corridor or passageway within a patient care area is to be provided with a continuous handrail to at least one side of every passageway or corridor. The handrail shall be 50mm clear from the adjacent wall and be continuous where practicable. The location and placement of doorways off corridors will therefore need to provide specific consideration to ensuring the handrails can be as continuous/uninterrupted as possible.

### 3.7.2. D2.23 Signage

Each fire and smoke door, or door forming part of a horizontal exit will be required to ensure the relevant statutory signage is installed to the face of the door. Such detail may be provided within a signage schedule at Construction Certificate stage.

## 3.8. PART F2 – SANITARY AND OTHER FACILITIES

### 3.8.1. F2.3 Facilities in a Class 3 to 9 Building

Where the design is not intending to install an island type plunge bath on the ground floor storey of the building, and the existing hospital does not already have such a facility installed, a non-fire Performance Solution is required to rationalise the departure from the DtS requirements of the BCA. Such a solution could be supported whereby an alternative means of bathing facilities will be installed (ie. accessible showers and commodes).

## 3.9. PART F4 – LIGHT AND VENTILATION

### 3.9.1. F4.2 Method and Extent of Natural Lighting

The design is to consider the required provisions to provide natural light to patent care areas and rooms by which are used for sleeping in Class 9a buildings, with natural light that transmits a minimum 10% of the floor area of the room. Furthermore, any window opening providing natural light is to be kept a minimum 3m setback from adjacent walls of the building, an allotment boundary, or another building on the same allotment. Currently Beds numbered 2 in the Rehabilitation Ward is not nominated with window openings.

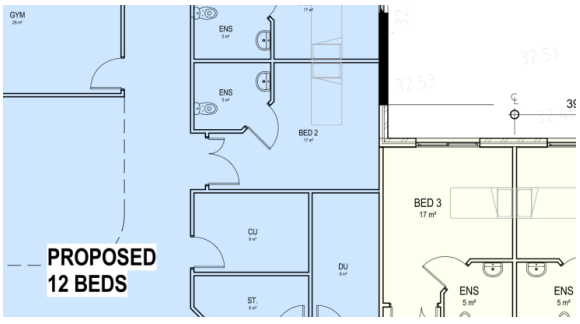



*Figure: Natural lighting to be provided within patent care areas and rooms for sleeping.*

# ANNEXURE A DESIGN DOCUMENTATION

## Annexure A – Design Documentation

This report has been based on the following design documentation.

Table 3. Architectural Plans

| Architectural Plans Prepared by HEALTH ARCHITECTS | | | |
|---|---|---|---|
| **Drawing Number** | **Revision** | **Date** | **Title** |
| DA000 | B | 06/10/2022 | COVER SHEET |
| DA001 | A | 06/10/2022 | SITE CONTEXT |
| DA010 | A | 06/10/2022 | EXISTING & DEMO SITE PLAN |
| DA011 | A | 06/10/2022 | EXISTING GROUND FLOOR DEMO – ZONE 1 |
| DA011A | A | 06/10/2022 | EXISTING LOWER GROUND FLOOR DEMO – ZONE 1 |
| DA012 | A | 06/10/2022 | EXISTING GROUND FLOOR DEMO – ZONE 2 |
| DA013 | A | 06/10/2022 | EXISTING GROUND FLOOR DEMO – ZONE 3 |
| DA020 | B | 06/10/2022 | PROPOSED SITE PLAN |
| DA021 | B | 06/10/2022 | PROPOSED LOWER GROUND – ZONE 1 CARPARK |
| DA030 | B | 06/10/2022 | PROPOSED GROUND FLOOR PLAN – ZONE 1 |
| DA031 | B | 06/10/2022 | PROPOSED LOWER GROUND FLOOR PLAN – ZONE 1 |
| DA032 | B | 06/10/2022 | PROPOSED GROUND FLOOR PLAN – ZONE 2 |
| DA033 | A | 06/10/2022 | PROPOSED GROUND FLOOR PLAN – ZONE 3 |
| DA040 | B | 06/10/2022 | PROPOSED ROOF PLAN – ZONE 1 |
| DA042 | A | 06/10/2022 | PROPOSED ROOF PLAN – ZONE 2 |
| DA043 | A | 06/10/2022 | PROPOSED ROOF PLAN – ZONE 3 |
| DA200 | B | 06/10/2022 | PROPOSED ELEVATIONS – ZONE 1 |
| DA201 | A | 06/10/2022 | PROPOSED ELEVATIONS – ZONE 2 |
| DA203 | A | 06/10/2022 | PROPOSED ELEVATIONS – ZONE 3 |
| DA510 | B | 06/10/2022 | PERSPECTIVES VIEWS |

# ANNEXURE B ESSENTIAL SERVICES

## Annexure B - Essential Services

The following fire safety measures are required to be installed as part of the extension to the building. The new measures are to be updated on the existing Fire Safety Schedule in Table 5 prior to the issue of a Construction Certificate. The following table may be required to be updated as the design develops and options for compliance are confirmed.

Table 4. Essential Fire Safety Measures (New)

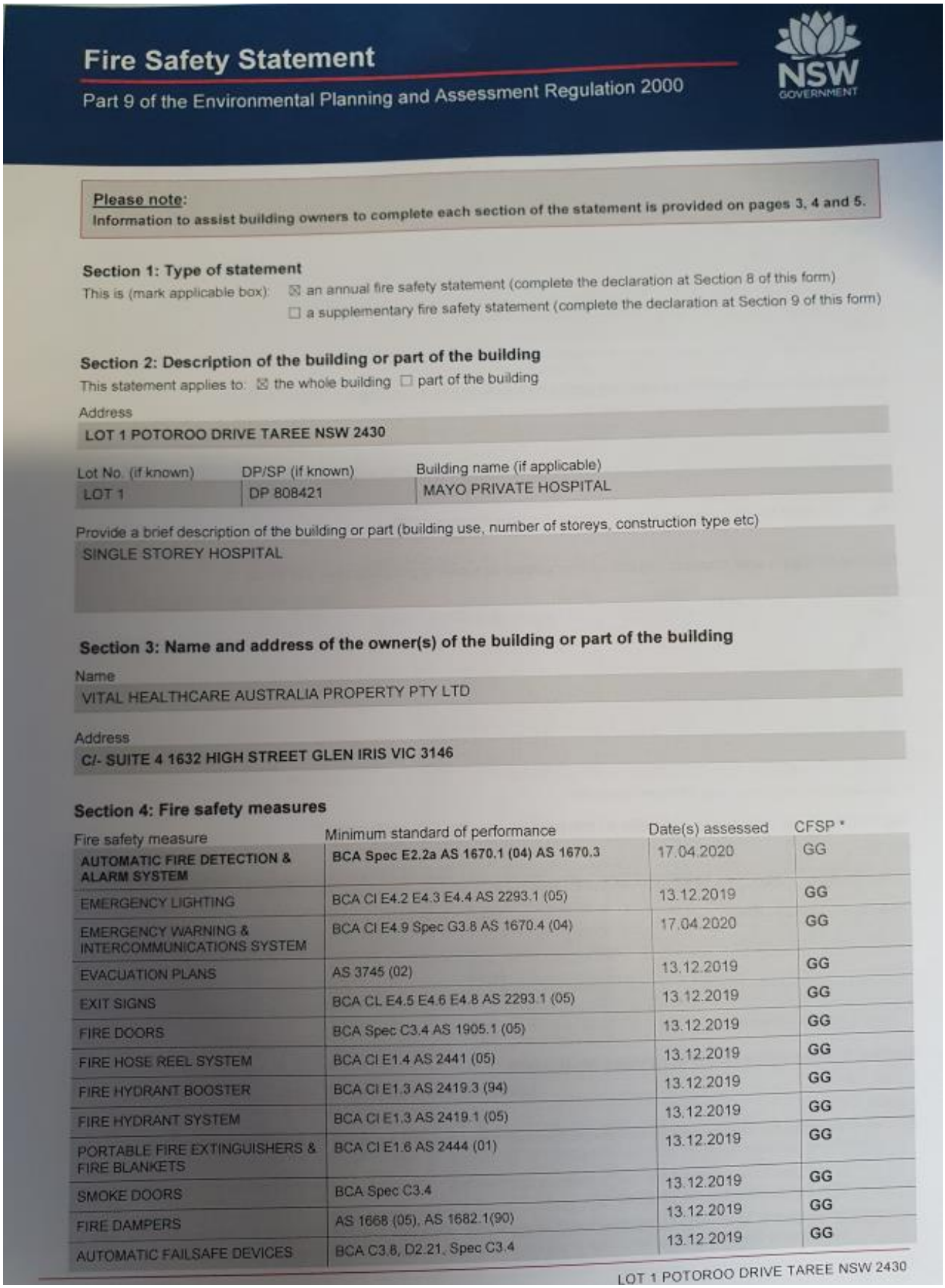
| Item | Essential Fire and Other Safety Measures | Standard of Performance |
|---|---|---|
| **Fire Resistance (Floors – Walls – Doors – Shafts)** | | |
| 1. | Construction Joints | **BCA2019 C1.1, Spec C1.1**<br>**BCA2019 C3.16**<br>AS 1530.4:2014 & AS 4072.1:2005 |
| 2. | Fire doors | **BCA2019 C2.5** (Class 9a and 9c)<br>**BCA2019 C3.5** (Doors in Fire Walls)<br>**BCA2019 C3.7** and D1.11 (Horizontal Exits)<br>**BCA2019 C3.10** (Opening in Fire Isolated Lift Shafts)<br>AS1735.11- 1986<br>AS1905.1: 2015 |
| 3. | Fire seals protecting openings in fire resisting components of the building | **BCA2019 C3.15** (Openings for service installations)<br>**BCA2019 C3.16** (Construction joints)<br>**BCA2019 Spec C3.15**<br>AS1530.4:2014 & AS4072.1-2005 |
| 4. | Lightweight construction<br>> 9a/9b – Fire Compartment <2,000m2, Patient Care Areas <1,000m$^2$, and Smoke Compartments <500m2 | **BCA2019 C1.1, Spec. C1.1**<br>**BCA2019 C1.8, Spec C1.8**<br>**BCA2019 C2.5** (Class 9a & 9c)<br>**BCA2019 C2.7** (Fire Walls)<br>AS1530.4:2014 |
| 5. | Smoke Walls | **BCA2019 C2.5, Spec C2.5** (Class 9a and 9c)<br>Ward Areas <500m$^2$ |
| 6. | Smoke Doors<br>> Smoke Seals<br>> Swing in direction of egress/or both ways<br>> Connected to AS1670.1:2018 if held open Smoke detectors within 1.5m both sides<br>> Fail close on power failure | **BCA2019 C2.5** (Class 9a and 9c)<br>**Spec C2.5**<br>Ward Areas <500m2<br>**BCA2019 Spec C3.4**<br>AS1670.1:2018 |

| Item | Essential Fire and Other Safety Measures | Standard of Performance |
|---|---|---|
| **General** | | |
| 7. | Portable fire extinguishers | **BCA2019 E1.6**<br>AS 2444–2001 |
| **General Egress** | | |
| 8. | Operation of Door latches<br>> Failsafe<br>> Manual Push Button Control | **D2.21** (Operation of Latch)<br>AS 1670.1:2018 |
| 9. | Warning & operational signs | **BCA2019 D2.23 (**Signs on Fire Doors)<br>**BCA2019 D3.6** (Braille Exit Signs) (Note: E4.5 (Exit Signs))<br>**BCA2019 E3.3** (Lift Signs) |
| **Electrical Services** | | |
| 10. | Automatic fail safe devices<br>> Break Glass release | **BCA2019 D2.21** (Operation of Latches) |
| 11. | Automatic fire detection & alarm:<br>> Clause 4 – AS 1670.1:2018 system throughout the building/part connected to a BOWS @ 100dB(A) | **BCA2019 E2.2**, NSW Table E2.2a, Table 2.2b,<br>**Spec E2.2a**<br>**BCA2019 C3.5** (Doors in Fire Walls)<br>**BCA2019 C3.7** (Horizontal Exits)<br>**BCA2019 D2.21** (Operation of Latch)<br>**Spec E2.2a** - Clause 4 (Smoke detection system)<br>**Spec E2.2a** - Clause 7 (BOWS)<br>**Spec E2.2a** - Clause 8 (System Monitoring)<br>AS 1670.3:2018 (Fire Alarm Monitoring)<br>AS 1670.4:2018 (EWIS) |
| 12. | Emergency lighting | **BCA2019 E4.2, E4.4**<br>AS/NZS 2293.1:2018 |
| 13. | Exit signs | **BCA2019 E4.5** (Exit Signs)<br>**BCA2019 E4.6** (Direction Signs)<br>**BCA2019 E4.8** (Design and Operation - Exits)<br>AS/NZS 2293.1:2018 |
| 14. | Smoke detectors & heat detectors<br>1. Auto-shutdown of Air-handling System. | **BCA2019 E2.2, Spec E2.2a**<br>AS 1668.1:2015 |

| Item | Essential Fire and Other Safety Measures | Standard of Performance |
|---|---|---|
| | > (Clause E2.2(b)) - Any system that recycles air from one fire compartment to another, or operates in a manner that may spread smoke and does not operate as a smoke control system as per AS 1668.1;<br>> (Table E2.2a) - Any system in a Class 9a health care or 9c aged care building that does not operate as a smoke control system as per AS 1668.1:2015, other than:<br>○ individual room units with a capacity of not more than 1000 L/s; or<br>○ systems serving critical treatment areas; or<br>○ miscellaneous exhaust are systems installed as per Section 5 and 6 of AS/NZS 1668.1:2015; | |
| 15. | Emergency warning and intercom systems (EWIS)<br>> Class 9a (>1,000m2) | **BCA2019 E4.9**<br>AS 1670.4:2018 (EWIS) |
| 16. | System Monitoring | **BCA2019 E2.2, Table E2.2a,Spec E2.2a**<br>AS 1670.3:2018<br>Monitoring Required for any:<br>> Class 9a building >20 patients |
| **Hydraulic Services** | | |
| 17. | Fire hydrant systems<br>> NSW Storz Couplings | **BCA2019 E1.3**<br>AS 2419.1:2005 |
| 18. | Hose reel systems<br>*(Not to pass through a wall with fire resisting construction)* | **BCA2019 E1.4**<br>AS 2441:2005 |
| **Mechanical Services** | | |
| 19. | Fire dampers | **BCA2019 E2.2, Spec E2.2a, Spec E2.2b**<br>**BCA2019 C3.15**<br>AS 1668.1:2015 (Amdt 1) AS 1682.1:2015 & AS 1682.2:2015 |
| 20. | 1. Mechanical air handling systems<br>2. Auto-shutdown of Air-handling System.<br>> (Clause E2.2(b)) - Any system that recycles air from one fire compartment to another, or operates in a manner that may spread smoke and does not operate as a smoke control system as per AS 1668.1:2015; | **BCA2019 E2.2, Table E2.2a, Table E2.2b**<br>**Spec E2.2a, Spec E2.2b**<br>AS 1668.1:2015 (Amdt 1) |

| Item | Essential Fire and Other Safety Measures | Standard of Performance |
|---|---|---|
| | > (Table E2.2a) - Any system in a Class 9a health care or 9c aged care building that does not operate as a smoke control system as per AS 1668.1:2015, other than:<br>○ individual room units with a capacity of not more than 1000 L/s; or<br>○ systems serving critical treatment areas; or<br>○ miscellaneous exhaust are systems installed as per Section 5 and 6 of AS 1668.1:2015; | |
| 21. | Smoke dampers | **BCA2019 C2.5 and Spec C2.5**<br>**BCA2019 E2.2, Spec E2.2a**<br>AS 1668.1:2015 (Amdt 1), AS 1682.1:2015 & AS 1682.2:2015 |
| 22. | **Alternative Solution**<br>1. (Refer to existing Fire Safety Schedule in Table 5 for existing FER) | |

Table 5. Fire Safety Schedule (Existing)



# Fire Safety Statement

Part 9 of the Environmental Planning and Assessment Regulation 2000

NSW GOVERNMENT

**Please note:**
**Information to assist building owners to complete each section of the statement is provided on pages 3, 4 and 5.**

**Section 1: Type of statement**

This is (mark applicable box): ☒ an annual fire safety statement (complete the declaration at Section 8 of this form)
☐ a supplementary fire safety statement (complete the declaration at Section 9 of this form)

**Section 2: Description of the building or part of the building**

This statement applies to: ☒ the whole building ☐ part of the building

Address
LOT 1 POTOROO DRIVE TAREE NSW 2430

| Lot No. (if known) | DP/SP (if known) | Building name (if applicable) |
|---|---|---|
| LOT 1 | DP 808421 | MAYO PRIVATE HOSPITAL |

Provide a brief description of the building or part (building use, number of storeys, construction type etc)
SINGLE STOREY HOSPITAL

**Section 3: Name and address of the owner(s) of the building or part of the building**

Name
VITAL HEALTHCARE AUSTRALIA PROPERTY PTY LTD

Address
C/- SUITE 4 1632 HIGH STREET GLEN IRIS VIC 3146

**Section 4: Fire safety measures**

| Fire safety measure | Minimum standard of performance | Date(s) assessed | CFSP * |
|---|---|---|---|
| **AUTOMATIC FIRE DETECTION & ALARM SYSTEM** | **BCA Spec E2.2a AS 1670.1 (04) AS 1670.3** | 17.04.2020 | GG |
| EMERGENCY LIGHTING | BCA Cl E4.2 E4.3 E4.4 AS 2293.1 (05) | 13.12.2019 | GG |
| EMERGENCY WARNING & INTERCOMMUNICATIONS SYSTEM | BCA Cl E4.9 Spec G3.8 AS 1670.4 (04) | 17.04.2020 | GG |
| EVACUATION PLANS | AS 3745 (02) | 13.12.2019 | GG |
| EXIT SIGNS | BCA CL E4.5 E4.6 E4.8 AS 2293.1 (05) | 13.12.2019 | GG |
| FIRE DOORS | BCA Spec C3.4 AS 1905.1 (05) | 13.12.2019 | GG |
| FIRE HOSE REEL SYSTEM | BCA Cl E1.4 AS 2441 (05) | 13.12.2019 | GG |
| FIRE HYDRANT BOOSTER | BCA Cl E1.3 AS 2419.3 (94) | 13.12.2019 | GG |
| FIRE HYDRANT SYSTEM | BCA Cl E1.3 AS 2419.1 (05) | 13.12.2019 | GG |
| PORTABLE FIRE EXTINGUISHERS & FIRE BLANKETS | BCA Cl E1.6 AS 2444 (01) | 13.12.2019 | GG |
| SMOKE DOORS | BCA Spec C3.4 | 13.12.2019 | GG |
| FIRE DAMPERS | AS 1668 (05), AS 1682.1(90) | 13.12.2019 | GG |
| AUTOMATIC FAILSAFE DEVICES | BCA C3.8, D2.21, Spec C3.4 | 13.12.2019 | GG |

LOT 1 POTOROO DRIVE TAREE NSW 2430

# Fire Safety Statement

Part 9 of the Environmental Planning and Assessment Regulation 2000

NSW GOVERNMENT

| | | | |
|---|---|---|---|
| MECHANICAL AIR HANDLING SYSTEMS | BCA F4.5, F4.11, F4.12 AS 1668.1 (98) AS 1668.2 (02) | 13.12.2019 | GG |
| WALL WETTING SPRINKLER AND DRENCHER SYSTEMS | BCA C3.2 Spec. G3.8 AS 2118.2 (95) | 13.12.2019 | GG |
| WARNING & OPERATIONAL SIGNS | BCA C3.6,E3.3, D2.23 & Spec E1.8 | 17.04.2020 | GG |
| FIRE ENGINEERING REPORT 109577 VERSION B DATED 21/12/2012 PREPARED BY HOLMES FIRE | Performance requirement DP4-discharge from exit. Performance Requirement CP3- smoke wells to smoke doors in Mental Health & Theatre/Recovery | 13.12.2020 | GG |

* See notes on page 4 about how to correctly identify a Competent Fire Safety Practitioner (CFSP).

## Section 5: Inspection of fire exits and paths of travel to fire exits (Part 9 Division 7)

| Part of the building inspected | Date(s) inspected | CFSP * |
|---|---|---|
| ALL | 13.12.2020 | GG |
| | | |
| | | |

* See notes on page 4 about how to correctly identify a Competent Fire Safety Practitioner (CFSP).

## Section 6: Name and contact details of competent fire safety practitioners (CFSPs)

| Full name | Phone | Email | Accreditation No.* | Signature |
|---|---|---|---|---|
| Gary Gilbert | 6585 3800 | admin@northcoastfire.com.au | F004796A | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

* Where applicable – see notes on page 4 for further information.

## Section 7: Name and contact details of the person issuing this statement *

Full name

Organisation (if applicable) | Title/Position (if applicable)

Phone | Email

* The person issuing the statement must not be a CFSP listed in section 6.

## Section 8: Annual fire safety statement declaration

I, Click here (insert full name) being the: ☐ owner ☐ owner's agent

declare that:

a) each essential fire safety measure specified in this statement has been assessed by a competent fire safety practitioner and was found, when it was assessed, to be capable of performing:

i. in the case of an essential fire safety measure applicable by virtue of a fire safety schedule, to a standard no less than that specified in the schedule, or

ii. in the case of an essential fire safety measure applicable otherwise than by virtue of a fire safety schedule, to a standard no less than that to which the measure was originally designed and implemented, and

LOT 1 POTOROO DRIVE TAREE NSW 2430

Version 3.0 | Effective from 1 February 2020 | NSW Department of Planning, Industry and Environment | 2

# ANNEXURE C FIRE RESISTANCE LEVELS

## Annexure C - Fire Resistance Levels

The following fire resistance levels (FRL's) are required for the various building elements, with a fire source feature being the far boundary of a road adjoining the allotment, a side or rear boundary or an external wall of another building on the allotment except a Class 10 structure.

### Type B Construction

Table 6. Type B Construction

| Item | Class 5 or 9a |
|---|---|
| Loadbearing External Walls<br>- Less than 1.5m to a *fire- source feature*<br>- 1.5 – less 3m from *fire- source feature*<br>- 3 – less 9m from *a fire- source feature*<br>- 9 – less 18m from a *fire- source feature*<br>- 18m or more from a *fire- source feature* | <br>120/120/120<br>120/90/60<br>120/30/30<br>120/30/-<br>-/-/- |
| Non-Loadbearing External Walls<br>- Less than 1.5m to a *fire- source feature*<br>- 1.5 – less 3m from *fire- source feature*<br>- 3m or more from a *fire- source feature* | <br>-/120/120<br>-/90/60<br>-/-/- |
| Loadbearing External Columns<br>- Less than 18m<br>- 18m or more | <br>120/-/-<br>-/-/- |
| Non-Loadbearing External Columns | -/-/- |
| Common Walls & Fire Walls | 120/120/120 |
| Stair and Lift Shafts required to be fire-resisting<br>- Loadbearing Stair & Lift shaft<br>- Non-loadbearing Stair shaft only | <br>120/120/120<br>-/120/120 |
| Internal walls bounding sole occupancy units<br>- Loadbearing<br>- Non-loadbearing | <br>120/-/-<br>-/-/- |
| Internal walls bounding public corridors, public lobbies and the like:<br>- Loadbearing<br>- Non-loadbearing | <br>120/-/-<br>-/-/- |
| Other loadbearing internal walls and columns | 120/-/- |
| Roofs | -/-/- |

In a Class 2 or 3 building, except where within the one *sole-occupancy unit*, or a Class 9a health-care building or a Class 9b building, a floor separating storeys or above a space for the accommodation of motor vehicles or used for storage or any other ancillary purpose, must—

(a) be constructed so that it is at least of the standard achieved by 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

(b) have an *FRL* of at least 30/30/30; or

(c) have a fire-protective covering on the underside of the floor, including beams incorporated in it, if the floor is combustible or of metal.

# ANNEXURE D DEFINITIONS

## Annexure E - Definitions

*Accredited Practitioner (Fire Safety)*

Means the holder of an accreditation under the *Building and Development Certifiers Act 2018* that authorises the holder to exercise the functions of an accredited practitioner (fire safety) who is acting in relation to matters to which the accreditation relates.

*Average specific extinction area*

Average specific extinction area means the average specific extinction area for smoke as determined by AS 5637.1:2015.

*Critical radiant flux*

Critical radiant flux (CRF) means the critical heat flux at extinguishment (CHF in kW/m2) as determined by AS ISO 9239.1:2003.

*Designated bushfire prone area*

Designated bushfire prone area means land which has been designated under a power of legislation as being subject, or likely to be subject, to bushfires.

*Effective height*

Effective height means the vertical distance between the floor of the lowest storey included in a determination 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).

*Exit*

Exit means –

(a) Any, or any combination of the following if they provide egress to a road or open space—

(i) An internal or external stairway.

(ii) A ramp.

(iii) A fire-isolated passageway.

(iv) A doorway opening to a road or open space.

(v) A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

*Fire compartment*

Fire compartment means –

(a) the total space of a building; or

(b) when referred to in—

(i) the Performance Requirements — any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or

(ii) the Deemed-to-Satisfy Provisions — any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to Satisfy Provisions of the relevant Part.

*Fire-resistance level (FRL)*

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with Specification A2.3, for the following criteria—

(a) structural adequacy; and

(b) integrity; and

(c) insulation,

and expressed in that order.

Note: A dash means that there is no requirement for that criterion. For example, 90/–/– means there is no requirement for an FRL for integrity and insulation, and –/–/– means there is no requirement for an FRL.

*Fire-source feature*

(a) the far boundary of a road, river, lake or the like adjoining the allotment; or

(b) a side or rear boundary of the allotment; or

(c) an external wall of another building on the allotment which is not a Class 10 building

*Fire wall*

Fire wall means a wall with an appropriate resistance to the spread of fire that divides a storey or building into fire compartments.

*Flammability index*

Flammability Index means the index number as determined by AS 1530.2:1993.

*Group number*

Group number means the number of one of 4 groups of materials used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining, or attachment to a wall or ceiling.

*Horizontal exit*

Horizontal exit means a required doorway between 2 parts of a building separated from each other by a fire wall.

*Loadbearing*

Intended to resist vertical forces additional to those due to its own weight.

*Non-combustible*

Non-combustible means—

(a) applied to a material — not deemed combustible as determined by AS 1530.1:1994 — Combustibility Tests for Materials; and

(b) applied to construction or part of a building — constructed wholly of materials that are not deemed combustible

*Occupiable outdoor area*

Occupiable outdoor area means a space on a roof, balcony or similar part of a building–

(a) that is open to the sky; and

(b) to which access is provided, other than access only for maintenance; and

(c) that is not open space or directly connected with open space.

*Open space*

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

*Patient Care Area*

Means 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 Requirement*

Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

*Performance Solution*

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

*Sarking-type material*

Sarking-type material means a material such as a reflective insulation or other flexible membrane of a type normally used for a purpose such as waterproofing, vapour management or thermal reflectance.

*Smoke developed index*

Smoke developed index means the index number for smoke as determined by AS/NZS 1530.3.

*Smoke development rate*

Smoke development rate means the development rate for smoke as determined by testing flooring materials in accordance with AS ISO 9239.1.

*Smoke growth rate index*

Smoke growth rate index (SMOGRA RC) means the index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.

*Sole-occupancy unit*

Sole-occupancy unit means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes—

(a) a dwelling; or

(b) a room or suite of rooms in a Class 3 building which includes sleeping facilities; or

(c) a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or

(d) a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.

*Treatment Areas*

Means 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.

*Wards Area*

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

# ANNEXURE E BCA COMPLIANCE SPECIFICATION

## Annexure F – BCA Compliance Specification

The following BCA matters are to be addressed by specific BCA Design Certificate to be issued by the relevant architectural, services and engineering consultants at the Construction Certificate Stage. This schedule should be forwarded to all consultants to obtain verification that these items have and will be included in the design documentation / specifications:

### Architectural Design Certification

1. The FRL's of building elements for the proposed works have been designed in accordance with Table 4 of Specification C1.1 of BCA2019 for a building of Type B Construction.
2. Lightweight construction used to achieve required fire resistance levels will comply with Specification C1.8 of BCA2019.
3. Building elements must be non-combustible in accordance with C1.9 of BCA2019.
4. Materials, floor and wall linings/coverings, surface finishes and air-handling ductwork used in the works will comply with the fire hazard properties of Clause C1.10 and Specification C1.10 of BCA2019.
5. Any ancillary elements fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible will comply with Clause C1.14 of BCA2019.
6. The buildings 9a and/or 9c will be separated in accordance with Clause C2.5 of BCA2019.
7. Vertical separation will be provided to the new openings in the external walls in accordance with Clause C2.6 of BCA2019, as prescribed by the requirements of Clause C2.5 of the BCA2019 for Type B Construction. It is noted that no spandrel separation is required in the stairway or to a void.
8. The external walls and openings of separate fire compartments will be protected in accordance with Clause C3.3.
9. Floors separating storeys of different classifications will comply with BCA Clause C2.9 of BCA2019.
10. Openings in the external walls that are required to have an FRL will be in located in accordance with Clause C3.3 of BCA2019 or protected in accordance with Clause C3.4 of BCA2019.
11. Doorways in any fire walls separating fire compartments will be protected in accordance with Clause C3.5 of BCA2019.
12. Doorways in horizontal exits will be protected in accordance with Clause C3.7 of BCA2019.
13. Services penetrating elements required to possess an FRL including the floor slabs, walls, shafts, etc. will be protected in accordance with Clause C3.12, C3.13 and C3.15 and Specification C3.15 of BCA2019.
14. Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation will be protected in accordance with BCA Clause C3.16.
15. The lift doors will be -/60/- fire doors complying with AS 1735.11:1986 in accordance Clause C3.10 of BCA2019.
16. A lintel will 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 it spans an opening in masonry which is not more than 150 mm thick and is not more than 3m wide if the masonry is non-loadbearing; or not more than 1.8m wide if the masonry is loadbearing and part of a solid wall or one of the leaves of a cavity wall, or it spans an opening in a non-loadbearing wall of the Class 2 or 3 building, in accordance with Specification C1.1 Clause 2.3 BCA2019.
17. All attachments to the external façade of the building will be fixed in a way that does not affect the fire resistance of that element in accordance with Clause 2.4 of Specification C1.1 of BCA2019.

18. The top and bottom of the riser shafts will achieve an FRL not less than the FRL required for the walls of the shaft in accordance with Clause 2.7 of Specification C1.1 of BCA2019.
19. Smoke-proof walls and doorways required in the health care or aged care building will be in accordance with Specification C2.5 of BCA2019.
20. Fire doors will comply with AS 1905.1:2015 and Specification C3.4 of BCA2019.
21. Smoke doors will be constructed so smoke will not pass from one side of the doorway to the other in accordance with Specification C3.4 of BCA2019.
22. Fire shutters and fire windows will be in accordance with Specification C3.4 of BCA2019.
23. The number of exits provided to the building will be in accordance with Clause D1.2 of BCA2019.
24. Travel distances to exits will be in accordance with Clause D1.4 of BCA2019.
25. The alternative exits will be distributed uniformly around the storey and will not be less than 9m apart, and not more that 45m apart in the patient care areas in the health-care building or 60m, in accordance with Clause D1.5 of BCA2019.
26. The dimensions of exits and paths of travel to exits will be provided in accordance with Clause D1.6 of BCA2019.
27. Smoke separation will be provided between the exit stairs at the level of discharge in accordance with Clause D1.9 of BCA2019.
28. Discharge from exits will be in accordance with Clause D1.10 of BCA2019.
29. Horizontal exits will be in accordance with Clause D1.11 of BCA2019.
30. The construction of EDB's and telecommunications distribution boards will be in accordance with Clause D2.7 of BCA2019 with the enclosure bounded by non-combustible construction or fire protective covering and smoke seals provided around the perimeter of the non-combustible doors and any openings sealed with non-combustible mastic to prevent smoke spreading from the enclosure.
31. New pedestrian ramps will comply with AS 1428.1:2009, Clause D2.10 and Part D3 of BCA2019. The floor surface of a ramp must have a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013.
32. Stair geometry to the new stairways will be in accordance with Clause D2.13 of BCA2019. Stair treads are to have a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013.
33. Landings and door thresholds throughout the development will be provided in accordance with Clause D2.14 and D2.15 of BCA2019. Landings to have either a surface with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 or a strip at the edge of the landing with a slip-resistance classification complying with Table D2.14 when tested in accordance with AS 4586:2013 where the edge ledge to a flight below.
34. The handrails and balustrades to all stairs and throughout the building will be in accordance with Clause D2.16, and D2.17 of BCA2019.
35. The doorways and doors will be in accordance with Clause D2.19 and D2.20 of BCA2019.
36. Door latching mechanisms will be in accordance with Clause D2.21 of BCA2019
37. Signage will be provided on fire and smoke doors in accordance with Clause D2.23 of BCA2019.
38. External above ground waterproofing membranes will comply with Clause F1.4 of BCA2019 and AS 4654 Parts 1 & 2:2012.
39. The new roof covering will be in accordance with Clause F1.5 of BCA2019.

40. Any sarking proposed will be installed in accordance with Clause F1.6 of BCA2019.
41. Waterproofing of all wet areas to the building will be carried out in accordance with Clause F1.7 of BCA2019 and AS 3740:2010.
42. Damp proofing of the proposed structure will be carried out in accordance with Clause F1.9 and F1.10 of BCA2019.
43. All new glazing to be installed throughout the development will be in accordance with Clause F1.13 of BCA2019 and AS 1288:2006 / AS 2047:2014.
44. Sanitary facilities will be provided in the building in accordance with Clause F2.1, Table F2.1, Clause F2.3 and Table F2.3 of BCA2019.
45. The construction of the sanitary facilities will be in accordance with Clause F2.5 of BCA2019.
46. A slop-hopper will be provided in accordance with Clause F2.8 of BCA2019.
47. Ceiling heights to the new areas will be in accordance with Clause F3.1 of BCA2019.
48. Natural light will be provided in accordance with Clause F4.1, F4.2, and F4.3 of BCA2019.
49. The sanitary compartments will be either be provided with mechanical exhaust ventilation or an airlock in accordance with Clause F4.9 of BCA2019.
50. Essential fire or other safety measures must be maintained and certified on an ongoing basis, in accordance with the provisions of the Environmental Planning and Assessment Regulation, 2000.

**Electrical Services Design Certification:**

51. A smoke detection and alarm system will be installed throughout the building in accordance with Table E2.2a, and Specification E2.2a of BCA2019.
52. Emergency lighting will be installed throughout the development in accordance with Clause E4.2, E4.4 of BCA2019 and AS/NZS 2293.1:2018.
53. Exit signage will be installed in accordance with Clause E4.5, E4.7, and E4.8 of BCA2019 and AS/NZS 2293.1:2018.
54. An emergency warning and intercom system (EWIS) will be provided to the building in accordance with Clause E4.9 of BCA2019.
55. Artificial lighting will be installed throughout the development in accordance Clause F4.4 of BCA2019 and AS/NZS 1680.0:2009.
56. Electrical conductors located within the building that supply a main switchboard that sustains emergency equipment will comply with Clause C2.13 of BCA2019.

**Hydraulic Services Design Certification:**

57. Storm water drainage will be provided in accordance with Clause F1.1 of BCA2019 and AS/NZS 3500.3:2018
58. Fire hydrant system will be installed in accordance with Clause E1.3 of BCA2019 and AS 2419.1:2005 as required.
59. Fire hose reels will be installed in accordance with Clause E1.4 of BCA2019 and AS 2441:2005.
60. Portable fire extinguishers will be installed in accordance with Clause E1.6 of BCA2019 and AS 2444:2001.

**Mechanical Services Design Certification:**

61. An air-handling system which does not form part of a smoke hazard management system will be installed in accordance with Clause E2.2 of BCA2019, and AS 1668.1:2015.

62. Where not naturally ventilated the building will be mechanically ventilated in accordance with Clause F4.5 of BCA2019 and AS 1668.2:2012.

### Structural Engineers Design Certification:

63. The material and forms of construction for the proposed works will be in accordance with Clause B1.2, B1.4 and B1.6 of BCA2019 as follows:
    a. Dead and Live Loads – AS/NZS 1170.1:2002
    b. Wind Loads – AS/NZS 1170.2:2011
    c. Earthquake actions – AS 1170.4:2007
    d. Masonry – AS 3700:2018
    e. Concrete Construction – AS 3600:2018
    f. Steel Construction AS 4100:1998
    g. Aluminium Construction – AS/NZS 1664.1 or 2:1997
64. ABCB Standard for Construction of Buildings in Flood Hazard Areas.
65. The FRL's of the structural elements for the proposed works have been designed in accordance with Specification C1.1 of BCA2019, including Table 4, for a building of Type B Construction.
66. The lift shaft will have an FRL in accordance with Clause C2.10 and Specification C1.1 of BCA2019.
67. Lightweight construction used to achieve required fire resistance levels will comply with Specification C1.8 of BCA2019.
68. The construction joints to the structure will be in accordance with Clause C3.16 of BCA2019 to reinstate the FRL of the element concerned.

### Lift Services Design Certification:

69. Warning signage in accordance with Clause E3.3 of BCA2019 will be provided to the lifts to advise not to use the lifts in a fire.
70. Access and egress to the lift well landings will comply with the Deemed-to-Satisfy Provisions of D3 of the BCA2019 and will be suitable to accommodate disabled persons.
71. The type of lifts will also be suitable to accommodate persons with a disability in accordance with Clause E3.6, Table E3.6a, and will have accessible features in accordance with Table E3.6b of BCA2019.
72. The lifts will comply with AS 1735.12:1999 in accordance with Clause E3.6 of BCA2019.
73. All electric passenger lifts and electrohydraulic passenger lifts shall comply with Specification E3.1 of BCA2019.

### NSW Specification Design Certificate:

74. The building will be separated in accordance with Clause C2.5, and NSW Clause C2.5(b)&(h) of BCA2019.
75. The building is within a bushfire prone area therefore will be in accordance with Part G5, and NSW Part G5.1 & G5.2 of BCA2019.
76. A smoke detection and alarm systems will be installed throughout the building in accordance with Table E2.2a, NSW Table E2.2a and NSW Specification E2.2a of BCA2019.
77. Exit signage will be installed in accordance with Clause E4.5, NSW Clause E4.6, E4.7, and E4.8

78. The building will be mechanically ventilated in accordance with Clause F4.5, NSW F4.5(b) of BCA2019 and AS 1668.2:2012.