Consultant's Advice

	NAME	COMPANY		EMAIL ADDRESS/FAX NO.	
To	Richard Arkell	Meriden School		rarkell@meriden.nsw.edu.au	
cc	Lisa Brown	Meriden School		lbrown@meriden.nsw.edu.au	
From:	Alexandra Ceccato	Date:	10 November 2022	Pages:	7
Project No:	08789100-V08	CA No:	001		
Project:	Meriden School – 10 – 12 Redmyre Road, Strathfield New South Wales				
Re:	Fire Engineering Advice – Existing Doors				

Omnii have been engaged by Meriden School to provide advice regarding existing doors located on the school campus within high-foot traffic areas. It would suit the school operationally to be able to hold-open the subject doors facilitate pedestrian traffic flow between classes and reduce wear and tear on the doors.

This document confirms the following for each of the subject doors:

- Is the door a fire door, smoke door or non-fire rated door,
- Can the door be held open,
  - Fire door/smoke door: Hold-open devices can be installed which close the door on fire trip.
  - Non-fire rated door: The door can be held open by a doorstop, chock or the like.
- Is the door serving as a required exit, and therefore requires signage?
  - What signage is recommeneded to be installed to each of the doors.

1.1 SOURCES OF INFORMATION:

This document is based on the following sources of information:

- Existing Fire Engineering Report prepared by Defire (now Warrington Fire), SY140014 R1.3, dated 8 March 2016.
- Existing Fire Engineering Report prepared by Omnii 8789100 FER D dated 12 January 2022.
- Senior school campus Lower ground and Ground Floor Site Plans dated 2 August 2022.

Alexandra Ceccato — Name | Signature | 10 November 2022 — Date

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1.2 DOOR LOCATIONS

There are six door locations for review referred to as Door A to Door F. Figure 1 - Figure 3 illustrate the door locations.

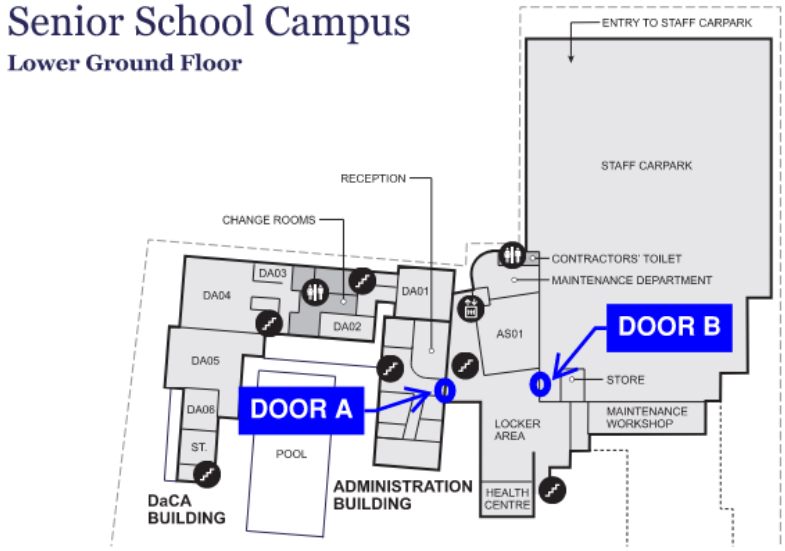

Figure 1 – Location of Door A and B – Lower Ground Floor

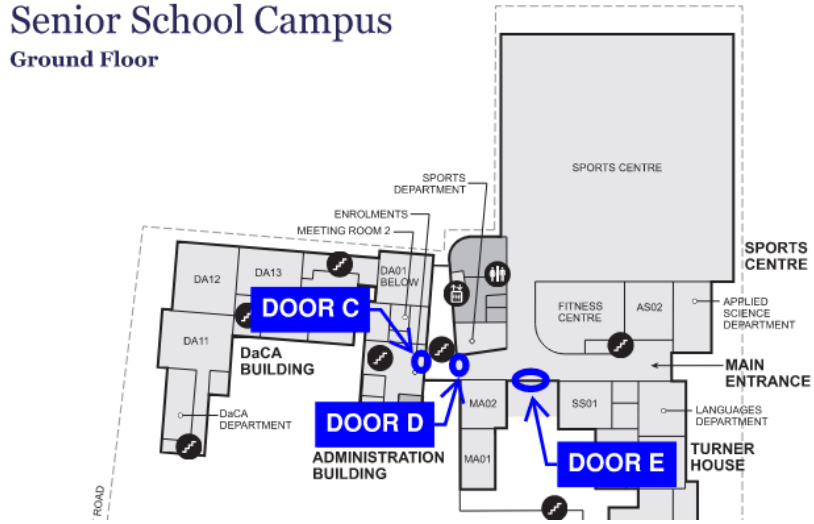

Figure 2 – Location of Door C, D and E – Ground Floor

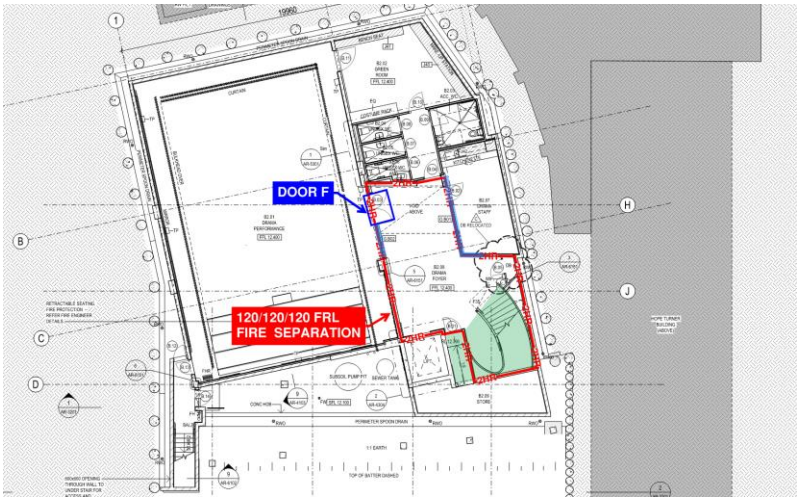

Figure 3 – Location of Door F within Greenhalgh Centre for Music and Drama – Basement Level 2 Plan

1.3 DESKTOP REVIEW

1.3.1 Doors A – E

A desktop review was first undertaken by Omnii, based on the information listed under Section 1.1 above. An existing fire engineering report (FER) by Defire applies to the Sports Centre and Administration Building, where Doors A – E are located.

It was determined from review of the Existing FER, that Door A – E are situated within 120-minute fire-rated walls and therefore the doors are required to be fire doors. However, a Performance Solution of the existing FER allows Door A, C, D and E to be glazed with wall-wetting sprinkler protection (internal side or both sides).

Thereby, although the protected glazed doors may not appear to be fire doors, Door A, C, D and E are serving in lieu of a fire door and must be considered in the same manner as a BCA DTS fire door.

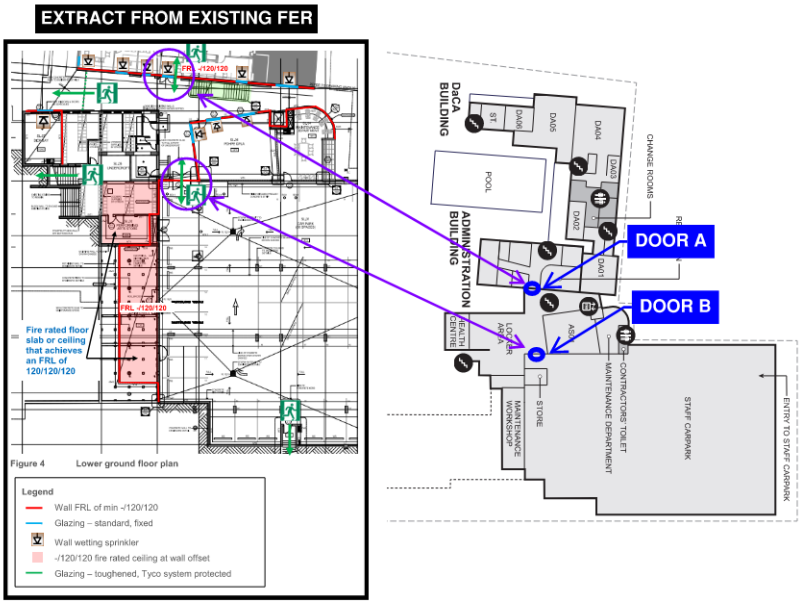

Figure 4 – Extract from Existing Defire FER showing Door A and B – Lower Ground Floor

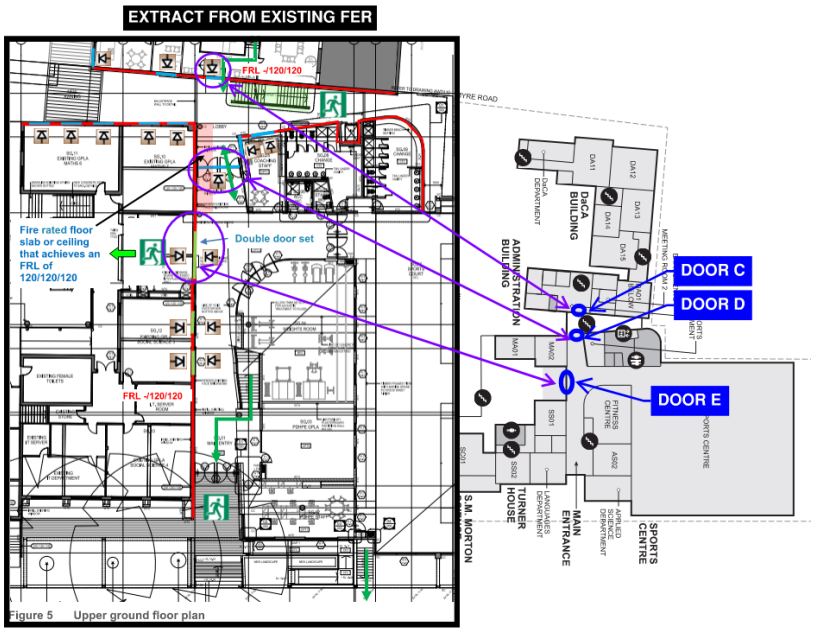

Figure 5 – Extract from Existing Defire FER showing Door C, D and E – Ground Floor

1.3.2 Door F

An existing fire engineering report by Omnii applies the Greenhalgh Centre for Music and Drama where Door F is located (refer Figure 3). Door F is located within a 2 hr fire-rated wall separating the non-fire isolated stair (Stair 1) from the remainder of Basement Level 2, as shown in Figure 6. Door F is a fire door.

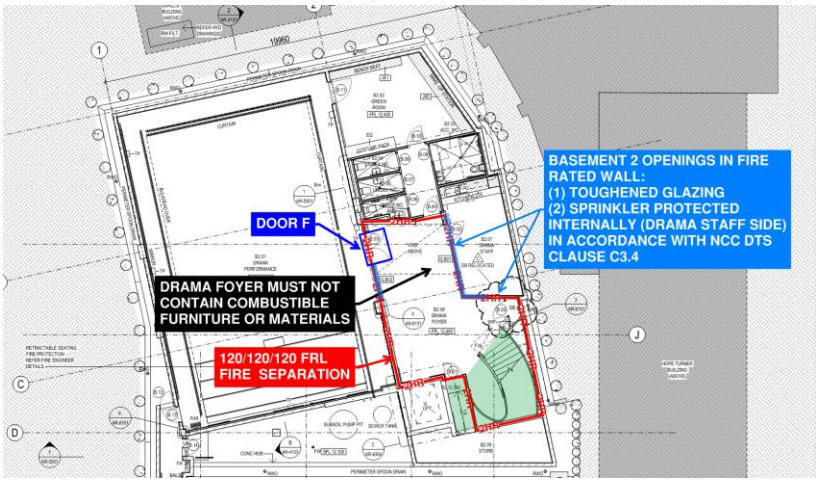

Figure 6 – Extract from Existing Omnii FER showing Door C, D and E – Basement Level 2

1.4 SIGNAGE

The Building Code of Australia includes signage requirements for certain fire doors. Note that signage is not required to be provided to all fire doors.

NCC BCA DTS Clause D2.23 states:

(a) states a sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to—

  (I) a required—

    (A) fire door providing direct access to a fire-isolated exit; and

    (B) smoke door, on the side of the door that faces a person seeking egress and, if the door is fitted with a device for holding it in the open position, on either the wall adjacent to the doorway or both sides of the door; and

  (II) a—

    (A) fire door forming part of a horizontal exit; and

    (B) smoke door that swings in both directions; and

    (C) door leading from a fire isolated exit to a road or open space, on each side of the door.

(b) A sign referred to in (a) must be in capital letters not less than 20 mm high in a colour contrasting with the background and state—

  (I) for an automatic door held open by an automatic hold-open device—

    "FIRE SAFETY DOOR—DO NOT OBSTRUCT"; or

  (II) for a self-closing door—

    "FIRE SAFETY DOOR

    DO NOT OBSTRUCT

    DO NOT KEEP OPEN"; or

  (III) for a door discharging from a fire-isolated exit—

    "FIRE SAFETY DOOR—DO NOT OBSTRUCT".

1.5 SITE REVIEW – SUMMARY OF ADVICE

A site review was conducted by a representative of Omnii on 25 August 2022. The desktop review findings were confirmed during the site review. A summary of the requested advice is included in Table 1.

Table 1 – Summary of Existing Door Advice

DOOR	PHOTOGRAPH	DOOR TYPE	CAN DOOR BE HELD OPEN?	SIGNAGE
A		Fire Door (Glazed door with internal wall-wetting sprinkler protection, serving in lieu of a fire door)	No. Holding open the door would obstruct a disabled access ramp.	**FIRE SAFETY DOOR** **DO NOT OBSTRUCT** **DO NOT KEEP OPEN**
B		Fire door (-/120/30 FRL)	Yes. A hold-open device installed in accordance with BCA DTS Clause C3.5 can be installed.	**FIRE SAFETY DOOR—DO NOT OBSTRUCT**
C		Fire Door (Glazed door with internal wall-wetting sprinkler protection, serving in lieu of a fire door)	Yes. A hold-open device installed in accordance with BCA DTS Clause C3.5 can be installed.	**FIRE SAFETY DOOR—DO NOT OBSTRUCT**
D		Fire Door (Glazed door with internal wall-wetting sprinkler protection, serving in lieu of a fire door)	Yes. A hold-open device installed in accordance with BCA DTS Clause C3.5 can be installed. Any doorstop/chock must be removed.	**FIRE SAFETY DOOR—DO NOT OBSTRUCT**
E		Fire Door (Glazed door with wall-wetting sprinkler protection either side, serving in lieu of a fire door)	Yes. A hold-open device installed in accordance with BCA DTS Clause C3.5 can be installed. Any doorstop/chock must be removed.	**FIRE SAFETY DOOR—DO NOT OBSTRUCT**

DOOR	PHOTOGRAPH	DOOR TYPE	CAN DOOR BE HELD OPEN?	SIGNAGE
F		Fire Door (-/120/30 FRL)	Yes. A hold-open device installed in accordance with BCA DTS Clause C3.5 can be installed. Any doorstop/chock must be removed.	**FIRE SAFETY DOOR—DO NOT OBSTRUCT**

1.6 POTENTIAL IMPACT ON EXISTING FIRE ENGINEERING REPORTS

From review of the existing FERs, providing hold-open devices in accordance with the BCA is not expected to impact the existing FERs. The Defire FER on Page 19 states that doors within glazed separation (assumed to be the glazed Doors A, C, D and E) must be automatic closing in accordance with NCC BCA DTS Clause C3.5.

1.7 CA REQUIREMENTS FOR HOLD-OPEN DEVICES

If a hold-open device is to be installed to a door, the installation must be in accordance with the Building Code of Australia. The relevant Clause is NCC BCA DTS Clause C3.5 which states:

(a) A fire door or fire shutter required by (a)(i), (ii) or (iii) must be self-closing, or automatic closing in accordance with (c) and (d).

(b) The automatic closing operation required by (b) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located on each side of the fire wall not more than 1.5 m horizontal distance from the opening.

(c) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification E1.5, is installed in the building, activation of the system in either fire compartment separated by the fire wall must also initiate the automatic closing operation.

To summaries, the following will be required to install hold-open devices:

- Installation of the hold-open device. Note that some locations may require a rod from the ceiling, or for the device to be installed on the ground if this does not present a tripping hazard.
- The installation of fire-rated cabling from the hold-open device to a sub/main Fire Indicator Panel (FIP).
- The installation of a smoke detector (not thermal) either side of the door within 1.5 m.
- Programming of the FIP to close the subject door on general fire trip (i.e. upon activation of any smoke detector, thermal detector, fire sprinkler, Manual Call Point in either of the fire compartments adjacent the subject door.

1.8 BUILDING WORKS

The installation of hold-open devices and the associated re-programming of the FIP constitutes as building work. Therefore, all works must be conducted under an appropriate planning approval, issued by a suitably qualified Building Certifier.

1.9 CONCLUSION

In conclusion:

- All doors reviewed are fire doors.
- Doors A, C, D and E are wall-wetting sprinkler protected glazed doors serving in lieu of a fire door.
- Hold-open devices can be installed to all doors except for Door A. Door A cannot be held-open due to its location in the vicinity of a disabled access ramp, which it would obstruct in a held-open position.
- Signage requirements are outlined in Table 1 for all doors.
- Works must be conducted under an appropriate planning approval, issued by a suitably qualified Building Certifier.