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76 Royal Avenue, Sandringham
PO Box 27 Sandringham VIC 3191
T (03) 9599 4444
F (03) 9598 4474
enquiries@bayside.vic.gov.au
www.bayside.vic.gov.au

25 August 2020

Coroners Court of Victoria
65 Kavanagh Street
SOUTHBANK VIC 3006

Email: cpuresponses@coronerscourt.vic.gov.au

Dear Registrar

Investigation into the Death of Geoffrey J O'Neill - COR 2018 001406

The Bayside City Council has prepared this letter to provide the Court with a written response to the recommendation outlined in Coroner Bracken's Finding in relation to the death of Mr Geoffrey J O'Neill.

Recommendation

Pursuant to Section 72(2) of the *Coroners Act 2008* (Vic), it was recommended that:

Bayside City Council compile the 'detailed regulatory report' referred to by Mr Turner in his email to the Coronial Investigator Senior Constable Olyeynikov (undated) in relation to the Basketball Stadium and undertake any work set-out in that report nominated as being required to bring the building into compliance with the relevant 'legislation applying to the structures'.

Response to the Coroner's Investigation

Bayside City Council engaged independent building surveyor Mr John Keramidas BS-U 1507 to undertake an audit and provide a compliance report in relation to the grandstand at the Sandringham Family Leisure Centre, a copy of which is enclosed dated 10 August 2020.

Mr Keramidas' conclusions are detailed on page seven of his report.

A building is required to comply with the requirements of the relevant legislation at the time of its construction and not necessarily in full with the current legislation and associated standards.

Where partial or non-compliance with the requirements of the relevant legislation have been identified, work can be carried out to bring a building into compliance, or an application may be made to the Building Appeals Board (**BAB**) for a modification pursuant to section 160 of the *Building Act 1993* (Vic).

The BAB may find that the related building regulation does not apply or applies with the modification or variation specified in an application.

Council intends to apply for a modification to the BAB in regards to the non-compliances identified in Mr Keramidas' report.

It is anticipated an application will be lodged within the next three months to the BAB.

The Coroner should note that the BAB cannot determine that a provision of the regulations does not apply to a building or land unless satisfied that, in the particular circumstances, the provision is inappropriate. Further it can only determine that a provision of the regulations applies to a building or land in a modified or varied form unless satisfied that to do so is reasonable and not detrimental to the public interest.

Council will implement any determination of the BAB including carrying out any work required in accordance with the determination.

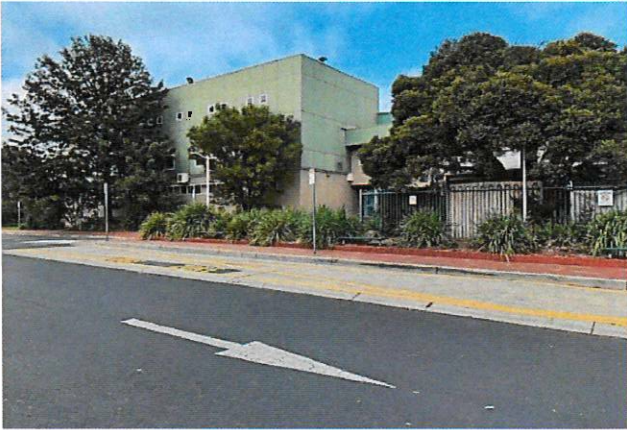
Council can, if required, update the Court as to the progress of the matter.

Yours sincerely



Mick Cummins
Chief Executive Officer

Attached: Sandringham Leisure Centre Compliance Audit/Report



COMPLIANCE AUDIT/REPORT

SANDRINGHAM FAMILY LEISURE CENTRE

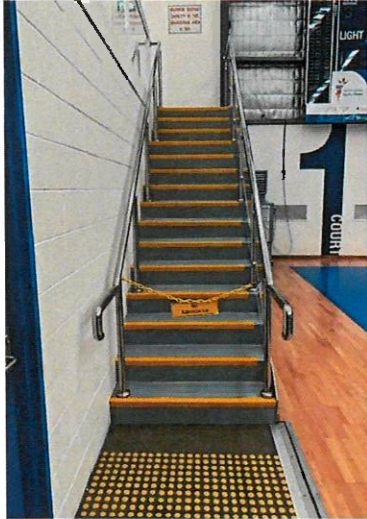
168 - 188 Tulip Street CHELTENHAM VICTORIA 3192

author/auditor_John Keramidas BS-U 1507

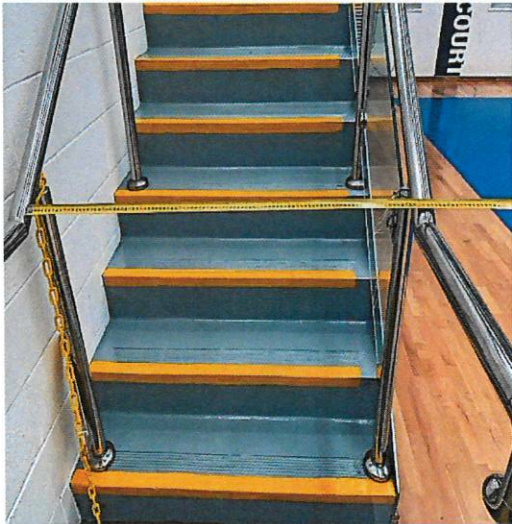
The subject **GRANDSTAND** structure is approximately 25m in length and divided into two equal sections, accommodating a passageway through the centre. The timber **GRANDSTAND**, which is constructed over a raised reinforced concrete floor, contains 9 tiers of seating.

The upper tiers of the timber **GRANDSTAND** are served by four sets of stairs spaced across the length of the structure, two at either end and two at the centre, each with their own single, circular, continuous steel handrails on one side of the stairway with the opposite side of the aisle remaining open to permit people to access their seats within their respective tiers.

1. Stair accessing upper level GRANDSTAND



The stair accessing the first floor provides compliant handrails on both sides of the stair generally to AS1428.1 with tactile indicators at the base and first floor landing of the stair. Nosing strips are painted in lieu of the appropriate non slip version and deemed **not compliant**.



stair/egress width @ 1000mm unobstructed and deemed compliant.

The height of the handrail above landings and stair nosing achieves 1000mm and 865mm minimum respectively and is therefore deemed **compliant**



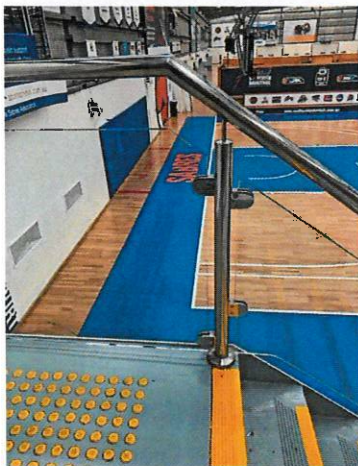
stair risers are consistent throughout at 188mm and tread depth is consistent at 250mm and therefore deemed **compliant**

$2 \times 188 + 250 = 626\text{mm} > 550 < 700$ and therefore OK

stair accessing upper level GRANDSTAND continued

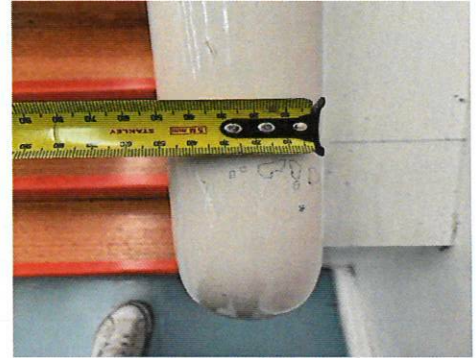


The top of the stairs at the landing area provides for an access/egress width greater than 1100mm and therefore deemed **compliant**



the handrail at the top of the stair does not line up with the stair nosing and thereby provides a handrail height at the landing less than 1000mm and would have been deemed not compliant with the regulations of the day. The current version of the **BCA/NCC2019 Volume 1**, specifically **Clause D2.17(d)**, however, permits the handrail at the transition zone between landings and stairs to continue up to the height of the handrail at the landing and is therefore deemed **compliant**

2. Eastern end of timber GRANDSTAND



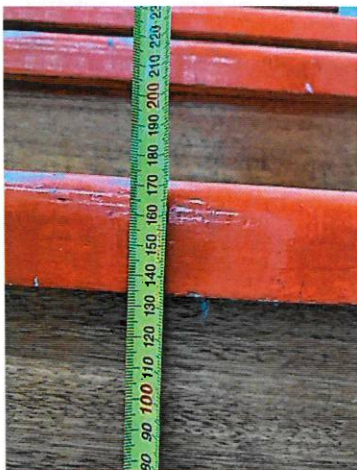
width of stairway achieves 980mm in lieu of the required and unobstructed 1000mm and therefore deemed **not compliant**.

the handrail to one side of the stair exceeds the maximum permissible dimension of 50mm and therefore deemed **not compliant**.

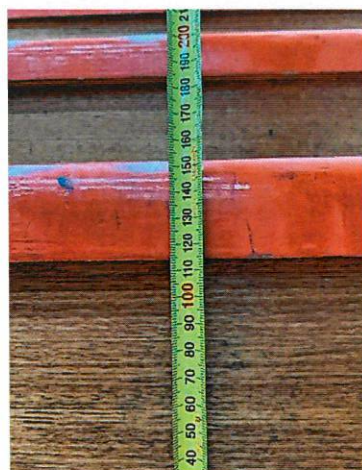


stair risers achieve varying heights over the first three steps ranging between 155mm to 170mm and remain constant at 170mm for the remainder of the stair flight.

tread/going dimensions achieve 250mm, 245mm and 245mm over the first three steps and are constant at 260mm throughout the remainder of the stair flight however the curved nosing provides for a reduced tread/going depth of 5mm for all steps in the flight. Accordingly, as the stair flight does not remain constant throughout its flight, the stair would therefore be deemed **not compliant**.



first riser



second riser



third riser

3. Central stair closest to eastern end of GRANDSTAND

the first three risers of the stair flight achieve a height of 175mm, 155mm and 165mm with the tread/going depth over the first three steps achieving 245mm, 250mm and 250mm respectively. The remaining risers maintain a constant height of 175mm with the remaining tread /going depth varying between 255mm to 260mm and therefore deemed **not compliant**.



Central passageway dividing timber GRANDSTAND

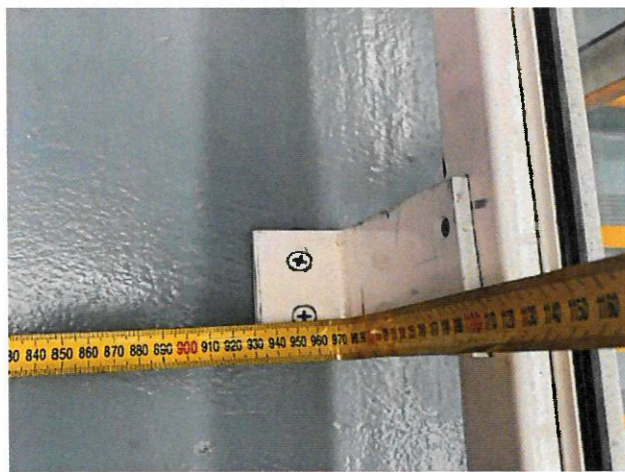
4. Central stair closest to west end of GRANDSTAND

The first three risers of the stair flight achieve a height of 170mm, 165mm and 165mm with the tread/going depth over the first three steps achieving 245mm, 245mm and 250mm respectively. The remaining risers maintain a constant height of 175mm with the remaining tread /going depth varying between 250mm to 260mm and therefore deemed **not compliant**.

5. West end of GRANDSTAND

The first three risers of the stair flight achieve a height of 190mm, 155mm and 170mm with the tread/going depth over the first three steps achieving 250mm, 245mm and 245mm respectively. The remaining risers maintain a constant height of 175mm with the remaining tread /going depth varying between 255mm to 260mm and therefore deemed **not compliant**.

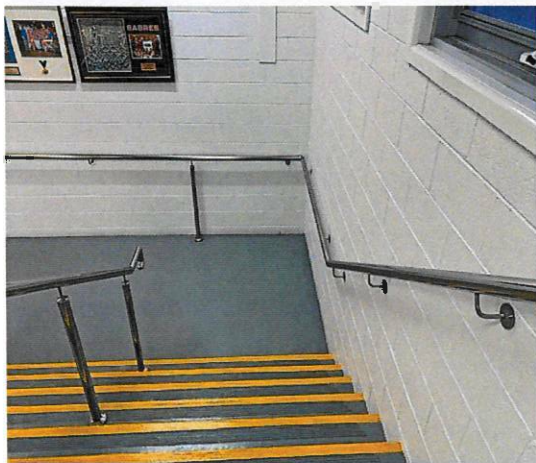
6. Corridor / path of travel to an exit serving timber GRANDSTAND



The path of travel width is 940mm wide clear of obstructions and less than the minimum required width of 1000mm. The path of travel achieves 970mm at the throat of the supporting bracket and is therefore deemed **not compliant**

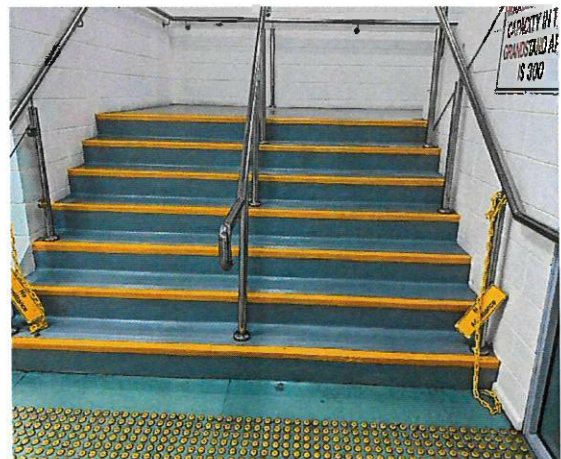
7. Alternative egress at west end of GRANDSTAND

7a. Upper level of stair



risers range between 175mm to 188mm and are not constant throughout the stair flight and thereby deemed **not compliant**
treads/goings remain constant at 255mm and deemed **compliant**

7a. Lower level of stair



risers range between 175mm to 185mm and do not remain constant throughout the stair flight and thereby deemed **not compliant**
treads/goings remain constant at 260mm and deemed **compliant**

conclusions

The escape/egress stairs within the building do not comply with the requirements of the relevant legislation being the **Building Code of Australia 1996** and the **BCA/NCC 2019 Volume 1**.

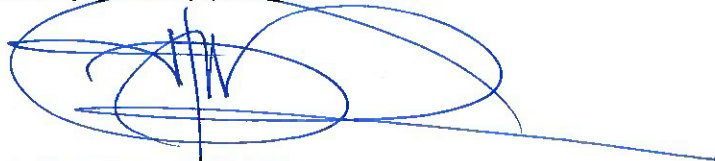
Matters which deviate from achieving compliance with the relevant legislation and that relate to disabled access/building egress may be accepted where a Performance Assessment prepared and certified by a suitably qualified person and/or an application to the Building Appeals Board, in accordance with Section 160 of the Building Act 1993, may consider partial compliance or whether a particular regulatory clause applies, by documenting how the health, safety and amenity of the people using the building will not be compromised.

All other matters pertaining to the subject stairs are deemed compliant.

In this instance the main deviation from the legislation of the day and the current requirements of the BCA/NCC 2019 Volume 1 are as follows:

1. Stairs may allow for a deviation between adjoining steps and an overall deviation of 10mm is permitted over the course of the stair flight so long as treads and/or risers, immediately adjoining one another, do not exceed 5mm in depth/height and remain constant throughout. The stairs within the facility reflect this discrepancy with the treads/risers generally not exceeding 10mm in dimension over the length of the stairs, however, they are not constant throughout the flight. The legislation as at the time of the issuing of the building permit for the construction of the **GRANDSTAND** and associated works allowed for zero deviation from compliance over the entire flight of the stair.
2. The nosing strips to ALL the stairs should be non-slip as outlined in the **BCA1996 Amendment No. 7** however the current legislation specifically nominates compliance parameters for the type of non-slip rating that must be achieved. All stairs have been applied with a painted nosing strip that provides a 30% contrast to its background, as required, but maintains no integrity as a non-slip component to the stair.
3. A non-slip application to stair/egress path surfaces as outlined in Table D2.14, below, however no requirement applied at the time of construction or when the building permit was issued.
4. The handrail serving the upper tiers of the grandstand structure is oversized (55mm in lieu of 50mm) and has not been constructed in a compliant manner with appropriate handrail extensions at the top and base of the stairs, tactile indicators and compliant nosing strips to stair treads not provided;
5. The path of travel to an exit serving the grandstand area is less than 1000mm in unobstructed width, refer to item 6.

I trust the above meets with your approval however please don't hesitate to contact John Keramidas, on the contact numbers provided below, if you have any questions or concerns.



John Keramidas BS-U 1507

RETROSPECTIVE
building solutions

P. O. BOX 300
WEST BRUNSWICK L. P. O.
VICTORIA 3055
AUSTRALIA

t. +61 3 9386 9796
m. +61 407 306 382
e. john@retrobs.com.au

BCA/NCC 2019 Volume 1 *excerpt*

D2.13 Goings and risers

- (a) A stairway must have—
- (i) not more than 18 and not less than 2 risers in each *flight*, and
 - (ii) going (G), riser (R) and quantity ($2R + G$) in accordance with Table D2.13, except as permitted by (b) and (c); and
 - (iii) constant goings and risers throughout each *flight*, except as permitted by (b) and (c), and the dimensions of goings (G) and risers (R) in accordance with (a)(ii) are considered constant if the variation between—
 - (A) adjacent risers, or between adjacent goings, is no greater than 5 mm; and
 - (B) the largest and smallest riser within a *flight*, or the largest and smallest going within a *flight*, does not exceed 10 mm; and
 - (iv) risers which do not have any openings that would allow a 125 mm sphere to pass through between the treads; and
 - (v) treads which have—
 - (A) a surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; or
 - (B) a nosing strip with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; and
 - (vi) treads of solid construction (not mesh or other perforated material) if the stairway is more than 10 m high or connects more than 3 *storeys*; and
 - (vii) in a Class 9b building, not more than 36 risers in consecutive *flights* without a change in direction of at least 30°; and
 - (viii) in the case of a *required* stairway, no winders in lieu of a landing.
- NSW D2.13(a)(ix),(x),(xi)
- (b) In the case of a non-*required* stairway—
- (i) the stairway must have—
 - (A) not more than 3 winders in lieu of a quarter landing; and
 - (B) not more than 6 winders in lieu of a half landing; and
 - (ii) the going of all straight treads must be constant throughout the same *flight* and the dimensions of goings (G) is considered constant if the variation between—
 - (A) adjacent goings, is no greater than 5 mm; and
 - (B) the largest and smallest going within a *flight*, does not exceed 10 mm; and
 - (iii) the going of all winders in lieu of a quarter or half landing may vary from the going of the straight treads within the same *flight* provided that the going of all such winders is constant.
- (c) Where a stairway discharges to a sloping public walkway or public road—
- (i) the riser (R) may be reduced to account for the slope of the walkway or road; and
 - (ii) the quantity ($2R+G$) may vary at that location.

Table D2.13 Riser and going dimensions

Stairway location	Riser (R)	Going (G) ^{Note 3}	Quantity (2R+G)
Public	Max: 190 mm	Max: 355 mm	Max: 700 mm
	Min: 115 mm	Min: 250 mm	Min: 550 mm
Private ^{Note 1}	Max: 190 mm	Max: 355 mm	Max: 700 mm
	Min: 115 mm	Min: 240 mm	Min: 550 mm

Notes to Table D2.13:

1. Private stairways are—
 - a. stairways in a *sole-occupancy unit* in a Class 2 building or Class 4 part of a building; and
 - b. in any building, stairways which are not part of a *required exit* and to which the public do not normally have access.
2. *Going* and *riser* dimensions must be measured in accordance with **Figure D2.13**.
3. The *going* in tapered treads (except *winders* in lieu of a quarter or half landing) in a curved or spiral stairway is measured—
 - a. 270 mm in from the outer side of the unobstructed width of the stairway if the stairway is less than 1 m wide (applicable to a non-*required* stairway only); and
 - b. 270 mm from each side of the unobstructed width of the stairway if the stairway is 1 m wide or more.

Figure D2.13 Riser and going dimensions

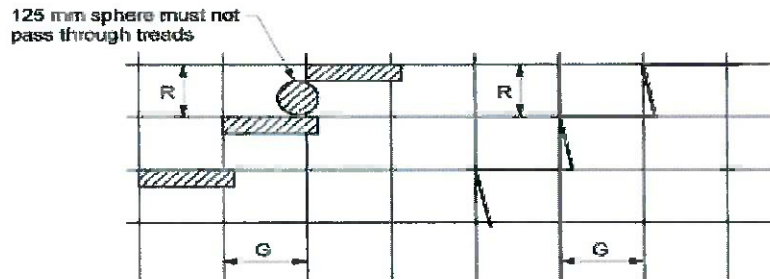


Table D2.14 Slip-resistance classification

Application	Dry surface conditions	Wet surface conditions
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

D2.13 Treads and risers

- (a) A stairway must be suitable to provide safe passage in relation to the nature, volume and frequency of likely usage.
- (b) A stairway satisfies (a) if it has-
- (i) not more than 18 or less than 2 risers in each flight; and
 - (ii) going (G), riser (R) and quantity ($2R + G$) in accordance with Table D2.13; and
 - (iii) goings and risers that are constant throughout in one flight; and
 - (iv) risers which do not have any openings that would allow a 125 mm sphere to pass through between the treads; and
 - (v) treads which have a non-slip finish or a suitable non-skid strip near the edge of the nosings; and
 - (vi) treads of solid construction (not mesh or other perforated material) if the stairway is more than 10 m high or connects more than 3 storeys; and
 - (vii) in a Class 9b building - not more than 36 risers in consecutive flights without a change in direction of at least 30° ; and
 - (viii) in the case of a *required* stairway, no stepped quarter landings; and
 - (ix) in the case of a *non-required* stairway, not more than 4 winders in a quarter landing.

Amdt 5

ACT D2.13(b)(v)

NSW D2.13(b)(vii),
(x), (xi), (xii)
(Amdt 7)

D2.14 Landings

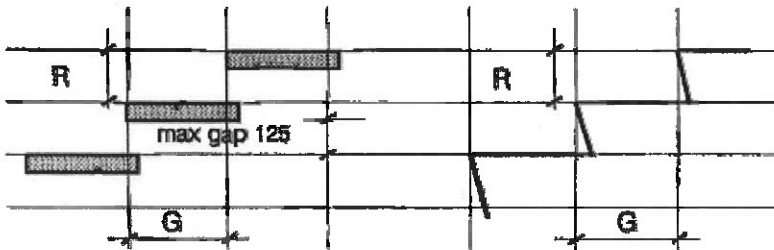
In a stairway-

- (a) landings having a maximum gradient of 1:50 may be used in any building to limit the number of risers in each flight and each landing must-
- (i) be not less than 750 mm long measured 500 mm from the inside edge of the landing; and
 - (ii) have a non-slip finish throughout or a suitable non-skid strip near the edge of the landing where it leads to a flight of stairs below; and
- (b) in a Class 9a building-
- (i) the area of any landing must be sufficient to move a stretcher, 2 m long and 600 mm wide, at a gradient not more than the gradient of the stairs, with at least one end of the stretcher on the landing while changing direction between flights; or
 - (ii) the stair must have a change of direction of 180° , and the landing a clear width of not less than 1.6 m and a clear length of not less than 2.7 m.

Table D2.13
RISER AND GOING DIMENSIONS (mm)

Amdt 5

	RISER (R)		GOING (G) ^(b)		QUANTITY (2R+G)	
	Max	Min	Max	Min	Max	Min
Public stairs	190	115	355	250	700	550
Private stairs ^(a)	190	115	355	240	700	550



- Note: (a) Private stairs are-
- (i) stairs in a Class 1 or 10 building; and
 - (ii) stairs in a *sole-occupancy unit* in a Class 2 building or Class 4 part; and
 - (iii) in any building, stairs which are not part of a *required exit* and to which the public do not normally have access.
- (b) The going in tapered treads (except winders in a quarter landing) in a curved or spiral stair is measured-
- (i) 270 mm in from the outer side of the unobstructed width of the stairway if the stairway is less than 1 m wide (applicable to a *non-required* stairway only); and
 - (ii) 270 mm from each side of the unobstructed width of the stairway if the stairway is 1 m wide or more.

Documents relied upon in the preparation of this report

BCA 1996_AMENDMENT 1 adoption date 01.08.1997

BCA 1996_AMENDMENT 7 adoption date 01.07.2000

BCA/NCC 2019 Volume 1 adoption date 01.05.2019

AS1428.1_2001 Design for Access & Mobility Part 1: General requirements for access - New building work

AS1428.1_2009 Design for Access & Mobility Part 1: General requirements for access - New building work

Victorian Building Commission_Guide to standards & tolerances_2007

Victorian Building Authority_Guide to Standards & Tolerances_2015