



BLACKETT  
MAGUIRE+  
GOLDSMITH

**BCA & DDA/ACCESS ASSESSMENT REPORT**  
*Design Development Report*

**PROJECT:**  
**GUNNEDAH HOSPITAL REDEVELOPMENT**  
*Stage 1*

**PREPARED FOR:**



Revision: 1

Date: 9 June 2023

Project No.: N220017

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## REPORT STATUS

DATE	REVISION	STATUS	AUTHOR	REVIEWED
05/04/2023	0	Design Development – Draft Issued for Client Review	PK	JH
08/06/2023	1	Design Development – Updated scope Issued for Client Review	PK	JH

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## INTRODUCTION

### BACKGROUND

Blackett Maguire + Goldsmith Pty Ltd have been commissioned by NSW Health Infrastructure to undertake an assessment of the Developed Design of the proposed Stage 1 redevelopment of Gunnedah Hospital against the relevant provisions of the Building Code of Australia 2019 (BCA).

### EXECUTIVE SUMMARY

The Gunnedah Hospital Redevelopment (GHR) will focus on improved patient accommodation and upgraded infrastructure.

The primary focus of this project is to optimise the efficiency of the existing hospital by providing upgraded inpatient bed service; creating a more culturally sensitive environment; and suitability of acute infrastructure to support contemporary service provision that supports the delivery of contemporary models of care.

The new Gunnedah Hospital project including refurbishment of existing areas is located at Marquis Street Gunnedah NSW 2380. The report comprises a review of the updated schematic design works including extension of the inpatient unit to identify BCA and DDA items requiring resolution, further information or subject to a performance solution to be confirmed in future design stages.

Compliance can be readily achieved where contents of the report are addressed.

The proposed building characteristics are as follows:

+ <b>BCA CLASSIFICATION:</b>	Class 9a (Healthcare) – Patient and Non- Patient areas Class 8 - Engineering / Maintenance extension. Class 10a - Ancillary plant rooms Class 5/9b - Community health building Class 7b / 5 BOH store / staff office
+ <b>IMPORTANCE LEVEL (STRUCTURAL):</b>	4 (See Note 3)
+ <b>RISE IN STOREYS:</b>	One (1) and Two (2) – Hospital (See Note 4) One (1) – Engineering / Maintenance (above plant not counted in rise)
+ <b>TYPE OF CONSTRUCTION:</b>	Type C and Type B – Hospital (See Note 1) Type C – Engineering / Maintenance
+ <b>EFFECTIVE HEIGHT:</b>	<12m
+ <b>MAX. FIRE COMPARTMENT SIZE:</b>	2,000m <sup>2</sup> and 12,000m <sup>3</sup> (New Type C extension) 3,500m <sup>2</sup> & 21,000m <sup>3</sup> (Existing Type B extension) + 2,000m <sup>2</sup> in Patient Care areas.
+ <b>SPRINKLER PROTECTED THROUGHOUT:</b>	No – Sprinkler coverage to be extended throughout all areas as depicted in upgrade strategy. Existing non sprinkler parts out of scope to be fire separated FRL120 mins from scoped areas.
+ <b>CLIMATE ZONE:</b>	Zone 4

**Note 1:** The existing building has a rise of 2 noting the existing plant room and medical storage located under fire compartment 6 constitutes as storey. The proposed new works are single storey Type C construction and will be fire separated under BCA C1.4 and C2.7.

**Note 2:** The engineering building has extension proposed considered the same building and classification. The office is <10% floor area therefore not given its own Building Class.

**Note 3:** Importance level 4 applicable to new building work only (see part B).

**Note 4:** The existing building is two storey Type B construction. The new extension is single storey Type C construction which will be fire separated as per BCA C1.4 and C2.7.

The building is proposed to generally comply with the deemed to satisfy provisions of the BCA with any departures to be addressed by way of further design development or Performance Solution.







## OBJECTIVE OF REPORT

The objective of this report is to:

- + Confirm that the referenced Developed Design has been reviewed by an appropriately qualified Building Surveyor and Accredited Certifier.
- + Outline the BCA Compliance Strategy for the building and certification pathway for the project.
- + Identify BCA compliance matters that require further resolution.
- + Identify matters that are to be required to be addressed by Performance Solutions prior to issue of the S6.28 Crown Certificate. Noting reliance is also placed on the applicable design consultants to ensure non-compliances within their discipline are identified for consideration.
- + Enable the Public Authority to satisfy its statutory obligations under Section 6.28 of the Environmental Planning and Assessment Act, 1979.
- + Identify the relevant essential fire safety measures that are applicable to the proposed development.

## PROJECT TEAM

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

- + Peter Keppie (Senior Building Surveyor) | Building Surveyor-Unrestricted
- + David Blackett – Peer Review (Director) | Building Surveyor-Unrestricted
- + Jake Hofner – DDA - Senior Building Surveyor) | Building Surveyor-Unrestricted

## REFERENCED DOCUMENTATION

The following documentation was relied upon when preparing this Report:

- + Building Code of Australia 2019 (BCA) amdt 1
- + Guide to the Building Code of Australia 2019
- + Plans prepared by DWP Architecture Project No 21-02218 issued 16.05.2023:

DRAWING NO.	REVISION	DATE	DRAWING NO.	REVISION	DATE
AR-00-1000	L	16.05.2023	AR-EW-1000	B	16.05.2023
SK-EW-9023	D	16.05.2023	SK-EW-9230	C	16.05.2023
SK-EW-9231	D	16.05.2023	SK-EW-9232	B	16.05.2023
SK-S1-9240	E	16.05.2023	SK-S1-9241	D	16.05.2023
AR-00-AA1050	A	06.06.2023	AR-MW-AA3010	G	16.05.2023
AR-00-AA1051	F	06.06.2023	AR-00-AA1051	F	06.06.2023
SK-S1-9242	D	16.05.2023	AR-MW-AA3002	J	16.05.2023
SK-S1-9243	D	16.05.2023	AR-EW-2001	G	16.05.2023
AR-MW-AA2001	K	16.05.2023	AR-MW-AA2002	H	16.05.2023
AR-MW-AA3001	J	16.05.2023			



## LIMITATIONS AND EXCLUSIONS

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The limitations of this report are as follows:

- + This report is based on a review of the referenced documents. An inspection of the subject site was undertaken on 21<sup>st</sup> April 2022.
- + No assessment has been undertaken with respect to access for people with disabilities and the Disability Discrimination Act 1992 (DDA) outside scoped areas. The building owner should be satisfied that their obligations under the DDA have been addressed.
- + The Report does not address issues in relation to the following:
  - i. The design, maintenance or operation of any existing electrical, mechanical, hydraulic or fire protection services.
  - ii. Work Health and Safety Act and Regulations.
  - iii. Water, drainage, gas, telecommunications and electricity supply authority requirements.
- + No part of this document may be reproduced in any form or by any means without written permission from Blackett Maguire + Goldsmith Pty Ltd.
- + This report is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.
- + It is noted the invitation for Tender for Main Wors has occurred prior to the 1<sup>st</sup> of May 2023. In accordance with the Environmental Planning and Assessment Act 1979 BCA 2019 Amdt 1 is the Code in force for this project.



## PROJECT OVERVIEW

### DESCRIPTION OF DEVELOPMENT

The project site is located at Marquis Street, Gunnedah. This report comprises a review of the Developed Design of the proposed Stage 1 works comprising the refurbishment of Gunnedah Hospital.

The Gunnedah Hospital Redevelopment (GHR) will focus on improved patient accommodation and upgraded infrastructure.

The primary focus of this project is to optimise the efficiency of the existing hospital by providing upgraded inpatient bed service; creating a more culturally sensitive environment; and suitability of acute infrastructure to support contemporary service provision that supports the delivery of contemporary models of care.

The project scope is to redevelop Gunnedah Hospital in line with the current Clinical Services Plan (CSP) including the master planning and delivery of the following:

- + Upgrade aging patient accommodation focused on improving the patient experience of care (including quality and satisfaction).
- + Improve efficiency of service delivery
- + Provide improved access and an environment that is culturally sensitive to the Aboriginal people to allow earlier diagnosis and management of the chronic conditions experienced by this group.
- + Consideration of opportunities for innovative and sustainable infrastructure that delivers environmental and social outcomes (Including culture and heritage).

Note: The Gunnedah Rural Health Centre located on the hospital site, will not be included in the scope.



Figure 1: Site Plans



## BCA COMPLIANCE METHODOLOGY

The proposed building work will be subject to compliance with the relevant requirements of BCA 2019 Amdt 1 as required by Section S6.28 of the Environmental Planning & Assessment Act 1979 noting invitation for Main Works has occurred prior to 1<sup>st</sup> May 2023.

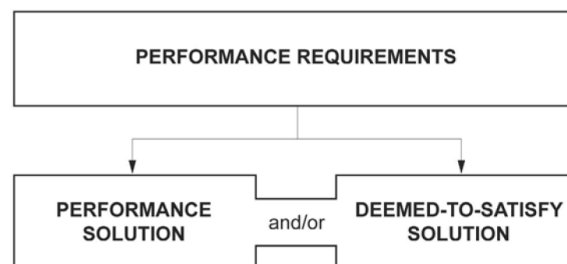
## COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE

Compliance with the NCC is achieved by complying with—

- + The Governing Requirements of the NCC; and
- + The Performance Requirements.

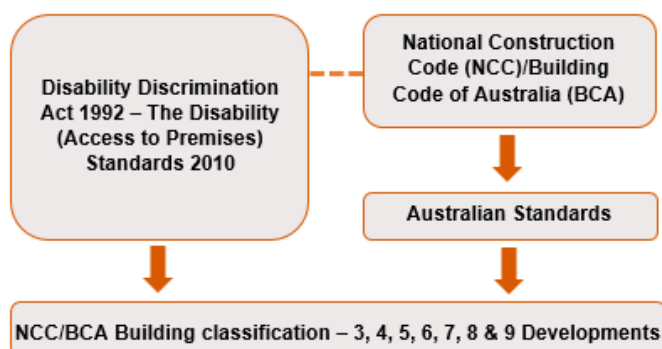
Performance Requirements are satisfied by one of the following, as shown in the Figure below:

- + A Performance Solution.
- + A Deemed-to-Satisfy Solution.
- + A combination of the above two options.



## DISABILITY DISCRIMINATION ACT 1992

The below figure represents the statutory framework addressing accessibility as noted in the below Act, code and Standards.



Section 23 of the Disability Discrimination Act DDA 1992 states;

*It is unlawful for a person to discriminate against another person on the ground of the other person's disability:*

- (a) *by refusing to allow the other person access to, or the use of, any premises that the public or a section of the public is entitled or allowed to enter or use (whether for payment or not); or*
- (b) *in the terms or conditions on which the first-mentioned person is prepared to allow the other person access to, or the use of, any such premises; or*
- (c) *in relation to the provision of means of access to such premises; or*
- (d) *by refusing to allow the other person the use of any facilities in such premises that the public or a section of the public is entitled or allowed to use (whether for payment or not); or*
- (e) *in the terms or conditions on which the first-mentioned person is prepared to allow the other person the use of any such facilities; or*
- (f) *by requiring the other person to leave such premises or cease to use such facilities.*

The DDA Act 1992 is a complaints-based legislation whilst compliance with The Disability (Access to Premises) Standards 2010 affords some certainty regarding the minimum compliance requirements it does not prevent a claim being made under the DDA Act 1992. Whilst implementing the minimum compliance requirements under the Disability (Access to Premises) Standards 2010 and BCA will satisfy the minimum compliance requirements there is nothing preventing a greater degree of access than those minimum requirements specified.



## LEGISLATIVE FRAMEWORK

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The following represents the relevant legislative and BCA/AS requirements forming part of the assessment presented in the below report;

- + Disability Discrimination Act 1992,
- + Disability (Access to Premises Buildings) Standards 2010
- + National Construction Code (NCC) (BCA 2019 Amendment 1)
- + National Construction Code (NCC) (BCA 2022) (Draft)
- + AS 1428.1-2009 - Design for access and mobility, Part 1: General requirements for access - new building work
- + AS 1428.1-2021 (Draft) - Design for access and mobility, Part 1: General requirements for access - new building work
- + AS 1428.2-1992 - Design for access and mobility, Part 2: Enhanced and additional requirements - Buildings and facilities
- + AS 1428.4.1-2009- Design for access and mobility, Part 4.1: Means to assist the orientation of people with vision impairment - Tactile ground surface indicators
- + AS1428.4.2-2018 - Design for access and mobility Means to assist the orientation of people with vision impairment - Wayfinding signs
- + AS1428.5-2010 - Design for access and mobility, Part 5: Communication for people who are deaf or hearing impaired
- + AS1680.2.1-2008 - Interior and workplace lighting Part 2.1: Specific applications— Circulation spaces and other general areas
- + AS1735.12-1999 - Lifts, escalators and moving walks Facilities for persons with disabilities
- + AS2890.6-2009 - Parking facilities Off-street parking for people with disabilities
- + HB198-2014 - Guide to the specification and testing of slip resistance of pedestrian surfaces

## BCA FIRE SAFETY UPGRADE STRATEGY

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The proposed works include new construction and refurbishment of areas within the existing hospital facility. The full extent of the refurbishment works is in the process of being finalised.

Fire safety upgrades to an existing hospital is generally triggered based on: -

- + increased bed numbers
- + conversion of outpatient or non-patient areas to patient care areas.
- + increase in floor area (applicable to scope)
- + increase in any fire and life safety risk to existing (and future) occupants as a result of the new-build works

The primary compliance objective for integration of the new addition's refurbishment works into the existing hospital will be to maintain effective fire separation between the new and existing areas subject to the extent of works. For the purpose of the upgrade strategy heavy and medium refurbished areas are subject to full compliance with BCA 2019 amdt 1.

Examples of what would constitute Light, Medium and High refurbishment works for the subject project are as outlined below.

### LIGHT REFURB

#### General:

An area of the existing building is allocated a new use, requiring minimal changes not resulting in a change of building classification. New activities will be accommodated within the same layout.

#### Architectural:

The following existing building fabric is to be refurbished. Partitions & doors will be repaired where required & redecorated where required.

Minor modifications to partition locations. Potential for some changes to door locations, excluding fire doors and cross corridor doors. Crash rails & corner guards will be replaced where necessary (re-use / reconfigure existing if possible). Replace damaged ceiling tiles and finishes, and signage where required. Make good and/or patch existing floor covering. Replace only where required. Fire compartmentation unchanged where applicable. Overhaul external windows, repoint, replace gaskets where required.

### MEDIUM REFURB

#### General:

An area of the existing building is allocated a new use, requiring changes to room layouts. New activities require new spaces formed by combining or subdividing existing specs. A change in building classification resulting in a higher level of risk.

**Architectural:**

As for light refurb, but also allow for down takings & fit out to 30% of relevant area. New rooms to be constructed with new ceilings, partitions & floor finishes. re-use / reconfigure existing doors, wall protection, fitting & fitments where possible. Potential for some changes to door locations, excluding fire doors and cross corridor doors.

**Mechanical:**

As for light refurb below, but also existing HVAC system to be modified to accommodate new rooms. Some grilles & thermostats will be relocated, some ductwork augmentation, assume BMS upgrade.

**Electrical:**

As for light refurb below, but also new rooms will require a new power and comm's installation. No major Base Building Services Upgrade, new ICT where necessary

**Hydraulic & Fire:** Modify & augment locations of hydrants & hose reels & dry wet fire to suit new layout system. Modify locations or augment as required based on current performance being adequate. Modify locations of dry fire components. Minor penetrations/make good to existing fire compartments.

**HEAVY REFURB****General:**

An area of the existing building being stripped out of all fit-out and services distribution. A new layout will be constructed using new building elements within the existing building frame. Building Services will be replaced but re-use existing AHU's, power supplies and plumbing and fire services where possible.

**Architectural:**

New fit out. incl potential for new penetrations to existing slabs, modifications to minor steel supports etc., relocation of sanitary fixtures and the like.

**Mechanical:**

New HVAC system using existing AHU's. Controls to be upgraded. New medical gases installation taken back to existing distribution system. Major ductwork realignment. Potential new chillers.

**Electrical:**

New power & data system taken back to existing primary distribution. New Base Building Services. Complete new fit-out. New ICT & Power.

**Hydraulic & Fire:**

Modify & augment locations of hydrants & hose reels & dry wet fire to suit new layout. Confirm performance is compliant with current standards. New domestic plumbing system with new fittings. Changes to existing compartmentation.

Where the proposed works don't involve medium/heavy refurbishment works and are deemed light refurb works then the following will need to be incorporated into the design.

- + All new works are to comply with current BCA/AS requirements as relevant to the extent of works being proposed,
- + Where existing fire services relied upon, coverage is to be achieved throughout all new areas subject to the refurbishment works,
- + The proposed works not reducing the fire protection and structural capacity of the existing building.

Medium and heavy refurbishment works will generally drive the need for upgrade works to current code requirements.

It remains the responsibility of various services consultants to confirm compliance having regard to the existing building.

New works along with those proposed for heavy/ medium refurbishment or change of use will be subject to sprinkler installation and shall be fire separated from existing areas by FRL 120 minutes.

The upgrade strategy involves fire separating the existing two storey Type B Hospital from new proposed single storey Type C Hospital. Fire separation via FRL 120 minutes is required for separation of different Types of Construction (ref C2.7), separation of sprinkler to non-sprinklered areas (Spec E1.5) and to limit upgrade works in existing out of scoped areas. Indicative lines firewall lines between new and existing buildings depicted below to be confirmed with design team.

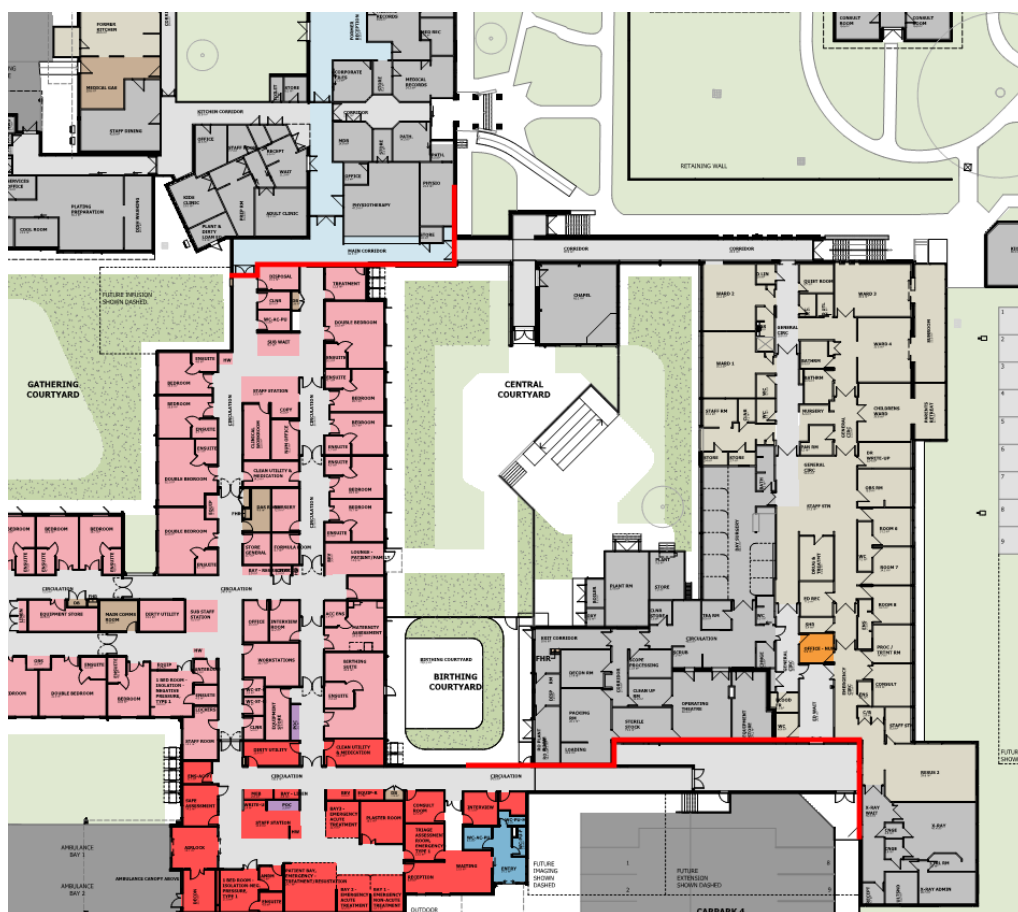


Figure 2

The new scope proposes to locate new birthing suite (treatment) within existing ward area. This would constitute heavy/medium refurbishment within the upgrade strategy. Noting the space is for temporary decant purposes only HI to provide confirmation sprinkler are not required within the space in line with DGN. Refer report for additional BCA requirements.

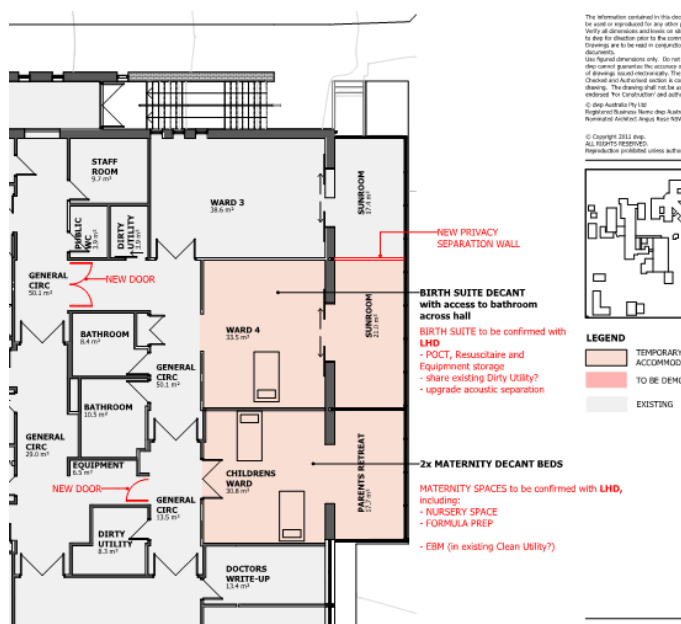


Figure 3





The minor works associated with main entry including DDA upgrades is considered light refurbishment.

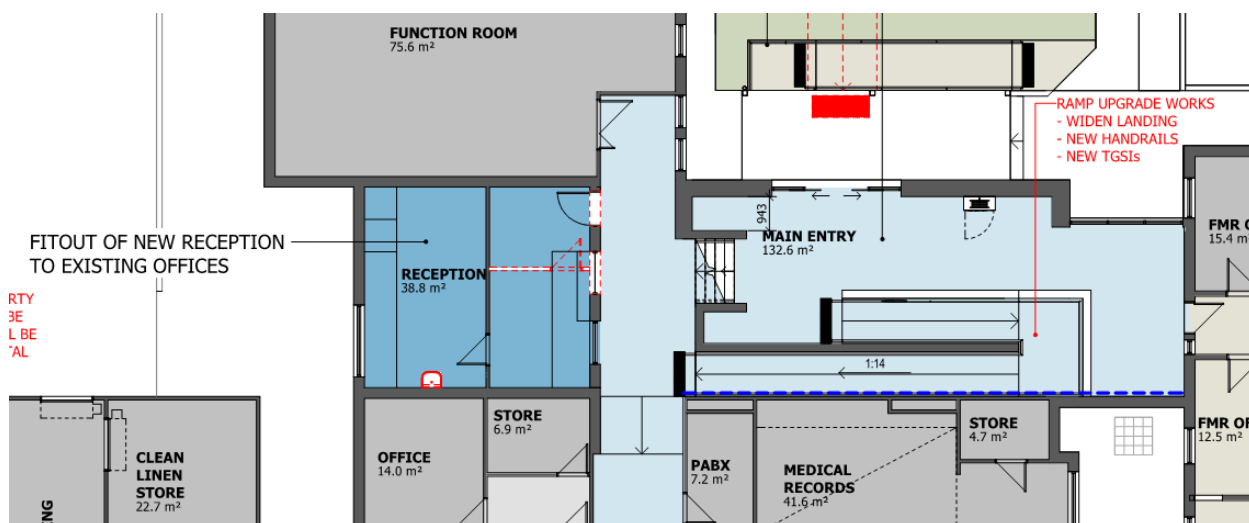


Figure 4

Fire Safety Upgrade works will generally be triggered based on the following;

- + Increase in floor area, new floor area (applicable to scope)
- + Conversion of non-patient care to patient care use expansion of a patient care area. Also changes to the type of patient care (in an existing patient care) may also trigger upgrades, i.e. increase bed numbers, conversion of wards to ICU, maternity or OTs etc.
- + Reliance on existing compartment walls as part of the new works if the existing compartment walls have compliance deficiencies.
- + Any significant non compliances in the existing building which warrant immediate upgrade. The full extent of which will be confirmed and reviewed in subsequent design stages,
- + Upgrade requirements imposed by consent authority or FRNSW.





## BUILDING CHARACTERISTICS

The proposed building characteristics are as follows:

+ <b>BCA CLASSIFICATION:</b>	Class 9a (Healthcare) – Patient and Non- Patient areas Class 8 Engineering / Maintenance extension. Class 10a Ancillary plant rooms Class 5/9b - Community health building Class 7b / 5 BOH store / staff office
+ <b>IMPORTANCE LEVEL (STRUCTURAL):</b>	4 (See Note 3)
+ <b>RISE IN STOREYS:</b>	One (1) and Two (2) – Hospital (See Note 4) One (1) – Engineering / Maintenance (above plant not counted in rise)
+ <b>TYPE OF CONSTRUCTION:</b>	Type C and Type B – Hospital (See Note 1) Type C – Engineering / Maintenance
+ <b>EFFECTIVE HEIGHT:</b>	<12m
+ <b>MAX. FIRE COMPARTMENT SIZE:</b>	2,000m <sup>2</sup> and 12,000m <sup>3</sup> (New Type C extension) 3,500m <sup>2</sup> & 21,000m <sup>3</sup> (Existing Type B extension) + 2,000m <sup>2</sup> in Patient Care areas.
+ <b>SPRINKLER PROTECTED THROUGHOUT:</b>	No – Sprinkler coverage to be extended throughout all areas as depicted in upgrade strategy. Existing non sprinkler parts out of scope to be fire separated FRL120 mins from scoped areas.
+ <b>CLIMATE ZONE:</b>	Zone 4

**Note 1:** The building has a rise of 2 noting the existing plant room and medical storage located under fire compartment 6 constitutes as storey. The proposed new works are single storey Type C construction and will be fire separated under BCA C1.4 and C2.7.

**Note 2:** The engineering building has extension proposed considered the same building and classification. The office is <10% floor area therefore not given its own Building Class.

**Note 3:** Importance level 4 applicable to new building work only (see part B).

**Note 4:** The existing building is two storey Type B construction. The new extension is single storey Type C construction which will be fire separated as per BCA C1.4 and C2.7.

The building is proposed to generally comply with the deemed to satisfy provisions of the BCA with any departures to be addressed by way of further design development or Performance Solution.





## SUMMARY OF ITEMS REQUIRING A FIRE ENGINEERING PERFORMANCE SOLUTION

The following outlines items requiring further assessment by way of a fire engineered solution based on a review of the listed Architectural documentation.

No.	DtS Clause	DtS Departure
1.	<b>Spec C1.1 C2.7</b>	<p>To permit elements larger than 75 x 50 to cross fire wall (TBC)</p> <p>To permit main comms and mains distribution board located &lt;3m from existing engineering building on basis new external wall (comms and DB) to achieve FRL 120 minutes in both directions.</p> <p>Any additional elements that cannot comply with respect to fire separation shall be confirmed for consideration in Fire Engineered Strategy.</p>
2.	<b>C2.5 Spec C2.5</b>	<p>Oversized compartments will be considered on a case by case with &lt;10% being within the acceptable limits to be addressed by Performance Solution (TBC)</p> <p>Smoke compartment 3.2 is understood to be ward and incorrectly labelled on compartment plan requiring update. The fire engineered strategy is to address max smoke compartment up to 520m<sup>2</sup> in lieu of 500m<sup>2</sup>.</p>
3.	<b>C3.2 C.3.3 C3.4</b>	<p>To permit protection between opening in external walls of separate buildings on a performance basis being protection FRL 120 minutes (both directions) on one building (Comms and DB) in lieu of both directions where within 3m of the existing building</p> <p>To permit protection between opening in external walls between adjacent fire compartments where the method of protection is proposed to be varied being protected with FRL 120 minutes (both directions) fire-rated construction in both directions to one wall.</p>
4.	<b>Spec C3.4 D2.20</b>	<p>To permit smoke doors or horizontal exits to swing against the direction of egress where egress is required in both directions;</p> <p>To permit dual swing smoke doors or horizontal exits where smoke leakage does not achieve 100%.</p>
5.	<b>D1.4 D1.5</b>	<p>To potentially rationalise travel distance to a point of choice and distance to nearest of two exits being:</p> <ul style="list-style-type: none"> <li>+ Up to 17m to a point of choice to two exits in lieu of 12m from internal courtyard.</li> <li>+ Up to 40m to the nearest of two exits in lieu of 30m from internal birthing courtyard.</li> <li>+ Up to 40m (worst case) to the nearest of two exits in lieu from multiple areas within internal central courtyard.</li> <li>+ Fire compartment 6 and 5 have up to 15m to a point of choice to two exits and up to 40m to the nearest of two exits in lieu of 30m (worst case) for internal patient care areas.</li> </ul> <p>To potentially rationalise travel distance between alternative exits being:</p> <ul style="list-style-type: none"> <li>+ Fire compartment 5 and 6 have 5 and up to 66m between alternative exits in lieu of 45m via internal courtyard.</li> <li>+ The birthing internal courtyard has up to 63m between alternative exits in lieu of 45m;</li> <li>+ The central courtyard has up to 60m between alternative exits (worst case) in lieu of 45m once additional breakthrough constructed.</li> </ul>
6.	<b>D1.8</b>	Where any openings other than fire doors are within 3m of external stairs / ramps OR where any shielding or protection of openings does not comply with BCA D1.8 this will require inclusion by way of fire engineered strategy.
7.	<b>D1.10</b>	Where steps are proposed in lieu of an egress ramp from patient care areas this will need to be addressed by way of a Fire Engineered Performance Solution (TBC)
8.	<b>D1.11</b>	A Fire Engineered Performance Solution will be proposed to justify travel via multiple horizontal exits before reaching an exit that is not a horizontal exit. Current design has this



		applicable to fire compartment 7. Recommend include centre compartment that will be non compliant upon future extension.
9.	<b>D2.19</b> <b>D2.21</b>	<p>Sliding doors are generally not permitted within patient care areas of a Class 9a building. The provision of such would require justification under a fire engineered performance solution (see report for sliding door in firewall to be removed)</p> <p>Any anti ligature door hardware proposed is to be captured by way of FER, confirmation is required in this regard for safe assessment rooms and the like.</p>
10.	<b>E1.3</b>	<p>Use of FRL 120 minute fire shield to protect external pump set where within 6m of hazard (electrical MSB and generator). The solution proposes to protect sides exposed only in lieu of full enclosure (TBC).</p> <p>Use of AS2419.1 – 2021 in lieu of AS2419.1 – 2005 being DtS pathway for BCA E1.3.</p> <p>To permit external fire hydrant being &lt;10m from sprinkler protected parts of the building where whole building is not sprinkler protected. Note external hydrants shall be no closer than 10m to non sprinkler protected parts of the building.</p> <p>Where any internal fire hydrants are &gt;4m from exit including horizontal exit this is required to be addressed with FER.</p>
11.	<b>E1.4</b>	<p>It is possible that some small rooms will have smoke doors to access them and will not be provided with fire hose reel coverage. In such instances, a fire engineered performance solution will be required.</p> <p>Where any FHR are not located &lt;4m from an exit or supplementary prior to exit locations beings exhausted this will be reviewed on a case by case basis for suitability for inclusion in FER.</p>
12.	<b>E1.5</b>	<p>Omission of sprinkler coverage to comms rooms</p> <p>Hydraulic consultant to confirm any non-compliances with respect of any recessed sprinkler heads in terms of RTI.</p> <p>Where auto shut down of mech vent does not occur in pandemic / isolation rooms inclusion by way of FER is required.</p>
13.	<b>E4.9</b>	Omission/reduction of SSISEP speakers to treatment rooms.



## BCA ASSESSMENT – KEY ISSUES

We note the following BCA compliance matters with relation to proposed building works are capable of complying with the BCA. Please note that this is not a full list of BCA clauses, they are the key requirements that relate to the proposed work and the below should be read in conjunction with the BCA.

### LEGEND

General Note
Matters Requiring Redesign / Further Information
Performance Solution

## SECTION B - STRUCTURE

B1	<p><b>General Note</b></p> <p>New building works are to comply with the structural provisions of the BCA 2019 amdt1 and referenced standards including AS 1170.</p> <p>Non loadbearing components and services including architectural features &gt;2m high shall comply with Section 8 of AS1170.4.</p> <p>The structural engineer will need to certify that the structural capacity of the existing building including areas subject to fit out works to confirm it will not be reduced because of the new works.</p> <p>Any change of use will require the building is considered structurally adequate for its intended use.</p> <p>The building is understood not to be located within flood hazard area.</p> <p><b>Matters Requiring Redesign / Further Information</b></p> <p>In addition to the above, the loadbearing capacity of existing balustrades (where retained) should be reviewed, particularly with respect to loadings under AS 1170.</p> <p>The Importance Level 4 provisions of BCA (Section B) are to be acknowledged by the Structural Engineer and addressed to the degree necessary for new building works. A reference to the Importance level is to be included on the certification to be provided by the structural engineer and on various services and design certificates to be provided by the design team for new works.</p> <p>New building works to the existing building including within areas of the refurbishment works must be compliant with earthquake provisions of AS1170.4 – Earthquake Actions in Australia.</p> <p>Consideration may be given to AS 3826-1998 - Strengthening existing buildings for earthquake for any required remedial works to the existing building as deemed appropriate by structural engineer.</p>
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## SECTION C – FIRE RESISTANCE

C1.1 Spec C1.1	<p><u>Type of Construction:</u> The report proceeds with new extension Type C and the Existing building Type B or Type C Construction can apply to existing single storey parts of existing building where separated to BCA C2.7(b). The relevant FRLs as listed in Table 4 and of Specification C1.1 must be adhered to. Refer to <b>APPENDIX A</b>.</p>
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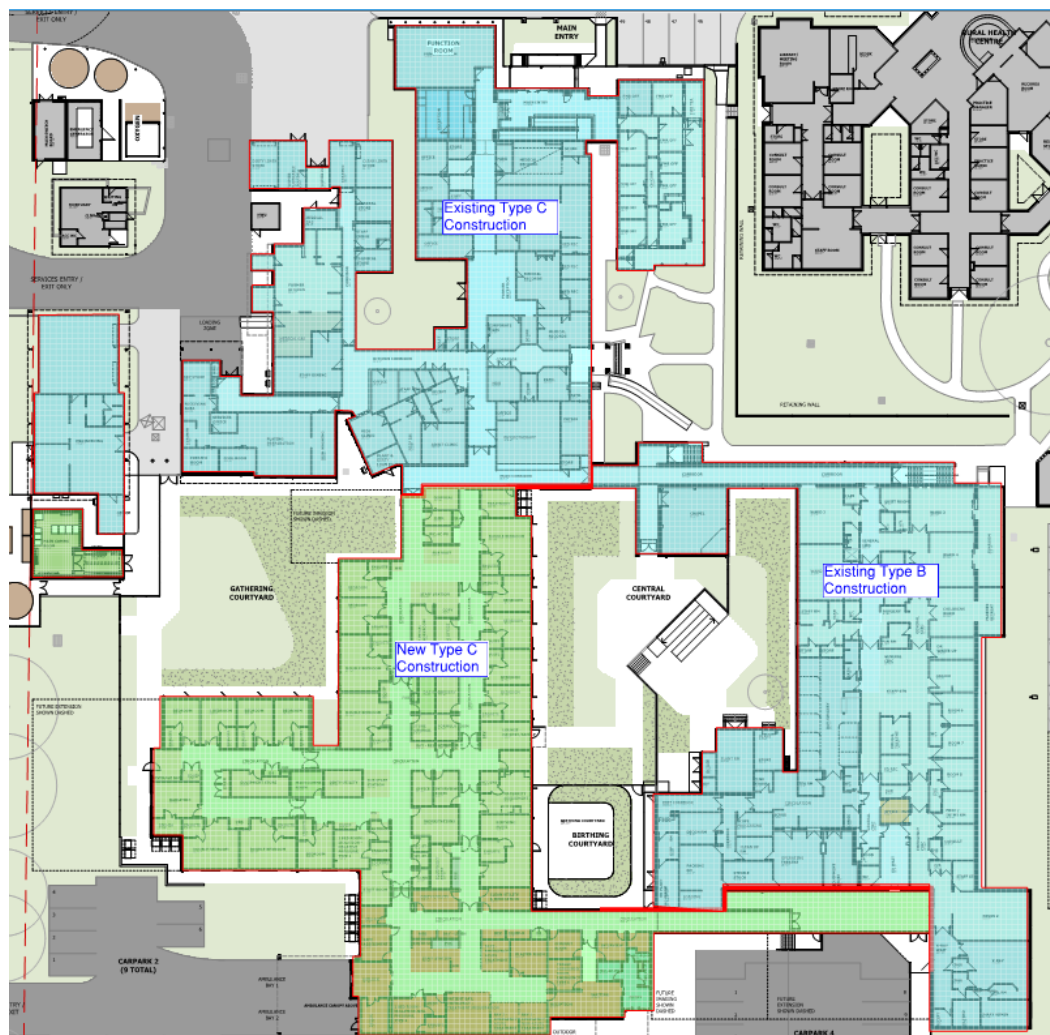


Figure 5

#### General Note

Having regards to the new works as the building contains single and two storeys parts. Either the whole building can be considered Type B or the new works can be fire separated for single building with different Types of Construction being Type C (new works) and Type B (existing works). Refer C1.4 and C2.7 for extent of separation FRL 120 minutes.

The existing building is Type B construction based on having a rise of 2 noting the existing plant room and medical storage located under fire compartment 6 constitutes as storey.

The design team have confirmed the intent to largely remove works within exiting hospital. The existing level of compliance cannot be reduced. Any new works are required to comply with BCA 2019 amdt 1. Indicative demolition and decant works proposal below.

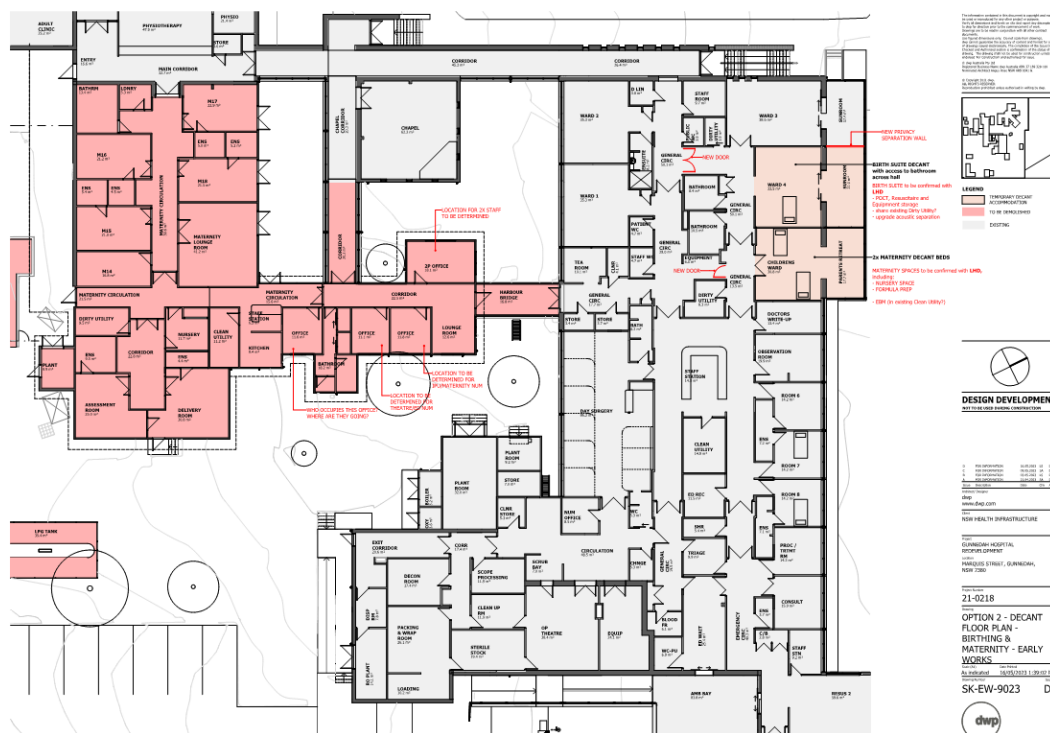


Figure 6

Having regards to sitting of any new additions/extensions – The design is to maintain a minimum 3m separation between the existing building and any new works to limit impact of the existing building façade in terms of fire rating and protection of openings to the existing building envelope.

Based on the current design as shown below we note that compliance is readily achievable in areas other than comms and main switch board. Typical areas of concern are as noted below.



Figure 7

For the purpose of the BCA compliance strategy the proposed building will be comprise a single building, separate Types of Constriction. Refer comments throughout this report regarding the fire compartmentation strategy.

#### Further Information / Performance Solution





Min FRL 120 minutes in accordance with BCA Spec C1.1/ C1.4 and C2.7 for separating fire wall between existing Type B construction and new Type C construction. The location of fire walls is to be coordinated with the structural engineer to confirm no new or existing elements cross fire walls other than roof batons not exceeding 75 x 50mm.

The new main comms room is <3m from the existing engineering office which is considered sperate building. The fire engineering is to permit new fire source feature located <3m from existing engineering building on basis FRL 120minute separation is achieve both directions from main comms and switch board rooms.

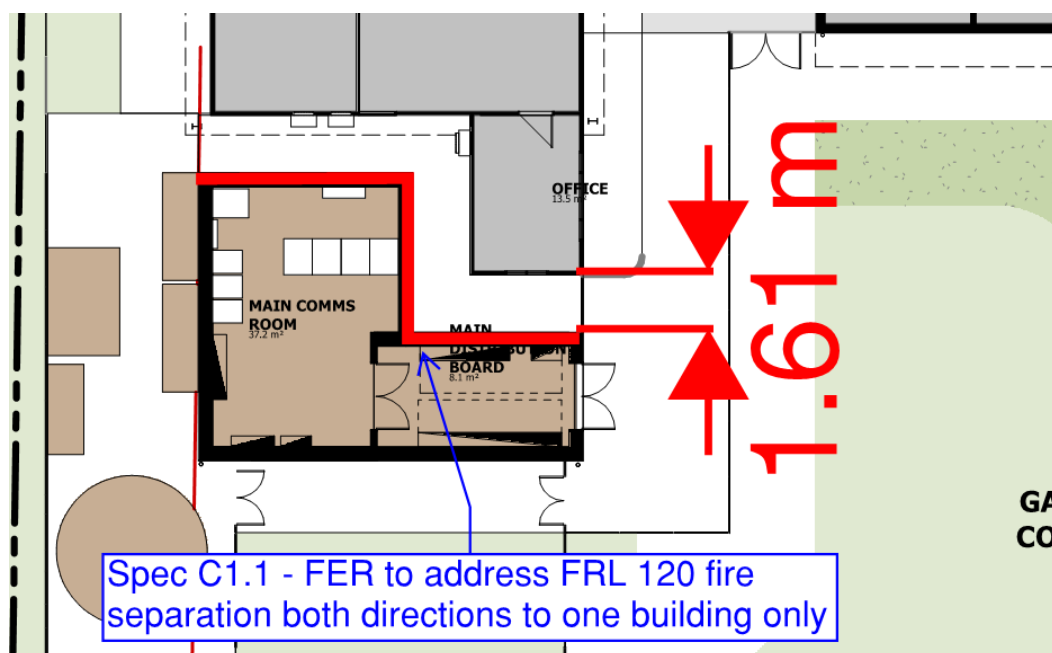


Figure 8

#### Further Information / Performance Solution

The fire engineered strategy is required to address any elements passing over fire walls (including refurbished section) that exceed C2.7 limitations. Indications are this will be included in FER.

Confirm if any new loadbearing elements are required for temporary birthing suite in existing hospital requiring FRL.

Structural engineer shall confirm compliance in regards to proposed compartment plans. Any elements crossing fire walls to be advised for consideration by way of FER. Compartment plans are to be finalised based on option 2.

Any existing fire walls to be relied upon bounding scoped areas shall be certified by an independent passive fire consultant.

#### C1.2

Calculation of Rise in Storeys:

#### General Note

Based on the site inspection and information available we note that the existing building has a Rise In Stores of two (2) Type B construction due to subfloor being constituted as storey.

The new single storey extension has a rise of one (1) and can be Type C construction where separated in accordance with BCA C2.7(b)

#### C1.4

Mixed Types of Construction: A building may be mixed Types of Construction where it is separated in accordance with BCA C2.7 and the Type of Construction is determined in accordance with C1.1 and C1.3.

#### Further Information

Indicative location of FRL 120 minute fire wall required to sperate Type B and Type C construction depicted below. See C2.7 for further information. See C3.3 for exposure between fire compartments which for the purpose of the below markup have been depicted as a performance based single side.

Architect required to depict FRL 120 minute separation between separate Types of Construction. Exposure between fire compartments to be addressed by way of DTS C3.3 or Performance.



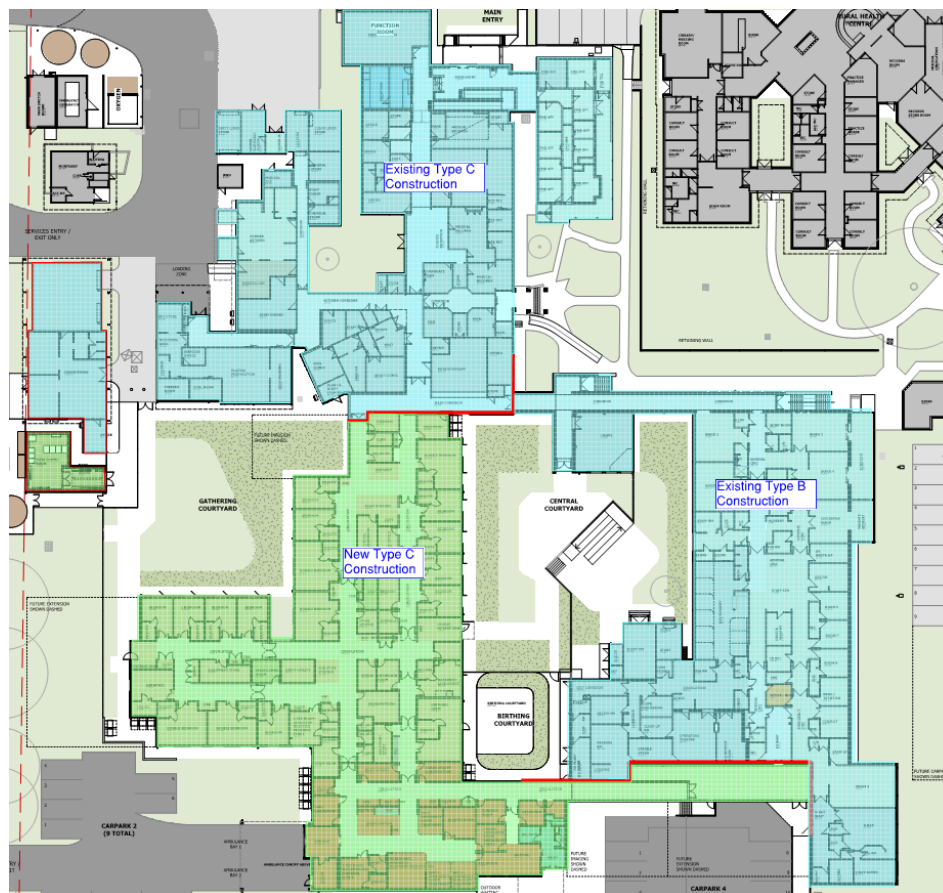


Figure 9

**C1.9**  
**C1.14**

Non-Combustible Building Elements: Documentation is required to be provided as relevant to:

- + Any external wall claddings.
- + Any framing or integral formwork systems i.e. timber framing, sacrificial formwork, etc.
- + Any external linings or trims i.e. external UPVC window linings, timber window blades, etc. Unless otherwise concession under BCA 2022.
- + Any sarking or insulation contained within the wall assembly. Unless otherwise concession under BCA 2022.
- + Compliance is required with HI Design Guideline Note 032 – external wall construction and façade compliance.

**General Note**

This is not an exhaustive list, and any element incorporated within any external wall assembly must be identified and provided for review. All external walls are to be documented with non-combustible construction including all components including framing, insulation, blocking and the like.



BUILDING ELEMENT	TYPE A CONSTRUCTION
External wall	Non-combustible
Common wall	Non-combustible
Floor and floor framing of lift pit	Non-combustible
All loadbearing internal walls (including those of shafts)	Concrete, masonry or fire-protected timber
Loadbearing fire walls	Concrete, masonry or fire-protected timber
Non-loadbearing internal walls required to be fire-resistant	Non-combustible
Non-loadbearing lift, ventilating, pipe, garbage and like shafts which do not discharge hot products of combustion	Non-combustible

It is noted new works are Type C construction however the requirements of C1.9 and C1.14 shall be developed into the design in line with HI DGN.

**C1.10  
Spec  
C1.10**

Fire Hazard Properties:

The fire hazard properties of all new building materials and assemblies as well as all new floor materials, floor coverings, wall and ceiling lining materials used in the development must comply with the requirements of Specification C1.10 of the BCA.

**General Note**

In accordance with Specification C1.10, we note the following requirements:

Type C New building fitted with sprinkler system critical Radiant Flux of floor Coverings.

- + Patient Care Areas – 2.2 kW/m<sup>2</sup>
- + Non-Patient Care Areas – 1.2 kW/m<sup>2</sup>

Type C New building fitted with sprinkler system wall and Ceiling Lining Materials – Group Number

- + Public Corridor – Group 1 or 2
- + Patient Care Areas – Group 1, 2 or 3
- + Other Areas – Group 1, 2 or 3

Type B existing building NOT fitted with sprinkler system critical Radiant Flux of floor Coverings.

- + Patient Care Areas – 4.5 kW/m<sup>2</sup>
- + Non-Patient Care Areas – 2.2 kW/m<sup>2</sup>

Type B existing building NOT fitted with sprinkler system wall and Ceiling Lining Materials – Group Number

- + Public Corridor – Group 1
- + Patient Care Areas – Group 1 or 2
- + Other Areas – Group 1 or 2

Material test data sheets will need to be submitted for further assessment to ensure compliance with the above. Interior design shall ensure ALL proposed linings comply with the above criteria. Interior design shall ensure all proposed linings comply with the above criteria and any additional requirements as imposed under the fire engineered strategy such as non-combustible or low fuel load zones.

**C2.2**

Maximum Floor and Volume Limitation: Floor area and volume limitations listed under this clause are not to be exceeded, finalisation of the compartmentation.

Classification	Type A construction	Type B construction	Type C construction
5, 9b or 9c	Max floor area—8 000 m <sup>2</sup> Max volume—48 000 m <sup>3</sup>	Max floor area—5 500 m <sup>2</sup> Max volume—33 000 m <sup>3</sup>	Max floor area—3 000 m <sup>2</sup> max volume—18 000 m <sup>3</sup>
6, 7, 8 or 9a (except for patient care areas)	Max floor area—5 000 m <sup>2</sup> Max volume—30 000 m <sup>3</sup>	Max floor area—3 500 m <sup>2</sup> Max volume—21 000 m <sup>3</sup>	Max floor area—2 000 m <sup>2</sup> Max volume—12 000 m <sup>3</sup>

**Note to Table C2.2:** See C2.5 for maximum size of compartments in patient care areas in Class 9a health-care building

**Note:** Refer also comments under C2.5 below with respect of fire/smoke compartmentation requirements within patient care areas

**General Note**

New parts of the building shall comply with Class 9a Type C. Existing Type B parts shall maintain



compliance. Existing single storey parts fire separated from double storey parts in accordance with BCA C2.7(b) may be considered Type C construction.

Current compartmentation plans do not exceed compartmentation limitations for new works. This will be monitored as the design progresses. Architect to note and ensure compliance in this regard.

#### Further Information

Additional fire separation required to be developed into design / depicting fire smoke separation FRL 120 mins between new (Type C) and existing (Type B) and also sprinkler to non sprinkler protected area as listed below. See C3.3 and D.12 for exposure between fire compartments and sliding doors not permitted in fire walls.

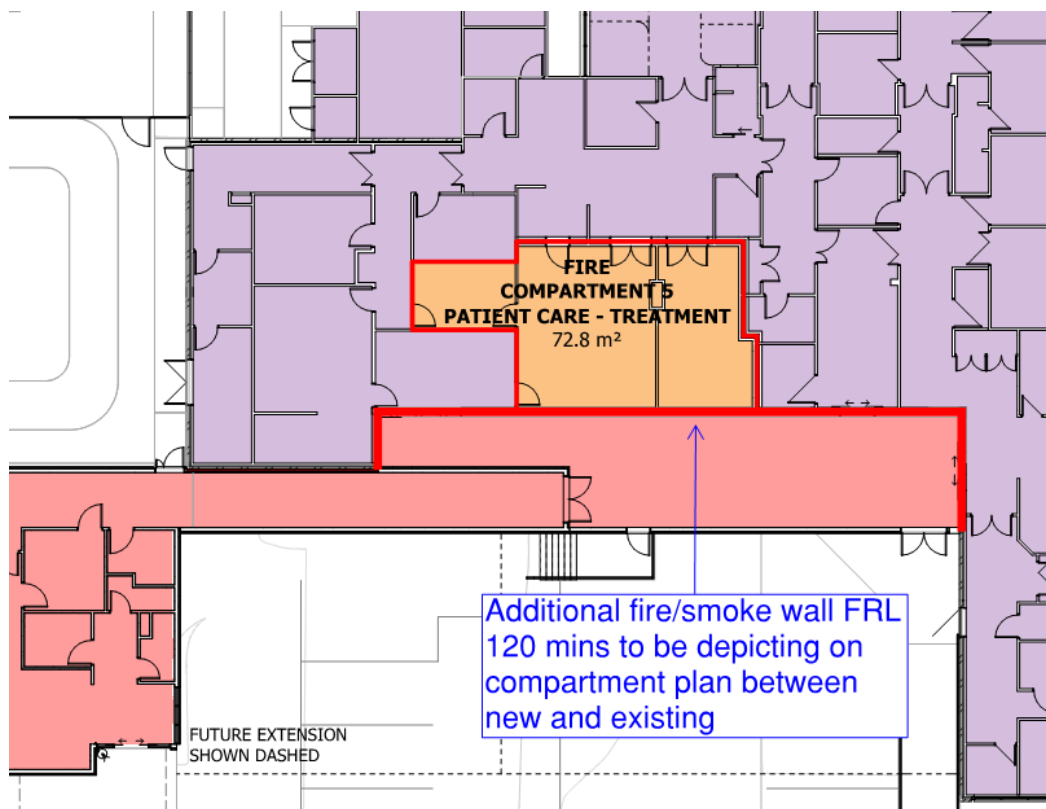


Figure 10

Note refer comments below also regarding further separation required under C2.5 of the BCA noting all fire walls are required to have a smoke rating.

Final compartment plan to be provided by architect for review. Structural engineer to confirm elements passing through wall comply with BCA C2.7.

#### C2.5 Spec C2.5

Class 9a Buildings Compartmentation: A class 9a building must comply with the following.

- + Patient Care Areas must be divided by fire compartments not exceeding 2,000m<sup>2</sup>.
- + In 9a non-patient care areas – Maximum 3,500m<sup>2</sup> & 21,000m<sup>3</sup> (existing Type B) and 2000m<sup>2</sup> and 12000m<sup>3</sup>
- + Type B Floor with an FRL not less than 120/120/120 noting supporting part provisions apply.

#### Ward areas-

- + where the floor area exceeds 1000 m<sup>2</sup>, must be divided into floor areas not more than 1000 m<sup>2</sup> by walls with an FRL of not less than 60/60/60; and
- + where the floor area exceeds 500 m<sup>2</sup>, must be divided into areas not more than 500 m<sup>2</sup> by smoke proof walls complying with Specification C2.5; and
- + where the floor area is not more than 500m<sup>2</sup>, must be separated from the remainder of the patient care area by smoke-proof walls complying with Spec C2.5.
- + where division of ward areas by fire-resisting walls is not required (i.e. if the patient care



area was less than 1,000m<sup>2</sup>), any smoke-proof wall required under (B) above must have an FRL of not less than 60/60/60.

**Important Note:** All 60min fire walls are to be designed as 120min fire walls this allows for the compartmentation to be relied upon for horizontal egress through HE's.

Treatment areas –

- + Must be divided into floor areas not more than 1000 m<sup>2</sup> by smoke-proof walls complying with Specification C2.5
- + Where the floor area is not more than 1,000m<sup>2</sup>, must be separated from the remainder of the patient care area by smoke-proof walls complying with Spec C2.5.

Ancillary use areas located within a patient care area and containing equipment or materials that are a high potential fire hazard, must be separated from the remainder of the patient care area by walls with an FRL of not less than 60/60/60. These areas include, but are not limited to, the following:

- + A kitchen and related food preparation areas having a combined floor area of more than 30 m<sup>2</sup>.
- + A room containing a hyperbaric facility.
- + A room used predominantly for the storage of medical records having a floor area of more than 10 m<sup>2</sup>.
- + A laundry, where items of equipment are of the type that is potential fire sources (e.g. gas fire dryers).

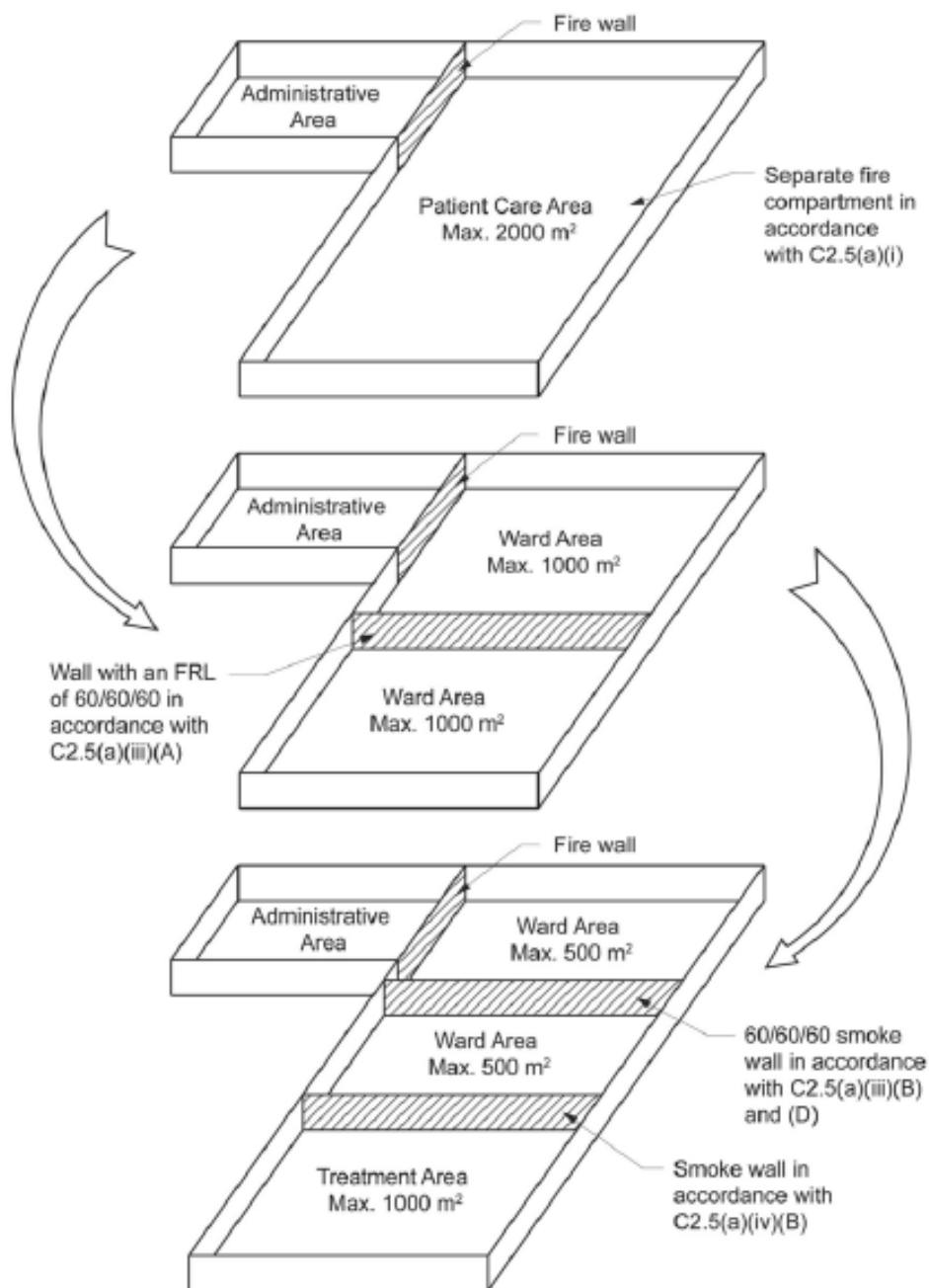


Figure 11

#### General Note

Indicative fire wall locations have been depicted in architectural plans. Ward and treatment labelling is to be updated and this will be monitored as design progresses.

Compartmentation plan is to be finalised noting the above requirements. The location of fire wall and smoke walls will be refined as part of the to ensure suitable travel distances are achieved throughout. Notwithstanding, indicative fire wall locations have been depicted in the figure below. Red lines indicate 120 min fire/smoke wall locations and blue lines shown smoke wall locations however this can be workshopped as part of future design stages.

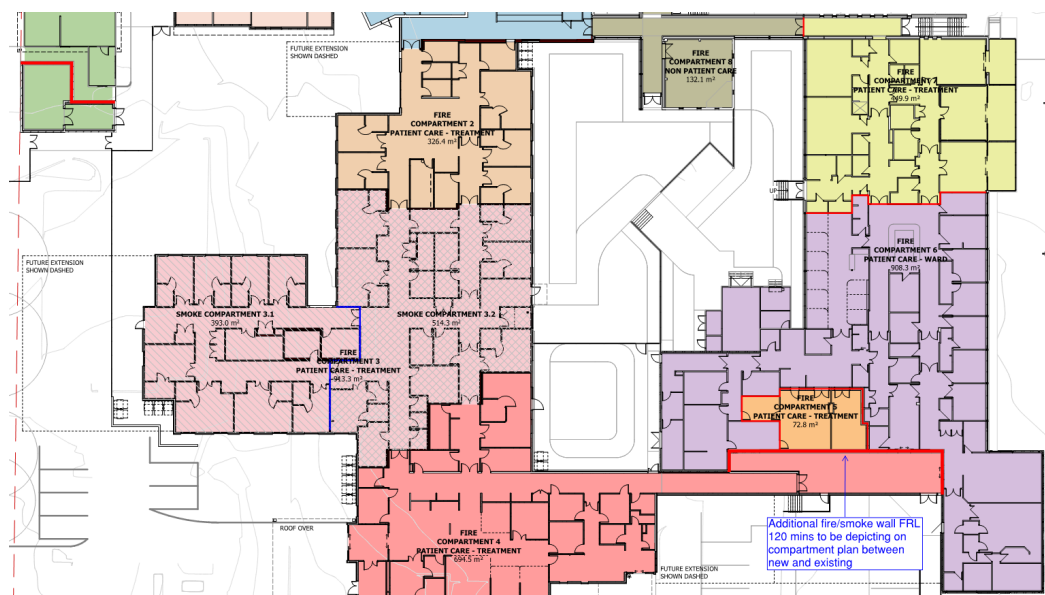


Figure 12

Fire smoke / dampers are required for all mechanical duct penetrations through fire/smoke walls. Smoke dampers where mechanical ductwork penetrates smoke walls. Mech engineer to confirm throughout.

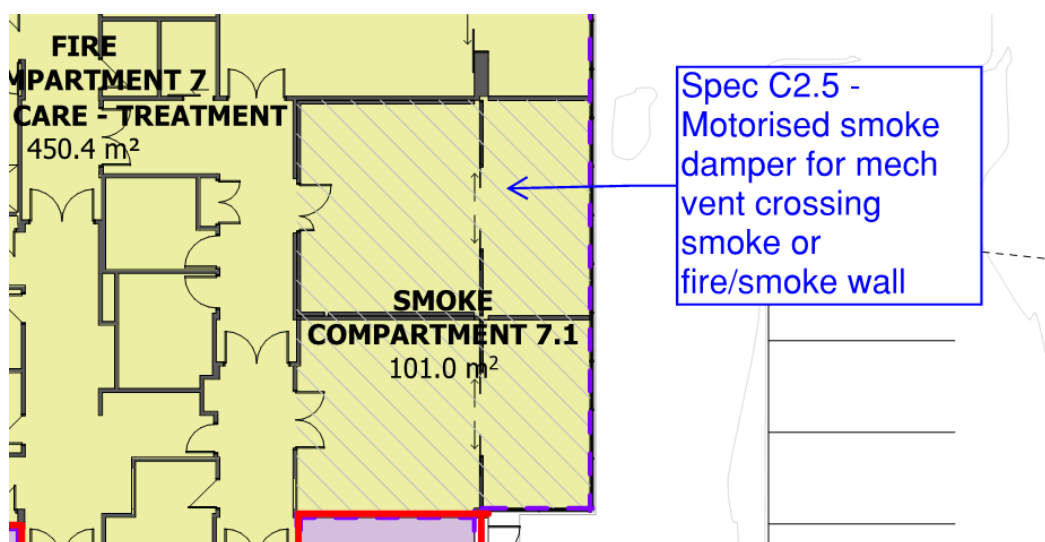


Figure 13

Ancillary use areas of high hazard within patient care areas. Indications on site is the kitchen will not be located within patient care and medical storage is primarily on the lower storey in out of scope area.

Refer Appendix B for existing on site non-compliances, existing passive fire elements shall not be relied on where required for separation of new works.

#### Further Information

A number of compartments have ward/ treatment use incorrectly labelled as per previous editions or non-compliant compartment sizes. Fire compartment 7 is an existing ward however plans list as treatment. Fire compartment 6 is depicted as 909m2 ward which does not comply with BCA C2.5, previous plans listed as treatment. Client to confirm use of compartments and where existing use is to be retained architect to update plans accordingly.



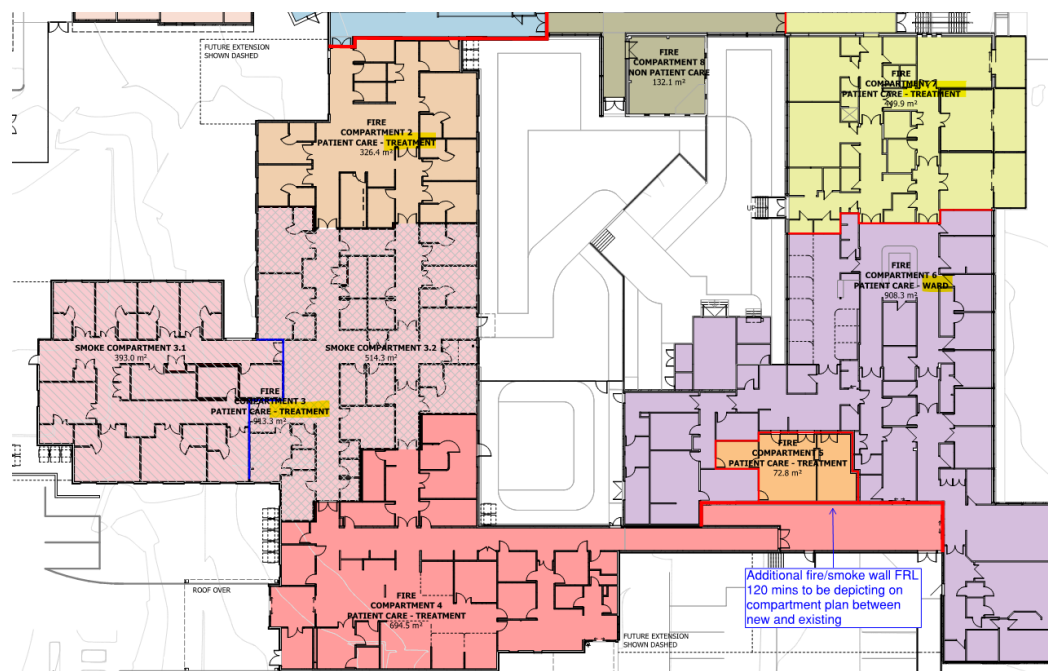


Figure 14

The proposal is to temporarily locate birthing suites (treatment) within existing ward area. BCA C2.5 (iv) B requires this part to be considered separate smoke compartment (see below) which is required to be extended to underside off no combustible roof sheet. Refer rest of report for additional items required to be addressed including treating penetrations, direction of door swing, sliding doors, door hardware).

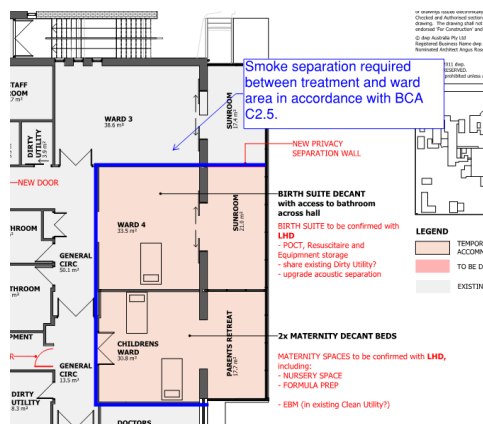


Figure 15

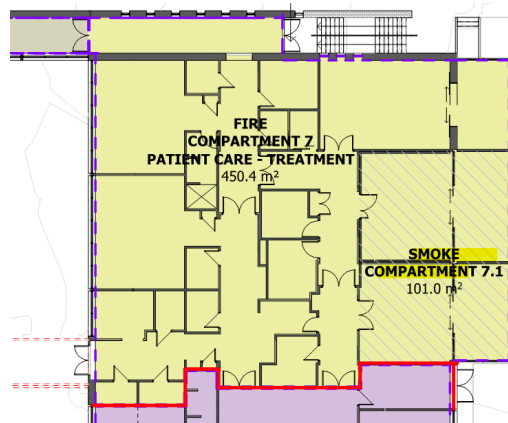


Figure 16

Fire / smoke compartments are to be updated as per above and labelled on descriptor for patient care war or treatment or non-patient care.



FIRE COMPARTMENTS - MAIN WORKS	
DESCRIPTOR	Area
FIRE COMPARTMENT 1	1189.2 m <sup>2</sup>
FIRE COMPARTMENT 2	326.4 m <sup>2</sup>
FIRE COMPARTMENT 3	913.3 m <sup>2</sup>
FIRE COMPARTMENT 4	694.5 m <sup>2</sup>
FIRE COMPARTMENT 5	72.8 m <sup>2</sup>
FIRE COMPARTMENT 6	908.3 m <sup>2</sup>
FIRE COMPARTMENT 7	449.9 m <sup>2</sup>
FIRE COMPARTMENT 8	132.1 m <sup>2</sup>
FIRE COMPARTMENT 9	487.5 m <sup>2</sup>
FIRE COMPARTMENT 10	289.9 m <sup>2</sup>
SMOKE COMPARTMENT 3.1	382.4 m <sup>2</sup>
SMOKE COMPARTMENT 3.2	512.8 m <sup>2</sup>

Figure 17

Smoke reservoirs above smoke doors including combined fire and smoke walls are to achieve a minimum 400mm reservoir – architect to coordinate and ensure inclusion into the design in this regard this will apply to all fire/ smoke and smoke doors shown in the fire above.

#### Performance solution

Oversized compartments will be considered on a case by case with <10% being within the acceptable limits to be addressed by Performance Solution.

Smoke compartment 3.2 is understood to be ward and incorrectly labelled on compartment plan requiring update. The fire engineered strategy is to address max smoke compartment up to 520m<sup>2</sup> in lieu of 500m<sup>2</sup>.

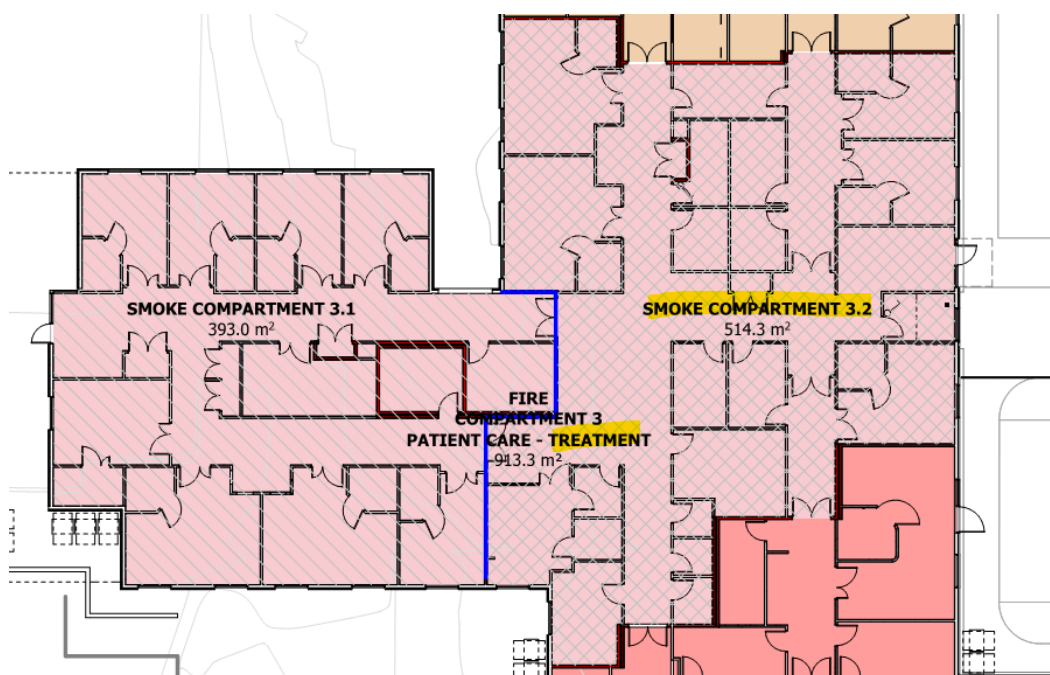


Figure 18





The current design is to updated ward and treatment use for inclusion in FER.

## C2.6

Vertical separation of openings in external walls: Type B construction requires spandrels under BCA C2.5 (a) (ii)(B) at patient care areas above another storey however it is understood there is not works proposed within existing Type B hospital.

### General Note

The existing level of compliance with existing out of scoped area shall be maintained. Where future heavy/ medium refurbishment works are proposed within the existing hospital (Type B), sprinklers shall be extended through which has concession for BCA C2.6.

## C2.7 & C3.4

Separation by Fire Walls: The ensure compliance with respect of the new works and within existing building the compartmentation strategy will comprise the followings ensuring fire separation is maintained between;

- + New and existing buildings,
- + Different Types of Construction
- + Between areas being refurbished and existing areas of the building,
- + Where new floor space adjoins existing buildings.

### General Note

As noted in the clauses above, the aim of the compartmentation strategy outlined above is to maintain the maximum compartment limitations and also position the subject compartment walls can be utilised for horizontal egress (HE's).

Coordination is required between the projects architect and structural engineer with respect of the structural elements ensuring no members other than roof battens 75x50mm pass through and or penetrate the fire rated wall. Updated design is indicated to resolve, existing elements crossing new fire walls to be subject to FER.

### Matters Requiring Redesign / Further Information

The design team have confirmed intent to fire separate the existing Type B hospital from the new propose single storey Type C works. BCA C1.4 permits this where separation is in accordance with BCA C2.7 (b) for the higher FRL being no less than 120 minutes.

Figure C2.7(1) Example of method of separating a building by a fire wall in accordance with C2.7(b)(ii)

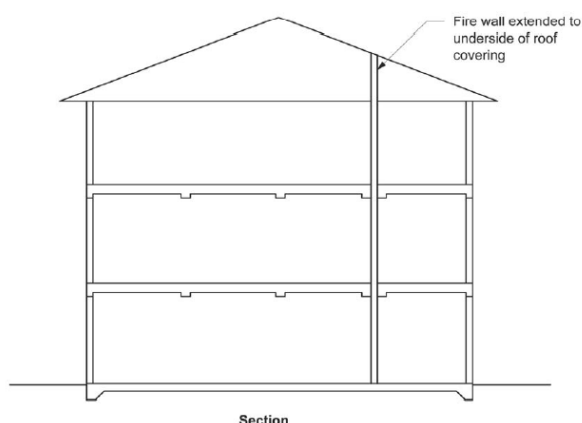
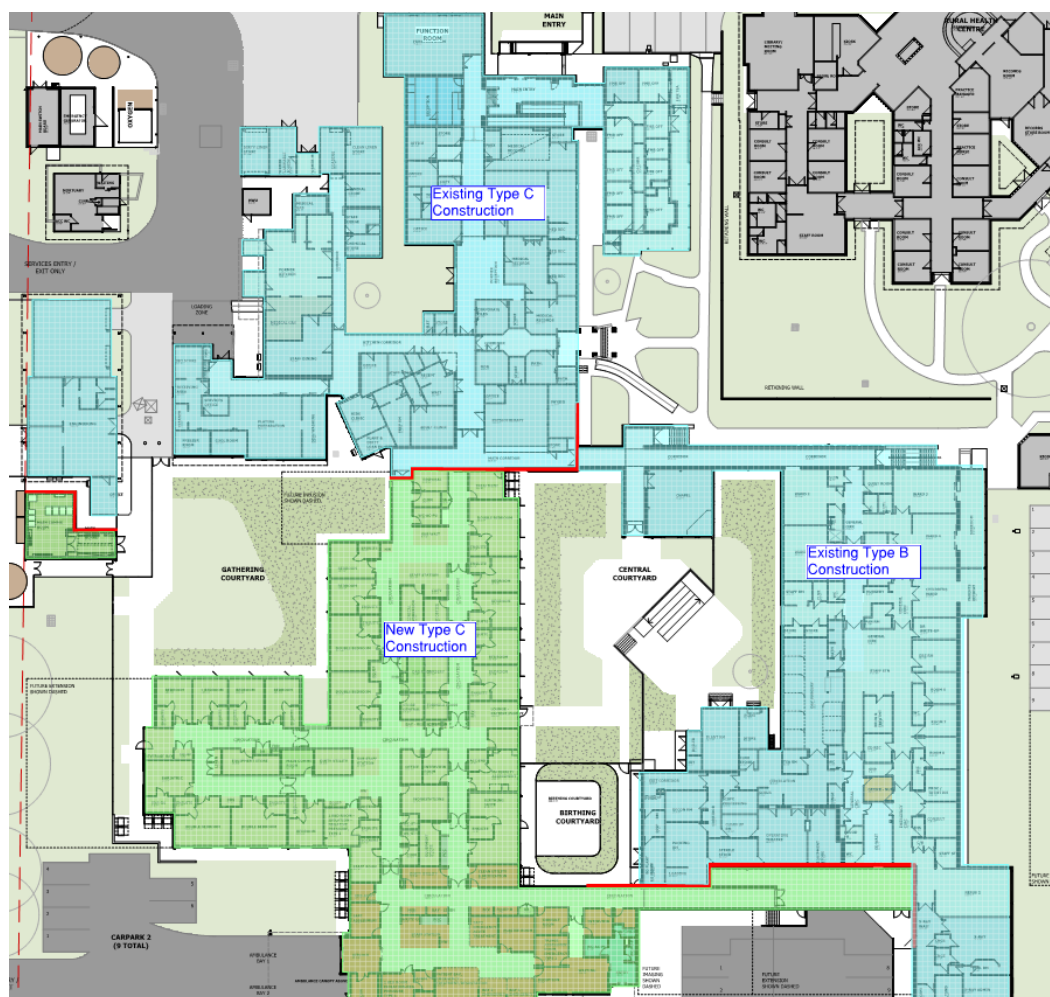


Figure 19

Indicative lines of separation have been depicted below to be developed into the design.



**Figure 20**

Lines of separation have been identified on DD plans are to be finalised as part of the design development. Additional fire walls are to be depicted on updated plans as shown below. Existing fire walls shall not be relied on for any new scoped area noting site inspection concluded numerous compliance concerns.

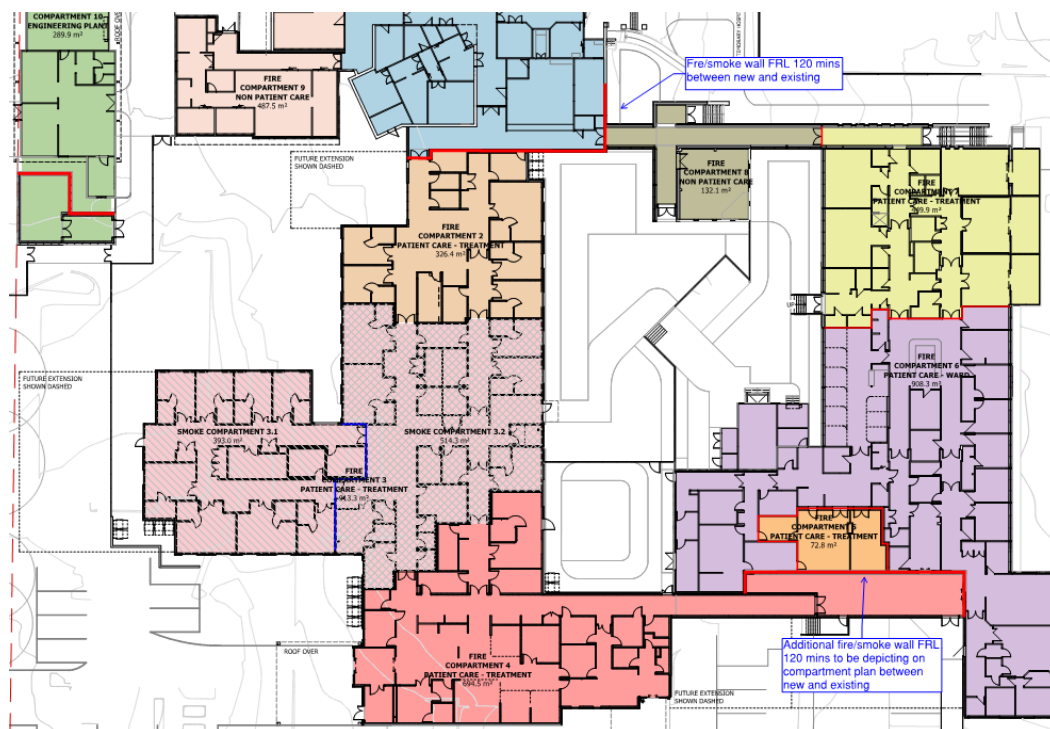


Figure 21

Note sliding doors are not permitted in C2.7 fire wall separating different types of construction and are required to be amended to swinging fire/smoke doors (see D2.19 also).

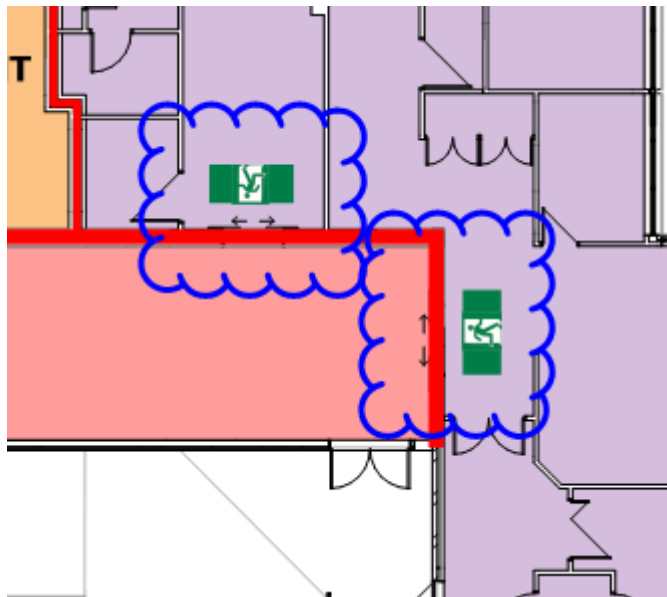


Figure 22

#### Performance Solution

Where any elements other than roof battens 75x50mm pass through and or penetrate new or existing fire rated walls this is required to be captured by way of fire engineered strategy.

Any additional elements that cannot comply with respect to fire separation shall be confirmed for consideration in Fire Engineered Strategy.

#### C2.10

**Separation of Lift Shafts:** Existing Building is shown to have a Rise In Storeys of two (2) with lower storey considered in appropriate for access in accordance with BCA D3.4.

No lifts are currently depicted (or required) noting entry on grade is provided in most areas. Where a lift is provided the walls if loadbearing shall comply with table 4 of Specification C1.1 being FRL 120/120/120.

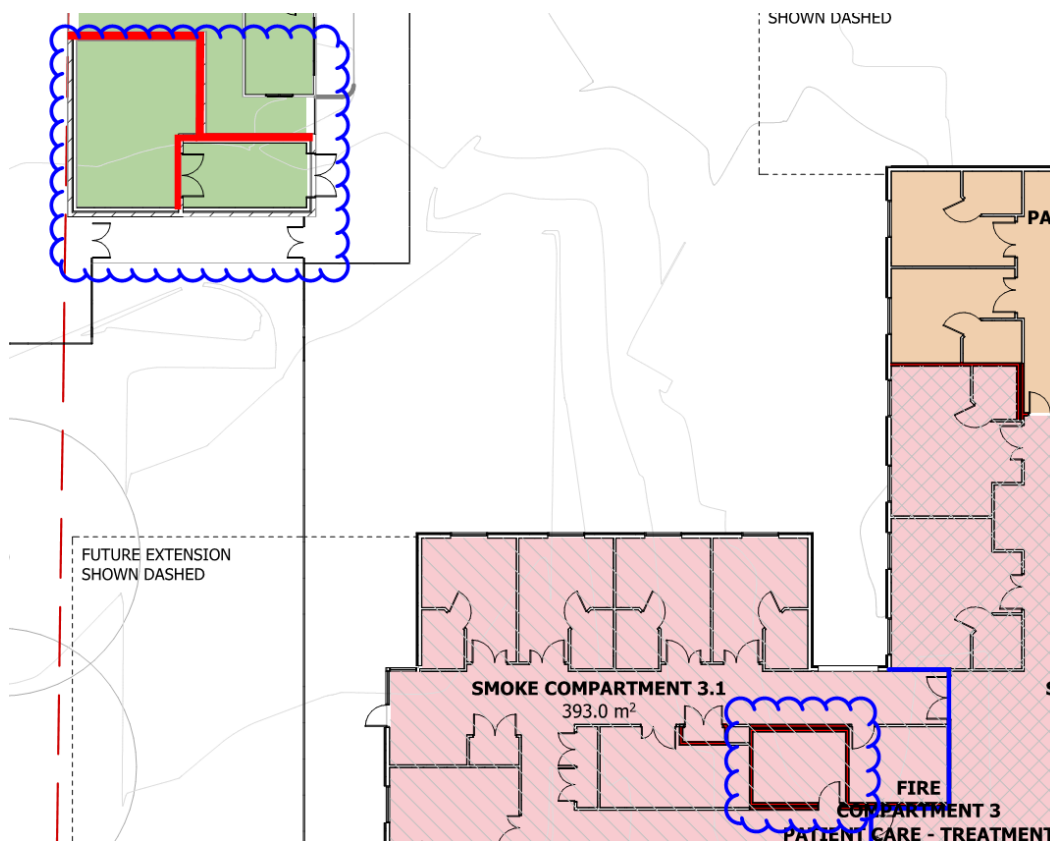


**C2.12 /  
C2.13**

Separation of Equipment: Dependent on plant and equipment to be housed within the plant rooms, FRL 120/120/120 fire separation may be required to separate these areas from the building remainder. This is applicable to:

- + Main switch rooms / boards; or
- + Electricity substations; or
- + Light motors and lift control panels; or
- + Emergency generators used to sustain emergency equipment operating in the emergency mode; or
- + Central smoke control plant; or
- + Boilers.
- + A battery or batteries installed in the building that have a voltage exceeding 12 volts and a 200kWh or more.

Indicative fire separation in areas is proposed. Architect to note any other spaces on plan requiring separation to BCA C2.12 or C2.13 and ensure compliance in this regard for above listed items.



*Figure 23*

Architect to note and confirm any other locations applicable. Refer C2.5 ancillary area within patient care areas which also require separation.

The MSB is indicated to be a separate building structure. Confirm FRL 120minute wall between MSB and emergency generator.



**SPRINKLER &  
HYDRANT TANKS  
EMERGENCY  
GENERATOR  
MAIN SWITCH  
BOARD**

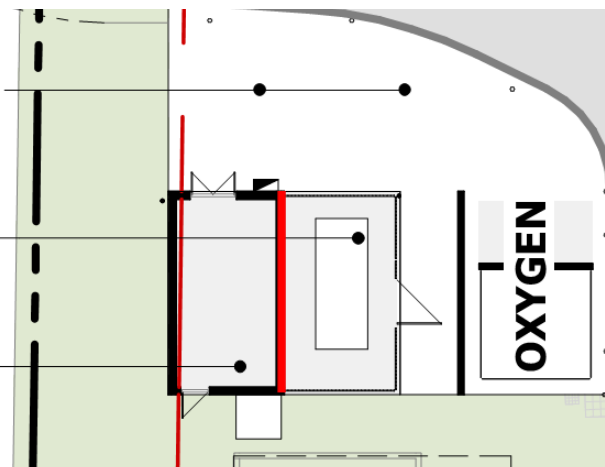


Figure 24

### C3.2

**Protection of openings in external walls:** Openings in an external wall required to have a FRL must comply with BCA C3.4 if the distance between the opening the fire source feature to which it is exposed is less than:

- + 3m from a side or rear boundary of the allotment; or
- + 6m from another building on the allotment that is not Class 10.

Figure C3.2 Plan showing when C3.2 requires protection of openings in an external wall required to have an FRL

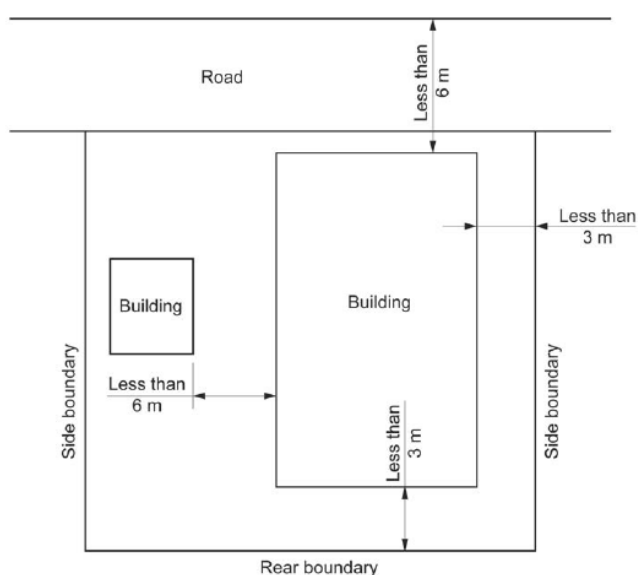


Figure 25

#### Further Information / Performance solution

The location of new main comms room and DB boards creates non compliance for existing maintenance engineering building in regards to external wall for fire rated and openings not protected. The FER is to address on basis FRL 120 minute separation in both directions is achieved in adjoining building.

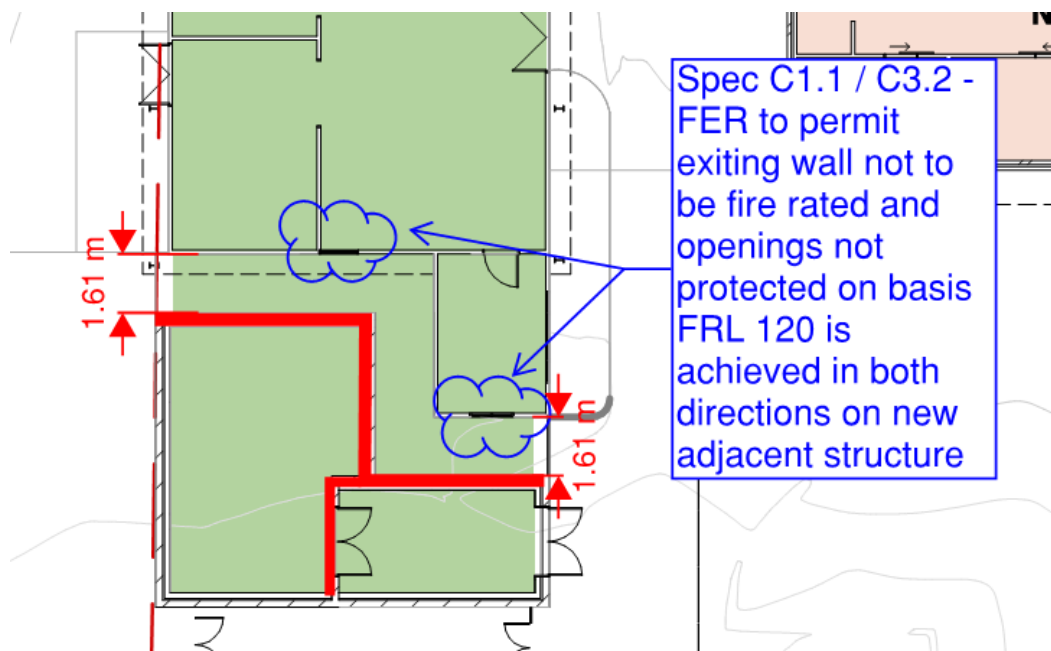


Figure 26

Updated plan required for inclusion by way of fire engineered strategy.

### C3.3

**Separation of Different Fire Compartments:** Exposure of external walls and associated openings in different fire compartments is expected to occur in several locations during the finalisation of the compartmentation strategy. DtS pathway of BCA C3.3 and C3.4 depicted below.

Figure C3.3 Plan showing illustration of Table C3.3

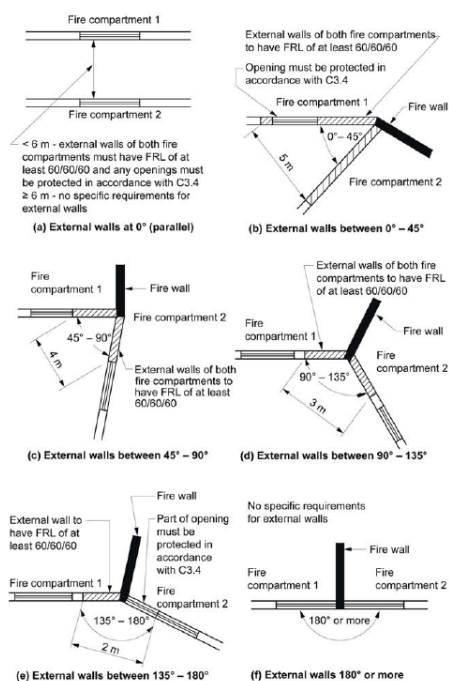


Figure 27

Compartment lines have generally been located as to minimise protection of openings. Where external walls of adjacent fire compartments cannot be protected with FRL 60/60/60 construction and glazed openings drenched/protected externally a performance based pathway is proposed.

#### Further Information

Final fire compartment plan to be provided for review for completed works depicting protection between



adjacent compartment whether DTS or performance based protection.

Location of temporary birthing suite (treatment) within existing ward area requires the exposure between fire compartments to be addressed by way of DTS or FER. Confirmation is required how compliance will be achieved.

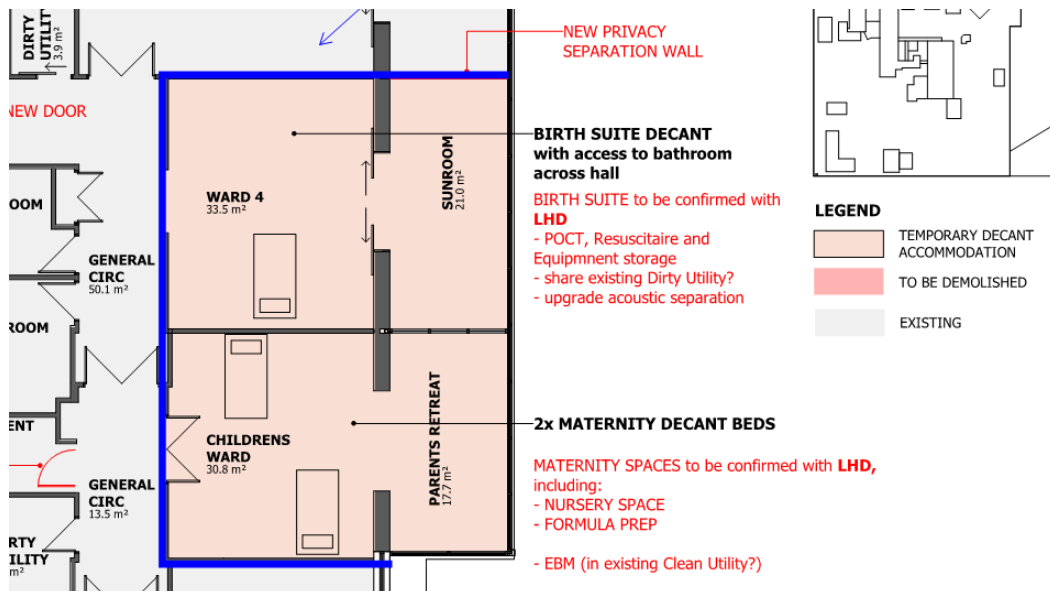


Figure 28

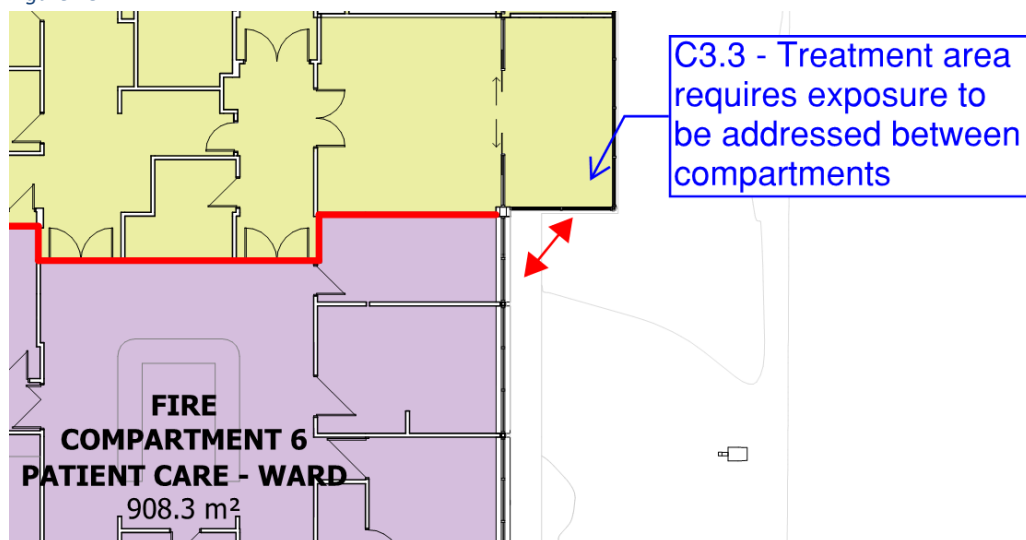


Figure 29

#### Further Information / Performance Solution

Where the method of protection is proposed to be varied then it will need to be considered under a fire engineered performance solution which will rely on one fire compartment being protected with 2-hour fire-rated construction in both directions.

Red arrows indicate areas requiring further design development or rationalisation are as shown below.



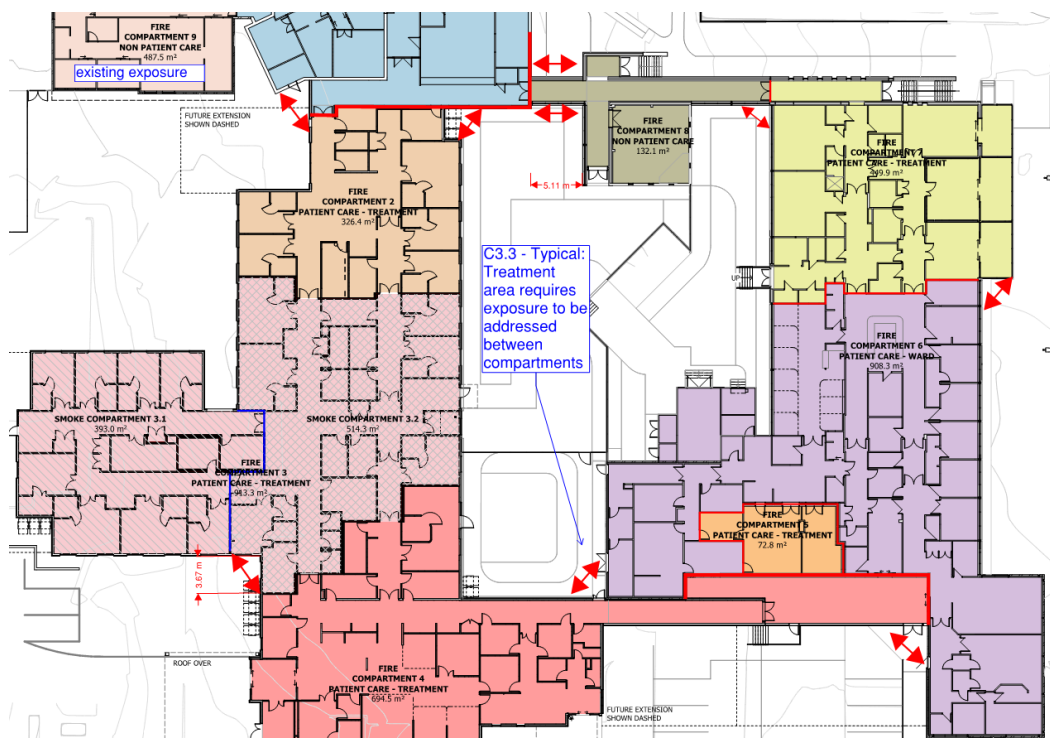


Figure 30

Final compartment plan to be provided for review and consideration of inclusion by way of Fire engineered strategy where FRL 120 minute wall on one side of fire compartment is proposed in lieu of DtS both sides.

Note where any openings are located in performance based 120 minute wall this will require drenching on both sides.

### C3.15

#### Openings for service installations:

Where an electronic, plumbing, mechanical ventilation air conditioning or other service penetrates a building element required to have an FRL the installation must comply with the following:

- + Tested system identical to the prototype;
- + Ventilation and air conditioning in accordance with AS1668.1
- + Compliance with specification C3.15

Note – ensure smoke dampers are proposed in any smoke wall and both a fire and smoke are proposed in any fire/ smoke walls.

### Spec C3.4

Fire and smoke doors, fire windows and shutters: Fire and smoke doors shall comply with BCA Specification C3.4.

#### Further Information / Performance Solution

Smoke doors shall swing in the direction of egress or both directions. All fire doors within patient care areas are to be fitted with a smoke rating and shall swing in the direction of egress or both directions. A number of doors will be subject to fire engineered strategy.

Typical example below where fire/smoke doors required in both direction and swing against egress to be addressed in FER. Not in scenarios such as below where two door sets required one shall swing the opposite to the other.



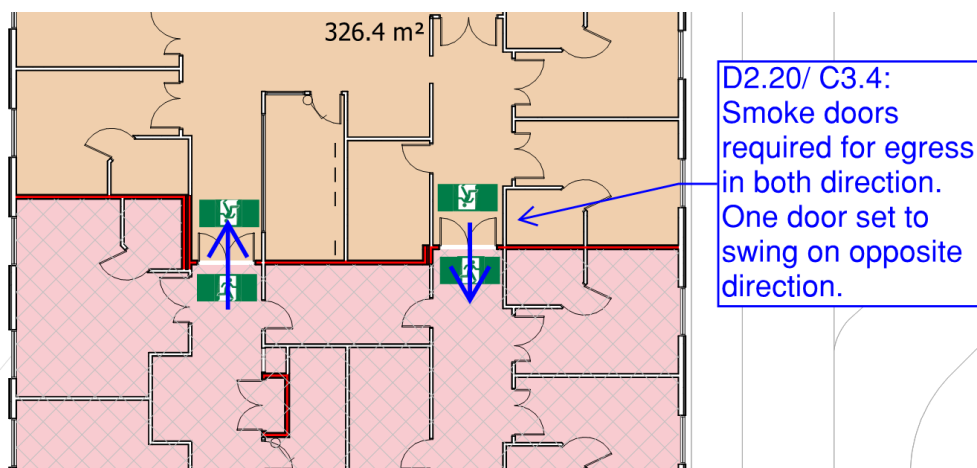


Figure 31

Refer below markup indicating:

- + Horizontal exits and smoke doors required for egress in both directions (green) required to have swing against egress addressed in FER;
- + Smoke doors swinging against the direction of egress (orange) required for new works to be addressed via design development or FER required.
- + Note red arrow indicates sliding door to be replaced with horizontal exit swinging in the direction of egress.
- + Note where dual swinging smoke doors are used in lieu of fire/smoke doors swinging against the direction of egress the smoke leakage is required to be addressed under the FER.

Fire engineer to confirm suitability for inclusion by way of FER. See D2.20 for extent of horizontal exits (green running man).

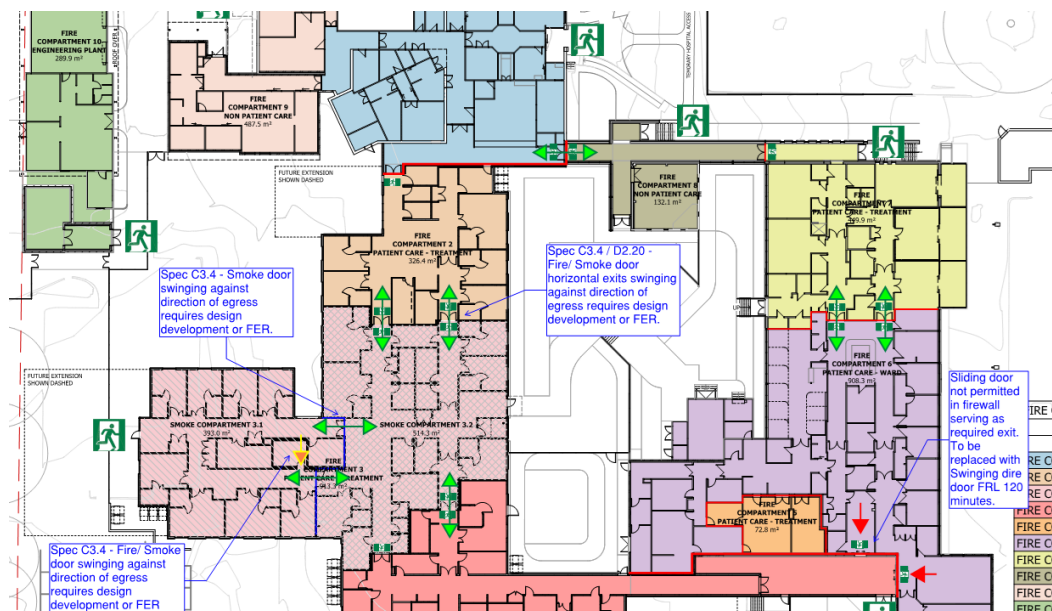


Figure 32

There is a conflict between the compartment plan fire/smoke doors (dual swing single directional) and architectural where one proposes dual leaf. Architect to coordinate so correct fire engineering solution can be applied.



Figure 33



## PARTS D1 & D2 – PROVISION FOR ESCAPE AND CONSTRUCTION OF EXITS

**D1.2** Number of Exits Required: A minimum of two exits are required to be provided from each storey. Additional exits in excess of this requirement are required to satisfy aggregate exit width, travel distances, and vertical exit requirements when passing through numerous horizontal exits.

### General Note

Access to a minimum of two (2) exits is to be maintained throughout ground floor. Existing out of scope subfloor is to not have its egress compromised.

Where extended travel distances are proposed these will be considered on a case-by-case basis to determine ability to be addressed by way of a Fire Engineered Solution.

Required exits are to be provided and positioned to avoid any dead end corridors within patient care areas which would lead to excessive extended travel distances. In addition, doorways within the 120min fire walls (Type B area or firewalls between Type B and C areas) are to be documented as Horizontal Exits to facilitate horizontal egress through compartments within the building. Firewalls within Type C area is permitted to be FRL 90 mins.

The exit is the point at which open space is reached. Indicative locations of required exits locations have been identified below for . These locations will need to be finalised as part of future design stages

Option 2

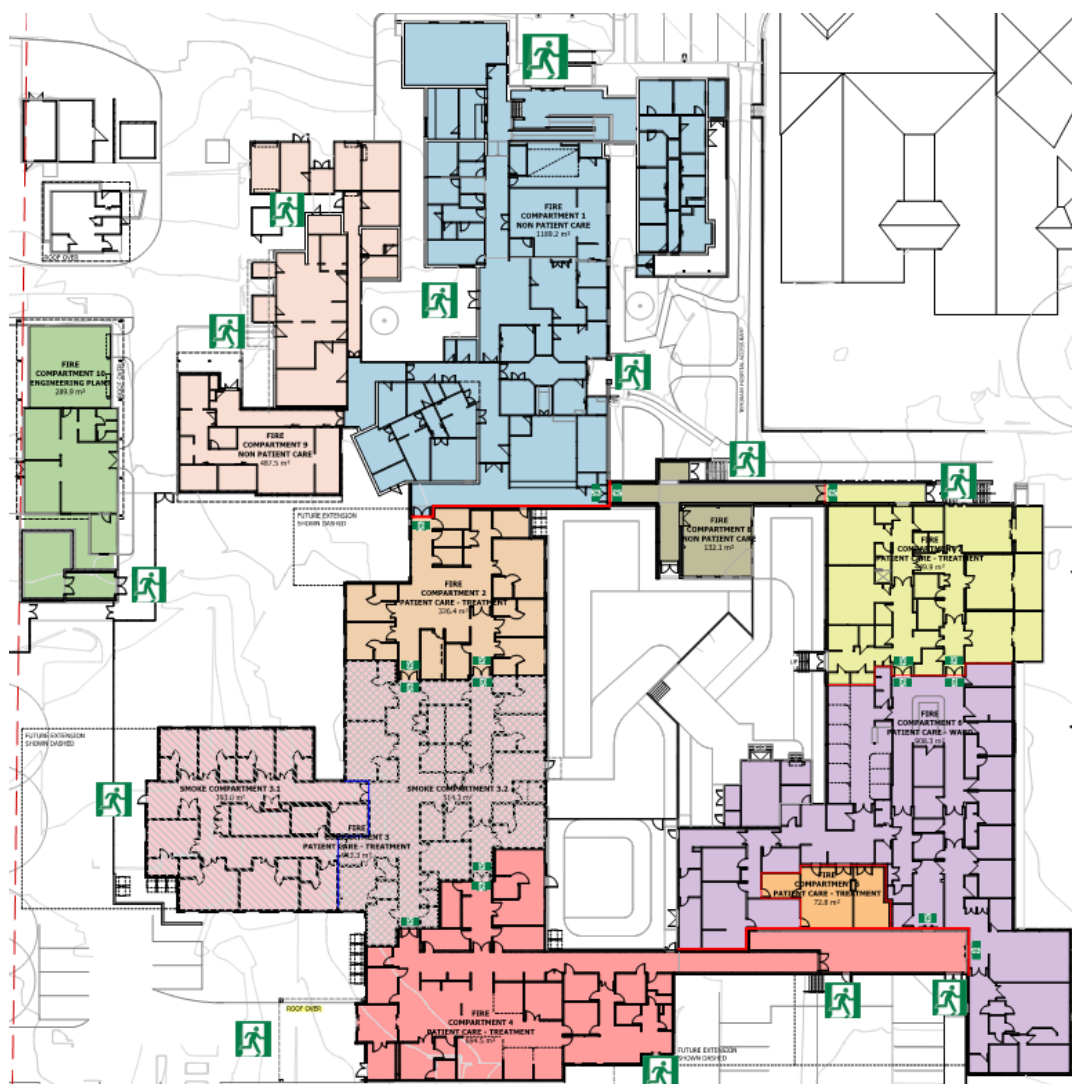


Figure 34

### Further Information

DD plans indicate future expansion area. Any future expansion shall not compromise egress strategy proposed for this scope. It is recommended consideration of this aspect for future proofing. Minimum clear



egress path and distances to an exit to be maintained at all times.

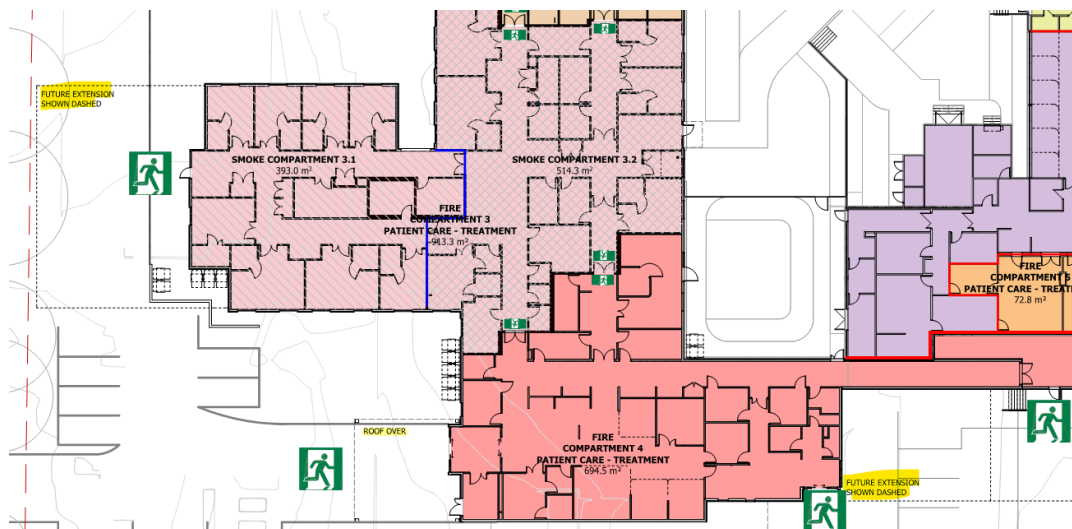


Figure 35

The proposed works impact the existing egress arrangement of hospital particular CSSD, emergency and imaging where previously exits discharged to open space connected to public road. The proposed works are required to address the impacts to existing egress arrangement by DtS or FER.

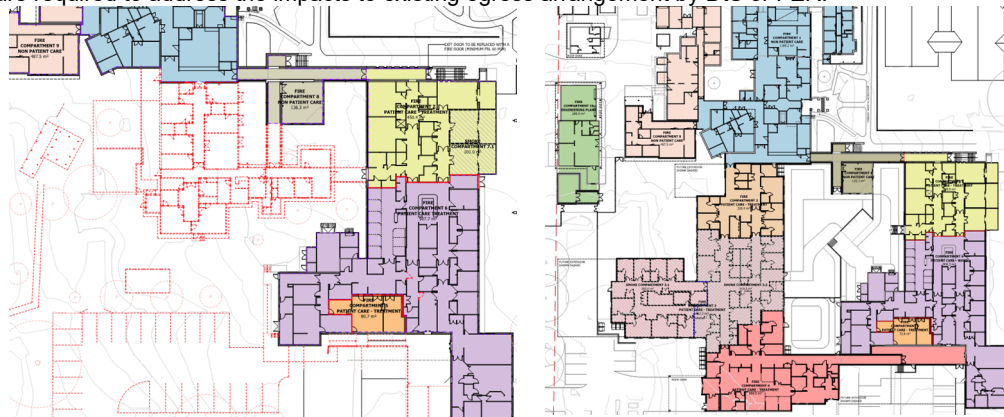


Figure 36

Figure 37

- D1.3** Where fire isolated exits are required: The existing building is noted as having a Rise in Storeys of two (2). The new extension has a rise of storeys of one (1).

Every stairway or ramp serving as a required exit is required to be fire isolated or an external stair in lieu in accordance with BCA D1.8 where serving patient care areas.

#### Further Information

A number of existing elements of the building do not comply and as required by new works shall be upgraded to DtS or captured by way of FER. Ref D.8.

- D1.4** Exit Travel Distances: Travel distances in patient care areas must not exceed 12m to a point of choice between two exits and 30m to a single exit. In non-patient care areas, distances must not exceed 20m to a point of choice between two exits, and 40m to a single exit.

#### General Note

Main corridors and corridors within departments must be located so as to allow for travel distances to be within acceptable limits i.e. avoiding dead end corridors with excessive travel.

The provision of horizontal exits (FRL 120 Type B or FRL 90 Type C) combined fire and smoke walls will be required to bring travel distances down to acceptable levels this includes within the existing building as required. The location of the proposed compartment walls will be refined in this regard to ensure acceptable travel distances are achieved.

The subfloor for existing hospital part is understood to be out of scope. The existing level of egress cannot be reduced as a result of the works.



### Matters Requiring Redesign / Further Information / Performance solution

The following areas exceed DtS limitations and require design development to comply OR confirmation this can be supported by way of fire engineered strategy.

Note- no dimensions listed on plans and shall be updated so accurate assessment can occur. The below has been assessed from assumed scale only.

The birthing courtyard has up to 40m to nearest of two exits in lieu of 30m.

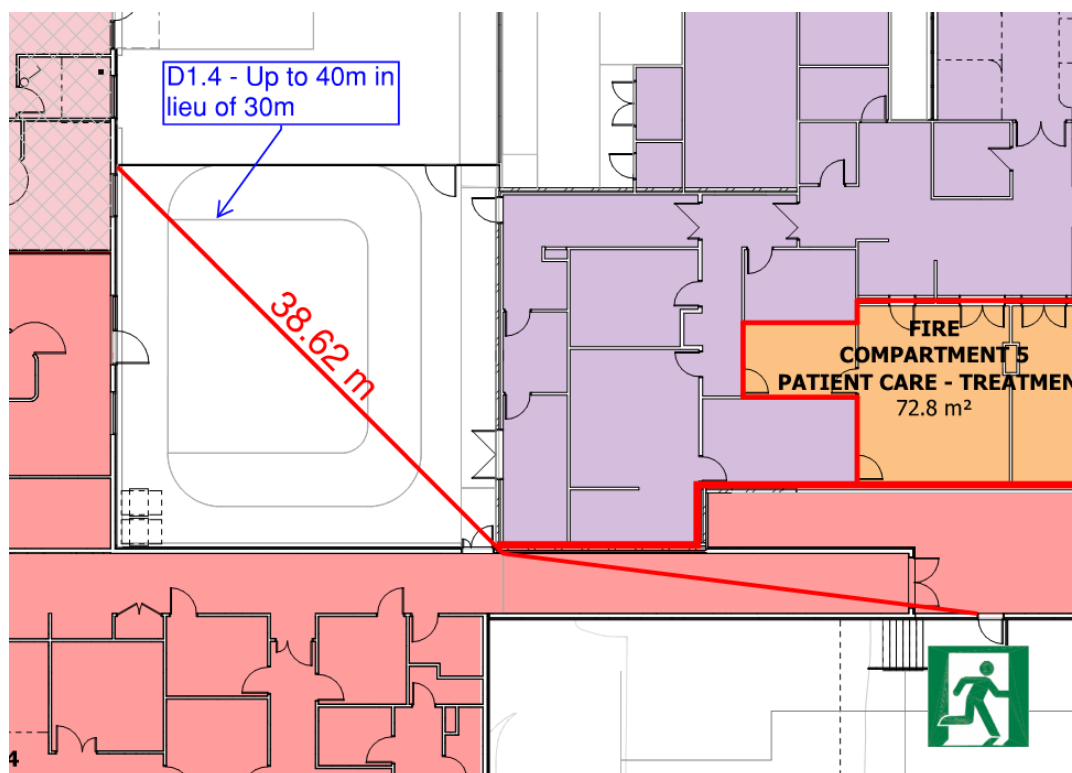


Figure 38

The central courtyard has numerous areas in excess of DtS limitations. The FER strategy is to permit up to 17m to point of choice in lieu of 12m and up to 40m in lieu of 30m to allow for landscape features and the like.

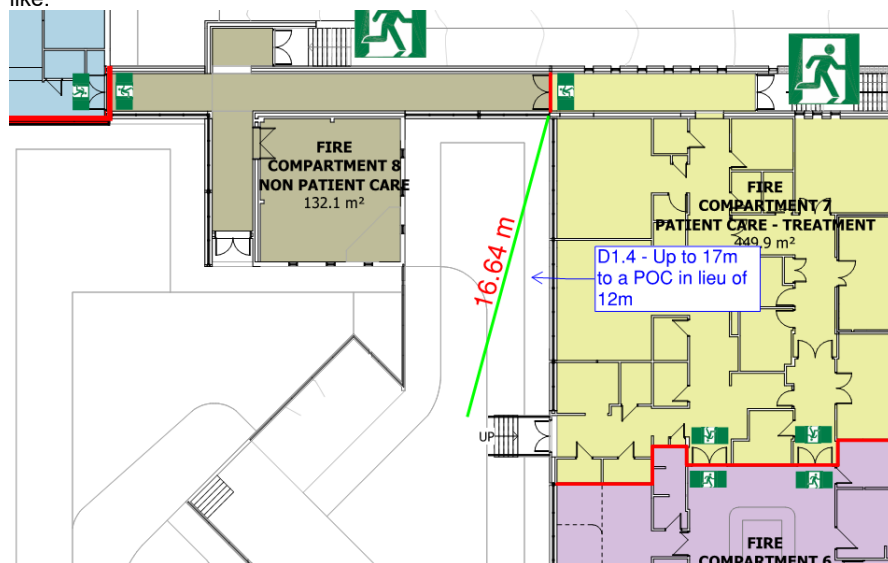


Figure 39

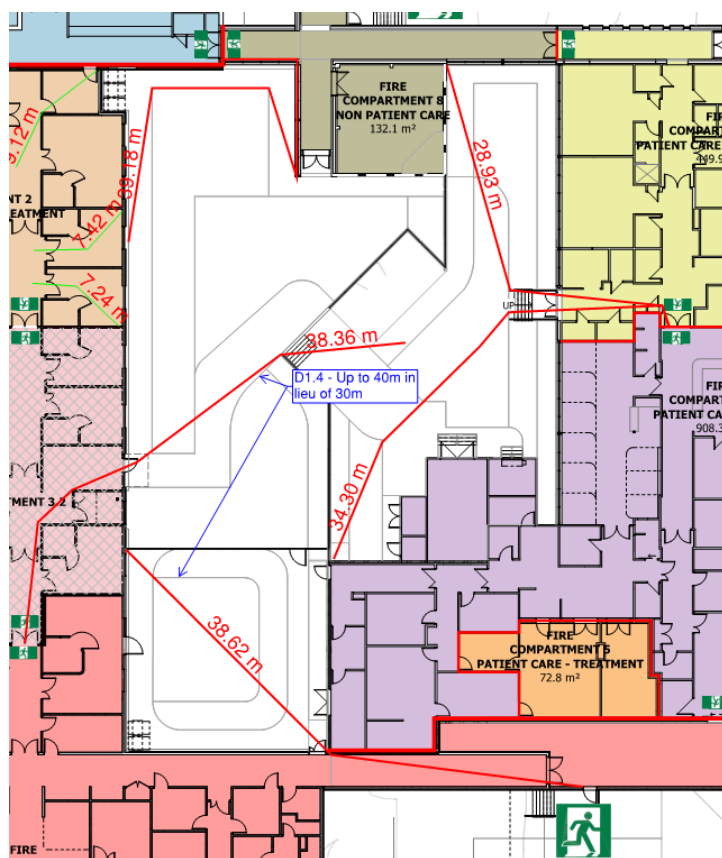


Figure 40

Fire compartment 5 and 6 existing egress arrangement is impacted by proposed extension and results in numerous areas of extended travel distance. Worst case (highlighted) is up to 15m to a point of choice to two exits in lieu 12m and up to 40m to the nearest of two exits in lieu of 30m. Fire compartment 6 to be included in Solution noting fire rated wall are not considered horizontal exits.



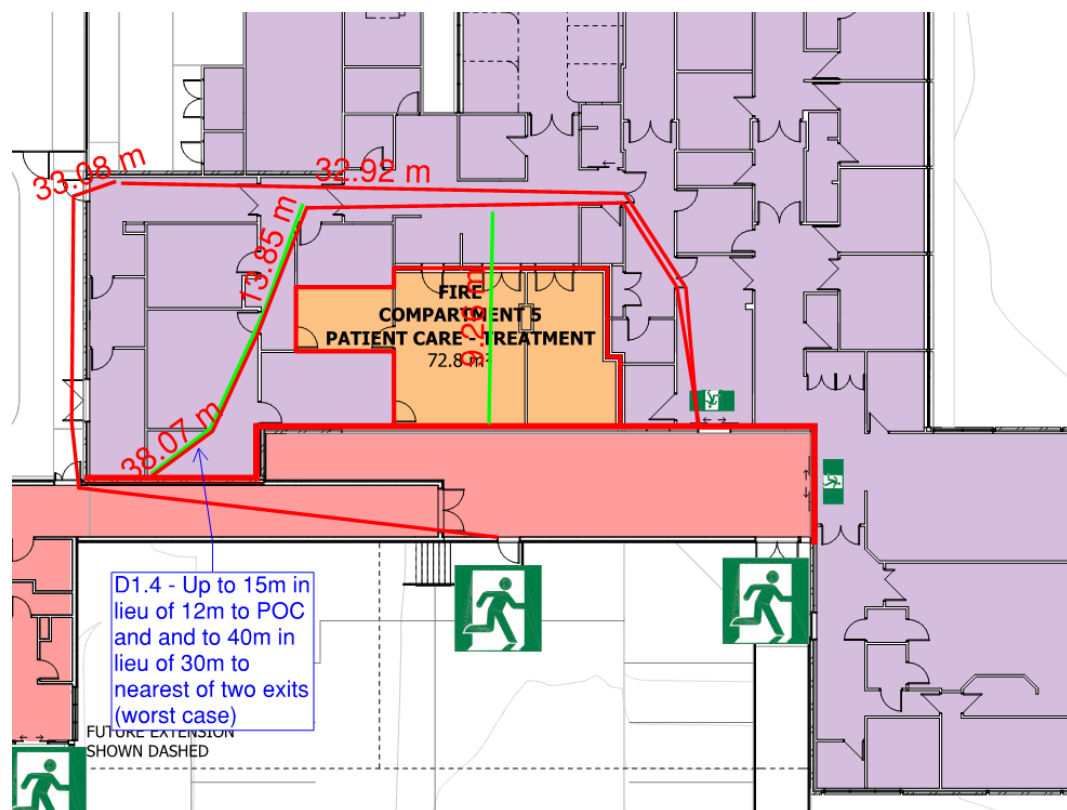


Figure 41

#### Performance Solution

Rationalise extended travel distances namely the following.

- Up to 17m to a point of choice to two exits in lieu of 12m from internal courtyard.
- Up to 40m to the nearest of two exits in lieu of 30m from internal birthing courtyard.
- Up to 40m (worst case) to the nearest of two exits in lieu from multiple areas within internal central courtyard.
- Fire compartment 6 and 5 have up to 15m to a point of choice to two exits and up to 40m to the nearest of two exits in lieu of 30m (worst case) for internal patient care areas.

Travel distances will be considered on a case by case basis as the design develops to determine feasibility of being able to be addressed by way of a Performance solution and or whether plan amendments will be required. Consultation with fire engineer required to ensure travel distance can be supported.

**D1.5** Distance Between Alternative Exits: Distances between alternative exits must not exceed 45m in patient care areas, and 60m in non-patient care areas.

#### General Note

The provision of horizontal exits within (FRL 120 Type B and FRL 90 mis Type C) combined fire and smoke walls will be required to bring travel distances down to acceptable levels this includes within the existing building as new works impacts existing egress strategy.

The location of the proposed compartment walls will be refined in this regard to ensure acceptable travel distances are achieved.

#### Matters requiring redesign Further information

The proposed works impacts existing egress arrangement of the hospital. Exit locations are to be finalised as the design develops. Horizontal exits and breakthrough into linkways are required are required to bring travel to acceptable distance.

The following areas require design development to achieve DTS or to consideration for inclusion in fire engineered strategy.

Fire compartment 5 and 6 have up to 66m between alternative exits in lieu of 45m through birthing courtyard. It is noted fire compartment 5 (surgery) has fire rated construction however not considered an Horizontal exit. Architect to confirm if horizontal exit can be moved north up the page to reduce travel without resulting





in structural element crossing fire wall.

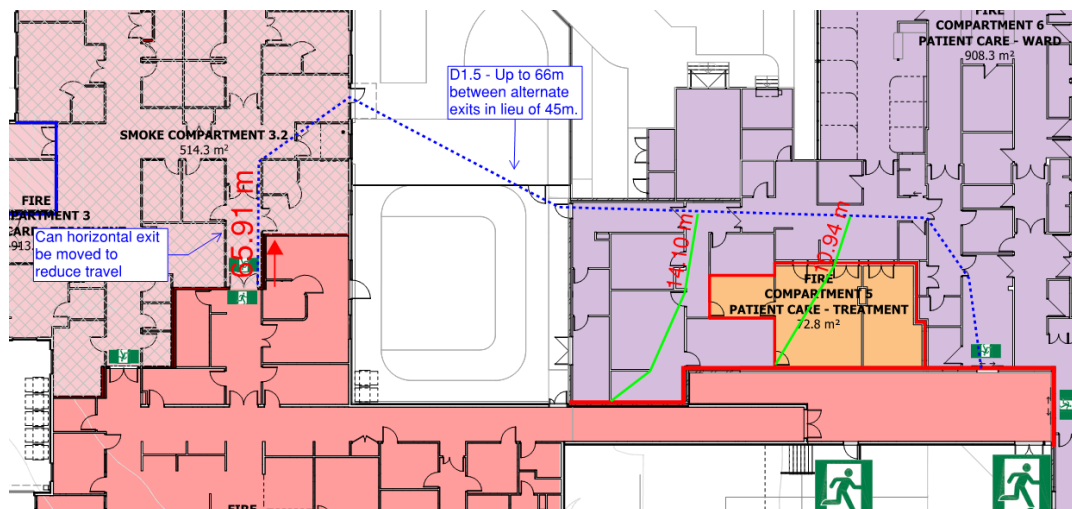


Figure 42

Birthing courtyard has up to 63m between alternative exits in lieu of 45m.

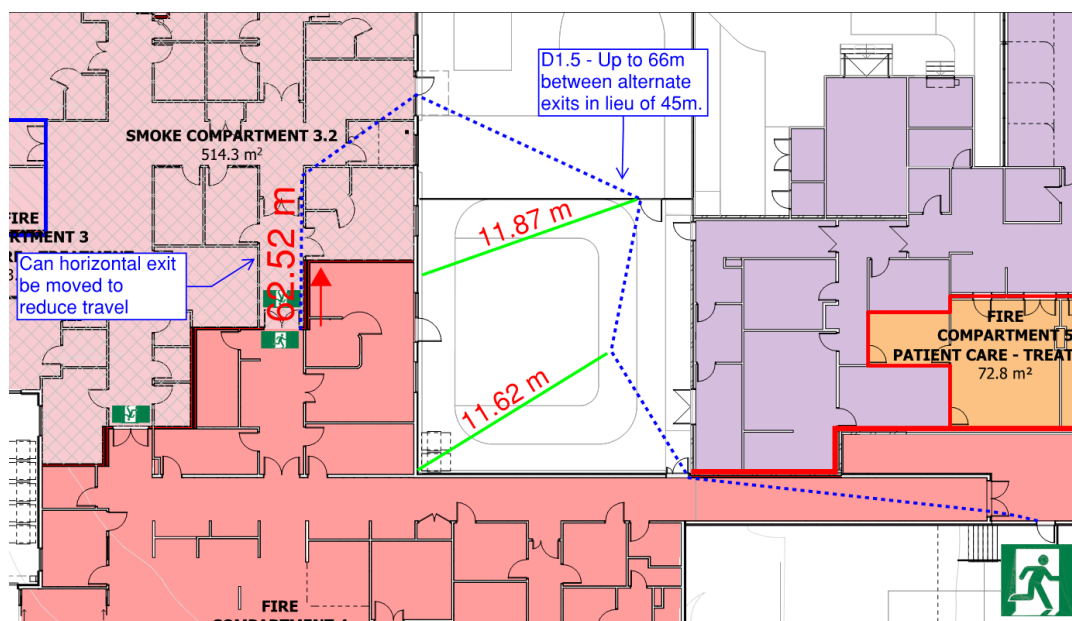


Figure 43

The central courtyard has multiple areas that do not comply as there is not direct path of open space to public road without re-entering the building. Architect to confirm or landscape features and pathway are firm and level.

Current plans have max 60m (worst case) between alternative exits in lieu of 45m.

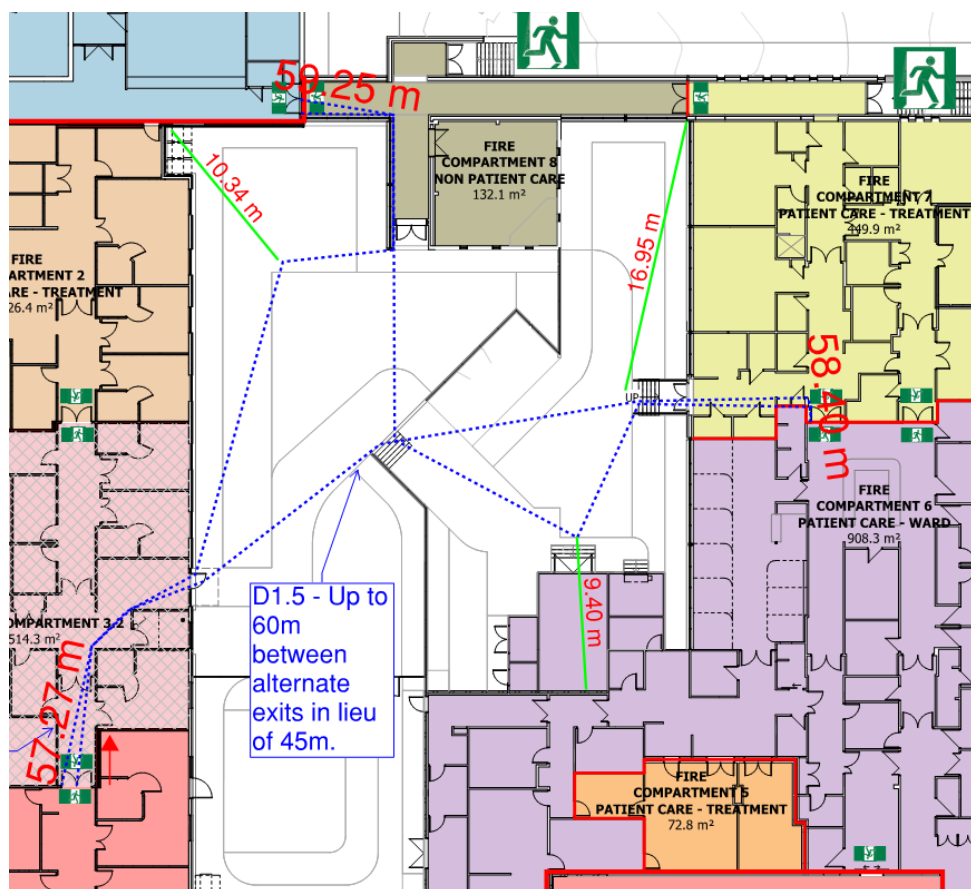


Figure 44

Landscaping plan is required to be finalised to confirm extent of trafficable area within internal courtyards. For the purpose of travel distance courtyards are assessed as patient care areas.

#### Performance Solution

To potentially justify travel distances in several instances. This will be developed with the design as part of the refinement of the compartmentation strategy.

Rationalise extended travel distances namely the following.

- Fire compartment 5 and 6 have 5 and up to 66m between alternative exits in lieu of 45m via internal courtyard.
- The birthing internal courtyard has up to 63m between alternative exits in lieu of 45m;
- The central courtyard has up to 60m between alternative exits (worst case) in lieu of 45m once additional breakthrough constructed.

#### D1.6

**Dimensions of Paths of Travel to an Exit:** The minimum clear height through all egress paths is required to be no less than 2m, and a minimum of 1m wide (this width dimension is measured clear of any obstructions such as handrails and joinery). In a required exit or path of travel to an exit there is concession for the unobstructed width of a doorway to be reduced to 850mm min in lieu of 1m, and the unobstructed height for an exit doorway can be reduced to 1,980mm min.

The unobstructed width of doorways in patient care areas where patients are normally transported in beds is dependent on the width of the corridor in which the doorway provides access to or from. If the corridor is less than 2.2m, the doorway must achieve >1200mm. If 2.2m wide or greater, the doorway must achieve >1070mm. The architect shall confirm compliance in door schedule. Doorways forming horizontal exits must achieve no less than 1250mm.

Corridors in a Class 9a health-care facility must achieve 1.8m in corridors normally used for the transportation of patients in beds.

Architect to note and ensure compliance in this regard .

#### Matters requiring redesign Further information

Corridors in a Class 9a health-care facility must achieve 1.8m in corridors normally used for the transportation



of patients in beds. Proposed bed transportation plan has areas to be widened to achieve min 1.8m for bed transportation. Updated plans required depicting compliance, ensure unobstructed door width no less than 1200mm from corridor less than 2.2m wide. Note clear width measured between any obstructions including any handrails.

Previous plans indicated intent to re-use existing operating theatre for new works. Confirmation is required for proposed bed transportation plan. Architect to ensure clear 1.8m except for doors. Areas of concern depicted below.

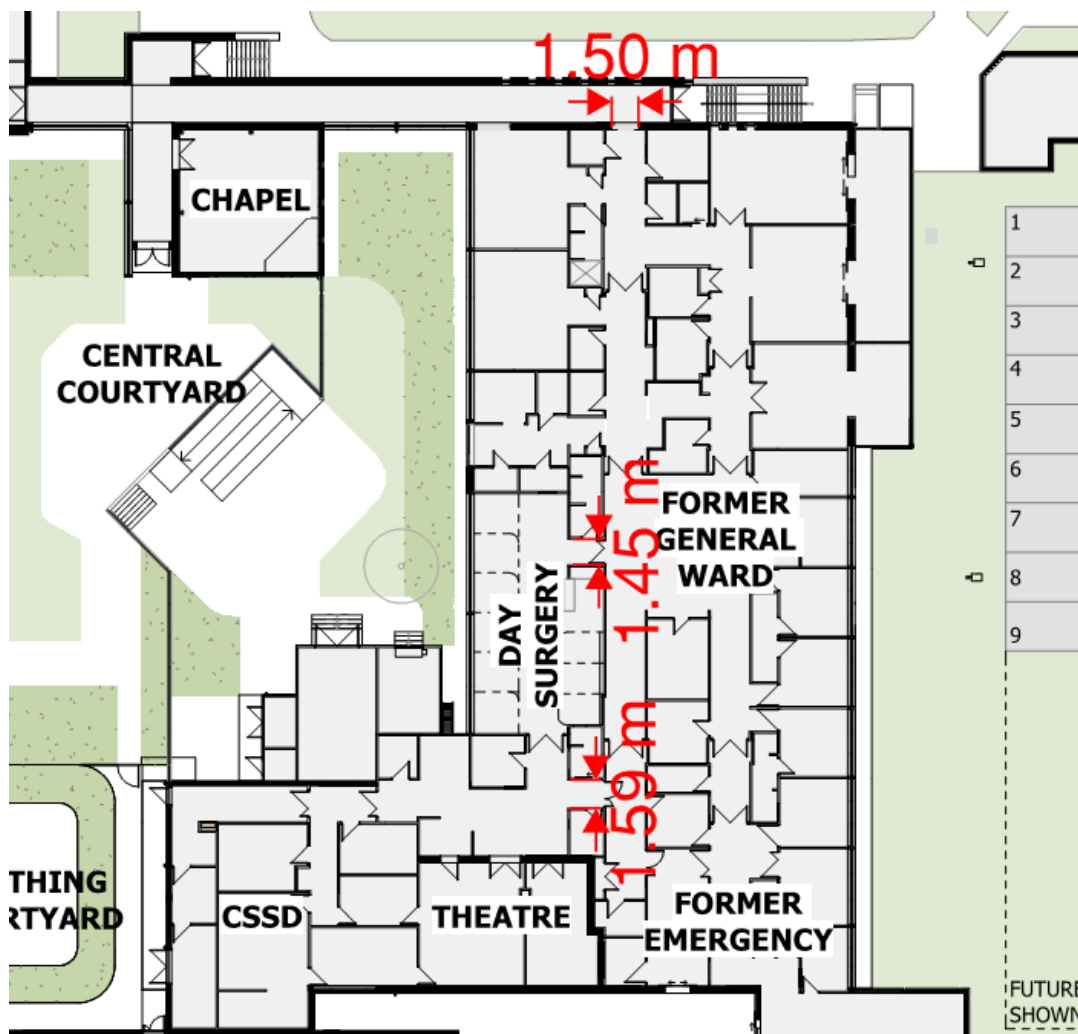


Figure 45

Single swing horizontal exits require a minimum clear width of 1250mm. For the purpose of this assessment the fire doors separating the existing fire compartment 5 are not considered horizontal exits. Similarly the single swing fire door from fire compartment 2 is not considered a horizontal exit.

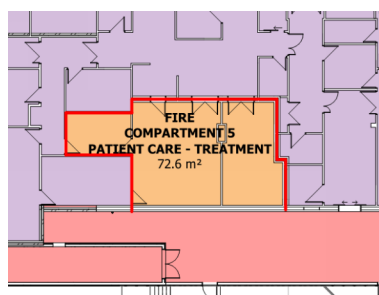


Figure 46

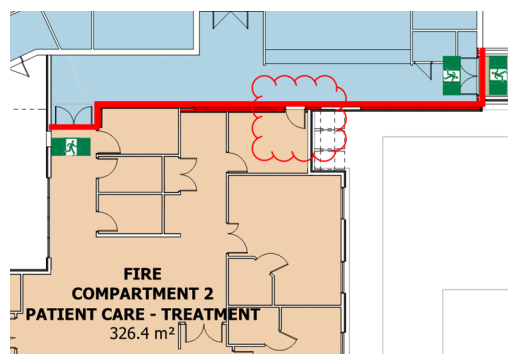


Figure 47



Architect to ensure unobstructed clear width in areas other than for bed transportation no less than 1m. Allow construction tolerance clear of two handrails for stairs.

The site inspection had egress paths in areas being less than 1m which will be relied on for new works. As such, this shall be rectified as part of the design. The centre handrail is to be removed with compliant handrail to be located on both sides of stair to achieve clear 1m. (Refer Appendix B for existing non compliances)

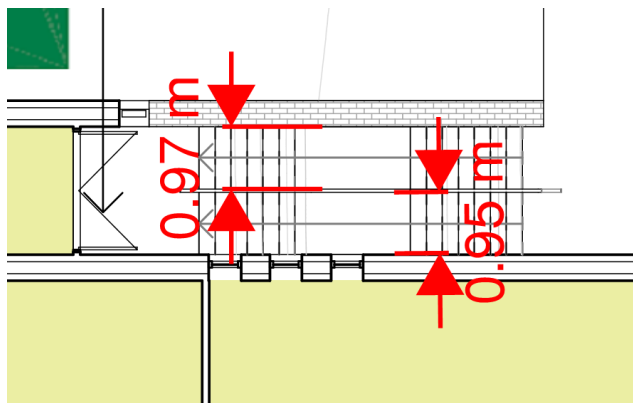


Figure 48

**D1.7** Travel via Fire-Isolated Exits: The building has a Rise In Storeys of Two (2). Required exits from shall be fire isolated or external in lieu. Current plans depict a single exit stair only understood to be external in lieu. This will be monitored as design progresses.

**D1.8** External Stairways or Ramps In lieu of Fire-Isolated Exits: The existing building has a rise in storey of two (2). The new extension has a rise of one (1). All required stairways or ramps are required to be fire isolated (D1.3) or an external stair in lieu in accordance with this Clause.

#### Matters Requiring Redesign / Further Information

New and existing exits required for new works shall be upgraded to comply with BCA D1.8 with any deviation to be addressed by way of FER.

The existing external stair from fire compartment 7 is relied on for new works. Architectural plans depict door to be upgraded to FRL 60 minute fire doors. The existing glazed windows are not permitted within 3m of the exit, the minimum FRL of 60 minutes is to be confirmed or captured by way of fire engineered strategy where compliance cannot be confirmed. Refer appendix B for existing on site non compliances. Confirmation is required if the external wall with openings <3m from exit is to be rectified to comply with D1.8 or FER is to address.

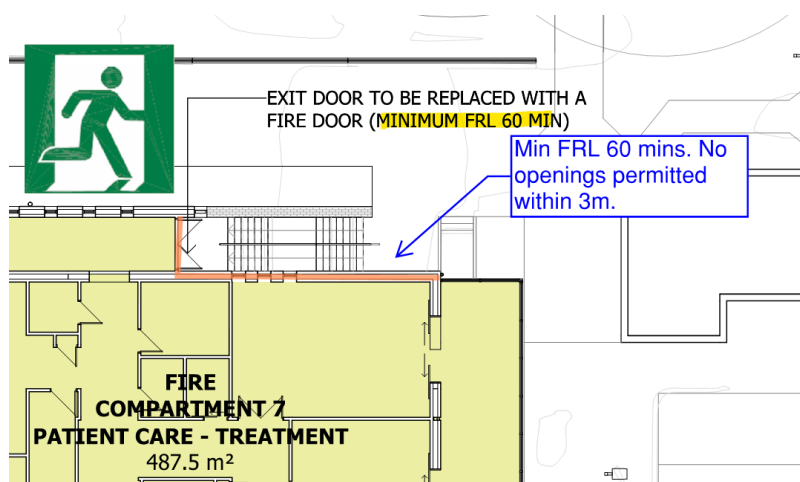


Figure 49

Similarly the exit stairs and ramp from patient care areas are considered an external ramp / stair in lieu of fire isolated and requires protection under BCA D1.8. Updated plans required depicting compliance, FER required to address any deficiencies.



The gradient is to be confirmed on compartment plans (see D1.10).

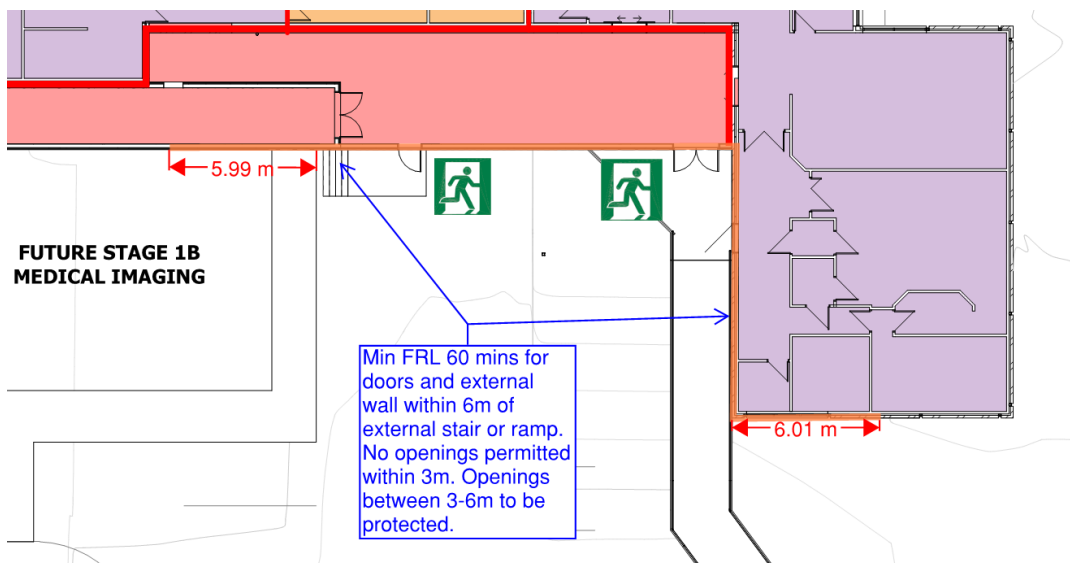


Figure 50

Where openings are located within 3m of an external stair or ramp in lieu of fire isolated this would need to be captured by way of fire engineered strategy.

Figure D1.8(1) Protection of the external exit using the external wall of the building in accordance with D1.8(c)(i)

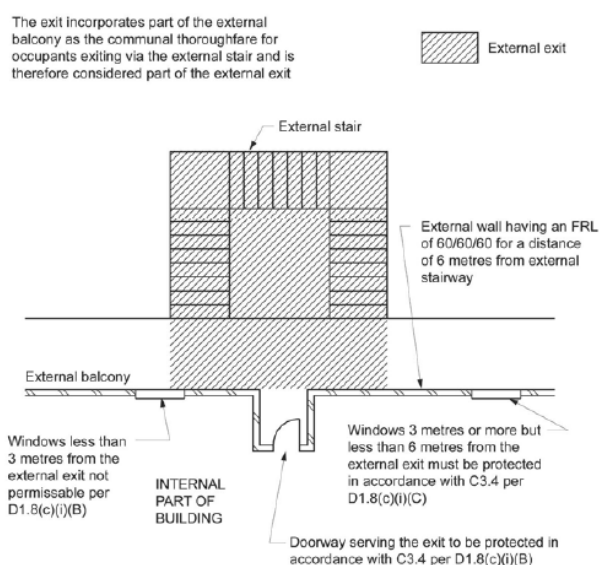


Figure 51

### Performance Solution

Where any openings other than fire doors are within 3m of external stairs / ramps OR where any shielding or protection of openings does not comply with BCA D1.8 this will require inclusion by way of fire engineered strategy.

**D1.10** Discharge from Exits: If an exit discharges to open space that is at a different level than the public road in which it is connected to, the path of travel to the road must be via a ramp having a gradient not steeper than 1:8, or not steeper than 1:14 if required to be accessible. The discharge point of exits must be located as far away from one another as reasonably practical.

Path of travel from required exits to the public road in a class 9a building is required to be via ramps in lieu of stairways.

We note that the egress paths to the road are subject to further development as the design progresses.



Minimum 1m egress paths back to public road to be maintained.

### Further Information

Architect to confirm if from any exit discharge point there is a step in order to reach public road. Class 9a requires only ramps. Any steps to be identified on plan for review, FER to address any area where compliance is not achieved.

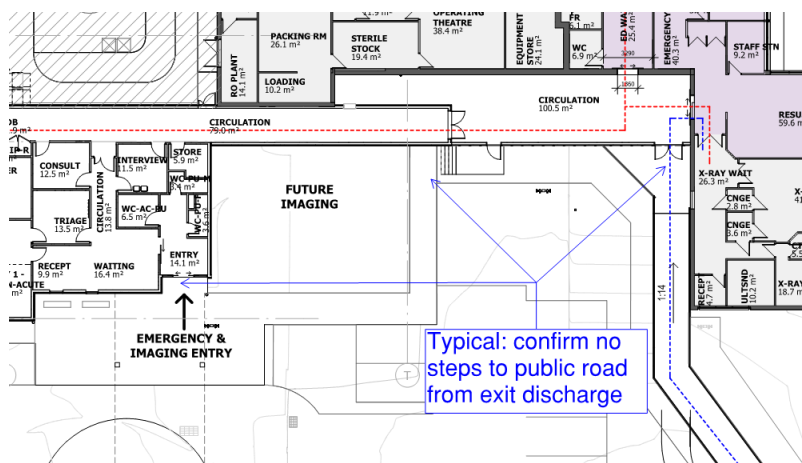


Figure 52

A number of secure screens are proposed. Architect to provide breakout gate to public road to facilitate compliant travel distances.

### Performance Solution

Where steps are proposed in lieu of an egress ramp from patient care areas this will need to be addressed by way of a Fire Engineered Performance Solution. Any stairs proposed between the discharge point of the various exits from the building and the public road connected are to be addressed by developed design or captured by way of fire engineered strategy.

#### D1.11

**Horizontal Exits:** Horizontal exits will be required to reduce egress distances to an acceptable level. The location of horizontal exits are depicted below with green running man and will be refined stages to achieve compliant travel distances.

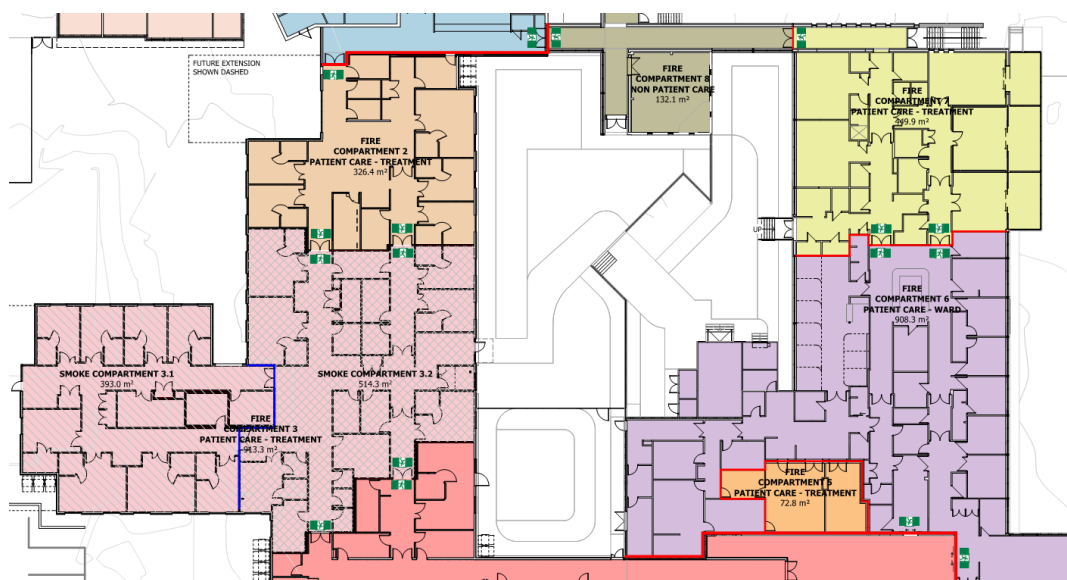


Figure 53

The fire engineered strategy is required to address travel via multiple horizontal exits before reaching an exit that is not a horizontal exit applicable to multiple fire compartments. It is noted compartments 2 and 4 currently comply however where future extension results in additional Horizontal exit this will create a non compliance. Future proofing to be considered in the regard.

Fire compartment 7 has new works (birthing suite) which rely on HE to be addressed in FER.



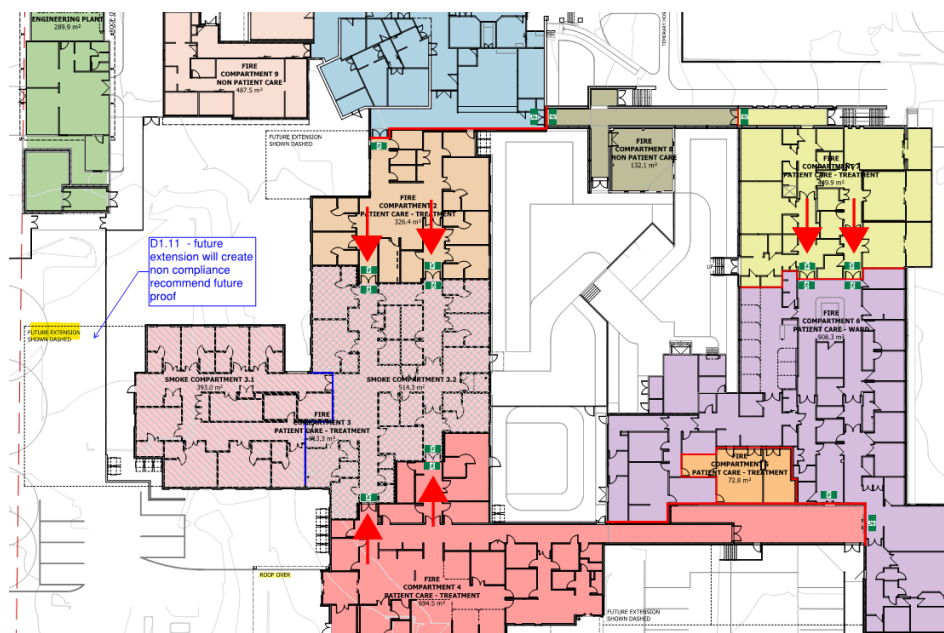


Figure 54

#### Further information

Horizontal exits require the clear space on the side persons are egressing to of 2.5m<sup>2</sup> per patient. Confirmation is required where any airlocks are proposed that the non fire rated doors can be readily opened e.g. no security lock. Typical area of concern listed below. Door schedule to confirm free action for airlock doors.

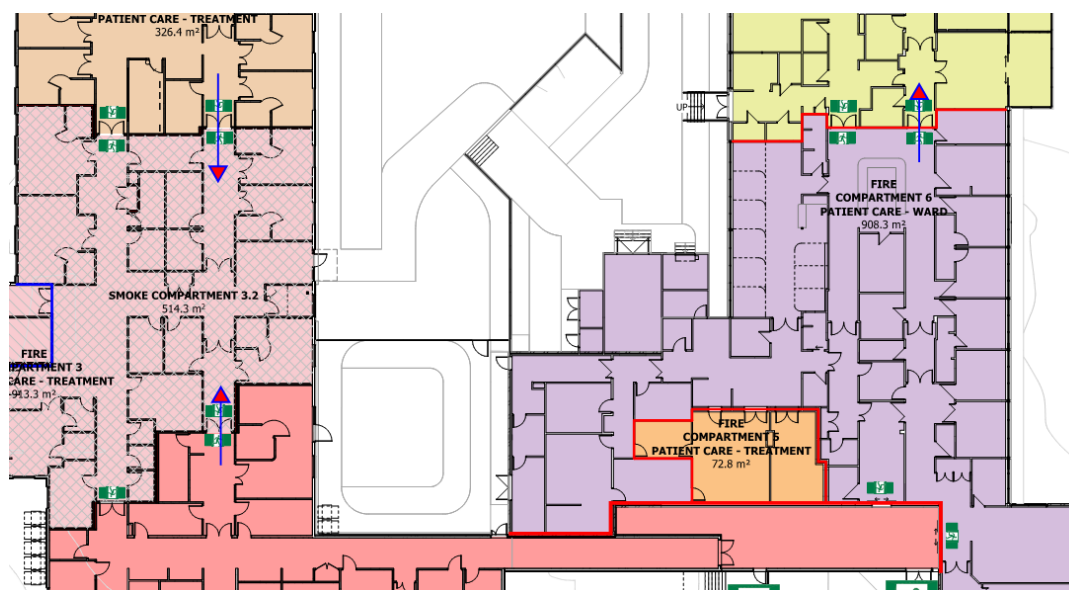


Figure 55

#### Performance Solution

A Fire Engineered Performance Solution will be proposed to justify travel via multiple horizontal exits before reaching an exit that is not a horizontal exit. Current design has this applicable to fire compartment 7.

The FER should note requirement for where any future extensions create new Horizontal exit then FER required to address BCA D1.11.



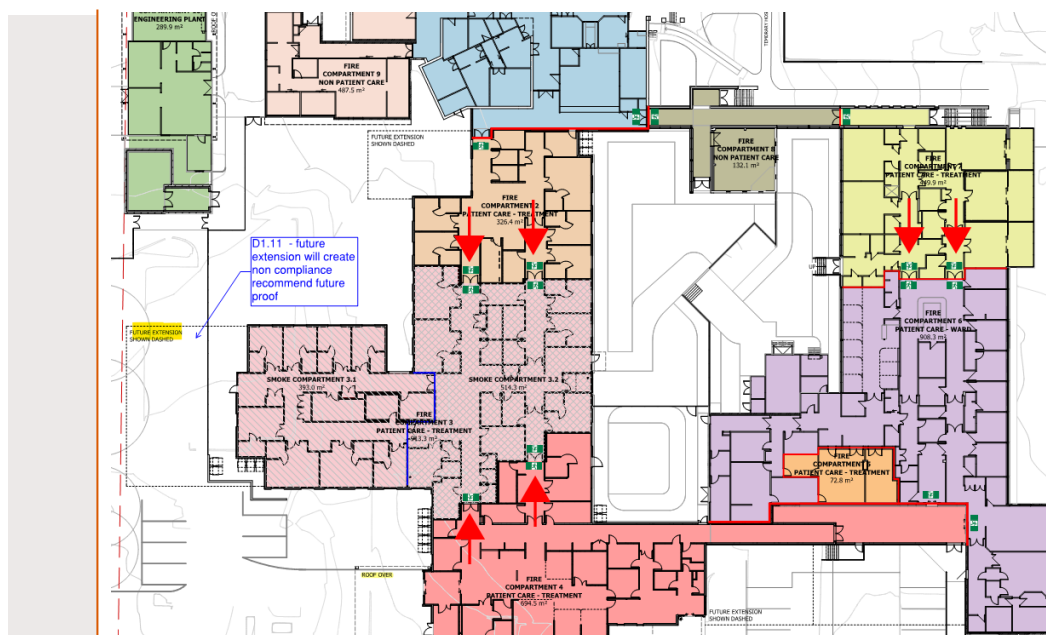


Figure 56

**D1.12 Non-Required Stairways, Ramps or Escalators:** A non-required non-fire-isolated stairway must not be used within a patient care area of a Class 9a building.

Not applicable –Single stairs and ramp depicted is considered a required exit (external in lieu of fire isolated D1.8).

**D1.16 Plant Rooms, Lift Machine Rooms and Electricity Network Substations – Concession:** A ladder may be used in lieu of a stairway to provide egress from a plant room of not more than 100m<sup>2</sup> or all but one point of egress from a plant room of not more than 200m<sup>2</sup>. A ladder used for this purpose must comply with AS 1657.

**D2.7 Installations in Exits and Paths of Travel:** Any new or altered electricity and communications cupboards located within a nominated egress paths within the proposed building will be required to be suitably smoke sealed and enclosed in non-combustible construction in accordance with D2.7(d).

EDB/Comms cupboards within the medium heavy refurb zones or in existing paths of travel relied on for new works will need to be upgraded to ensure compliant smoke separation in accordance with the requirements of this clause.

**D2.13 Stairways:**

/

**D2.14**

/

**D2.16**

/

**D2.17**

+ A stairway must have no more than 18, nor less than 2, risers in each flight.

+ Landings must be not less than 750mm in length.

+ Landings must accommodate a stretcher, 2m long and 600mm wide, throughout all flights of all stairs. This includes navigating landings that may turn 90-180°.

Details demonstrating compliance will need to be provided as part of the design development.

**Balustrades:**

+ All balustrades (Including plant) must achieve a minimum height of 1m above finished floor level.

+ Balustrades (except for fire-isolated stairs) must not permit a 125mm sphere to pass through any opening.

#### General Note

Consideration is to be given to increasing the height of the balustrade to 1.5-1.8m to mitigate issues with respect of climbable elements in and around the external balustrades. Provision of balustrades will be subject to further review as the design progresses.

**Handrails:**

+ Handrails must be located on both sides of all stairways and ramps except for fire-isolated stairs.

+ Handrails must be provided on at least one side of all corridors or passageways normally used by



patients. Handrails must be continuous in length where practical.

Compliance readily achievable details to be provided for review and comment as the design develops. Any proposed general circulation stairways including fire isolated stairways are to be designed to comply with the requirements of AS1428.1-2009.

Refer Appendix B for existing on site non compliances.

Stretcher clear for landings to be maintained for 1.6m x 2.7m clear of obstructions.

**D2.15** Threshold: The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless –

- + In patient care areas in a Class 9a healthcare building, the door sill is not more than 25mm above the finished floor level to which the doorway opens to;
- + The doorway opens to a road or open space, external balcony or landing; and
- + The door sill is not more than 190mm above the finished surface of the ground, balcony or the like.

In addition to the above all door thresholds are to comply with the requirements of D3 of the BCA and AS1428.1 – 2009.

Figure D2.15(1) Illustration of where a step is not allowed in a doorway

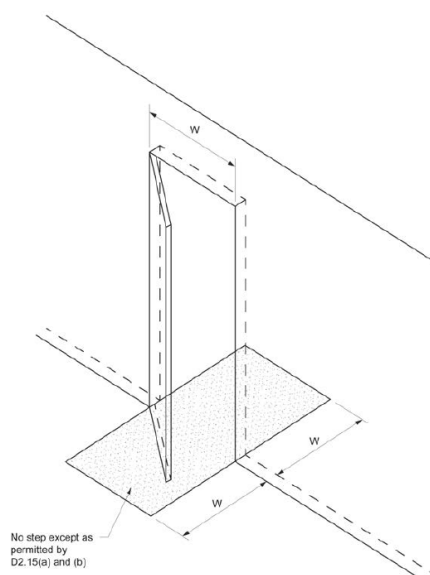


Figure 57

**D2.19** Doors and latching: All egress doorways must swing in the direction of egress and must be readily openable without a key from the side that faces a person seeking egress, by a single handed downward or pushing action on a single device which is located between 900mm and 1100mm from the floor.

#### General Note

Where doors are required to swing in both directions for the purpose of egress, dual swing doors will need to be specified.

Roller shutters are not permitted as required exits under D2.19. Any roller shutters proposed shall also have a swing door from room.

#### Further Information

All horizontal exit doors or exits shall swing in the direction of egress, both directions or be subject to fire engineered strategy. Existing non compliant door hardware on paths of travel to an exit relied on for new works shall be upgraded as part of the upgrade strategy. Refer Appendix B for existing on site non compliances.

Sliding doors only permitted where it leads directly to road or open space. Sliding doors are not permitted within internal fire wall separating different types of construction serving as a required exit (HE). Updated design required.

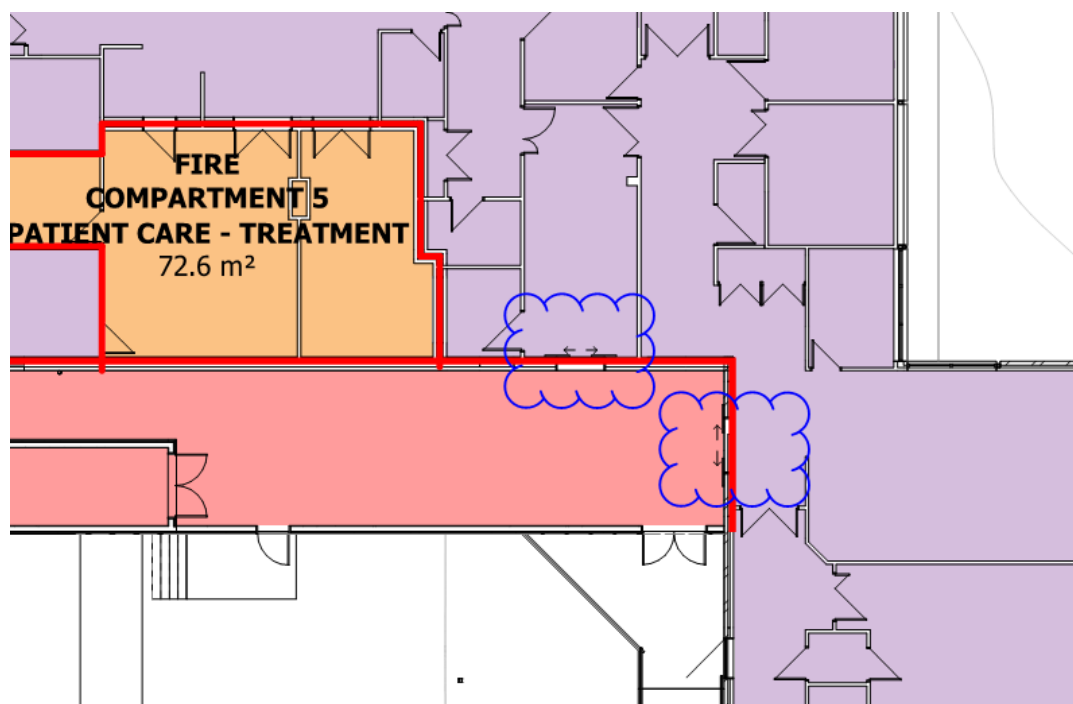


Figure 58

Architect to confirm if any other new internal sliding doors are proposed for consideration in FER.

#### Performance Solution

- + Sliding doors are generally not permitted within patient care areas of a Class 9a building. The provision of such would require justification under a fire engineered performance solution (not applicable to sliding door in firewall)
- + Dual swing doors swinging in both directions will need to have smoke leakage addressed in the Fire Engineering Strategy,
- + Where doors are proposed to swing in one direction the swing against the direction of swing will need to be addressed in the Fire Engineering Strategy.
- + Any anti ligature door hardware proposed is to be captured by way of FER, confirmation is required in this regard for safe assessment rooms and the like.

## PART D3 - ACCESSIBILITY

### Part D3

Access for People with a Disability: All access is required to comply with AS 1428.1-2009. Access must be provided to all areas normally used by the occupants. This applies to staff and patients alike.

The Disability (Access to Premises-Buildings) Standards 2010 (the Access to Premises Standards) requires the building to comply with the Access Code (BCA Part D3 & AS 1428.1-2009).

With respect to the proposed new building, compliance with the Access Code is achieved if the building complies with:

- + BCA clauses D3.1 to D3.12;
- + BCA clause E3.6;
- + BCA clauses F2.2 and F2.4.

Detailed documentation demonstrating compliance with the above BCA provisions and AS 1428.1-2009 will be required for assessment as part of the subsequent design stages however we note that compliance is readily achievable based on the current level of documentation.

The proposed works will also be subject to the affected part provisions of the Access to Premises Standards noted above which required the path of travel from the main entry of the building to the new works to be upgraded to comply with the requirements of AS 1428.1-2009. Compliance with respect of the affected part provisions is readily achievable however further details will need to be provided demonstrating compliance having regards to the existing parts of the building in this regard.

### General note

The below listed highlighted area indicated the affected part from light / medium refurbishment works to main entry required to be updated to comply with DDA requirements of this part. The new works are to comply with BCA D3 and F2.4 and AS1'428.1 – 2009.

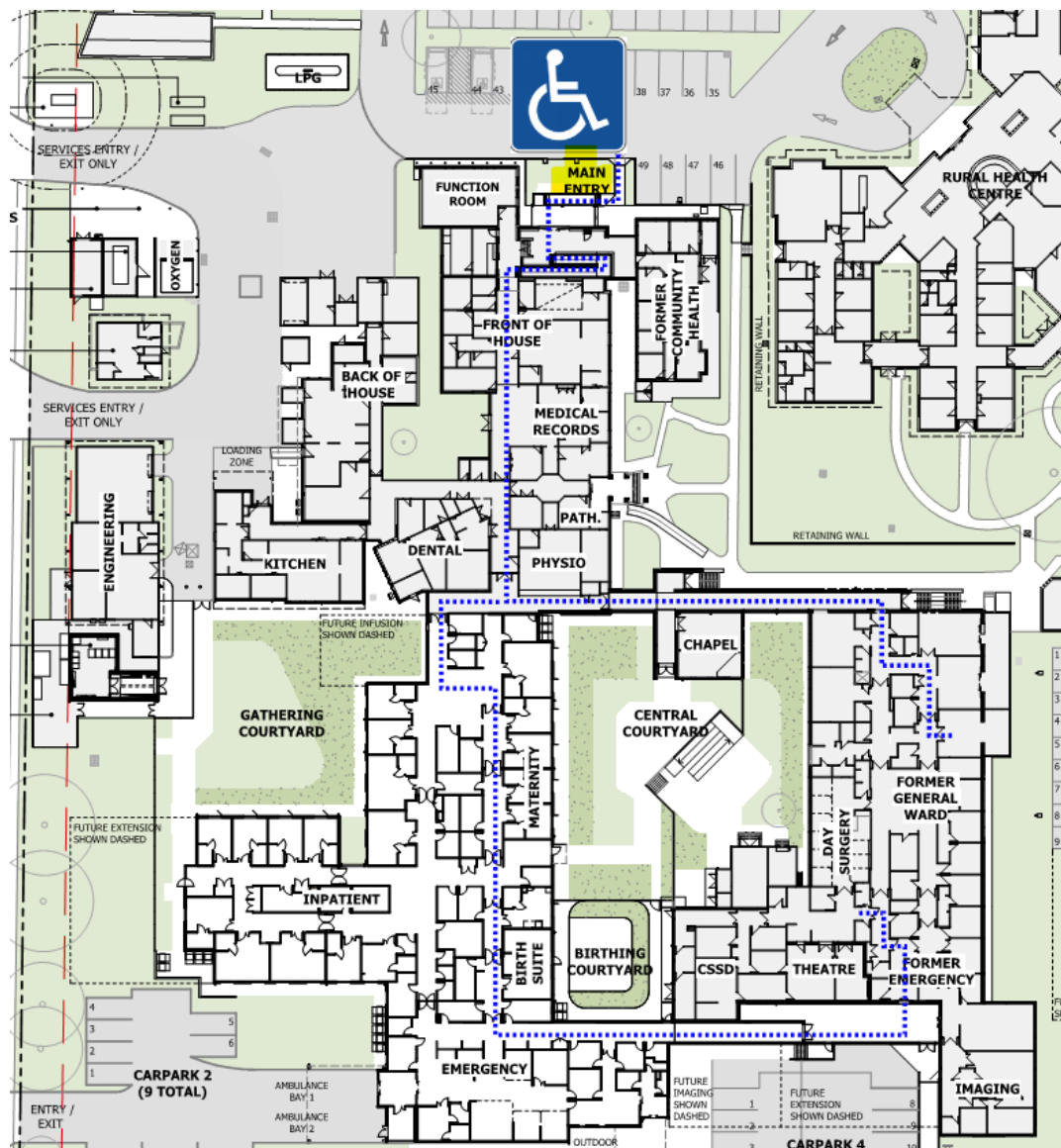
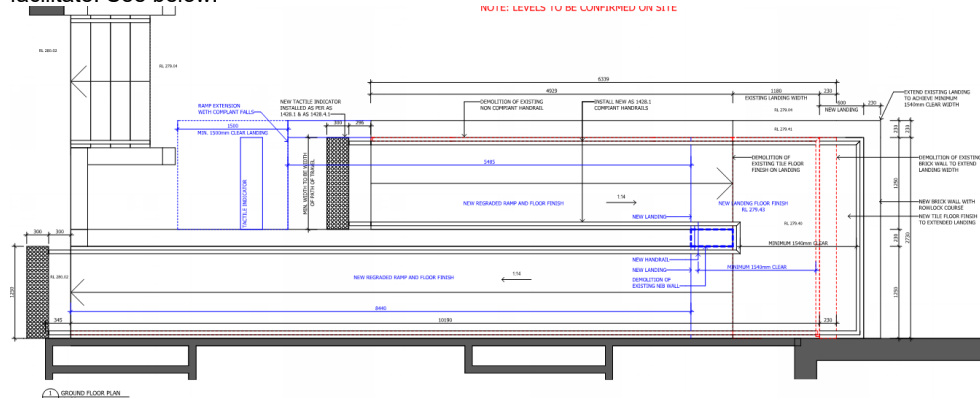


Figure 59

Due to reduction of scope the existing main entry is required to be upgraded in order to comply with DDA provisions. The existing ramp has been modified including access from accessible car spaces in order to facilitate. See below.

NOTE: LEVELS TO BE CONFIRMED ON SITE





## Further Information

Architect to ensure upgrades to affected part . The following items are noted for action:

Walkways and landings require min 1.5m x 1.5m landing for 90 degree turn. Additional space is required in this regard. See below

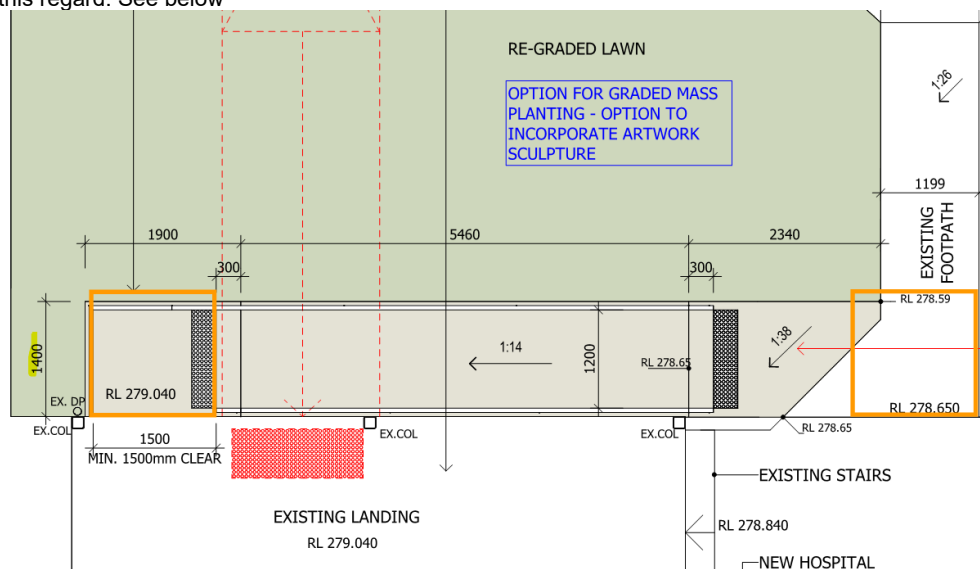


Figure 61

The following items to be addressed in updated design including:

- + Min 1540mm x 2070mm turn space for reception (currently complies),
- + New door from reception to corridor to be min 920mm for 850mm clear width including min 30% door contrast and lever action hardware;
- + Gradient to be depicted on corridor walkway/ ramp to confirm handrail requirements;
- + A DDA green push button to AS1428.1 is required for glass auto doors. The button shall be no closer than 500mm from an internal corner and be mounted at a height between 900 – 1.2m from FFL.
- + Glazing decals required in accordance with AS1428.1.

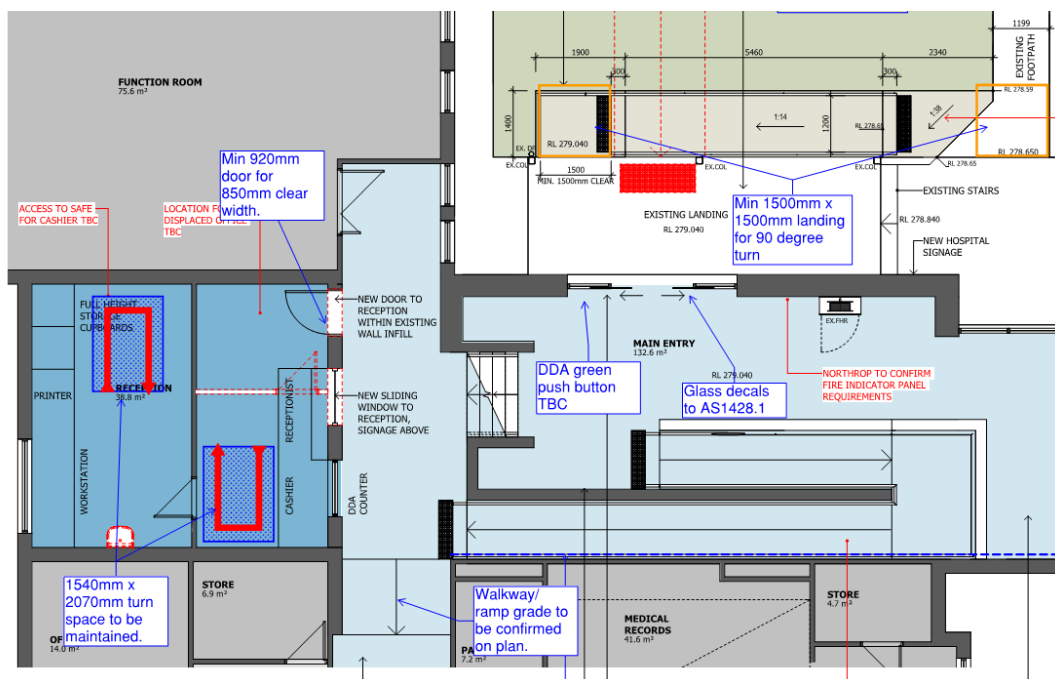


Figure 62



### D3.1

**General Building Access Requirements:** In a Class 9a health-care building, access must be provided to and within all areas normally used by the building occupants.

#### General Note

Compliance is readily achievable, architect to note and ensure compliance during the design development.

#### Further Information / Performance Solution

Access is required to and within all areas which extends into resident ensuite. Confirmation is required if required latch side clearance will be achieved or this will be addressed by way of performance solution. Typical scenario below (see circulation space below also).

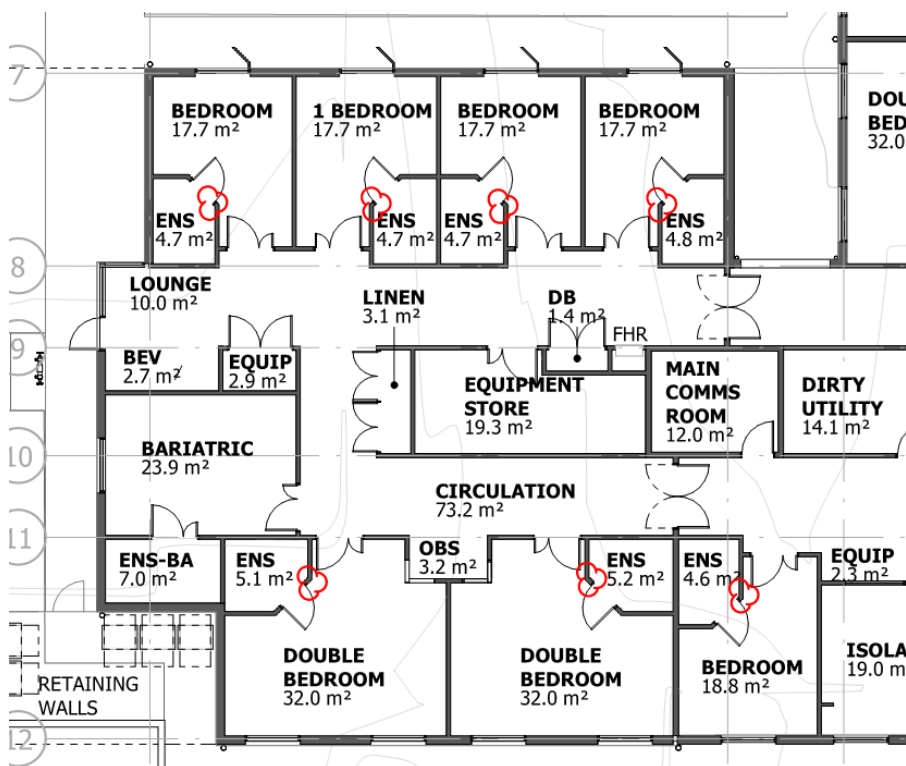


Figure 63

### D3.2

**Access to Buildings:** An accessway must be provided to a building required to be accessible from:

- + The main points of a pedestrian entry at the allotment boundary.
- + Another accessible building connected by a pedestrian link.
- + Any required accessible car parking space on the allotment.

An accessway must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances. In a building required to be accessible, an accessway must be provided throughout the principal pedestrian entrances and in a building more than 500m² a pedestrian entrance which is not accessible must not be located more than 50m from an accessible pedestrian entrance.

#### General Note

All pedestrian entry points to be confirmed, the below is indicative accessible entry points based on reduced scope. Any additional pedestrian entry point to be confirmed for review.



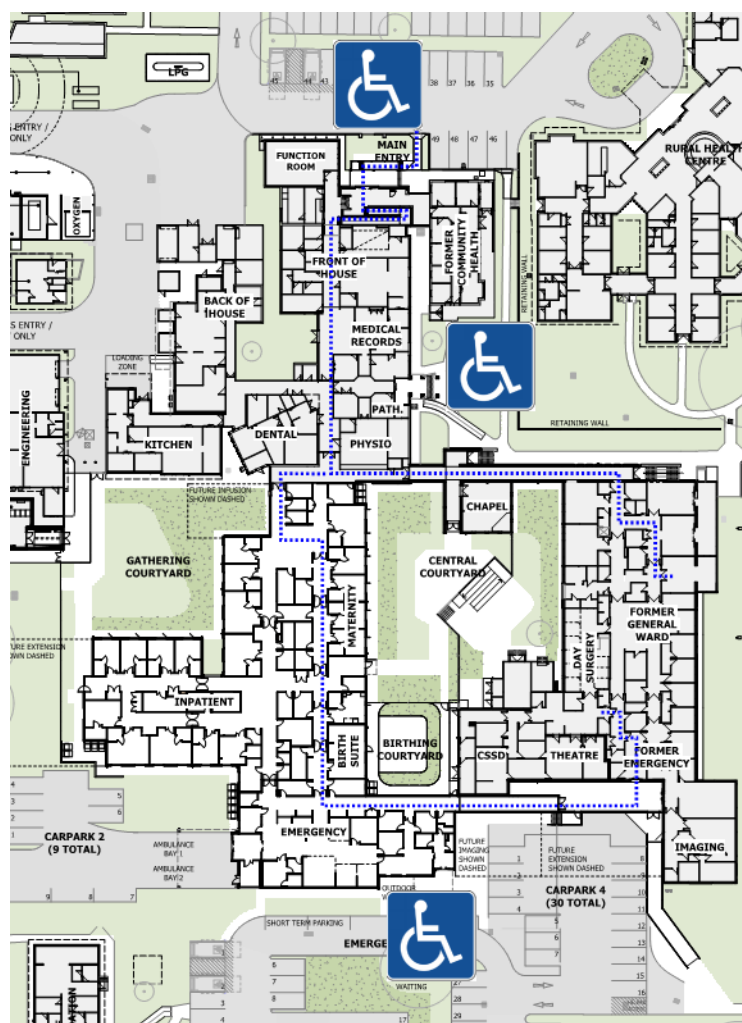


Figure 64

Details will need to be provided showing a compliant accessway from the allotment boundary to the scoped pedestrian entry of the building.

#### Further Information

The location of any proposed accessible carparking will need to be finalised to comply as the design prior to Crown Certificate. Current location at main entry and emergency entry. The following is noted for action:

Emergency entry path required any gradient to be confirmed on plan. Curved walkways and ramps are required to be minimum 1.5m as is landing for turns no greater than 90 degrees. The walkway is to permit minimum 1m clear unobstructed access from shared zone to accessway.



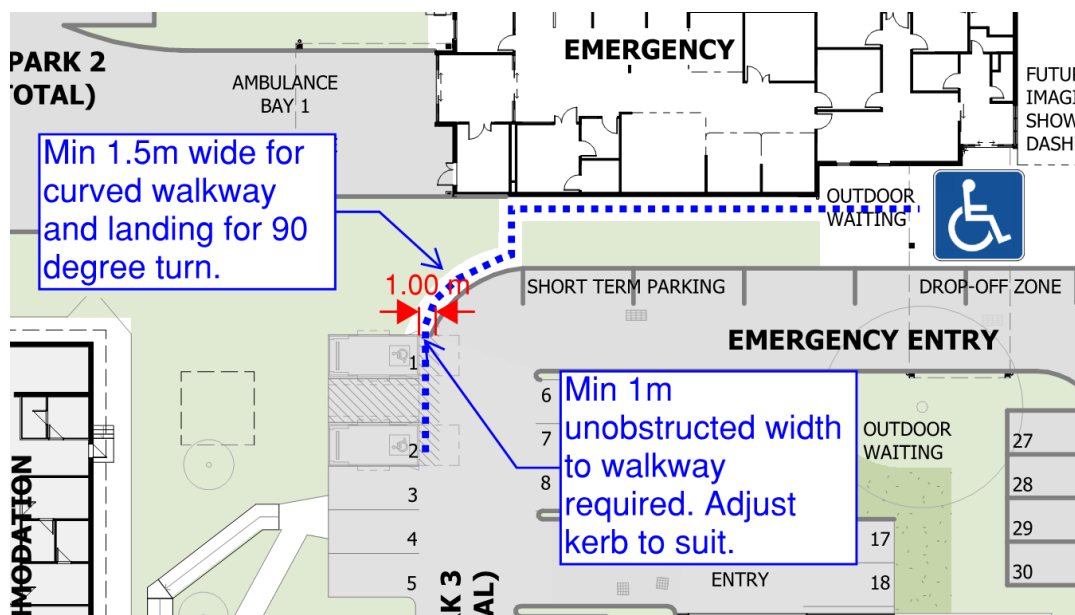


Figure 65

An accessway has been provided from accessible car space to main entry point. See D3.5 for further detail.

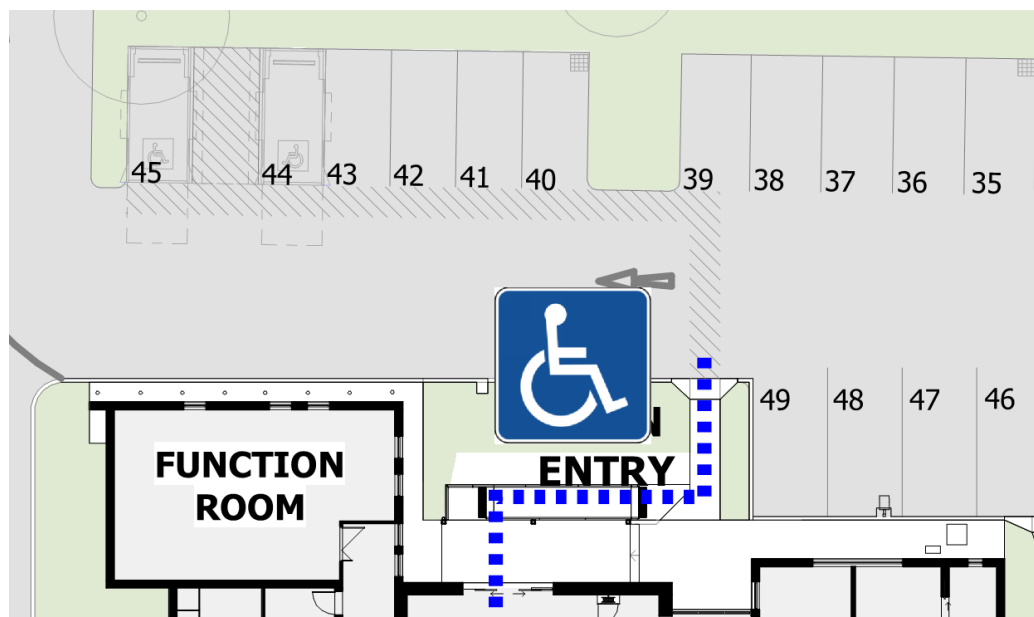


Figure 66

Although not currently depicted in the architectural documentation where a set down area is proposed it is to be level with the pavement, tactile indicators and bollards are required to be provided as required by AS 1428.4.1 – 2009.

*Where bollards are located along the path of travel it is recommended that the bollards achieve a minimum 30% contrast.*

The referenced plans show that access for people with disabilities will readily be available to and within the building (new works) from the main points of a pedestrian entry subject to design finalisation and submission of further details.

Access is to be documented as being provided from the allotment boundary at Marquis Street and Anzac Parade. Where compliance cannot be confirmed this is to be addressed by way of a Performance Solution and or further details provided for review and comment.

### D3.3

#### Parts of Buildings to be Accessible:

Every ramp and stairway (except for ramps or stairways exempt from compliance under D3.4) must comply



with:

- + For a ramp, Clause 10 of AS 1428.1 – 2009.
- + For a stairway, Clause 11 of AS 1428.1 – 2009.
- + For a fire-isolated stairway, Clause 11.1(f) and (g) of AS 1428.1 – 2009. Where proposed to be utilised as a general circulation stairway compliance with AS 1428.1-2009 in its entirety will be required.

**Further information required.**

Additional details are to be provided for landscaped forecourt ramp/ walk demonstrating compliance with AS1428.1. This includes handrails both sides, TGSi, grade depicted on ramp and turn space for 180 degrees to be marked on plan.

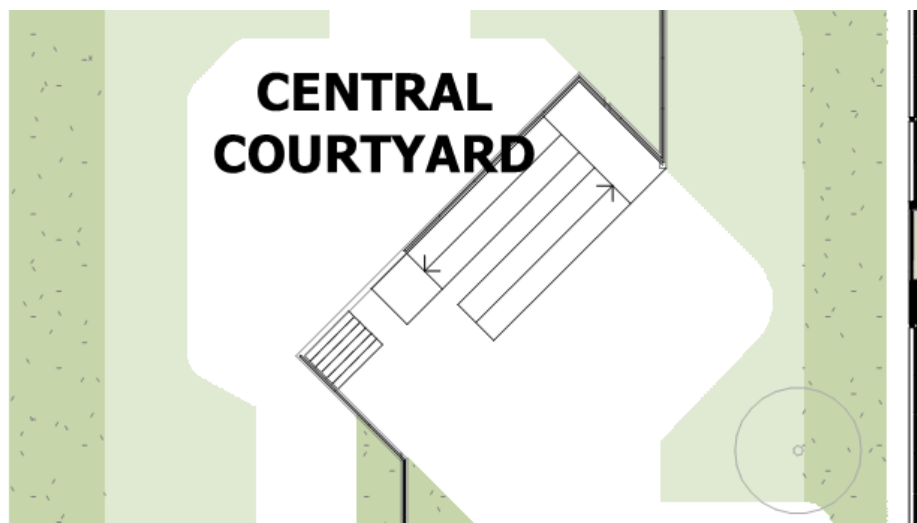


Figure 67

Confirmation required how new chapel entry will require with DDA requirements. The path is required to be accessible including smooth and level door threshold. Confirm on plans if ramp is required, dual leaf doors require at least one leaf to be min 850mm (920mm door).

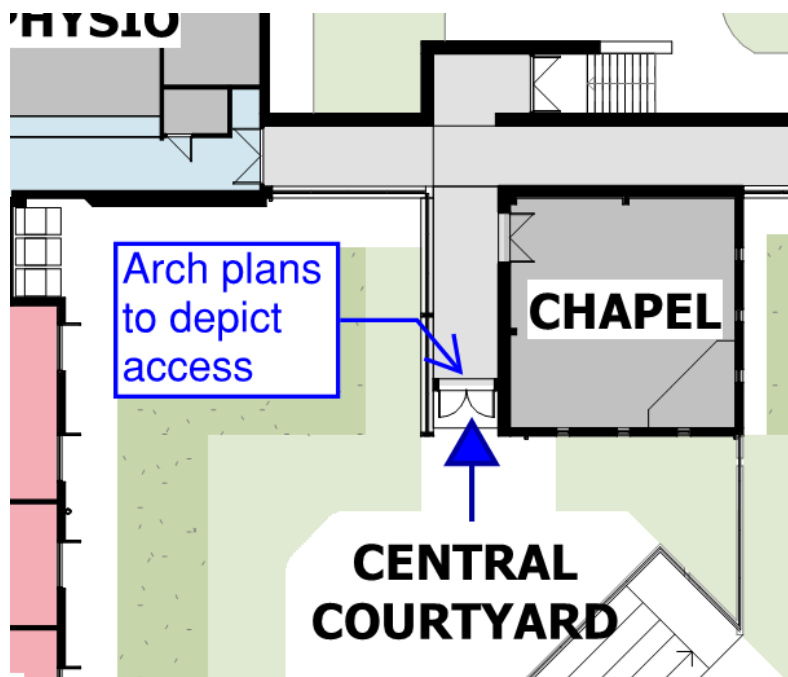
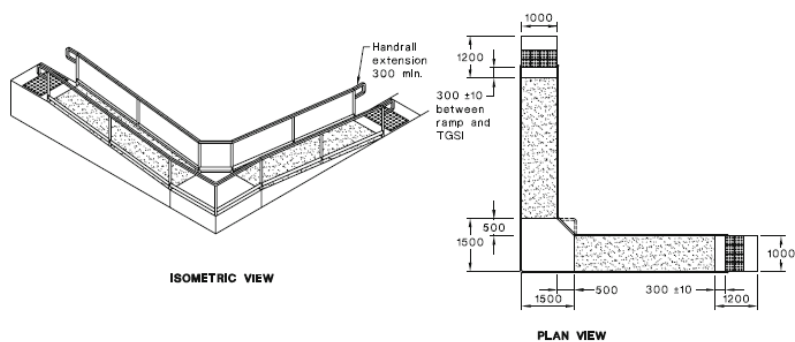


Figure 68

The minimum requirement for landings where turn does not exceed 90 degrees.



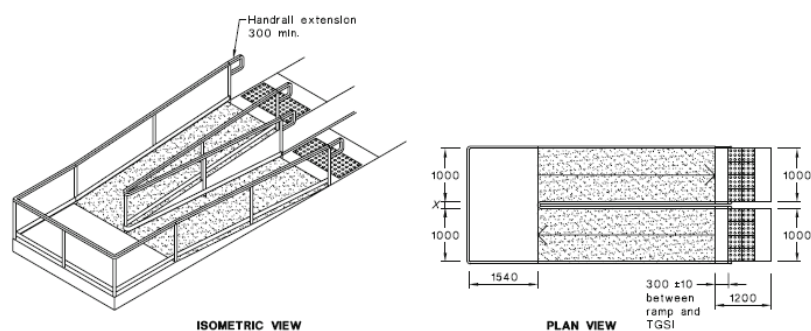
AS 1428.1—2009



4

Figure 69

See below minimum requirements for ramp /walkway making 180 degree turn. The internal courtyard requires min 1540mm clear space measured free of handrails and balustrades. Additional space required in the regard.



45

DIMENSIONS IN MILLIMETRES  
FIGURE 25(C) RAMPS AND LANDINGS—180° LANDING

AS 1428.1—2009

Figure 70

Stairs are required to document handrail both sides and TGS's in accordance with AS1428.1. Handrails required on both sides.

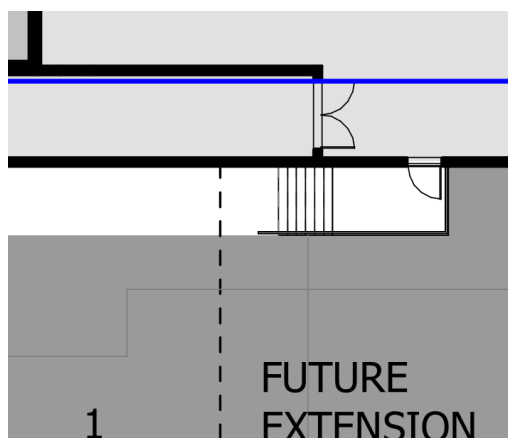


Figure 71

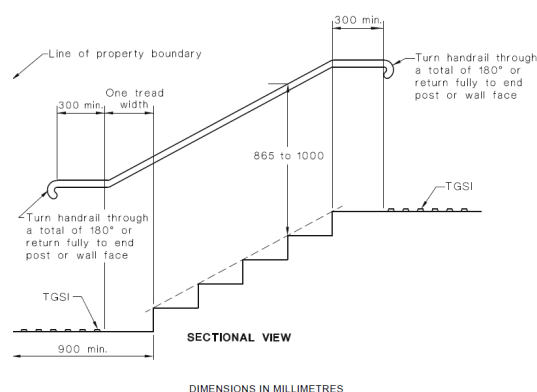


FIGURE 26(A) STAIRWAY LOCATION AND HANDRAIL EXTENSIONS AT BOUNDARY

Further details are to be provided for review and comment accordingly.

#### D3.4

**Exemptions:** Areas (including paths of travel to and from) where access for the disabled would be inappropriate or otherwise posing a risk to health and safety are exempt from complying as accessible. This will be further developed during subsequent design stages and will generally encompass plant areas, Dirty utilities, cleaner's rooms, roof-top access, etc. D3.4 exemption areas will need to be further finalised as part of the Developed stages.

#### D3.5

**Accessible Carparking:** Location of accessible carparking bays to be finalised currently the parking bays appear to be in a zone identified as being the location of future works in this regard, it is to be confirmed where the accessible carparking bays will be located for future proofing purposes.

#### General note

Current plans depict 150 car spaces with 4 accessible, this will comply with BCA table D3.5 for provision.

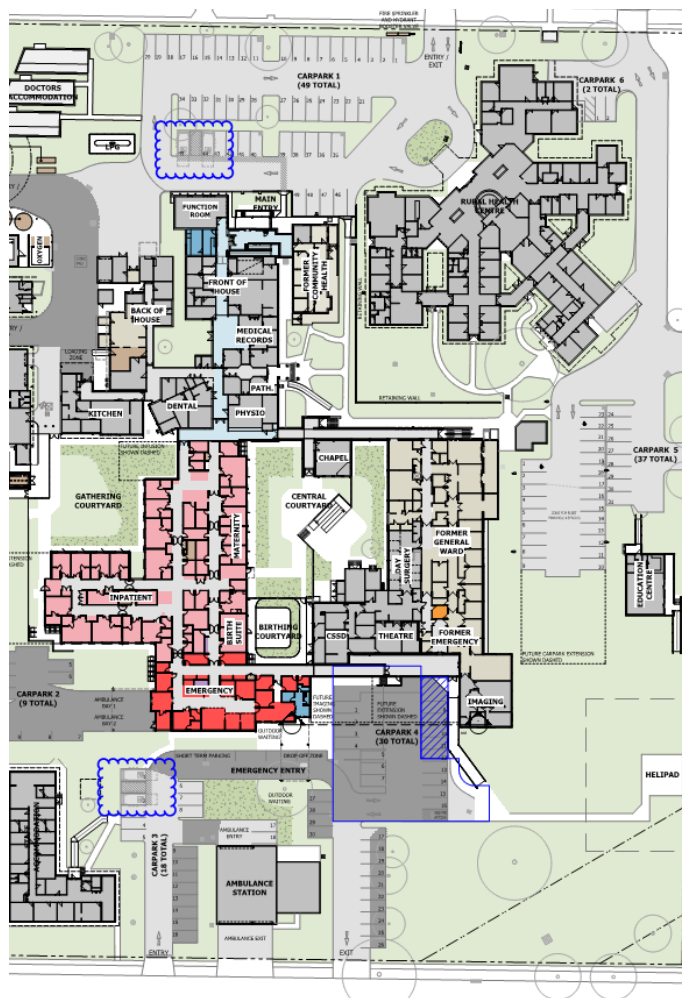


Figure 73

#### Further Information

Site investigation noted existing accessible carparks that did not comply due to over size or omission of shared zone. Compliance is required to be provide in accordance with AS2890.6 in this regard. Refer appendix B for existing on site non compliances. Confirmation is required the car space and shared zone in accordance with AS2890.6.

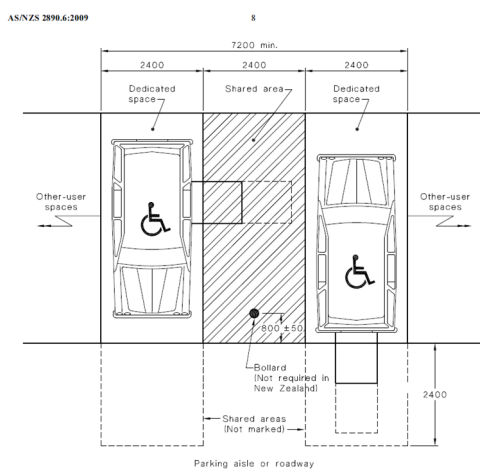


Figure 74

#### Performance Solution



Where any aspects including gradient do not comply this is required to be captured by way of performance solution.

**D3.6** Signage: Braille and tactile signage must be provided to identify each door required to be provided with an exit sign as well as identifying accessible sanitary facilities.

Signage packages will be subject to submission and review as part of subsequent design stages.

**D3.7** Hearing Augmentation: A hearing augmentation system must be provided where an inbuilt amplification system, other than one used only for emergency warning is installed in a meeting room, or a reception area where the public is screened from the service provider.

**D3.8** Tactile Indicators: Tactile ground surface indicators must be provided to warn people who are blind or have vision impairment that they are approaching:

- + A stairway, other than fire isolated;
- + A ramp other than fire isolated ramp, step ramp or kerb ramp;
- + In the absence of a suitable barrier, an overhead obstruction less than 2m above the floor (other than doorway);
- + Where an accessway meets a vehicular way adjacent to any pedestrian entrance to a building.

Typical location below to be developed into the design.

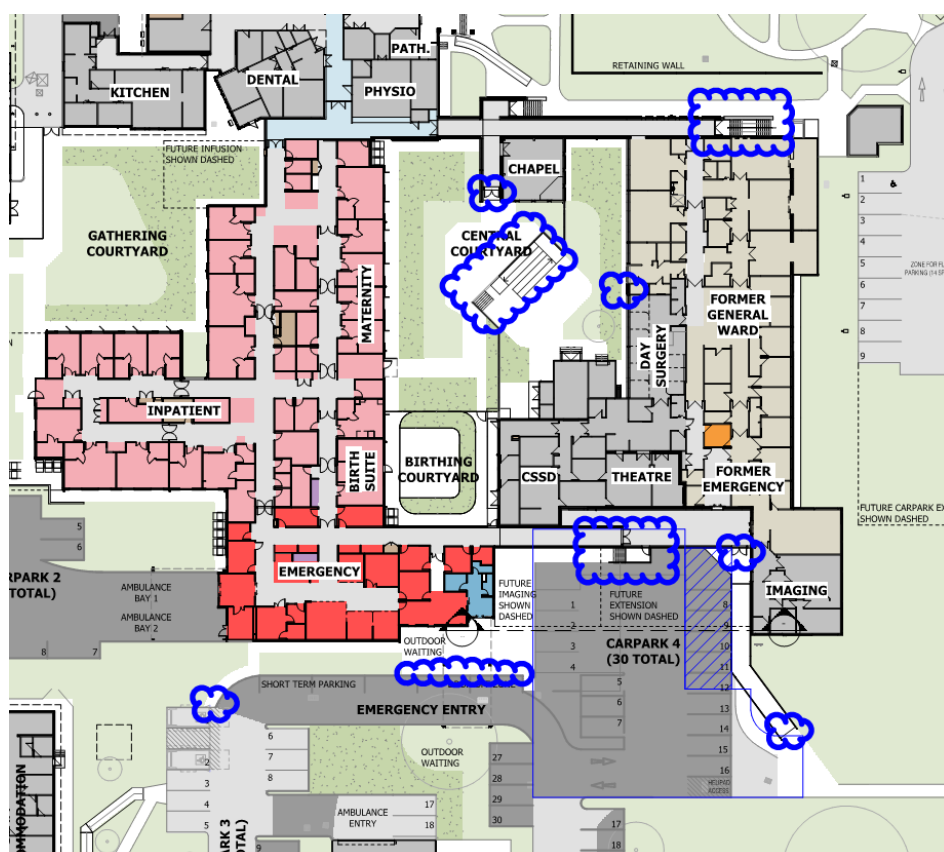


Figure 75

**D3.12** Glazing on an accessway: On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1 - 2009.

#### AS 1428.1-2009 Continuous Accessible Path of Travel

A continuous accessible path of travel must be provided throughout all areas required to be accessible. This requires consideration on wheelchair turning space, passing space, and the like.

Internal Accessways:



- + Each accessway within the building is required to have:
- + Passing spaces complying with AS 1428.1 – 2009 at maximum 20m intervals on those parts of the accessway where a direct line of sight is not available; and
- + Turning spaces complying with AS 1428.1 – 2009.
- + Within 2m of the end of accessways where it is not possible to continue travelling along the accessway; and
- + At maximum 20m intervals along the accessway.

#### Passing Space:

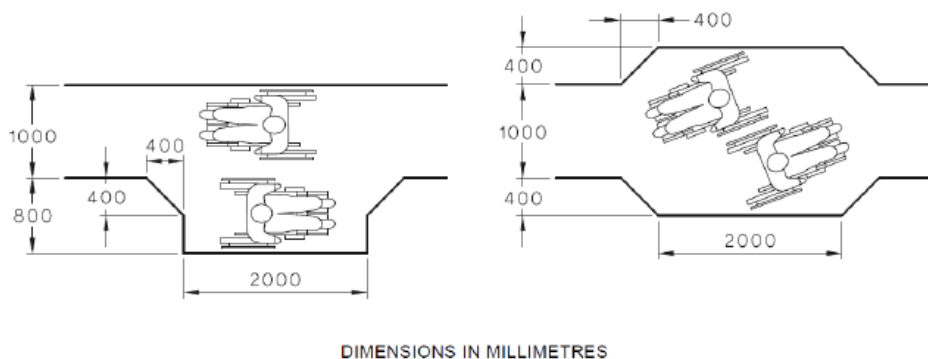


Figure 76

#### Turning Space:

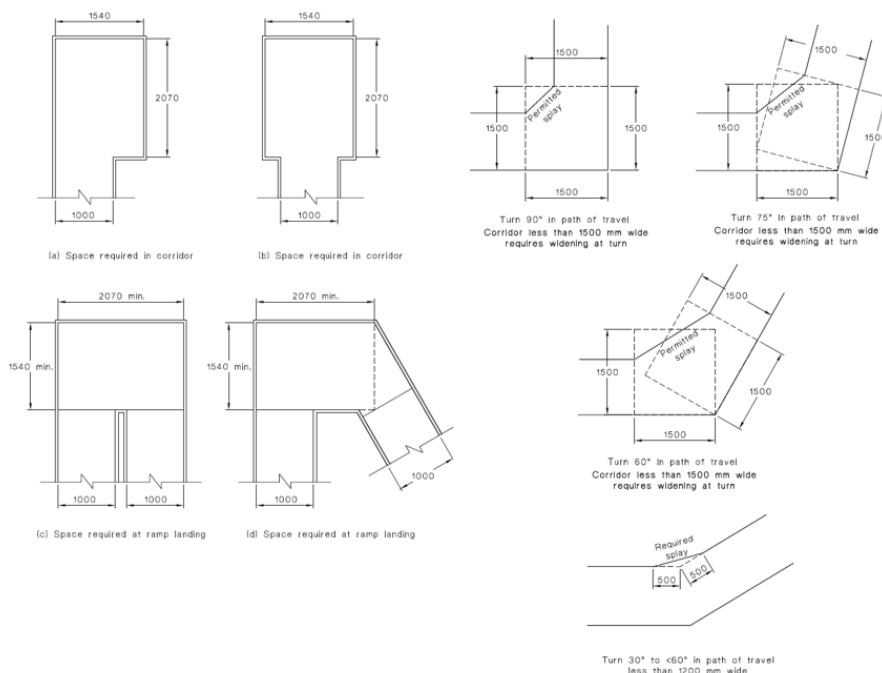


Figure 77

#### **General Note**

Indicative location of turn space below, architecture to ensure minimum clear widths are achieved in accordance with AS1428.1.



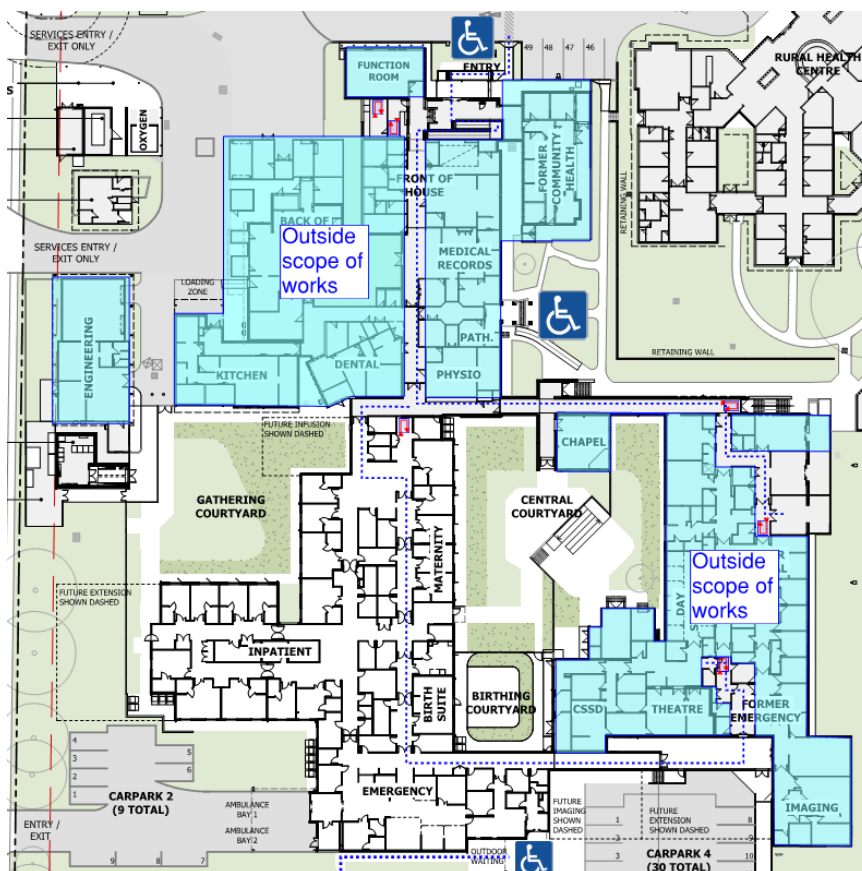


Figure 78

Any glazing on an accessible path of travel which is capable of being mistaken for a doorway or opening must be provided with a full-width solid and non-transparent contrasting line. The contrasting line must be not less than 75mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900mm and 1000mm above the plane of the finished floor level.

#### Doorways, Doors and Circulation Space at Doorways

All doorways within the accessible path of travel must achieve a minimum width of 850mm. This relates to the clear opening of the doorway i.e. between door leaf and door jamb. This will generally require a 920mm door leaf.

Numerous double leaf doors are proposed, architect to ensure a minimum 850mm clear (920mm door) is provided to at least one door. Final scaled plans and door schedule required to confirm compliance.

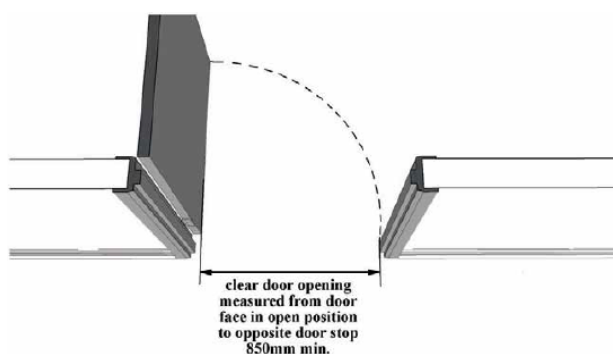


Figure 79

Circulation space must be provided on each side of every doorway, gate, or similar entry way, on a continuous path of travel. Circulation space must be considered based on the following diagrams

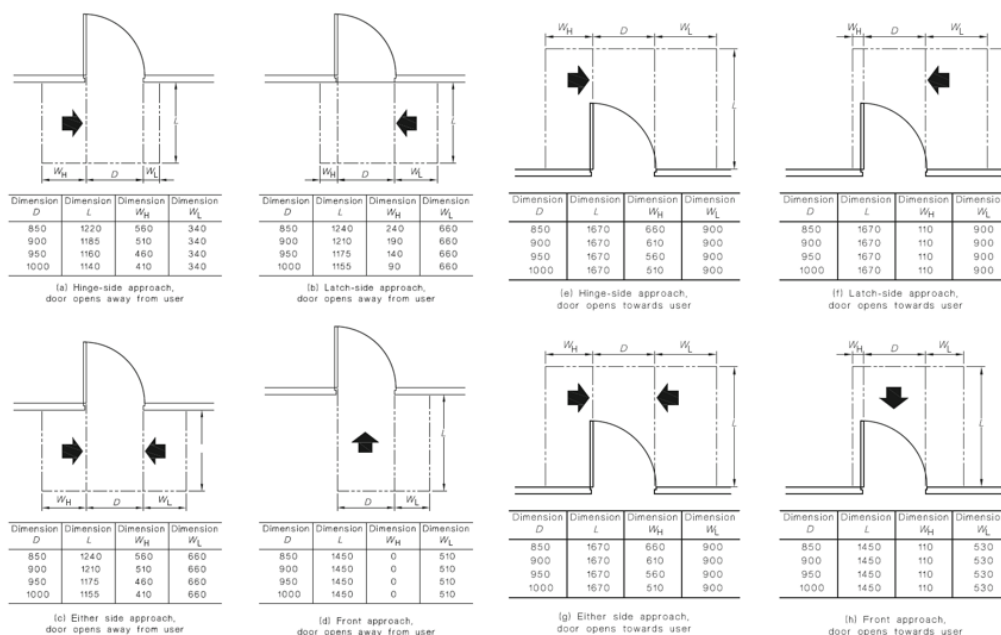


Figure 80

### Further Information / Performance Solution

Scaled plans are required to confirm compliant circulation space noting ensuites will be subject to performance solution. Where push button is proposed for auto door circulation space is not required (See D2.21).

Note all doors in accessible path require a minimum clear unobstructed width of 850mm (920mm door). Where dual leaf doors are used at least one leaf shall have a clear unobstructed width of 850mm (cat and kitten door). Typical below rectify throughout in all new area and existing doors on affected part. Scaled plans required to confirm compliance.

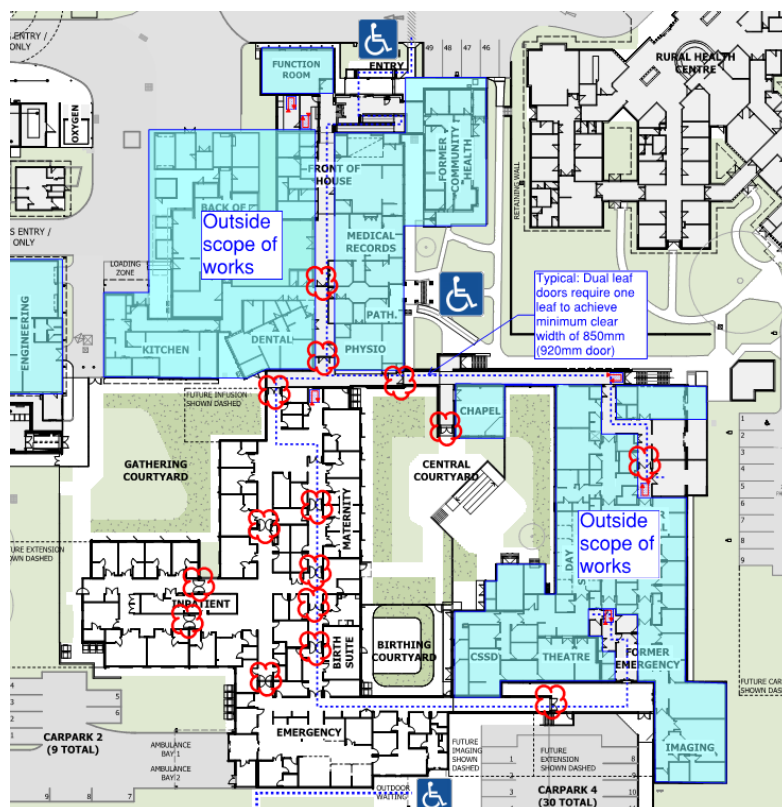




Figure 81 Note: For specific requirements relating to sliding doors or power operated doorways. Refer to Clause 13 of AS 1428.1 – 2009.

## SECTION E – SERVICES AND EQUIPMENT

**E1.3** Fire Hydrants: Fire hydrant coverage is required to be provided to the building in accordance with AS 2419.1 – 2021 (FER) or AS2419.1 – 2005 (DtS).

The proposed arrangement with respect of the sitewide infrastructure will need to be confirmed. We note that the existing buildings on the allotment are reliant on-site wide infrastructure however capacity to service the new works including refurbishment works will need to be confirmed.

Location of FH outlets to be positioned as per the below.

- Within Fire isolated exits or external stairs in lieu of fire isolating including stairways,
- Where coverage is not achieved from Fire isolated exits – positioned within 4m of an exit (door to open space, Horizontal exit),
- Within each Fire compartment not provided with coverage from the Fire isolated exit,
- Once all of the required exits have been exhausted – then in paths of travel to suit FRNSW requirements.

Note: All exits need to be exhausted prior to provision of additional on floor plate.

### General Note

Hydraulic consultant will also need to coordinate the location of outlets having regards to the location of fire compartments to ensure adequate coverage to compartments and location of compartment doors to ensure there is no obstruction to the cabinets.

Cabinets are to be positioned so that they are not obstructed by swing of FH/FHR cupboard doors and or other services cupboards including EDB cupboards and the like. Architect to coordinate and provided details demonstrating compliance in this regard.

FH coverage plans to be provided for review and comment.

AS2419-2021 permits fire hydrants being located <10m from building that is fully sprinkler protected. The new scope if for partially sprinkler protected therefore not applicable.

For the purpose of this assessment the below is considered to be the main entry. Location of booster shall considered any future staging and location of buildings obstructing site to main entry.

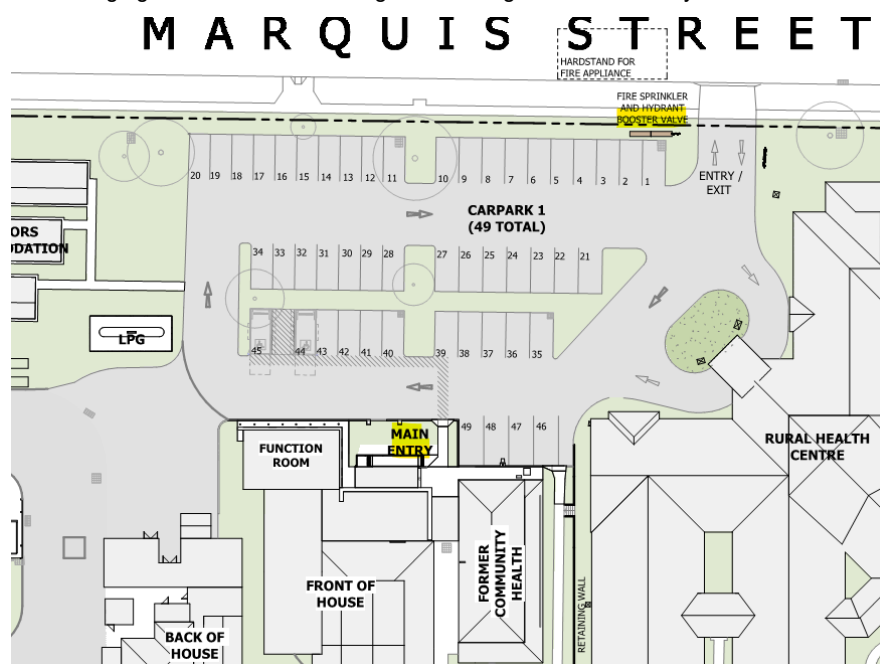


Figure 82

### Further Information

Current design assumes AS2419.1 - 2021 will be used by way of fire engineered strategy. Wet fire to confirm.



Where any internal fire hydrants are >4m from exit including horizontal exit this is required to be addressed with FER. All exit locations to be exhausted prior to any supplementary hydrant installed on egress paths. Architect to depict and fire hydrant cupboards within building on compartment plans for review.

AS2419-2021 permits fire hydrants being located <10m from building that is fully sprinkler protected. The amended scope is for partially sprinkler protected building only which does not have concession. FER required where <10m from sprinkler protected parts of the building.

Booster, external hydrants and pump set shall be protected from hazards in accordance with AS2419.1 and AS2941. Where fire shielding in manner that differs this shall be documented in FER for consideration by FRNSW.

In regards to proposed staging plans confirmation is required that fire hydrant coverage can be maintained throughout areas other than active construction zone.

Where existing hydrants relied on for new works do not comply they shall be upgraded to comply. Hydrant coverage plans for final layout are required in this regard

Confirmation is required if any hydrant pipes are required to pass through non sprinkler protected parts of the building. Where proposed the service must be protected in accordance with AS2419.1. – 2021.

#### Performance Solution

Use of FRL 120 minute fire shield to protect external pump set where within 6m of hazard (electrical MSB and generator). The solution proposes to protect sides exposed only in lieu of full enclosure (TBC).

Use of AS2419.1 – 2021 in lieu of AS2419.1 – 2005 being DtS pathway for BCA E1.3.

To permit external fire hydrant being <10m from sprinkler protected parts of the building where whole building is not sprinkler protected. Note external hydrants shall be no closer than 10m to non sprinkler protected parts of the building.

Where any internal fire hydrants are >4m from exit including horizontal exit this is required to be addressed with FER.

**E1.4** Fire Hose Reels: Fire hose reel coverage is required to be provided to the building in accordance with AS2441-2005.

#### General Note

Hydraulic consultant will also need to coordinate the location of outlets having regards to the location of fire compartments to ensure adequate coverage to compartments and location of compartment doors to ensure there is no obstruction to the cabinets.

Cabinets are to be positioned so that they are not obstructed by swing of FH/FHR cupboard doors and or other services cupboards including EDB cupboards and the like. Architect to coordinate and provided details demonstrating compliance in this regard.

FHR coverage plans to be provided for review and comment. FHR are to be located within 4m of an exit and horizontal exit prior to supplementary being installed. Relocation or additional hose reels may be required to achieve compliance. Refer appendix B for existing on site non compliances.

Fire hose reels are not permitted to pass through fire or smoke door except where permitted by BCA E1.4 (F). Typical example below of room FHR cupboard is permitted to pass through below.

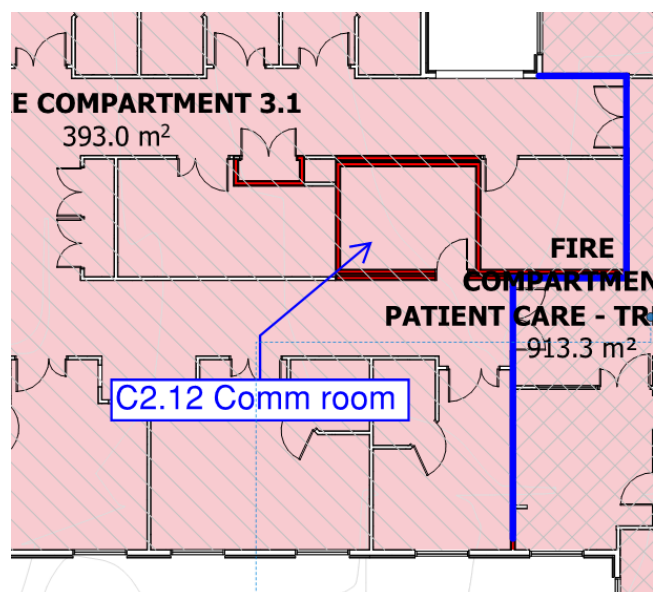


Figure 83



#### Further Information / Performance Solution

FHR are required to be no further than 4m from an exit. The FHR located in areas exceed this. Architect to document FHR in coordination with wet fire throughout scoped areas for review.

Typical below rectify in all areas where this occurs.

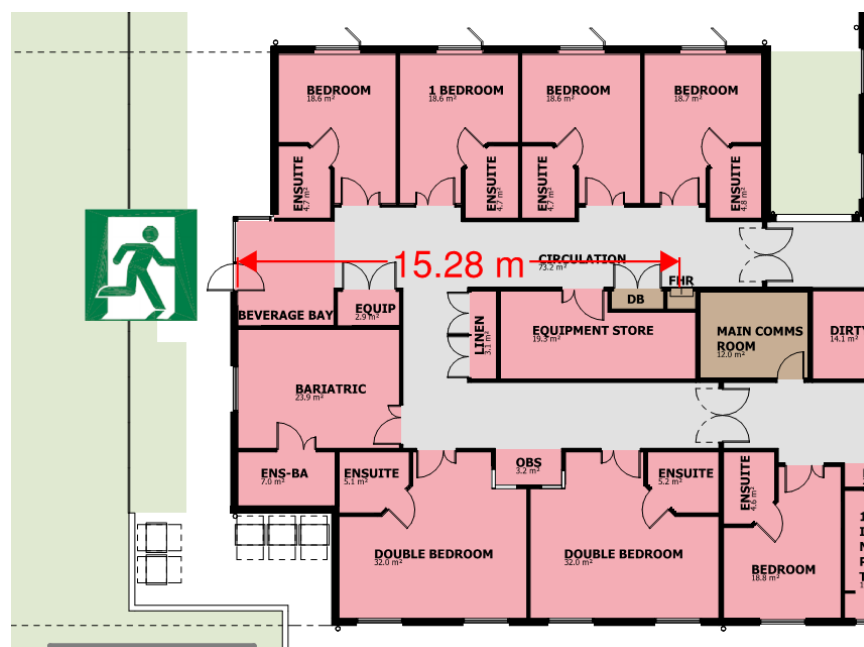


Figure 84

Design amendment and coordination for architect and wet fire is required to located FHR no further than 4m from exit or horizontal exits

#### Performance Solution

It is possible that some small rooms will have smoke doors to access them and will not be provided with fire hose reel coverage. In such instances, a fire engineered performance solution will be required.

Where any FHR are not located <4m from an exit or supplementary prior to exit locations beings exhausted this will be reviewed on a case by case basis for suitability for inclusion in FER.

**E1.6** Fire Extinguishers: To be provided and designed in accordance with AS 2444-2001.

**E1.5** Smoke Hazard Management/Sprinkler System: The following provisions are required:

**E2.2a**

- + An AS 2118.1 – 2017 Sprinkler System is to be installed throughout the new building extension and existing parts within Type C fire compartment. Green highlighted below.



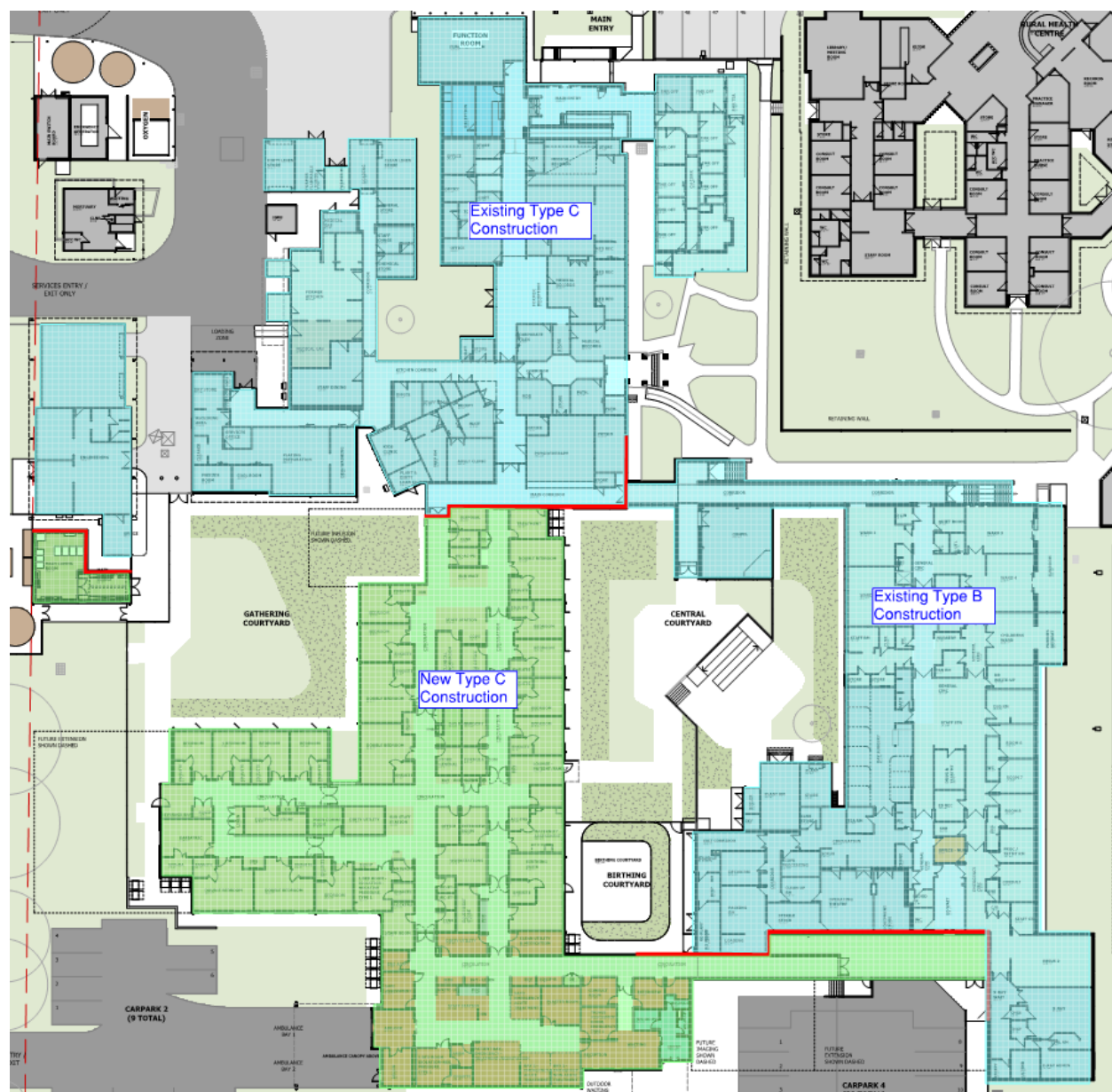


Figure 85

- + An AS 1670.1 – 2018 Fire Detection and Alarm System is to be installed throughout new extension, upgrading of any existing fire detection and alarm system within existing heavy/ medium refurbished areas including birthing suite.
- + Manual call points must be installed on evacuation routes so that no point on a floor is more than 30m from a manual call point.
- + Any ducted mechanical air handling systems, or non-ducted systems exceeding a capacity of 1000L/s, must shut down on activation of smoke detection.
- + System monitoring shall be provided in accordance with AS1670.3.

Any proposed future proofing works are to be incorporated into the current design. This is to include the provision of future fire services infrastructure into light refurb zones where applicable to future proof any refurb works.

We understand there is no need to future proof for additional storeys incorporated into the existing buildings on the allotment this is to be confirmed by the design team.

#### Further Information

Confirmation is required if any sprinkler pipework or infrastructure passes through or is located within non sprinkler protected parts of the building.

The existing Type B parts requires smoke hazard management to be maintained. The staging shall proceed in a manner that



	enables the FIP transfer to be max 24 hrs by way of notifying FRNSW.
	<b>Performance Solution</b>
	Omission of sprinkler coverage to comms rooms
	Hydraulic consultant to confirm any non-compliances with respect of any recessed sprinkler heads in terms of RTI.
	Where auto shut down of mech vent does not occur in pandemic / isolation rooms inclusion by way of FER is required.
<b>Part E3</b>	<u>Emergency Lifts</u> : Not applicable. Patient care areas are to be located at a level that have direct egress to open space.
<b>E4.2-E4.8</b>	<u>Emergency lighting and Exits Signs</u> : Emergency lighting and exit signage to be installed in accordance with AS 2293.1-2018.
<b>E4.9</b>	<u>EWIS</u> : An AS 1670.4- 2018 An Emergency Warning and Intercom system (EWIS) is required to be provided.
	<b>Performance Solution</b>
	Omission/reduction of SSISEP speakers to treatment rooms.

## SECTION F – HEALTH AND AMENITY

**FP1.4** Weather proofing:

**Performance Solution**

A performance solution is to be provided demonstrating how damp and weatherproofing of roof external walls achieve compliance with BCA FP1.4.

All weather drainage strips at doors and external waterproofing required under BCA F1.4 is to be included within the performance solution.

**F2.3**

Sanitary facilities: Sanitary facilities are only required to be provided in accordance with the requirements for a Class 9a healthcare facility. Sanitary facilities are only required to be counted for patients and staff (i.e. not visitors).

**Sanitary Facilities for the proposed works – Class 9 Employees**

	Closet Pans		Urinals		Washbasins	
	Required	Proposed	Required	Proposed	Required	Proposed
Male	1 – 20	1	1 – 10	0	1 – 30	1
	>20	Add 1 per 20	11 – 25	1	>30	Add 1 per 30
			26 – 50	2		
Female	1 – 15	1	-	-	1 – 30	1
	> 15	Add 1 per 15	-	-	>30	Add 1 per 30

**Sanitary Facilities for the proposed works – Class 9 Patients**

	Closet Pans		Urinals		Washbasins	
	Required	Proposed	Required	Proposed	Required	Proposed
Male	1 – 16	2			1 – 8	1
	>16	Add 1 per 8			>8	Add 1 per 8
Female	1 – 16	2			1 – 8	1
	> 16	Add 1 per 8			>8	Add 1 per 8

**General Note**

The design should allow for facilities in public areas a minimum of 1x accessible sanitary compartment, 1x male and 1x female ambulant facility on each storey.

Architect plans for new works has suitable allowance in this regard noting the male and female facilities are required to be ambulant.



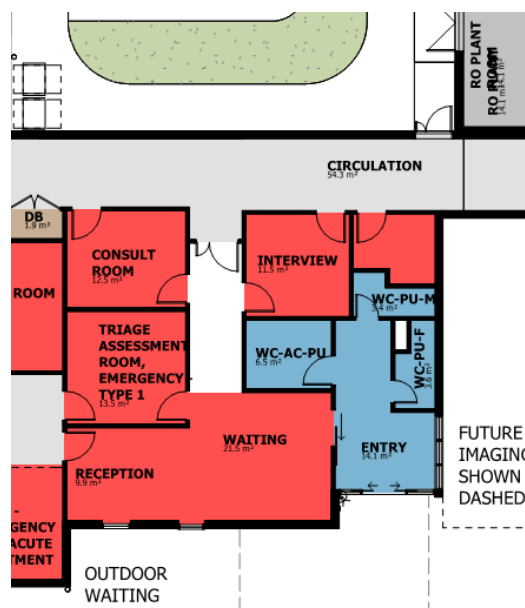


Figure 86

A Class 9a healthcare building must be provided with:

- + One kitchen or other adequate facility for the preparation and cooking or reheating of food including a kitchen sink and washbasin; and
- + Laundry facilities for the cleansing and drying of linen and clothing or adequate facilities for holding and dispatch or treatment of soiled linen and clothing, sanitary products and the like and the receipt and storage or clean linen; and
- + One shower for each 8 patients or part therefor; and
- + One – island type plunge bath in each storey containing ward areas;

#### Further Information

Noting change/ reduction of scope patient and staff numbers will need to be finalised as soon as possible to confirm the number of required facilities under this clause.

#### Further Information /performance solution

Existing areas cannot have provision impacted by works. New works has 1 x male and 1 x female staff only.

Note 1 x male ambulant, 1 x female ambulant and 1 x accessible unisex facility designated for employees caters for 40 employees. (see F2.4 for male and female ambulant facility requirement and provision of accessible unisex facility at the same bank). Confirm plans can be amended to suit and total employees <40 persons for new Type C.

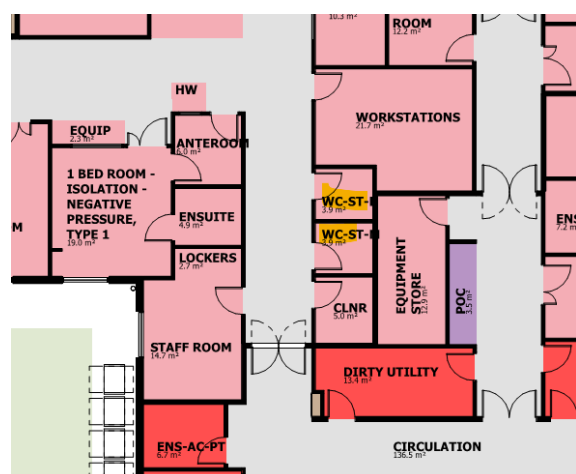


Figure 87



The new treatment area has single accessible ensuite only. Treatment areas require 1 x shower per 8 patients. Confirm shower provision within and no more than 8 patients within treatment compartment. See F2.4 for accessible unisex requirement.

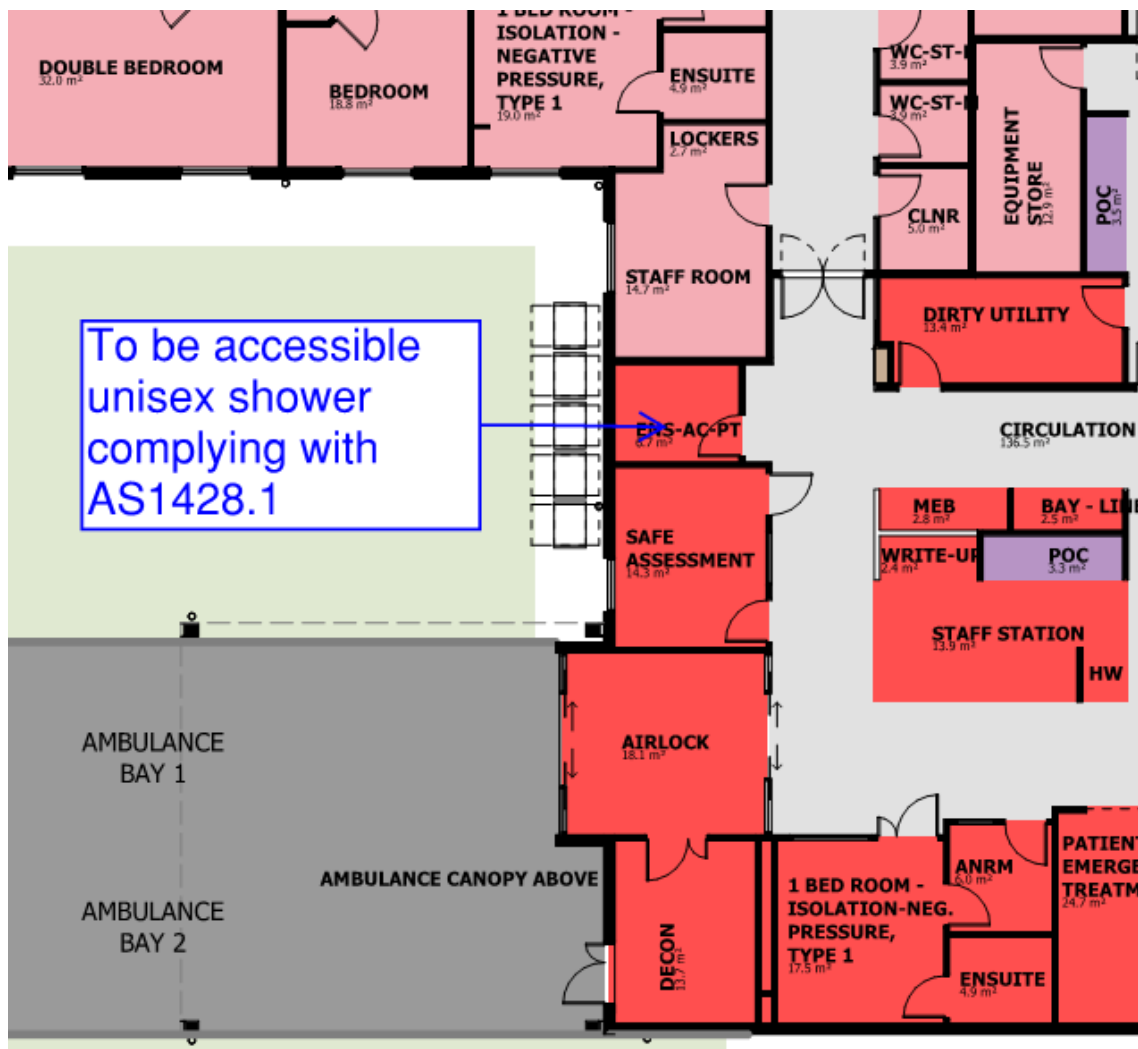


Figure 88

Further design development has occurred resolving the above which is to be reviewed further in design development stage.

#### Performance Solution

A performance solution may be proposed to omit the required plunge bath within ward area.

A performance solution will be required for unisex staff facilities where proposed.

A performance solution will be required where shower provision is less than required by F2.3 being one shower per 8 patients.

#### F2.4

**Accessible Sanitary Facilities:** Unisex Accessible WCs (Accessible WC) must be provided in accordance with the following:

- + 1 on every storey containing sanitary compartments; and
- + Where a storey has more than 1 bank of sanitary compartments containing male and female sanitary compartments, at not less than 50% of those banks.
- + 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.

Where two or more Accessible WCs are provided, the number of left and right handed mirror image facilities must be provided as evenly as possible.



This will be subject to further review as the design develops necessary allowances are to be made in the schematic design accordingly.

Refer appendix B for existing on site non compliances.

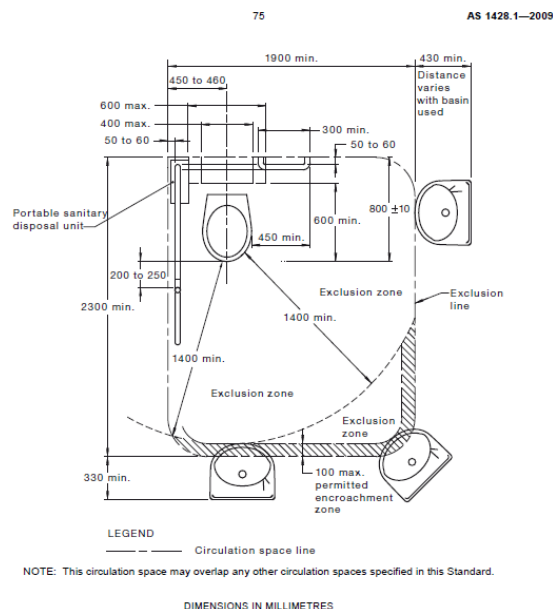


Figure 89

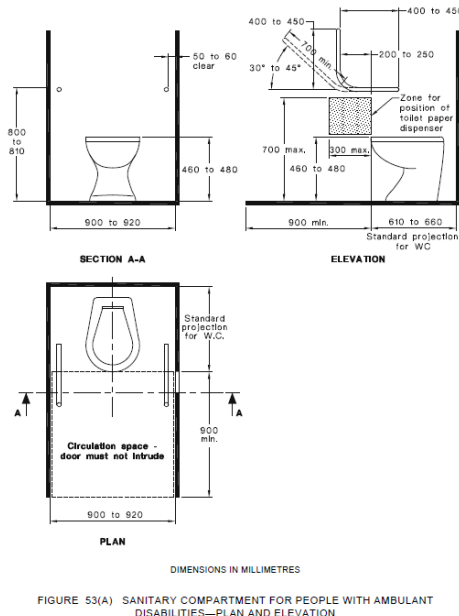


Figure 90

### Matters Requiring Redesign / Further Information

Location of all sanitary compartments will need to be confirmed along with maximum staff and patient numbers. This should be confirmed as soon as possible noting difficult to introduce additional facilities at later stage.

Staff facilities depict male and female only within new extension. Staff accessible facilities are required, confirm the below listed male and female can be ambulant and the public accessible sanitary can be a staff unisex accessible facility in lieu. A performance solution will be required for accessible unisex not being located at the same bank as unisex accessible.



Figure 91

The new treatment area requires an accessible unisex facility for patients (male and female) and a shower to serve no more than 8 patients. Plans to be updated to confirm accessible unisex sanitary facility and shower in



accordance with AS1428.1. Confirm if more than 8 patients in treatment.

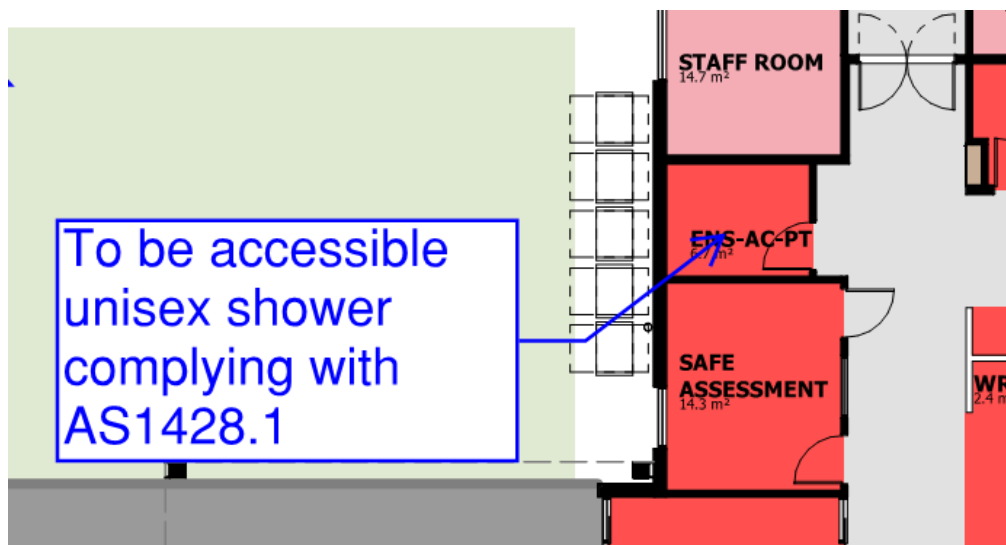


Figure 92

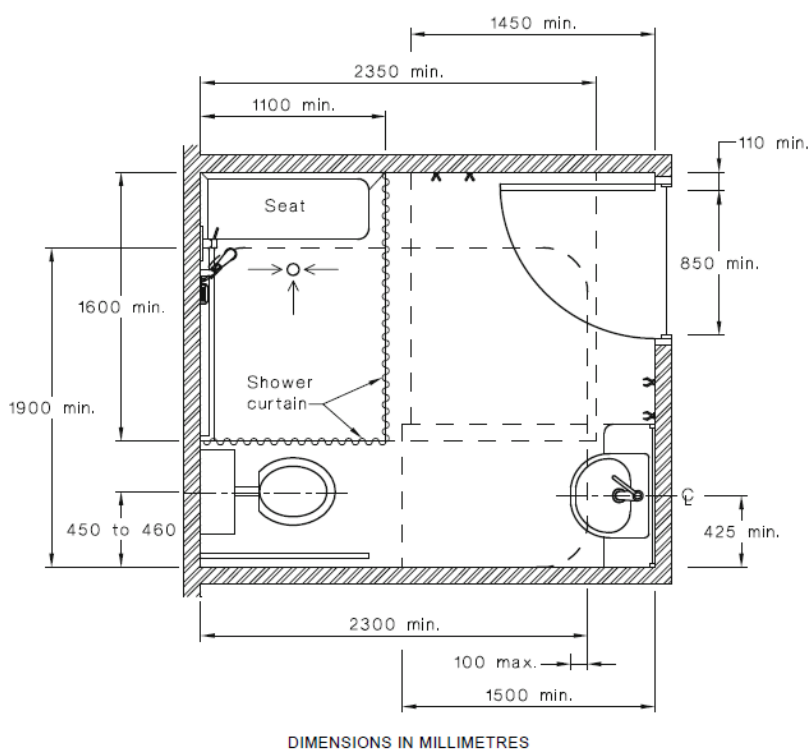


FIGURE 50 SANITARY COMPARTMENT SHOWING OVERLAP OF WASHBASIN FIXTURE INTO SHOWER CIRCULATION SPACE

Figure 93

#### Performance Solution

Any reliance on a unisex ambulant facility for staff use will be subject to a Performance Solution.

Accessible unisex facility not being located at same bank as ambulant facility will be subject to performance solution.

Final details to be resolved once total staff and patient numbers are confirmed.

#### Part F3

**Room Heights:** The ceiling height in a Class 9a building must be no less than; 2.4m in patient care areas, 3m in an operating theatre or delivery room and 2.4m in a treatment room, clinic, waiting room, passageway, corridor, or the like. Sanitary compartments, air-locks, tea preparation areas, storerooms and garages must achieve no



less than 2.1m. Commercial kitchens must achieve 2.4m.

The floor to ceiling height above a stairway, ramp, landing or the like must achieve no less than 2m when measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing, or the like.

*Note: In addition to the above note the requirements under the AHFG which need to be incorporated architect to ensure compliance in this regard.*

**F4**

Provision of natural light: natural light must be provided in all room used for sleeping purposes.

#### Further information

Class 9a required windows cannot be located <3m from boundary or adjoining wall of the same building. Scaled plans required to confirm compliance, the below areas are of concern. Allow construction tolerance (see C3.3 for fire compartments opposite <6m requiring protection).

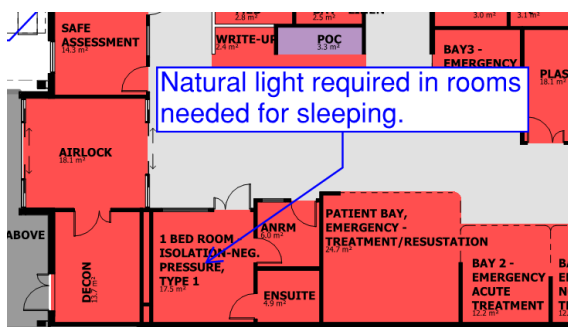


Figure 94

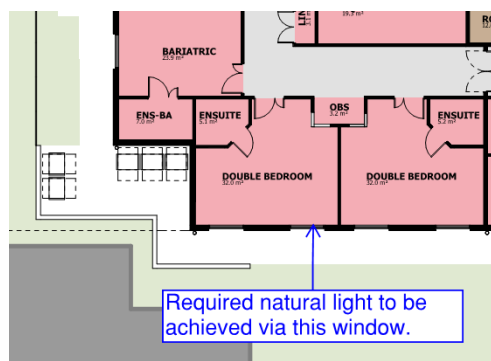


Figure 95

**F4.5**

Ventilation of Rooms: Any room occupied by a person for any purpose must be provided with natural ventilation complying with this clause, or a mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS 3666.1.

See E2.2 for requirement of smoke / fire dampers that passing fire/smoke walls.

**NSW  
GP5.1**

Bushfire resistance.

#### General Note

It is understood the location of the building is not within a designated bushfire prone area.

**G6**

Outdoor occupiable areas: The provisions of the outdoor occupiable area apply to the central courtyards and compliance is required accordingly.

**Section  
n  
J**

Energy Efficiency: The new building works subject to compliance with the Energy Efficiency Provisions of Section J relating to:

- + J1: Building Fabric
- + J3: Building Sealing
- + J5: Air-conditioning and ventilation systems
- + J6: Artificial lighting and power
- + J7: Hot water supply
- + J8: Access for maintenance

The architect, mechanical, electrical, and hydraulic engineers are to incorporate details demonstrating compliance with the above provisions (as applicable to their respective disciplines).

#### General Note

We understand the new works will comply with the provisions of Section J 2019 amdt 1.



## FIRE SAFETY SCHEDULE

The following table is a list of the required fire safety measures within the building. These measures may be subject to further change pending the outcomes of the final Fire Safety Engineering Review to confirm the works are permissible and do not contradict the base building Performance Solutions.

The existing fire safety schedule is required to list existing and propose measures within the building.

Statutory Fire Safety Measure	Design / Installation Standard
Access Panels, Doors & Hoppers	BCA Clause C3.13 & AS 1530.4 - 2014
Alarm Signalling Equipment	AS1670.3 – 2018
Automatic Fail Safe Devices	BCA Clause D2.21. D2.19.
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a, NSW E2.2b AS 1670.1 – 2018
Automatic Fire Suppression Systems	BCA Spec. E1.5 & AS 2118.1-2017
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 – 2018.
Emergency Warning and Intercom System (EWIS)	BCA Clause E4.9, AS 1670.4 – 2018,
Emergency Evacuation Plan	AS 3745 - 2010
Exit Signs	Existing: BCA Clauses E4.5, E4.6 & E4.8 and AS 2293.1 – 2018
Fire Blankets	AS 3504 – 2006 & AS 2444 - 2001
Fire Dampers	BCA Clause C3.15, AS 1668.1 - 2015 & AS 1682.1 & 2 – 2015
Fire Doors	BCA Clause C2.12, C2.13, C3.2, C3.4, C3.5, C3.7, C3.8, D1.11 and AS 1905.1 – 2015
Fire Hose Reels	BCA Clause E1.4, AS 2441 – 2005
Fire Hydrant Systems	BCA Clause E1.3 & AS 2419.1 - 2021
Fire Walls	BCA Clause C2.7 & C2.5
Fire Seals	BCA Clause C3.15 & AS 1530.4 – 2014 & AS 4072.1 – 2005
Lightweight Construction	BCA Clause C1.8 & AS 1530.4 – 2014
Mechanical Air Handling Systems (including automatic shutdown)	BCA Clause E2.2, AS/NZS 1668.1 - 2015 & AS 1668.2 – 2012
Paths of Travel	Clause 109 of EP&A (Development Certification and Fire Safety) Regulation 2021
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 – 2001
Smoke Dampers	AS/NZS 1668.1 - 2015
Smoke Doors	BCA Spec. C3.4, C2.5
Smoke walls	BCA clause C2.5 & Spec.C2.5
Stand-by Power Systems	BCA Clause E1.3, E3.4, E4.2 & E4.5 and AS 3000 – 2018
Wall wetting sprinklers (protection of window openings in external walls)	BCA Clause C3.4, AS 2118.2-2010
Warning & Operational signs	Clause 108 of EP&A (Development Certification and Fire Safety) Regulation 2021 AS 1905.1 - 2005, BCA Clause C3.6, D2.23
Fire engineered Alternative Solutions relating to:	TBC



## APPENDIX A – TYPE C AND B CONSTRUCTION

### Deemed-to-Satisfy Provisions

Table 4 Type B construction: FRL of building elements

Building element	Class of building—FRL: (in minutes)			
	Structural adequacy/Integrity/Insulation			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
<b>EXTERNAL WALL</b> (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 30	120/ 90/ 60	180/120/ 90	240/180/120
3 to less than 9 m	90/ 30/ 30	120/ 30/ 30	180/ 90/ 60	240/ 90/ 60
9 to less than 18 m	90/ 30/–	120/ 30/–	180/ 60/–	240/ 60/–
18 m or more	–/–/–	–/–/–	–/–/–	–/–/–
For non- <i>loadbearing</i> parts—				
less than 1.5 m	–/ 90/ 90	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/ 60/ 30	–/ 90/ 60	–/120/ 90	–/180/120
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
<b>EXTERNAL COLUMN</b> not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> columns—				
less than 18 m	90/–/–	120/–/–	180/–/–	240/–/–
18 m or more	–/–/–	–/–/–	–/–/–	–/–/–
For non- <i>loadbearing</i> columns—				
For non- <i>loadbearing</i> columns—	–/–/–	–/–/–	–/–/–	–/–/–
<b>COMMON WALLS and FIRE WALLS—</b>	90/ 90 / 90	120/120/120	180/180/180	240/240/240
<b>INTERNAL WALLS—</b>				
<i>Fire-resisting</i> lift and stair <i>shafts</i> —				
<i>Loadbearing</i>	90/ 90/ 90	120/120/120	180/120/120	240/120/120
<i>Fire-resisting</i> stair <i>shafts</i> —				
Non- <i>loadbearing</i>	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding <i>public corridors</i> , public lobbies and the like—				
<i>Loadbearing</i>	60/ 60/ 60	120/–/–	180/–/–	240/–/–
Non- <i>loadbearing</i>	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding <i>sole-occupancy units</i> —				
<i>Loadbearing</i>	60/ 60/ 60	120/–/–	180/–/–	240/–/–
Non- <i>loadbearing</i>	–/ 60/ 60	–/–/–	–/–/–	–/–/–
<b>OTHER LOADBEARING INTERNAL WALLS and COLUMNS—</b>	60/–/–	120/–/–	180/–/–	240/–/–
<b>ROOFS</b>	–/–/–	–/–/–	–/–/–	–/–/–





Table 5 Type C construction: FRL of building elements

Building element	Class of building—FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Less than 1.5 m	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
1.5 to less than 3 m	—/—/—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
EXTERNAL COLUMN not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Less than 1.5 m	90/—/—	90/—/—	90/—/—	90/—/—
1.5 to less than 3 m	—/—/—	60/—/—	60/—/—	60/—/—
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
INTERNAL WALLS—				
Bounding <i>public corridors</i> , public lobbies and the like—	60/ 60/ 60	—/—/—	—/—/—	—/—/—
Between or bounding <i>sole-occupancy units</i> —	60/ 60/ 60	—/—/—	—/—/—	—/—/—
Bounding a stair if <i>required</i> to be rated—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
ROOFS	—/—/—	—/—/—	—/—/—	—/—/—



## APPENDIX B – ON SITE NON-COMPLIANCES IDENTIFIED

The following items were identified as part of the onsite inspection conducted on Thursday the 21<sup>st</sup> of April. Items depicted are to be addressed as part of developed design for new building works:

BCA Clause	Photo	Note on No Compliance
C1.1 / Spec C1.1 C1.9	 <p>Figure 96</p>  <p>Figure 97</p>	<p>Required FRL not provided in elevated linkway and combustible building elements for Type B Construction. Indications are this part will be demolished.</p> <p>Fire Source features located &lt;18m from external wall with no apparent FRL</p>
C2.5 Clause 9a building	 <p>Figure 98</p>	<p>A 400mm smoke reservoir or perforated panel was not provided at all fire/smoke door locations.</p> <p>Separation within ceiling space was not continuous.</p> <p>Separation not extending to the underside of non-combustible roof covering.</p>



Figure 99



Figure 100

C3.15  
Service  
penetrations.



Figure 101

Service penetrations  
inadequately treated or not  
treated. Flexible conduit passing  
fire walls.









		
<p>D1.6 Path of Travel to exits.</p> <p>D3.3 Parts of Buildings to be accessible.</p>		<p>Egress paths to be minimum 1m wide. Existing stair handrail reduced &lt;1m.</p> <p>A handrail complying with AS1428.1 is to be provided on both sides of the stairs. Nosing strips and TGIS to be provided in accordance with AS1428.1.</p>

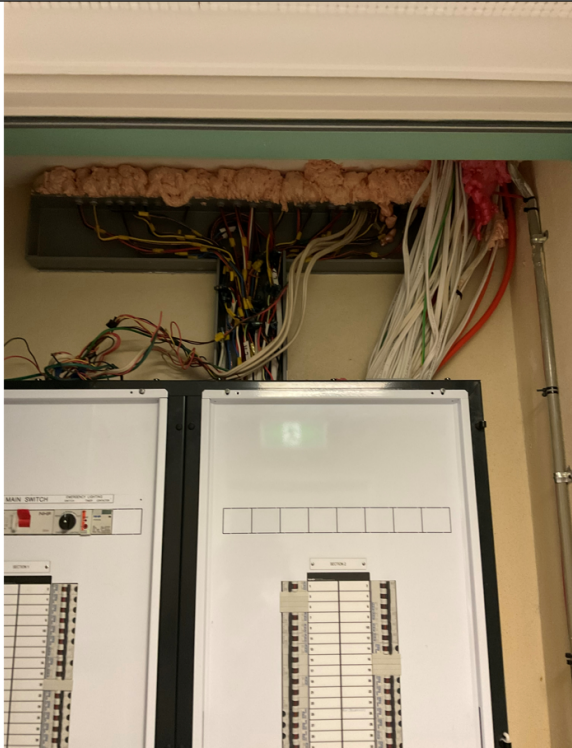

Figure 102

Figure 103






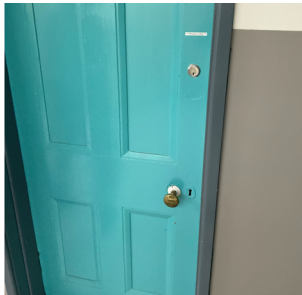
<p>D1.8 External Stairs in lieu of fire isolating</p>	 <p><i>Figure 104</i></p>  <p><i>Figure 105</i></p>	<p>Glass doors and windows located in external walls from patient care area do not comply with BCA D1.8 for shielding.</p>
<p>D2.7 Installations in exits and path of travel.</p>		<p>Existing DB cupboards had non-compliant enclosure including penetrations not suitably smoke sealed</p>



	 <p>Figure 106</p>	
D2.16 Balustrades	 <p>Figure 107</p>	Locations with falls greater than 1m and balustrade did not continue.





D2.17	 <p><i>Figure 108</i></p>	Handrails to one side of corridor for use of patients not provided.
D2.21 Operation of latch	<div><p><i>Figure 109</i></p></div> <div><p><i>Figure 110</i></p></div> <div><p><i>Figure 111</i></p></div>	Existing exit door hardware drop bolts.





D3.3  
Parts of  
Buildings to be  
accessible.



Figure 112



Figure 113

Curved ramp <1.5m, hand and  
kerb rail not complying with  
AS1428.1.

Nosing strips with inadequate  
colour contrast or slip  
resistance.



BCA D3.5  
Accessible car  
parking.



Figure 114



Figure 115

Existing BCA Accessible car  
space is less than 2.4m wide  
and did not have a compliant  
shared zone to AS2890.6.




E1.3  
Fire Hydrants



Figure 116

External fire hydrant without  
FRL 90minute fire shield  
required by AS2419.1.



<p>E1.4 Fire Hose Reel</p>	 <p><i>Figure 117</i></p>	<p>Fire hose reels were located in a position that was not within 4m of an exit (fire compartment 6 neat exit stairs)</p>
<p>F2.4 Accessible sanitary facilities</p>	<div><p><i>Figure 118</i></p><p><i>Figure 119</i></p></div>	<p>Non compliances identified within unisex accessible toilets including door width, signage, circulation space and fixtures and fitting.</p>