



Access Report

Project –

Rouse Hill Anglican College
7 & 37 Worcester Road, Rouse hill

Masterplan Re-development



Design Phase –

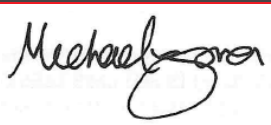
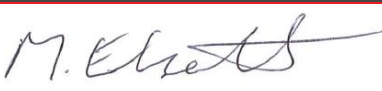
Development Application Phase

Date - 1 August 2017
For - Anglican Schools Corporation
Ref - 17070 – R1.1 (Final)

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Amendment Schedule

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		Version	Date
		Rev 1.0 – Draft	17.03.2017
		Rev 1.1 – Final	1.08.2017

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1.0 INTRODUCTION

1.1 General

This Access Report has been prepared at the request of Anglican Schools Corporation for the purpose of completing an assessment of the Masterplan re-development of the Rouse Hill Anglican College located 7 & 37 Worcestor Rd, Rouse Hill.

The Masterplan re-development proposal includes demolition of various existing buildings and/or structures to make room for the construction of new buildings and structures.

No refurbishment works have been proposed to the existing buildings.

The development is nominated to be staged in the following construction phases -

- Phase 1 – Block K and On-grade Carpark.
- Phase 2 – Block L and On-grade Carpark.
- Phase 3 – Senior School Part 1.
- Phase 4 – Senior School Part 2.
- Phase 5 – Library and COLA.
- Phase 6 – Multi-purpose and Gym Awning.
- Phase 7 – Block M, Canteen and Bike Shed.

1.2 Purpose

The purpose of this report is to identify the compliance status of the architectural design documentation against the following –

- Relevant accessibility related 'deemed-to-satisfy' (DTS) requirements of Building Code of Australia (BCA) 2016. These provisions are generally contained within Part D3 and Clause(s) E3.6 & F2.4 of the code.
- Accessibility related Australian Standards as referenced by BCA 2016, as relevant to this project and as directly nominated in the report.
- The Disability (Access to Premises – Building) Standards 2010 (*Premises Standards*).

1.3 Documentation Relied Upon

Architectural plans prepared by Terroir, as follows –

ARCHITECTURE DRAWING LIST

MP-00-00	COVER PAGE	MP-JS-10-01	JUNIOR SCHOOL EXTENSION GROUND PLAN
MP-00-01	EXISTING SITE PLAN	MP-JS-10-02	JUNIOR SCHOOL EXTENSION MEZZANINE PLAN
MP-00-02	SITE ANALYSIS	MP-JS-10-03	JUNIOR SCHOOL EXTENSION ROOF PLAN
MP-00-03	SOLAR ANALYSIS	MP-JS-10-04	JUNIOR SCHOOL EXTENSION CARPARK PLAN
MP-00-04	SITE DEMOLITION PLAN	MP-JS-10-05	JUNIOR SCHOOL EXTENSION ENTRY GROUND PLAN
MP-10-00	PROPOSED SITE PLAN	MP-JS-20-00	JUNIOR SCHOOL EXTENSION ELEVATIONS 1
MP-10-01	PROPOSED HUB AND JUNIOR SCHOOL ROOF PLAN	MP-JS-20-01	JUNIOR SCHOOL EXTENSION ELEVATIONS 2
MP-10-02	PROPOSED SENIOR SCHOOL ROOF PLAN	MP-JS-20-02	JUNIOR SCHOOL EXTENSION ELEVATIONS 3
MP-10-05	PROPOSED PHASE 01 - BLOCK K AND CARPARK	MP-JS-20-03	CANTEEN AND ELEVATIONS JUNIOR SCHOOL
MP-10-06	PROPOSED PHASE 02 - BLOCK L AND CARPARK	MP-JS-30-00	EXTENSION SECTIONS 1 JUNIOR SCHOOL
MP-10-07	PROPOSED PHASE 03 - SENIOR SCHOOL PART 1	MP-JS-30-01	EXTENSION SECTIONS 2 JUNIOR SCHOOL
MP-10-08	PROPOSED PHASE 04 - LIBRARY AND COLA	MP-JS-30-02	EXTENSION CARPARK SECTIONS
MP-10-09	PROPOSED PHASE 05 - SENIOR SCHOOL PART 2	MP-SS-10-01	SENIOR SCHOOL GROUND PLAN
MP-10-10	PROPOSED PHASE 06 - MULTIPURPOSE AND GYM AWNING	MP-SS-10-02	SENIOR SCHOOL FIRST FLOOR PLAN
MP-10-11	PROPOSED PHASE 07 - BLOCK M, CANTEEN AND BIKE SHED	MP-SS-10-03	SENIOR SCHOOL SECOND FLOOR PLAN
MP-20-00	PROPOSED SITE SECTIONS AND ELEVATIONS	MP-SS-10-04	SENIOR SCHOOL ROOF PLAN
MP-30-00	3D VISUALISATION	MP-SS-20-00	SENIOR SCHOOL ELEVATIONS 1
MP-30-01	3D VISUALISATION	MP-SS-30-00	SENIOR SCHOOL SECTIONS 1
MP-HB-10-01	LEARNING HUB GROUND PLAN		
MP-HB-10-02	LEARNING HUB MEZZANINE PLAN		
MP-HB-10-03	LEARNING HUB ROOF PLAN		
MP-HB-20-00	LEARNING HUB ELEVATIONS		
MP-HB-20-10	LIBRARY ELEVATIONS		
MP-HB-20-20	MULTIPURPOSE HALL ELEVATIONS		
MP-HB-30-00	HUB SECTIONS		

LANDSCAPE ARCHITECTURE DRAWING LIST

MP-HB-40-01	LEARNING HUB LANDSCAPE PLAN AND DETAILS 01
MP-HB-40-02	LEARNING HUB LANDSCAPE PLAN AND DETAILS 02
MP-JS-40-01	JUNIOR SCHOOL LANDSCAPE PLAN AND DETAILS 01
MP-JS-40-02	JUNIOR SCHOOL LANDSCAPE PLAN AND DETAILS 02
MP-JS-40-03	JUNIOR SCHOOL LANDSCAPE PLAN AND DETAILS 03
MP-SS-40-01	SENIOR SCHOOL LANDSCAPE PLAN AND DETAILS 01

1.4 Exclusions

The content of this report relates only to the matters directly nominated in this report and does not assess / include the following –

- Any parts of the BCA / standards not directly referenced in this report.
- Any existing parts of the building(s) not indicated as being part of the “new work” & / or “affected part”.
- Standards not directly referenced in this report.
- Disability Discrimination Act 1992 (DDA focuses on results. Does not offer prescriptive compliance options).
- Work Health & Safety considerations.
- Services / equipment operating capacity / design.
- Federal / state / local planning policies and/or guidelines, other than those directly identified.
- Does not constitute construction approval nor a Part 4A Certificate under the EP&A Act / Regulations.

1.5 BCA Assessment Data

Listed below are our understanding of relevant BCA classification(s) in relation to the subject building / part. BCA Consultant / Certifier shall have the final say in determining classifications.

BCA Building Classification(s):	Class 5 - Office
	Class 9b - Assembly + School

2.0 TECHNICAL ASSESSMENT & COMMENTARY

2.1 General

The following summarises the compliance status of the architectural design in terms of the DTS accessibility provisions of BCA 2016, as are principally contained within Part D3 and Clauses E3.6 & F2.4 of the code.

Alongside each clause heading; one of four compliance categories is provided, as follows –

Complies:	BCA design compliance is achieved.
Does not comply:	A BCA DTS compliance departure is noted. Resolution options are provided.
N/A:	Not Applicable or not directly relevant. Detail offered for application if / as relevant.
Design Detail:	Compliance commentary is provided. Such should not be considered deficiencies, but matters for consideration by the design team / assessment authority at relevant / nominated stages of design.

BCA Interpretation Note(s) –

- i. Readily moveable furniture has been treated as indicative. The person/s responsible for furnishing the building (parts) should ensure their furnishing layout/s do not cause AS1428.1 circulation deficiencies.
- ii. *Slip-resistant floor surface/s* - BCA 2016 does not directly specify slip-resistance classification(s) for all accessible paths of travel; however, we highlight the need under AS1428.1-2009 for all accessible paths of travel to have a slip-resistant surface. We recommend you should seek surface finish advice from an independent specialist slip safety consultant.

2.2 SECTION D – ACCESS & EGRESS

Part D3 – Access For People With Disabilities

BCA Clause D3.1 - General building access requirements

Buildings and parts of buildings must be accessible as required by Table D3.1 and as summarised below:

Class 5 & 9b

Access must be provided to and within all areas normally used by the occupants.

Design Detail	Access is required to and throughout all areas of the new building(s) in accordance with AS 1428.1-2009. The Masterplan design detail for the new building(s) demonstrates an open plan nature with wide public corridors; the prescribed door circulation space, turning spaces and the like are readily capable of being accommodated. A thorough assessment of the prescribed circulation spaces shall be undertaken at the detailed design documentation stage. For the new buildings, compliance is readily achievable, however, the need may arise for BCA Performance Solutions where the extent of full access may not comply or be undesirable in some instances i.e.: ▪ Lift access is required to the storage space on the mezzanine floors of Blocks K, L and M. ▪ Lift access is required between the multi-purpose hall levels. Where prescriptive BCA compliance is not achievable, we confirm our ability to offer BCA Performance Solution(s) to demonstrate compliance with the BCA Performance Requirements and placing reliance upon (among other things) –
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- Specific function/ use/ management of the buildings.
- Management in use plan/s.
- Enhanced way-finding signage.
- Suitable provision elsewhere at the school for the services and functions performed in this building.

BCA Performance Solution(s) shall be performed at the relevant Construction Certificate design phase(s) for each project phase.

Compliance is readily achievable with a combination of DTS and BCA Performance Solutions at each of the relevant design stages.

A summary of AS 1428.1-2009 requirements for accessways is provided at **Appendix 1** to assist the project team during detailed design &/or construction.

BCA Clause D3.2 – Access to Buildings

An accessway must be provided to a building required to be accessible:

- From the main points of pedestrian entry at the allotment boundary; and
- From another accessible building connected by a pedestrian link; and
- From any required accessible carparking space on the allotment.

An accessway must be provided through the principal pedestrian entrance, and:

- through not less than 50% of all pedestrian entrances including the principal pedestrian entrance; and
- in a building with a floor area more than 500m², a pedestrian entrance which is not accessible must not be located more than 50m from an accessible pedestrian entrance.

Doors on an accessway having multiple leaves must have a clear opening width of not less than 850mm for a single leaf.

Design Detail

Access to all new buildings is required from the main points of pedestrian entrance at the allotment boundary, from all accessible carparking spaces and from every other accessible building on the allotment where a pedestrian link is to be provided.

The Masterplan design indicates a combination of numerous existing accessible site entries as well as proposed new site entries.

Accessways are to be provided linking the new buildings with the main points of pedestrian entry at the allotment boundary.

Each of the new buildings shall incorporate an accessible entry and shall be interconnected with other buildings and any accessible car parking spaces via an accessible path of travel.

At the relevant Construction Certificate stage(s), we shall review / confirm the compliance for proposed site & building entries.

Where prescriptive BCA compliance is not achievable, we confirm our ability to offer BCA Performance Solution(s) to demonstrate compliance with the BCA Performance Requirements and placing reliance upon (among other things) –

- Specific function/ use/ management of the buildings.
- Management in use plan/s.
- Enhanced way-finding signage.

Compliance is readily achievable with a combination of DTS and BCA Performance Solutions at each of the relevant design stages.

A summary of AS 1428.1-2009 requirements for accessways is provided at **Appendix 1** to assist the project team during detailed design &/or construction.

BCA Clause D3.3 – Parts of Buildings to be Accessible

In a building required to be accessible:

- every ramp & walkway (except fire-isolated) must comply with Clause 10 of AS1428.1-2009;
- every stairway (except fire-isolated) must comply with Clause 11 of AS1428.1-2009;
- All fire-isolated stairways are required to comply with Clause 11.1 (f) and (g) of AS 1428.1-2009.
- Passing and turning spaces must be provided to accord with AS 1428.1-2009

Design Detail	All new stairs and ramps (other than required fire-isolated stairs and ramps) are to be design detailed to comply with the relevant requirements of Clause 10 and 11 of AS 1428.1-2009. Proposed stairs and ramps are to be reviewed at the detailed design phase &/or at the Construction stage. Compliance is readily achievable. Passing and turning spaces are readily capable of being incorporated into the design at the Construction stage. Compliance is readily achievable. A summary of AS 1428.1-2009 requirements for accessways is provided at Appendix 1 to assist the project team during detailed design &/or construction.
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BCA Clause D3.4 – Exemptions

An area where access would be inappropriate because of the particular purpose for which the area is used, or would pose a health or safety risk for people with a disability; is not required to be fully accessible.

For Info	Exemptions are to be reviewed on a case by case basis and when detailed design is achieved.
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BCA Clause D3.5 – Accessible Carparking

Accessible carparking spaces complying with AS2890.6-2009 must be provided in accordance with Table D3.5 in a Class 7a building required to be accessible and on the same allotment as a building required to be accessible.

Design Detail	Accessible car parking space(s) to be provided at the new on-grade carpark corresponding to the ratio of 1 space for every 100 proposed carparking spaces (or part thereof). Spatial allowance and features associated with an accessible car space are readily capable of being achieved to accord with AS 2890.6-2009. An accessway is required from the new accessible parking space(s) to the entry door of all new buildings. Refer to Clause D3.1 for accessway design detail. Compliance is readily achievable.
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BCA Clause D3.6 – Signage

Accessible buildings must have signage to comply with AS1428.1-2009 and as follows –

- braille and tactile signage incorporating the international symbol of access or deafness, must identify each sanitary facility and space with hearing augmentation system; and
- identify each door required by Clause E4.5 to be provided with an exit sign and state “Exit” and “Level” followed by the floor number;
- signage incorporating the international symbol of access or deafness, must be provided within a room containing a hearing augmentation system identifying the hearing augmentation type, area covered and location of receivers;
- signage in accordance with AS1428.1 must be provided for accessible unisex sanitary facilities to identify left or right handed use;
- signage to ambulant accessible facility must be on the door of the facility;
- directional signage where a pedestrian entrance is not accessible.

Design Detail	Signage shall be installed in this project as necessary, but shall include as a minimum:
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- identify each door required by Clause E4.5 to be provided with an exit sign and state “**Exit**” and “**Level**” followed by the floor number;
 - signage in accordance with AS 1428.1 must be provided for accessible unisex sanitary facilities to identify left or right handed use;
 - directional signage where a bank of sanitary facilities are not provided with an accessible sanitary facility.
 - Accessible and ambulant sanitary facility signage.
- All signage is to be design detailed to comply with the relevant requirements of Specification D3.6

BCA Clause D3.7 – Hearing Augmentation

Hearing augmentation system must be provided where an inbuilt amplification system (other than emergency warning) is installed:

- In a room in a Class 9b building; or
- Meeting room, conference room, auditorium, or room for judicatory purposes; or
- At any ticket office, teller booth, reception area or the like, where the public is screened from the service provider.

If provided in the form of an induction loop, it must cover no less than 80% of the floor of the room served.

If in the form of receivers, it must cover no less than 95% of the floor of the room served with a minimum of two (2) in any case, but depending on number of people accommodated.

Design Detail	Where an inbuilt amplification system is proposed (other than one for emergency warning only); system coverage details are required to be provided to ensure a suitable hearing augmentation system is provided. Compliance is readily achievable. Details shall form part of Construction Certificate documentation.
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BCA Clause D3.8 – Tactile Ground Surface Indicators (TGSi)

Accessible buildings must have TGSi's complying with Sections 1 & 2 of AS/NZS1428.4.1-2009 to warn blind or vision impaired people of approaching stairways (other than fire-isolated), escalators, ramps (other than fire-isolated, step or kerb ramp), any overhead obstruction less than 2m above floor level and an accessway meeting a vehicular way adjacent to any pedestrian entrance to a building. Any screen or scoreboard in a Class 9b capable of displaying public announcements must be capable of supplementing any public address system, other than one used for emergency warning purposes only.

Design Detail	TGSi's complying with AS/NZS1428.4.1-2009 shall be installed in this project as necessary, but shall include to areas as follows – ▪ Top and bottom of all ramps and stairways (except fire-isolated stairs). ▪ any overhead obstruction less than 2m above floor level. ▪ where an accessway meets a vehicular way adjacent to any pedestrian entrance to a building.
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BCA Clause D3.9 – Wheelchair seating spaces in Class 9b assembly buildings

Where fixed seating is provided in a Class 9b assembly building, wheelchair seating spaces complying with AS 1428.1 must be provided in accordance with Table D3.9.

Table D3.9 prescribes the number of wheelchair seating spaces to be allocated, for a total of 151-800 fixed seating spaces –

3 accessible spaces, plus 1 additional accessible space for each additional 50 seats or part thereof in excess of 150 seats.

Grouping and location are to be as follows –

- Not less than 1 single space; and
- not less than 1 group of 2 spaces; and
- not more than 5 spaces in any other group.

Design Detail	Numerous assembly building portions of the proposed building(s) incorporate the need for wheelchair seating spaces. Spatial allowance is available to readily provide the necessary accessible wheelchair seating spaces. Detail is necessary of the proposed seating at the Construction Certificate phase, such that we can review / confirm the suitability of the number and location of accessible wheelchair seating spaces. Compliance is readily achievable.
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BCA Clause D3.10 – Swimming Pools

Not applicable – no swimming pools have been proposed.

BCA Clause D3.11 – Ramps

On an accessway; a series of connected ramps must not have a combined vertical rise of more than 3.6 m; and a landing for a step ramp must not overlap a landing for another step ramp or ramp.

Design Detail	The proposed ramps shall not exceed a total rise of 3.6m and no overlapping of landings at step ramps shall occur. Ramps to be reviewed at detailed design stage to confirm compliance.
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BCA Clause D3.12 – Glazing on an Accessway

Not applicable as no new full height glazed elements are proposed i.e. doors, sidelights and walls have been proposed.

Design Detail	All fully glazed doors, sidelights and walls forming part of the accessway must be clearly marked in accordance with AS 1428.1-2009. Compliance is readily achievable during detailed design &/or construction.
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2.3 SECTION E – SERVICES & EQUIPMENT

Part E3 – Lift Installations

BCA Clause E3.6 – Passenger Lifts

Every passenger lift must:

- be one of the types identified in Table E3.6a, subject to the limitations on use specified in the Table; and
- have accessible features in accordance with Table E3.6b; and
- not rely on a constant pressure device for its operation if the lift car is fully enclosed.

Design Detail	All proposed passenger lift(s) shall be provided with the following features – i. Handrail complying with the mandatory handrail provisions of AS1735.12,
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- ii. Lift floor dimensions not less than 1,400mm x 1,600mm where the lift vertical travel is more than 12m otherwise 1,100mm x 1,400mm if vertical lift travel does not exceed 12m,
- iii. Minimum clear door opening complying with AS1735.12,
- iv. Passenger protection system complying with AS1735.12,
- v. Lift landing doors at the upper landing,
- vi. Lift car and landing control buttons complying with AS1735.12,
- vii. Lighting in accordance with AS1735.12,
- viii. Lifts serving more than 2 Levels –
 - Automatic audible information within the lift car to indicate the level each time the lift car stops;
 - audible and visual indication at each lift landing to indicate the arrival of the lift car;
 - audible information and audible indication is to be provided in a range of between 20-80dB(A) at a maximum frequency of 1500Hz;
- ix. Emergency hands-free communication, including a button that alerts a call centre of a problem and a light to signal that the call has been received.

The lift shall comply with the above and AS 1428.1-2009. Compliance readily achievable.

A design certificate should be obtained from the lift designer to confirm compliance with the relevant provisions of the BCA and Australian Standards at construction approval phase.

2.4 SECTION F – HEALTH & AMENITY

Part F2 – Sanitary & Other Facilities

BCA Clause F2.4 – Accessible Sanitary Facilities

In a building required to be accessible:

- Accessible unisex sanitary compartments must be provided as per Table F2.4(a),
- At each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1 must be provided for use by males and females.
- An accessible unisex sanitary compartment must contain a closet pan, washbasin, shelf or bench top and adequate disposal of sanitary towels.
- Circulation spaces, fixtures and fittings of all accessible sanitary facilities must comply with AS1428.1.
- Where two or more of each type of accessible unisex sanitary facility are provided, the number of left and right handed mirror image facilities must be provided as evenly as possible.
- An accessible unisex facility must be located so that it can be entered without crossing an area reserved for one sex.

Design Detail

Accessible and ambulant sanitary facilities are to be provided throughout the school / new work in accordance with this clause.

The Masterplan design incorporates numerous banks of sanitary facilities throughout the proposed new buildings. The ability readily exists to incorporate the required allocation of accessible and ambulant sanitary facilities.

At the relevant Construction Certificate stage(s), we shall review / confirm the compliance of proposed accessible sanitary facilities.

Where prescriptive BCA compliance is not achievable, we confirm our ability to offer *BCA Performance Solution(s)* to demonstrate compliance with the BCA Performance Requirements and placing reliance upon (among other things) –

- Specific function/ use/ management of the buildings.
- Management in use plan.
- Enhanced way-finding signage.

We highlight the necessity for accessible showers to be provided in the multi-purpose hall. Sanitary compartments combining w/c and shower are a suitable means of satisfying AS 1428.1. Compliance is readily achievable.

The distribution of left hand and right hand accessible sanitary facilities are to be provided as evenly as possible.

Ambulant sanitary facilities are required to be provided at each bank of sanitary facilities.

Fixtures and fittings within the accessible sanitary facilities shall comply with AS 1428.1-2009.

Compliance is readily achievable with DTS and/or BCA Performance Solutions at each of the relevant design stages.

In this regard and to offer detail to the project team, refer to **Appendix 1** for a summary of AS 1428.1-2009 requirements for accessible & ambulant sanitary facilities.

3.0 CONCLUSION

This report identifies the compliance status of the Development Application architectural design with the following –

- Relevant accessibility related 'deemed-to-satisfy' (DTS) requirements of the Building Code of Australia (BCA) 2016. These provisions are generally contained within Part D3 and Clause(s) E3.6 & F2.4 of the code; and
- The Disability (Access to Premises – Building) Standards 2010 (Premises Standards).

The outcome of the report highlights that the current masterplan design may contain some minor prescriptive compliance departures with the DTS provisions of the BCA, however, such may be readily resolved by BCA Performance Solution(s) or minor design changes, as nominated at Part 2.0 of this report at the relevant Construction Certificate design phase.

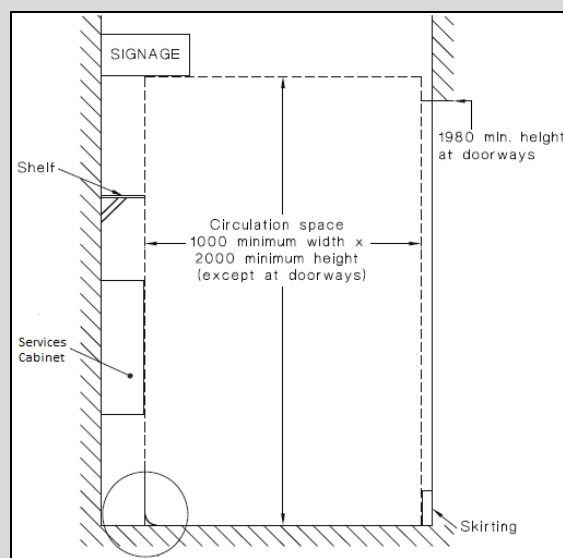
Appendix 1 – Technical Specification(s)

BCA Clause D3.1 –

Summary of AS1428.1-2009 Requirements for accessways

Continuous accessible path of travel –

All paths of travel shall achieve unobstructed heights and widths in accordance with cl. 6 of AS 1428.1 – see diagram below for detail.



Doorways / Doors –

- (i) All doorways shall have a minimum luminance contrast of 30% between –
 - door leaf and door jamb;
 - door leaf and adjacent wall;
 - architrave and wall;
 - door leaf and architrave;
 - door jamb and adjacent wall.
- (ii) The minimum width of the area of luminance contrast shall be 50mm,
- (iii) Door hardware should be generally located between 900-1100mm from the floor and be of lever type with a clearance between the handle and the door face at the centre of the handle being not less than 35mm and not more than 45mm in accordance with AS1428.1-2009,
- (iv) Doors shall have a clear opening width of 850mm.
- (v) Door handles and related hardware shall be of the type that allows the door to be unlocked and opened with one hand. The handle shall be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch.
- (vi) 'D' type handles shall be provided on sliding doors.
- (vii) Any snibs shall have a lever handle of a minimum length of 45 mm from the centre of the spindle.
- (viii) For doors (other than fire doors and smoke doors) where a door closer is fitted, the force required at the door handle to operate the door shall not exceed the 20N,
- (ix) Where an outward opening door is not self-closing, a horizontal handrail or pull bar shall be fixed on the closing face of a side-hung door,
- (x) The location of controls for doors and gates above a level surface shall be provided as per Clause 13.5.3.
- (xi) Manual controls for power-operated doors shall be located no closer than 500 mm from an internal corner and between 1000 mm to 2000 mm from the hinged door leaf in any position or clear of a surface-mounted sliding door in the open position.
- (xii) Push-button controls shall have a minimum dimension of 25 mm diameter and be proud of the surface and shall activate the door before the button becomes level with the surrounding surface.

Floor or ground surfaces on continuous accessible paths of travel and circulation spaces –

- (i) A continuous accessible path of travel and any circulation spaces shall have a slip-resistant surface. The texture of the surface shall be traversable by people who use a wheelchair and those with ambulant or sensory disability.
- (ii) Abutment of surfaces shall have a smooth transition. Design transition shall be 0mm, however, construction tolerances are as follows –
 - $0 \pm 3\text{mm}$ vertical change in level – see Figure 1
 - $0 \pm 5\text{mm}$ change in level provided the edges have a beveled or rounded edge to reduce the likelihood of tripping – see Figure 2
 - Various tolerances for raked joint pavers – see Figure/s 3a - level surfaces, 3b - irregular surfaces & 3c - domed surfaces.

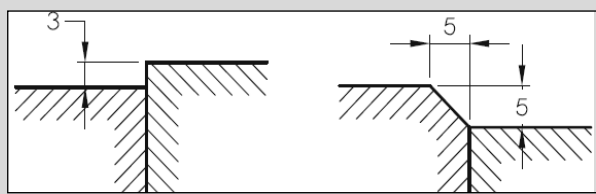


Figure 1

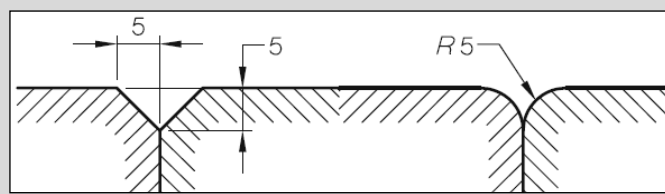


Figure 2

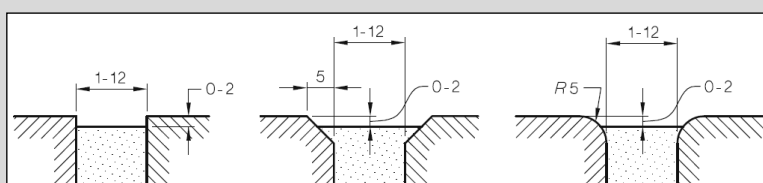


Figure 3a – For continuous paving units – level surfaces

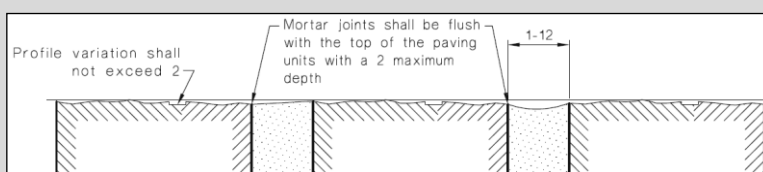


Figure 3b – For continuous paving units – irregular surfaces

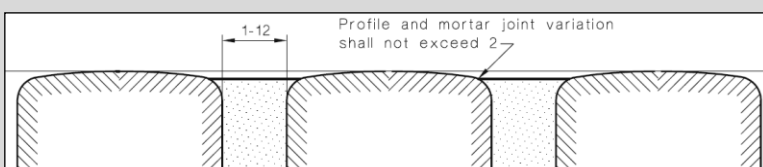


Figure 3c – For continuous paving units – domed surfaces

- (iii) Where carpets or any soft flexible materials are used on the ground or floor surface –
 - The pile height or pile thickness, shall not exceed 11mm and the carpet backing thickness shall not exceed 4mm,
 - Exposed edges of floor covering shall be fastened to the floor surface and shall have a trim along the entire length of any exposed edge,
 - At the leading edges, carpet trims and any soft flexible materials shall have a vertical face no higher than 3mm or a rounded beveled edge no higher than 5mm or above that height a gradient of 1:8 up to a total maximum height of 10mm.
- (iv) Matting recessed within an accessible path of travel –
 - Where of metal and bristle type construction or similar, its surface shall be no more than 3mm if vertical or 5mm if rounded or beveled, above or below the surrounding surface; and

- Where of a mat or carpet type material, shall have the fully compressed surface level with or above the surrounding surface with a level difference no greater than 3mm if vertical or 5mm if rounded or beveled.

Switches and Controls –

- (i) All new switches and controls, other than power points, shall be located not less than 900mm nor more than 1100mm above the finished floor and not less than 500mm from internal corners.
- (ii) Rocker action and toggle switches shall be provided in accordance with Clause 14.2 in accessible residential sole-occupancy units.

BCA Clause D3.3 –

Summary of AS1428.1-2009; Clause 10 & 11 Requirements (Ramps & Stairs)

Clause 10.2 – Walkways

Walkways shall comply with the following:

- The floor or ground surface abutting the sides of the walkway shall provide a firm and level surface of a different material to that of the walkway at the same level of the walkway, follow the grade of the walkway and extend horizontally for a minimum of 600 mm unless one of the following is provided:
 - Kerb in accordance with Figure 18.
 - Kerb rail and handrail in accordance with Figure 19.
 - A wall not less than 450 mm in height.
- Landings at top and bottom and at:
 - 25m intervals or less for 1:33,
 - 15m intervals or less for 1:20,
- For walkways shallower than 1 in 33, no landings are required.

Clause 10.5 - Threshold ramps

- Threshold ramps at doorways to have a max. rise of 35mm, max length of 280mm, max gradient of 1:8 and be located within 20mm of the door leaf.
- Edges of the threshold ramp shall be tapered or splayed at max 45° if not abutting a wall.

Clause 10.6 - Step ramps

- Step ramps shall have max. rise of 190mm, max. length of 1.9m, max. gradient of 1:10.
- Edges of the step ramp to have 45° splay where there is pedestrian traffic or otherwise be protected by suitable barrier such as a min. 450mm wall or kerb / kerb rail with open balustrade.
- Step ramps to have slip-resistant surfaces.

Clause 10.8 - Landings

Landings for walkways (up to 1:33) and ramps shall comply with one of the following:

- min. 1.2m if no change in direction as per Figure 25(A),
- min. 1.5m where change in direction not exceeding 90° internal corner to be truncated for min. 500mm in both directions as per Figure 25(B),
- 180° turn, landing as per Figure 25(C).
- Landings for step ramps shall be min. 1.2m in length as per Figure 22(A) and (B). Where a change in direction, the length of the step ramp landing to be min. 1.5m as per Figure 22(A). At doorways, landings as per Clause 13.3 for circulation spaces at doorways shown in Figure 25(D).
- Landings at kerb ramps shall be min. 1.2m in length, or 1.5m X 2.0m at 'T' junctions. Where a single change in direction is required, landings to be min. 1.5m X 1.5m.

Clause 11.1 - Stair construction

Stairs to be constructed as follows:

- Set back min. 0.9m from boundary,
- Where intersection is at an internal corridor, the stair to be set back as per Figure 26(A),
- Have opaque risers,

- Nosings shall not project beyond the face of the riser and the riser may be vertical of 25mm backwards splay,
- Nosing profiles to have a sharp intersection, be rounded up to 5mm radius or be chamfered up to 5mm x 5mm,
- 50mm – 75mm strip to full length of nosing, set back a max. 15mm from the front of the nosing, with a 30% min. luminance contrast. If not set back, luminance contrast to extend down the riser by max 10mm.
- TGSIs installed as per AS1428.4.1.

Clause 11.2 - Stairway handrails

Handrails to be continuous throughout the stair flight and around landings and have no obstructions 0.6m above, and as follows:

- Design & construction as per Clause 12,
- Installed both sides,
- No vertical sections and shall follow angle of the stairway nosings,
- Extend at bottom of stairs one stair tread depth and min. 300mm horizontally, (300mm extension not required if handrail is continuous,
- Dimensions of heights of handrails taken vertically from the nosing or landing to the top of the handrail.

Clause 12 - Handrails

Design and construction to comply with:

- Handrails and balustrades shall not encroach into required circulation,
- Circular or elliptical cross-section, not less than 30mm or more than 50mm for more than 270°. Elliptical handrails to have greater horizontal dimensions,
- Exposed edges or corners have min. radius of 5mm,
- Top of handrail to be between 865mm and 1.0m above nosing or landing,
- Height to be constant throughout,
- If balustrade is required at a height greater than the handrail, both shall be provided,
- Handrails to be securely fixed and rigid with ends turned through a total of 180°, or to the ground, or returned fully to end post or wall face (Figures 26 C and D),
- Min. 50mm clearance to adjacent wall or other obstruction, for a height of 600mm,
- Handrails to have no obstructions to the passage of a hand along the rail,
- Inside handrail at landings to always be continuous as per Figure 28(a).

BCA Clause F2.4 -

Summary of AS1428.1-2009 requirements for Accessible & Ambulant Sanitary Facilities Water Taps – Must have:

- Taps shall have lever handles, sensor plates or other similar control,
- Lever handles to be min. 50mm clear from adjacent surface,
- Where hot water is provided, the water to be delivered through the mixing spout.

WC pan clearances

- WC pan clearance including set-out, seat height and seat width as per Figure 38 of AS1428.1.

Seat – As follows:

- full round type with minimal contours,
- be securely fixed when in use,
- seat fixings that create lateral stability,
- load rated to 150kgs,
- min. luminance contrast of 30%.

Backrest – As follows:

- be capable of withstanding 1100 N,
- height to the lower edge of backrest to the top of the WC pan of 120mm to 150mm,
- vertical height of 150mm-200mm and a width of 350mm and 400mm,
- front edge of the centre of the backrest to be at an angle of 95° to 100°.

Flushing control

- Flushing controls shall be user activated, either hand operated or automatic. Hand-operated controls to comply with Figure 40, or on the centre-line of the toilet within the vertical limit zone. Controls within this zone shall not be within the area required for grabrails.
- Controls shall be proud of the surface and activate the flush before being level with the surrounding surface.

Toilet paper dispenser

- Toilet paper dispenser to be located within zone specified in Figure 41. Dispenser shall not encroach on required grabrail clearances.

Grabrails

- Concealed, high level cisterns or flush valves require a continuous grabrail across the rear wall and the side wall closest to the pan as per Figure 42.
- Low-level non-concealed cistern or flush valves require the grabrail to terminate each side of the cistern as per Figure 42.

Circulation space – Shall be as per Figure 43 of AS1428.1-2009, except for the following intrusions:

- Toilet paper dispenser,
- Grabrails,
- Washbasins with 100mm intrusion,
- Hand dryers and towel dispensers,
- Soap dispensers,
- Shelves,
- Wall cabinets with 150mm intrusion, mounted between 0.9m and 1.25m,
- Clothes hanging devices,
- Portable sanitary disposal units (Figure 43),
- Other wall mounted fixtures with 150mm intrusion, mounted between 0.9m and 1.25m.
- The overlapping of circulation space shall be in accordance with Clause 15.6.

Baby change tables

- Where installed, baby change tables shall not encroach into the required circulation space when in the folded position and have a max height of 820mm with clearance underneath of min. 720mm when open.

WC doors

- To be either hinged or sliding,

- Outward-opening doors shall have a mechanism to hold in the closed position without the use of a latch,
- Doors provided with an in-use indicator and a bolt or catch. If fitted with a snib, the snib handle is to be min. length of 45mm from the centre of the spindle.
- Latch mechanism are to be openable from the outside in the case of an emergency.
- Force required as per Clause 13.5.2(e),
- Door handles and hardware as per Clause 13.5.

Washbasins for unisex accessible sanitary facilities

- A hand-washing facility shall be provided inside the toilet cubicle

Washbasins – As follows:

- Shall be located inside the cubicle,
- Washbasin outside pan circulation,
- Water taps as per Clause 15.2.1,
- Exposed hot water supply pipes to be insulated or located so as not a hazard,
- Projection of washbasins from wall and taps, bowl and drain outlet as per Figures 44 (A) and (B),
- Water supply pipes and waste outlets not to encroach on required clear space under basin.
- Each washbasin fixture to have unobstructed circulation space as per Figure 46, or Figure 45 for SOU's.

Mirrors

- Mirror to be located above or adjacent to washbasin.
- Where provided, a vertical mirror with a reflective surface not less than 350mm wide to extend from a height not less than 0.6m to not more than 1.85m.
- In an accessible residential unit, the mirror to be centred over the washbasin.

Shelves – To be provided adjacent to washbasin, as follows:

- A vanity top at a height of 800mm-830mm and min. width of 1200mm and depth of 300mm-400mm without encroaching circulation space,
- A separate fixture, within any circulation spaces at a height of 0.9m-1.0m, and external to all circulation space 0.79m-1.0m.

Soap dispensers, towel dispenser and similar fittings

- Soap and towel dispensers and hand dryers shall be operable by one hand and installed so the operative component or outlet between 0.9m and 1.1m and no closer than 0.5m from an internal corner.

Clothes-hanging devices

- A clothes-hanging device shall be installed 1.2m to 1.35m high and not less than 0.5m from an internal corner.

Sanitary disposal unit

- Where provided, sanitary disposal units to be as per Figure 43 for portable units or 0.5m from the pan for recessed units.

Switches and general purpose outlets

- Where provided near the washbasin, switches and GPOs to be located as per Clause 14 and as close to the shelf as possible.

Showers

- Shower recesses and circulation space to a height not less than 0.9m as per Figure 47. Grabrails, shower hose fittings, taps, soap holder, shelf and seat are the only fixtures permitted in these spaces.

Circulation spaces in accessible sanitary facilities

- Circulation spaces in accessible sanitary facilities shall be in accordance with Clause 15.2.8 and Figures 43-47 and 50.
- Circulation spaces, including door circulation space, may be overlapped.
- Fixtures shall not encroach circulation space except:
 - a. Washbasin in WC circulation as per Figure 43,
 - b. Washbasin in shower circulation as per Figure 50,
 - c. Washbasin in door circulation as per Figure 51 (A) and 51 (B).
- Clearances beneath washbasin as per Clause 15.3.

Summary of AS1428.1-2009 requirements for Ambulant Sanitary Facilities

General

- Ambulant sanitary facilities shall be in accordance with Figures 53(A) and 53(B).

Grabrails

- Grabrails shall be installed in accordance with Clause 17 and Figure 53(A).

Doors

- Doors to sanitary compartments for people with ambulant disabilities shall have openings with a minimum clear width of 700 mm, and shall comply with Figure 53(B).
- Doors shall be provided with an in-use indicator and a bolt or catch. Where a snib catch is used, the snib handle shall have a minimum length of 45 mm from the centre of the spindle. In an emergency, the latch mechanism shall be openable from the outside.

Coat hook

- A coat hook shall be provided within the sanitary compartment and at a height between 1350 mm to 1500 mm from the floor.