



ACCESSIBILITY ASSESSMENT REPORT

PROJECT:	Stage 1 - 400-404 Cabramatta Road West, 2-18 Orange Grove Road & 6 Links Avenue Cabramatta NSW 2166
STAGE:	Development Application Phase
REFERENCE:	22010A.4-ACCESS
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1. Introduction

1.1 Project Description

The proposed development is understood to form part of a multi stage development (Stage 1 and Stage 2), of which the subject development is known as Stage 1.

The proposed Stage 1 development is proposed to include the construction of 53 townhouses with a combination of 2 & 3 storey townhouses and basement carparking located below 17 townhouses that will accommodate up to 47 vehicles.

The distribution of residential townhouses comprising Block A – H, including off-street carparking is highlighted in the site plan below.

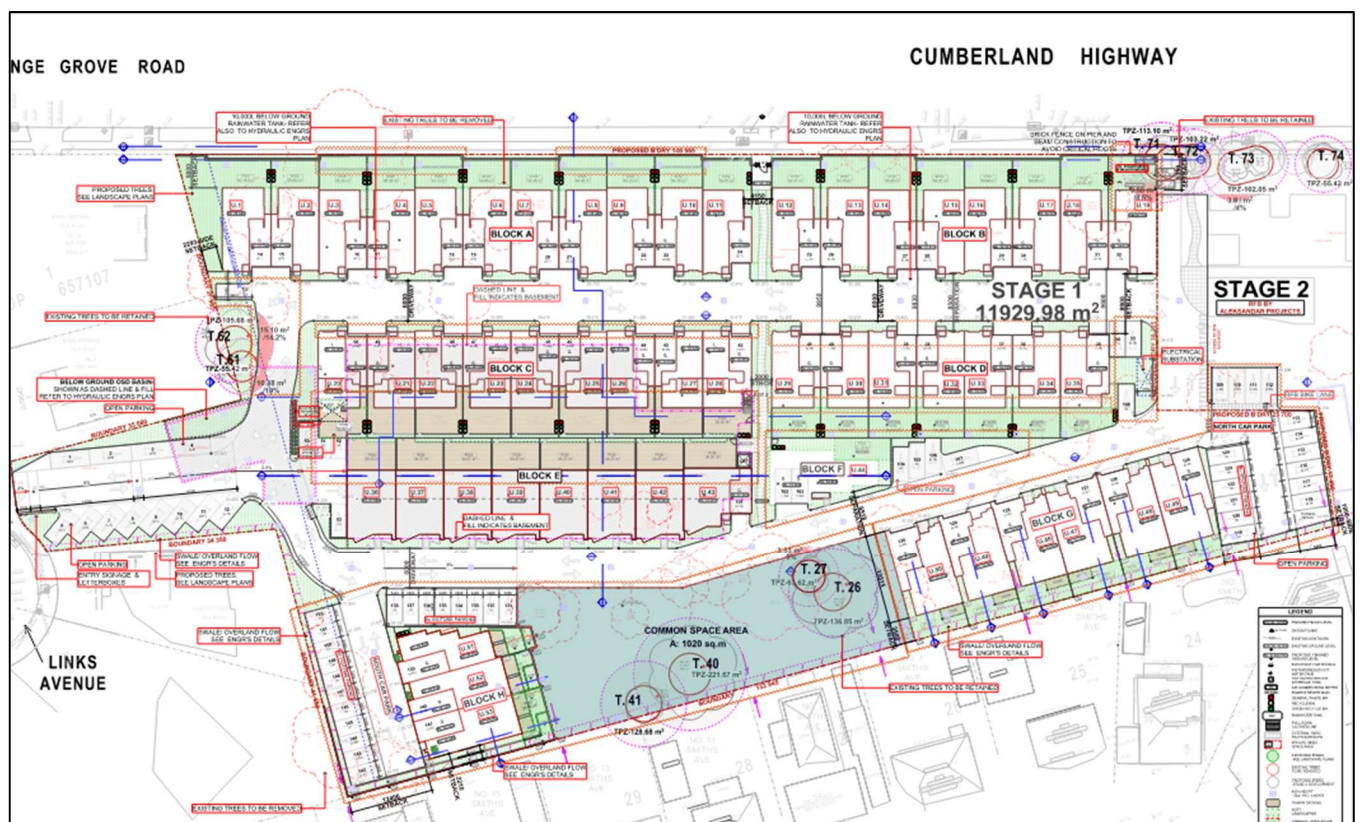


Figure 1.1 – Site plan

1.2 Intent of Report

The purpose of this report is to provide an assessment of the proposed scope of works associated with Block C & E and associated basement carpark below for the Stage 1 development, against the relevant accessibility deemed-to-satisfy provisions of the Building Code of Australia (BCA) Volume One 2022 (i.e., Part D4, E3D7 - E3D8, F4D5 - F4D7 & F4D12).

Where non-compliances are identified, recommendations for resolution are to be provided in the form of a deemed to satisfy solution and/or performance-based solution, as applicable.

1.3 Limitations

This report does not include nor imply that an assessment of the following has been completed for the proposed works -

- (a) Structural Adequacy, Design & Performance;
- (b) Fire, Mechanical, Hydraulic and Electrical Services Design & Performance;
- (c) Work Health & Safety Act 2011;
- (d) Work Cover Authority Requirements;
- (e) Service & Utilities Authority Requirements;
- (f) The Disability Discrimination Act (DDA) 1992;
- (g) National Construction Code Volume 2 2022;
- (h) National Construction Code Volume 3 2022 (Plumbing Code of Australia 2022);
- (i) Any BCA Deemed-to-Satisfy provisions other than those contained within the relevant accessibility Deemed-to-Satisfy provisions of National Construction Code (i.e. Part D4, E3D7 - E3D8, F4D5 - F4D7 & F4D12);
- (j) The relevant energy efficiency Deemed-to-Satisfy provisions as contained within the National Construction Code (i.e. Section J).
- (k) Proposed scope of works forming part of the Stage 2 development proposal;
- (l) Class 1a Residential Dwellings within Block A, Block B, Block D, Block F, Block G & Block H associated with the proposed Stage 1 development.

1.4 Documentation Assessed

This assessment is based upon the documentation referenced within **Annexure 1** of this report.

2. Building Description

2.1 General

The proposed Stage 1 development is proposed to include the construction of 53 townhouses with a combination of 2 & 3 storey townhouses and basement carparking located below 17 townhouses that will accommodate up to 47 vehicles.

The distribution of residential townhouses and associated basement carpark is as follows –

- (a) Block A – 11x Class 1a townhouses
- (b) Block B – 8x Class 1a townhouses
- (c) Block C – 9x Class 2 townhouses
- (d) Block D – 7x Class 2 townhouses
- (e) Block E – 8x Class 2 townhouses
- (f) Block F – 1x Class 2 townhouse
- (g) Block G – 6x Class 1a townhouses
- (h) Block H – 3x Class 1a townhouses

For the purposes of this assessment, the building comprising the Class 2 residential dwellings and Class 7a basement carpark below are to be assessed against the relevant accessibility provisions of the Building Code of Australia 2022 (BCA), with the Class 1a dwellings not required to be accessible in the context of the BCA.

For the purposes of the Building Code of Australia assessment, the building comprising Block C & Block E, including the basement carpark below, is described hereunder.

2.2 Classification/s

The building has been identified as having the following building classifications –

Classification	Description
2	Residential (Townhouses U.20 - U.28 & U.36 - U.43)
7a	Carpark

2.3 Rise in Storeys

The building has been determined as having a rise in storeys of 3.

2.4 Type of Construction

The building has been determined as being of Type B Construction, on the basis the building has a rise in storeys of 2 and the use of the topmost level is of a Class 2 use.

2.5 Principal Pedestrian Entrance/s

Referring to Figure 2.1 below, the principal pedestrian entrance to the building (highlighted red) from the road boundary (via Links Avenue) has been assessed as shown.

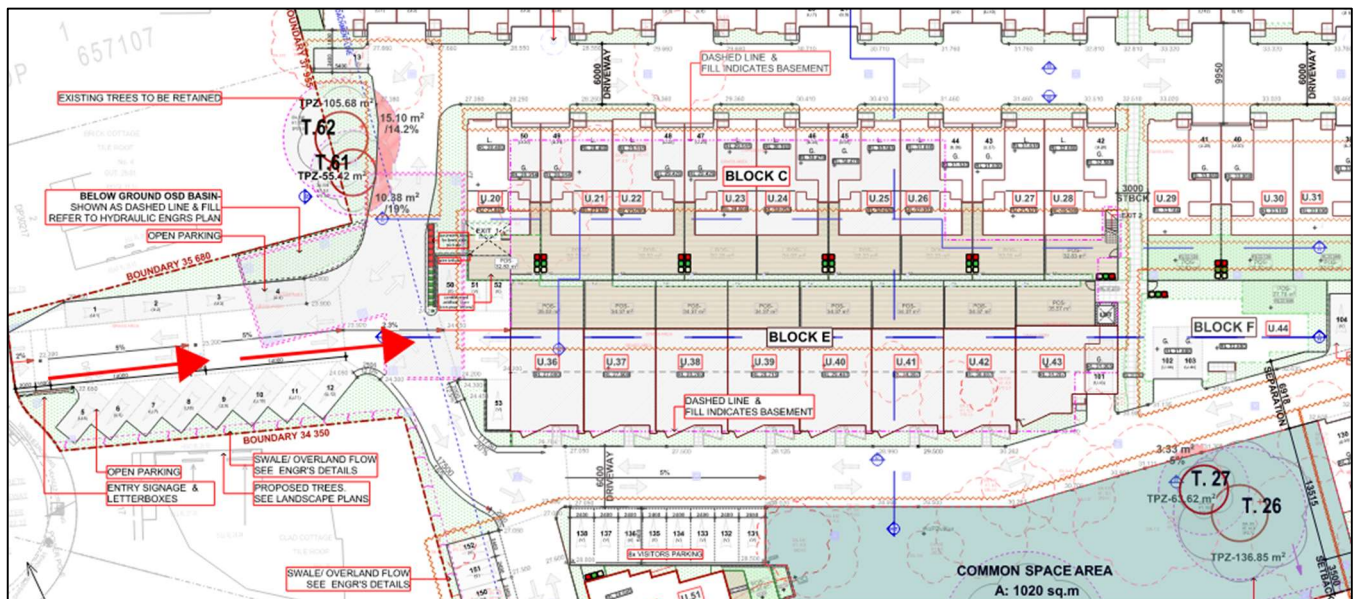


Figure 2.1 – Pedestrian entrance

Access to the building has been assessed further in D4D3 of the report.

2.6 Exemptions

The following areas have been identified as not required to be accessible in accordance with D4D5 of the BCA, based on the particular purpose for which it is to be used as well as the potential health or safety risk posed for people with a disability -

- (a) Storage Area/s; and
- (b) Plant & Equipment Room/s; and
- (c) Service Room/s; and
- (d) Waste Room/s.

2.7 Interpretation Notes

The following interpretations have been adopted as part of the assessment undertaken for the proposed development -

- (a) No car spaces within the basement carpark level have been identified as accessible.
- (b) The building has been identified as not containing a common area that is used for access to the residential dwellings, with access to each dwelling provided via the external space, that is open to the sky.
- (c) The required stairway located adjacent to the lift has been assessed as a non-fire isolated stairway discharging to the ground floor above.

3. Detailed Assessment

A detailed assessment of the proposed scope of works in the context of the applicable Deemed to Satisfy provisions of the Building Code of Australia (BCA) has been undertaken, as outlined below.

The status of compliance against each applicable BCA clause assessed has adopted the following abbreviations-

C	Complies. The proposed design satisfies the requirements of the BCA clause.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the BCA clause, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the BCA clause.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the BCA clause.
PPS	Potential for Performance Solution.
Note	Information is provided to guide the reader and not as specific assessment of the BCA clause.
N/A	Not applicable. The requirements of the BCA clause do not apply.

SECTION D: ACCESS AND EGRESS

Part D4 – Access for people with a disability

BCA Clause		Comment/s	Status
D4D2	General building access requirements	<p><u>Requirement/s</u></p> <p>Except as excluded under Section 2.7 of this report, access for people with a disability must be provided to and within class 2 common areas, and class 7a carparking areas –</p> <p>Class 2 Common Areas</p> <p>(a) From a pedestrian entrance required to be accessible to at least 1 floor containing sole occupancy units and to the entrance doorway of each sole occupancy unit located on that level.</p> <p>(b) To and within not less than 1 of each type of room or space for use in common by the residents, including a cooking facility, sauna, gymnasium, swimming pool, common laundry, games room, individual shop, eating area, or the like.</p> <p>(c) Where a ramp complying with AS1428.1-2009 or a passenger lift is installed –</p> <p>(i) To the entrance doorway of each sole occupancy unit; and</p> <p>(ii) To and within rooms or spaces for use in common by the residents,</p> <p>located on the levels served by the lift or ramp.</p> <p>Class 7a Carpark</p> <p>(a) To and within any level containing accessible car parking spaces.</p>	CRA

		<p><u>Comment/s</u></p> <p>It is noted that the building does not contain any common areas nor any accessible carparking spaces within the basement carpark level, with access to each dwelling accessed direct from the open space. Hence, the provisions contained within this clause do not apply.</p>	
Part D4 – Access for people with a disability			
BCA Clause		Comment/s	Status
D4D3	Access to buildings	<p><u>Requirement/s</u></p> <p>An accessway complying with AS1428.1-2009 must be provided to the building —</p> <ul style="list-style-type: none"> (a) from the main points of a pedestrian entry at the allotment boundary; and (b) from another accessible building connected by a pedestrian link; and (c) from any required accessible carparking space on the allotment. 	CRA
D4D4	Parts of buildings to be accessible	<p><u>Requirement/s</u></p> <ul style="list-style-type: none"> (a) any ramp and stairway, except for ramps and stairways in areas exempted by D4D5, must comply with— <ul style="list-style-type: none"> (i) for a ramp, clause 10 of AS 1428.1-2009; and (ii) for a stairway, clause 11 of AS 1428.1-2009; (b) every passenger lift must comply with E3D7 and E3D8. 	CRA
D4D5	Exemptions	Refer section 2.7 of this report for areas identified as not required to be accessible in accordance with this clause.	Note
D4D6	Accessible carparking	<p><u>Requirement/s</u></p> <p>Not applicable. Accessible carparking spaces need not be provided for the Class 2 part of the building. Additionally, it noted that no accessible carparking spaces are proposed within the class 7a basement carpark.</p>	N/A
D4D7	Signage	Not applicable.	N/A
D4D8	Hearing augmentation	Not applicable.	N/A
D4D9	Tactile indicators	<p><u>Requirement/s</u></p> <p>Tactile ground surface indicators complying with Sections 1 and 2 of AS/NZS 1428.4.1-2009 must be provided to warn people who are blind or have a vision impairment that they are approaching –</p> <ul style="list-style-type: none"> (a) A stairway, other than a fire isolated stairway; and (b) A ramp, other than a fire isolated ramp, step ramp, kerb ramp; or swimming pool ramp; and (c) In the absence of a suitable barrier, an overhead obstruction less than 2m above the floor level and an accessway meeting a vehicular way adjacent to any pedestrian entrance to a building. 	CRA

Part D4 – Access for people with a disability

BCA Clause		Comment/s	Status
D4D10	Wheelchair seating spaces in Class 9b assembly buildings	Not applicable.	N/A
D4D11	Swimming pools	Not applicable.	N/A
D4D12	Ramps	<p>Requirement/s</p> <p>Where proposed, on an accessway –</p> <p>(a) a series of connected ramps must not have a combined vertical rise of more than 3.6 m; and</p> <p>(b) a landing for a step ramp must not overlap a landing for another step ramp or ramp.</p>	CRA
D4D13	Glazing on an accessway	<p>Requirement/s</p> <p>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 for their full width with a solid and non-transparent contrasting line in accordance with Clause 6.6 of AS1428.1-2009.</p> <p>Clause 6.6 of AS1428.1-2009 requires that the contrasting line shall be not less than 75 mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level.</p> <p>Any contrasting line on the glazing shall provide a minimum of 30% luminance contrast when viewed against the floor surface or surfaces within 2 m of the glazing on the opposite side.</p>	CRA

SECTION E: SERVICES AND EQUIPMENT

Part E3 – Lift installations

BCA Clause		Comment/s	Status
E3D7	Passenger lift types and limitations	<p><u>Requirement/s</u></p> <p>(1) The passenger lift connecting the basement level to the ground floor level must be one of the following lift types –</p> <p>(a) A low-rise, low-speed constant pressure lift must not—</p> <p>(i) for an enclosed type, travel more than 4 m; or</p> <p>(ii) for an unenclosed type, travel more than 2 m; or</p> <p>(iii) be used in a high traffic public use areas in buildings such as a theatre, cinema, auditorium, transport interchange, shopping complex or the like.</p> <p>(b) A small-sized, low-speed automatic lift must not travel more than 12 m.</p> <p>(2) A passenger lift referred to in (1) must not rely on a constant pressure device for its operation if the lift car is fully enclosed.</p>	CRA
E3D8	Accessible features required for passenger lifts	<p><u>Requirement/s</u></p> <p>The passenger lift connecting the basement level to the ground floor level must have the following features –</p> <p>(a) A handrail complying with the provisions for a mandatory handrail in AS 1735.12-1999;</p> <p>(b) Lift floor dimensions of not less than 1100 mm wide x 1400 mm deep</p> <p>(c) Minimum clear door opening complying with AS 1735.12-1999;</p> <p>(d) Passenger protection system complying with AS 1735.12-1999, where provided with power-operated doors;</p> <p>(e) Lift landing doors at the upper landing for all lifts;</p> <p>(f) Lift car and landing control buttons complying with AS 1735.12-1999;</p> <p>(g) Lighting in accordance with AS 1735.12-1999;</p> <p>(h) 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.</p>	CRA

SECTION F: HEALTH AND AMENITY**Part F4 – Sanitary and other facilities**

BCA Clause		Comment/s	Status
F4D5	Accessible sanitary facilities	Not applicable. No accessible unisex sanitary compartments required.	N/A
F4D6	Accessible unisex sanitary compartments	Not applicable. No accessible unisex sanitary compartments required.	N/A
F4D7	Accessible unisex showers	Not applicable. No accessible unisex showers required.	N/A
F4D12	Accessible adult change facilities	Not applicable. The subject building does not require a unisex adult change facility.	N/A

4. Conclusion

In concluding the review undertaken, it is considered that based on the documentation provided (as referenced in Annexure 1), the proposed scope of works is capable of complying with the relevant accessibility deemed to satisfy provisions and/or performance requirements of the Building Code of Australia (BCA) Volume 1 2022.

Where compliance is to be obtained via a performance-based solution for any BCA provision, it is considered that any such solution/s will not necessitate significant changes to the proposed design.



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ANNEXURE 1 – Documentation Assessed

This assessment is based on the following documentation –

Discipline	Architectural
Organisation	Designiche P/L
Documentation Type	Plans

Plan No.	Title	Revision	Date
06	SITE PLAN	B	01.05.23
08	BASEMENT PLAN	B	01.05.23
09	GROUND FLOOR PLAN	B	01.05.23
10	FIRST FLOOR PLAN	B	01.05.23
11	ATTIC PLAN	B	01.05.23
12	ELEVATIONS 1 OF 2	B	01.05.23
13	ELEVATION 2 OF 2	B	01.05.23
14	SECTIONS	B	01.05.23
15	SECTIONS	B	01.05.23

ANNEXURE 2 – Summary of Technical Requirements

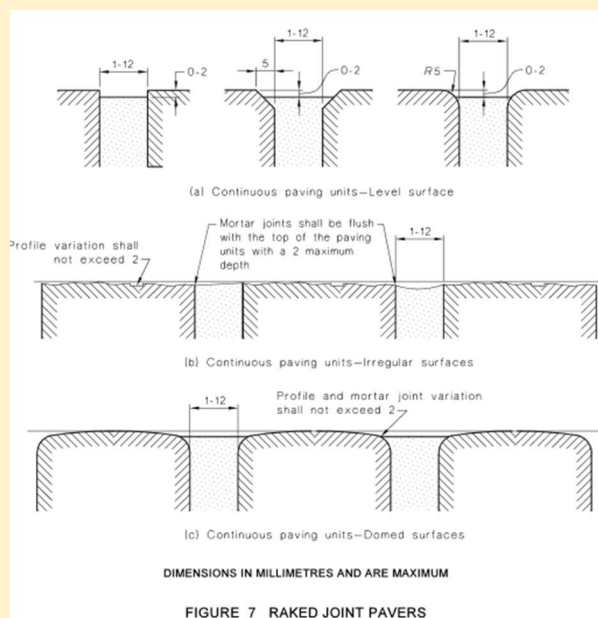
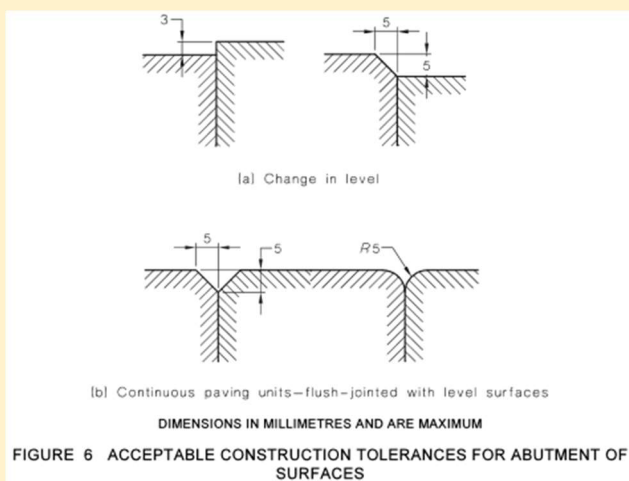
REQUIREMENTS

CONTINUOUS ACCESSIBLE PATHS OF TRAVEL

- (a) The minimum unobstructed height of a continuous accessible path of travel shall be 2000 mm or 1980 mm at doorways.
- (b) Unless otherwise specified (such as at doors, curved ramps and similar), the minimum unobstructed width of a continuous accessible path of travel shall be 1000 mm.

FLOOR OR GROUND SURFACES ON CONTINUOUS ACCESSIBLE PATHS OF TRAVEL AND CIRCULATION SPACES

- (a) Abutment of surfaces shall have a smooth transition. Design transition shall be 0 mm. Construction tolerances shall be as follows:
 - (i) 0 ± 3 mm vertical, as shown in Figure 6(a) of AS1428.1-2009.
 - (ii) 0 ± 5 mm, provided the edges have a bevelled or rounded edge to reduce the likelihood of tripping, as shown in Figure 6(b) of AS1428.1-2009.
- (b) Tolerances for raked joint pavers shall be as shown in Figure 7 of AS1428.1-2009.



- (c) Where carpets or any soft flexible materials are used on the ground or floor surface—
 - (i) the pile height or pile thickness shall not exceed 11 mm and the carpet backing thickness shall not exceed 4 mm;
 - (ii) 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; and
 - (iii) at the leading edges, carpet trims and any soft flexible materials shall have a vertical face no higher than 3 mm or a rounded bevelled edge no higher than 5 mm or above that height a gradient of 1 in 8 up to a total maximum height of 10 mm.
- (d) Matting recessed within a continuous accessible path of travel—
 - (i) where of metal and bristle type construction or similar, its surface shall be no more 3 mm if vertical or 5 mm if rounded or bevelled, above or below the surrounding surface; and
 - (ii) 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 3 mm if vertical or 5 mm if rounded or bevelled.

REQUIREMENTS

(e) Grates shall comply with the following:

- (i) Circular openings shall be not greater than 13 mm in diameter.
- (ii) Slotted openings shall be not greater than 13 mm wide and be oriented so that the long dimension is transverse to the dominant direction of travel.

NOTE: Where slotted openings are less than 8 mm, the length of the slots may continue across the width of paths of travel.

WALKWAYS, RAMPS AND LANDINGS

(a) Walkways, ramps and landings that are provided on a continuous accessible path of travel shall be as follows:

- (i) Sharp transitions shall be provided between the planes of landings and ramps.
- (ii) Landings shall be provided at all changes in direction in accordance with Clause 10.8 of AS1428.1-2009.
- (iii) Landing or circulation space shall be provided at every doorway, gate, or similar opening.
- (iv) For walkways and landings having gradients in the direction of travel shallower than 1 in 33, a camber or crossfall shall be provided for shedding of water and shall be no steeper than 1 in 40, except that bitumen surfaces shall have a camber or crossfall no steeper than 1 in 33.

WALKWAYS

(a) Walkways shall comply with the following –

- (i) 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:
 - (A) Kerb in accordance with Figure 18 of AS1428.1-2009.
 - (B) Kerb rail and handrail in accordance with Figure 19 of AS1428.1-2009.
 - (C) A wall not less than 450 mm in height.

(ii) Walkways shall be provided with landings, as specified in Clause 10.8 of AS1428.1-2009, at intervals not exceeding the following:

- (A) For walkway gradients of 1 in 33, at intervals no greater than 25 m.
- (B) For walkway gradients of 1 in 20, at intervals no greater than 15 m.
- (C) For walkway gradients between 1 in 20 to 1 in 33, at intervals that shall be obtained by linear interpolation.

NOTE: For walkways shallower than 1 in 33, no landings are required.

(iii) The intervals specified above may be increased by 30% where at least one side of a walkway is bounded by—

- (A) a kerb or kerb rail as specified in Clause 10.3(j) of AS1428.1-2009 and a handrail as specified in Clause 12 of AS1428.1-2009; or
- (B) a wall and a handrail as specified in Clause 12 of AS1428.1-2009.

RAMPS

(a) Ramps shall comply with the following –

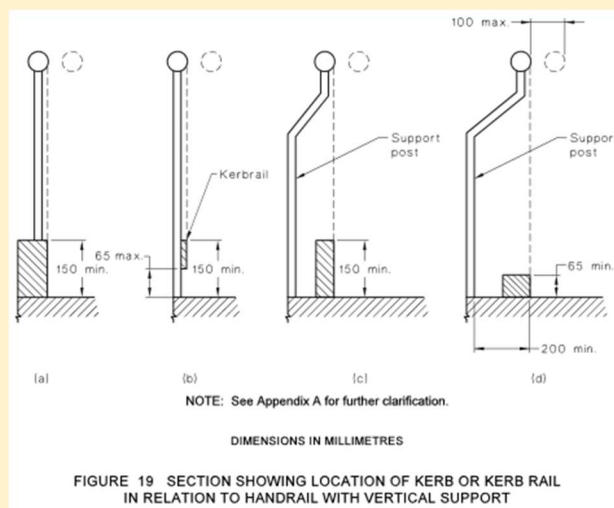
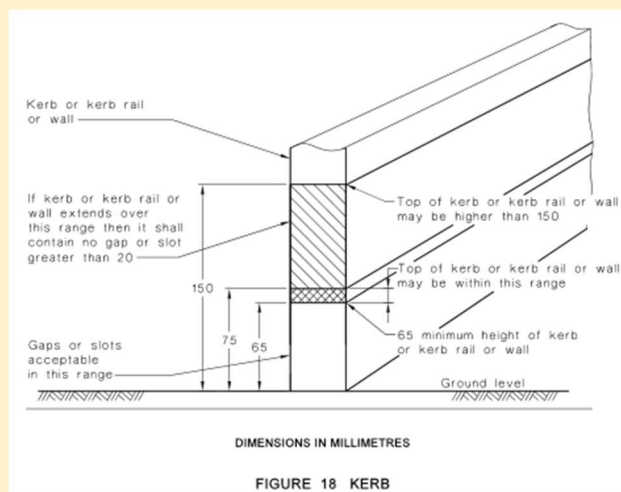
- (i) The maximum gradient of a ramp exceeding 1900 mm in length shall be 1 in 14.
- (ii) The gradient of a ramp shall be constant throughout its length with a maximum allowable tolerance of 3% provided no section of the ramp is steeper than 1 in 14.

REQUIREMENTS

- (iii) Ramps shall be provided with landings, as specified in Clause 10.8, at the bottom and at the top of the ramp and at intervals not exceeding the following:
 - (A) For ramp gradients of 1 in 14, at intervals not greater than 9 m.
 - (B) For ramp gradients steeper than 1 in 20, at intervals not greater than 15 m.
 - (C) For ramp gradients between 1 in 14 and steeper than 1 in 20, at intervals that shall be obtained by linear interpolation.
- (iv) Where ramps are constructed with a change in direction, the angle of approach shall create a 90° angle to the line of transition between the ramp surface and the landing surface.
- (v) Ramps shall have a handrail complying with Clause 12 on each side of the ramp.
- (vi) Where the intersection is at the property boundary, the ramp shall be set back by a minimum of 900 mm so that the handrail (complying with Clause 12 of AS1428.1-2009) and TGSIs do not protrude into the transverse path.
- (vii) TGSIs shall be installed in accordance with AS 1428.4.1-2009.
- (viii) Where the intersection is at an internal corridor, the ramp shall be set back by a minimum of 400 mm so that the handrail complying with Clause 12 of AS1428.1-2009 does not protrude into the transverse path of travel.
- (ix) The handrail shall extend a minimum of 300 mm horizontally past the transition point at the top and bottom of the ramp except where the inner handrail is continuous at an intermediate landing.
- (x) Ramps and intermediate landings shall have kerbs or kerb rails on both sides that comply with the following:
 - (A) The minimum height above the finished floor shall be 65 mm.
 - (B) The height of the top of the kerb or kerb rail shall not be within the range 75 mm to 150 mm above the finished floor, as shown in Figure 18 of AS1428.1-2009.
 - (C) There shall be no longitudinal gap or slot greater than 20 mm in the kerb or kerb rail within the range 75 mm to 150 mm above the finished floor.
- (xi) Kerbs or kerb rails shall—
 - (A) be located so that the ramp-side face is either flush with the ramp-side face of the handrail or no greater than 100 mm away from the ramp-side face of the handrail, as shown in Figure 19 of AS1428.1-2009;
 - (B) where the handrail is supported on a vertical post, the height of the top of the kerb or kerb rail shall be not less than 150 mm above the finished floor, as shown in Figures 19(a), 19(b) or 19(c) of AS1428.1-2009; and
 - (C) where the kerb is at a height of 65 mm to 75 mm, the support posts shall be set back a minimum of 200 mm from the face of the kerb or kerb rail, as shown in Figure 19(d) of AS1428.1-2009.
- (b) Threshold ramps at doorways on a continuous accessible path of travel shall have –
 - (i) a maximum rise of 35 mm;
 - (ii) a maximum length of 280 mm;
 - (iii) a maximum gradient of 1:8; and
 - (iv) be located within 20 mm of the door leaf which it serves,
- (c) Step ramps shall have –
 - (i) A maximum rise of 190mm;
 - (ii) A length not greater than 1900mm; and
 - (iii) A gradient not steeper than 1 in 10.
- (i)

REQUIREMENTS

- (d) The edges of step ramp shall have a 45° splay where there is pedestrian cross-traffic. Otherwise, it shall be protected by a suitable barrier, such as –
 - (ii) A wall or suitable barrier with a minimum height of 450mm; or
 - (iii) Where an open balustrade is provided a kerb or kerb rail shall be provided.
- (e) Kerb ramps shall have –
 - (i) A maximum rise of 190mm;
 - (ii) A length not greater than 1520mm;
 - (iii) A gradient not steeper than 1 in 8, located within or attached to a kerb.
- (f) The length of landings at walkways (up to a gradient of 1 in 33) and ramps shall comply with one of the following –
 - (i) Where there is no change in direction, the length shall be not less than 1200 mm, as shown in Figure 25(A).
 - (ii) Where there is a change of direction not exceeding 90°, the landing shall be not less than 1500 mm. The internal corner shall be truncated for a minimum of 500 mm in both directions.
 - (iii) For a 180° turn, the landing shall be not less than 1540mm x 2070mm.
- (g) The length of landings at step ramps shall be not less than 1200 mm in the direction of travel. Where a change in direction is required, the length of step ramp landings shall be a minimum of 1500 mm. Where doorways are at landings, the dimensions of the landings shall be in accordance with the requirements of Clause 13.3 of AS1428.1-2009 for circulation spaces at doorways.
- (h) The length of landings at kerb ramps shall be not less than 1200 mm in the direction of travel. Where a 'T' junction occurs, the kerb ramp landing shall be a minimum of 1500 × 2000 mm. Where a single change in direction is required, the ramp landings shall be a minimum of 1500 mm × 1500 mm.



STAIRWAYS

- (a) Where the intersection is at the property boundary, the stair shall be set back by a minimum of 900 mm so that the handrail and TGSIs do not protrude into the transverse path of travel.
- (b) Where the intersection is at an internal corridor, the stair shall be set back.
- (c) Stairs shall have opaque risers.
- (d) Stair nosings shall not project beyond the face of the riser and the riser may be vertical or have a splay backwards up to a maximum 25 mm.

REQUIREMENTS

- (e) Stair nosing profiles shall—
 - (i) have a sharp intersection;
 - (ii) be rounded up to 5 mm radius; or
 - (iii) be chamfered up to 5 mm × 5 mm.
- (f) At the nosing, each tread shall have a strip not less than 50 mm and not more than 75 mm deep across the full width of the path of travel. The strip may be set back a maximum of 15 mm from the front of the nosing. The strip shall have a minimum luminance contrast of 30% to the background. Where the luminous contrasting strip is affixed to the surface of the tread, any change in level shall comply with Clause 7.2 and Clause 7.3 of AS1428.1-2009.
- (g) Where the luminance contrasting strip is not set back from the front of the nosing then any area of luminance contrast shall not extend down the riser more than 10 mm.

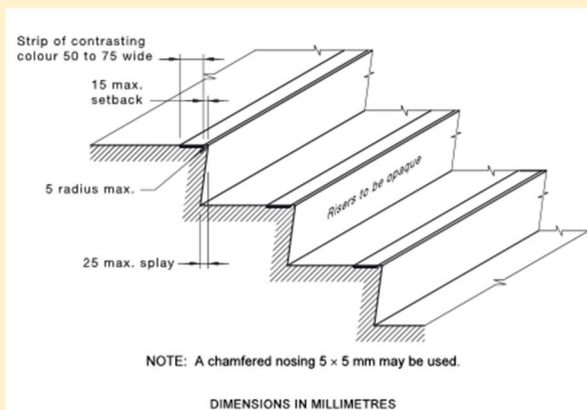


FIGURE 27(A) A TYPICAL STAIR NOSING PROFILE WITH NOSING STRIP

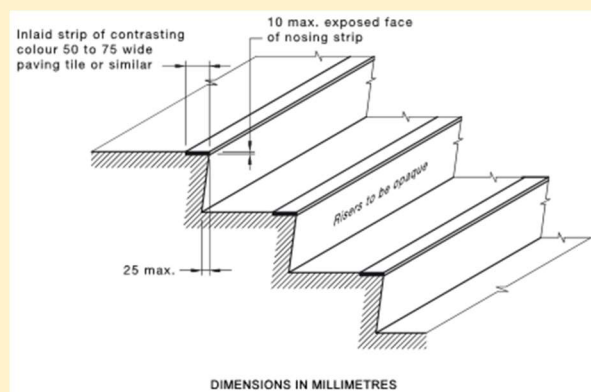


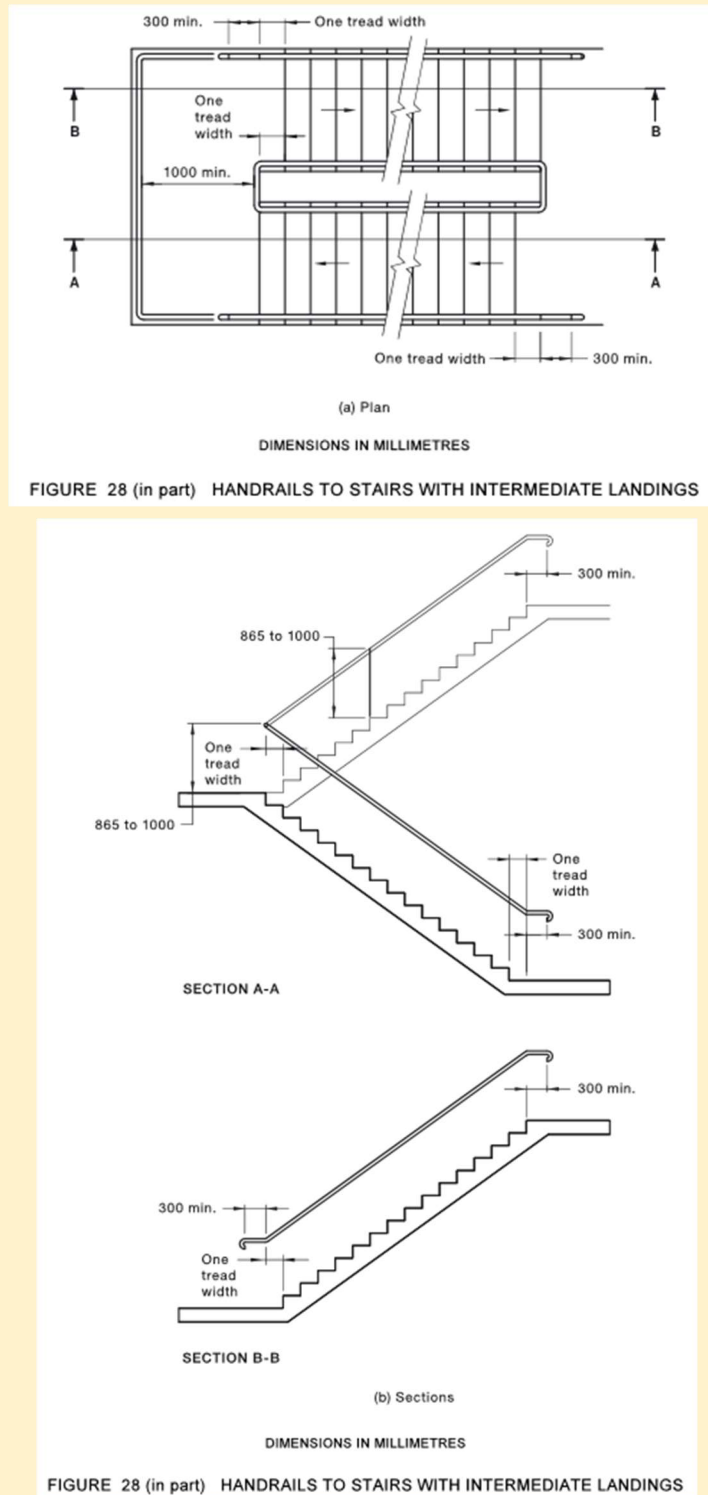
FIGURE 27(B) A TYPICAL STAIR NOSING PROFILE WITH EXPOSED NOSING STRIP

- (h) TGSIs shall be installed in accordance with AS 1428.4.1-2009.

HANDRAILS

- (a) Handrails shall be continuous throughout the stair flight and, where practicable, around landings and have no obstruction on or above up to a height of 600 mm and as follows –
 - (i) Installed on both sides of the stairs.
 - (ii) Handrails shall have no vertical sections and shall follow the angle of the stairway nosings.
 - (iii) Where a handrail terminates at the bottom of a flight of stairs, the handrail shall extend at least one tread depth parallel to the line of nosings plus minimum of 300 mm horizontally from the last riser.
 - (iv) The handrail shall extend a minimum of 300 mm horizontally past the nosing on the top riser.
 - (v) Where the handrail is continuous, the 300 mm extension is not required in the inner handrail at intermediate landings.
 - (vi) The dimensions indicating the heights of handrails shall be taken vertically from the nosing of the tread to the top of the handrail or from the landing to the top of the handrail.

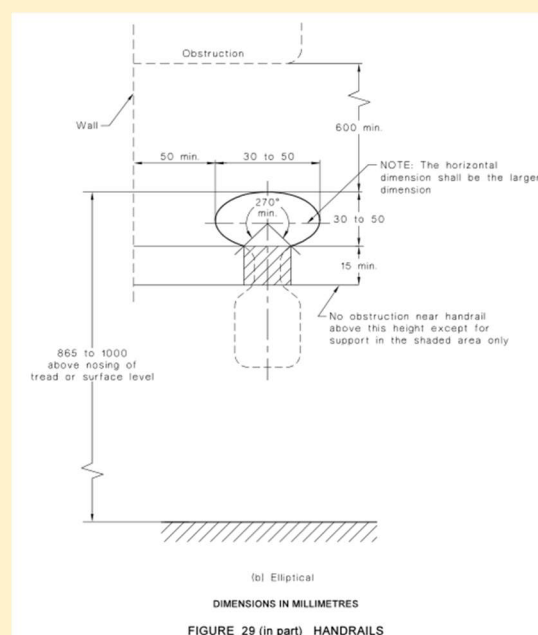
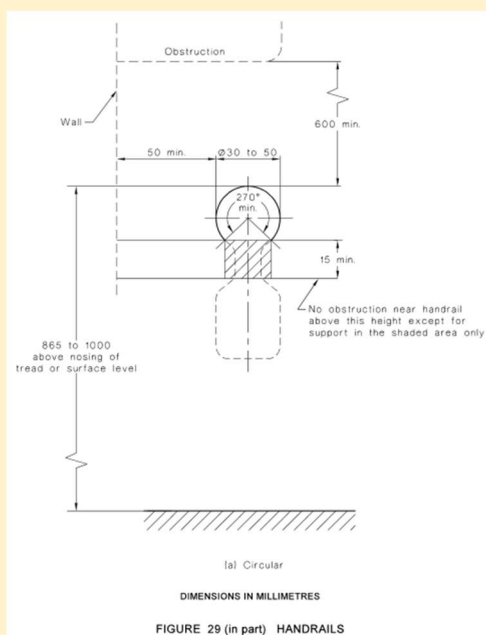
REQUIREMENTS



- (b) Handrails and balustrades shall not encroach into required circulation spaces.
- (c) The cross-section of handrails shall be circular or elliptical, not less than 30 mm or greater than 50 mm in height or width for not less than 270° around the uppermost surface. Elliptical handrails shall have the greater dimension in the horizontal axis.
- (d) Exposed edges at ends and corners of handrails shall have a radius of not less than 5 mm.
- (e) The top of handrails shall be not less than 865 mm nor more than 1000 mm above the nosing of stairway tread or the plane of the finished floor of the walkway, ramp or landing.
- (f) The height of the top of the handrail, measured in accordance with Item (d), shall be consistent through the ramp (or stairs) and any landings.

REQUIREMENTS

- (g) If a balustrade is required at a height greater than the handrail, both shall be provided.
- (h) Handrails shall be securely fixed and rigid, and their ends shall be turned through a total of 180°, or to the ground, or returned fully to end post or wall face.
- (i) The clearance between a handrail and an adjacent wall surface or other obstruction shall be not less than 50 mm. This clearance shall extend above the top of the handrail by not less than 600 mm.
- (j) Handrails shall have no obstruction to the passage of a hand along the rail.
- (k) The inside handrail at landings shall always be continuous.



DOORWAYS, DOORS AND CIRCULATION SPACE AT DOORWAYS

- (a) All doorways on a continuous accessible path of travel shall have a minimum luminance contrast of 30% over a minimum width of not less than 50mm, between –
 - (i) door leaf and door jamb;
 - (ii) door leaf and adjacent wall;
 - (iii) architrave and wall;
 - (iv) door leaf and architrave; or
 - (v) door jamb and adjacent wall.
- (b) The minimum clear opening of a doorway on a continuous accessible path of travel shall be 850 mm when measured from the face of the opened door to the doorstep. Where double doors are used, the 850 mm minimum clear opening shall apply to the active leaf.
- (c) Circulation spaces at doorways shall have a gradient and crossfall not steeper than 1 in 40.
- (d) Doorway circulation spaces shall be used in combination to allow access through doorways in both directions, as shown in Figures 31 and 32.

REQUIREMENTS

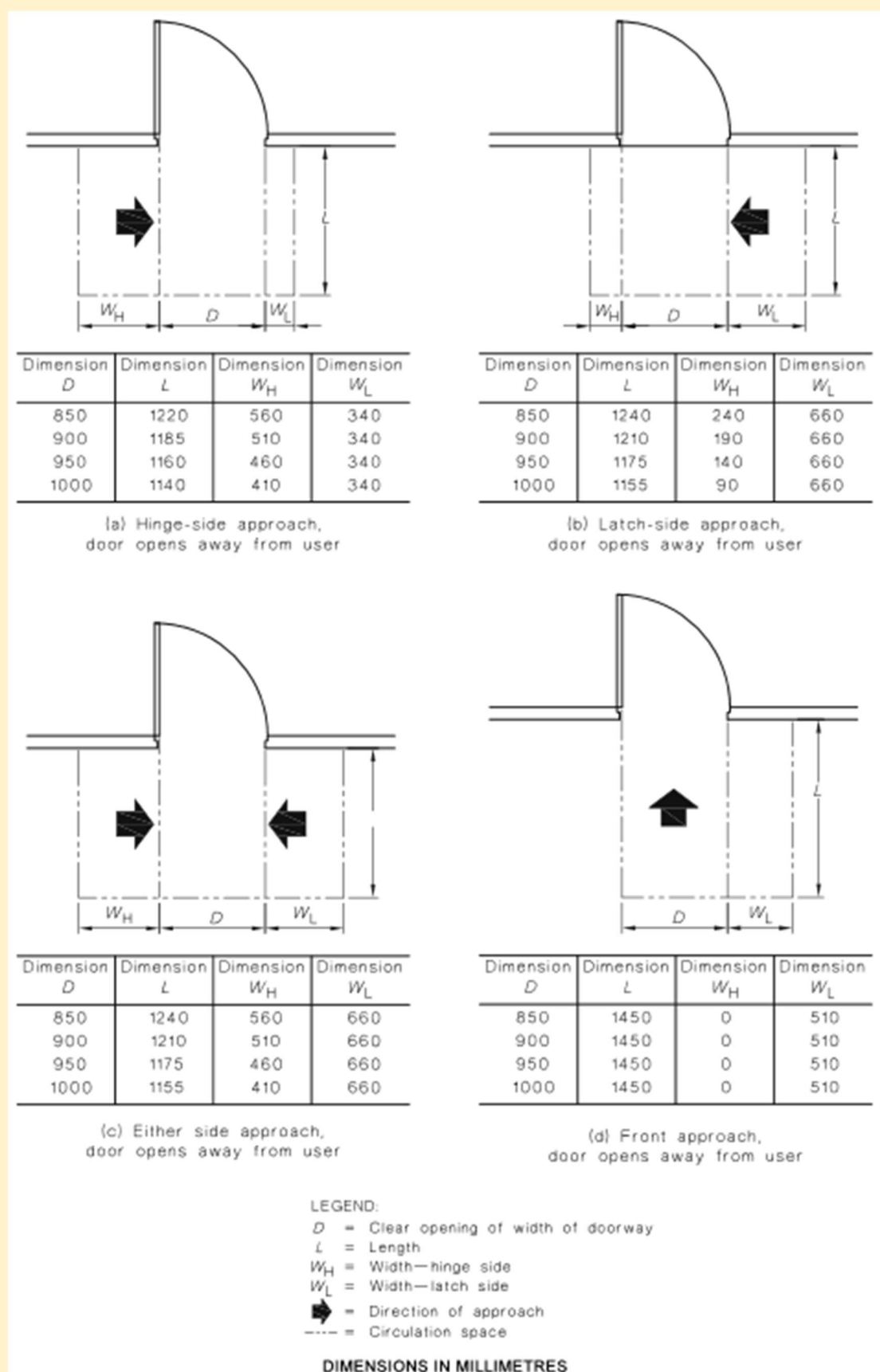
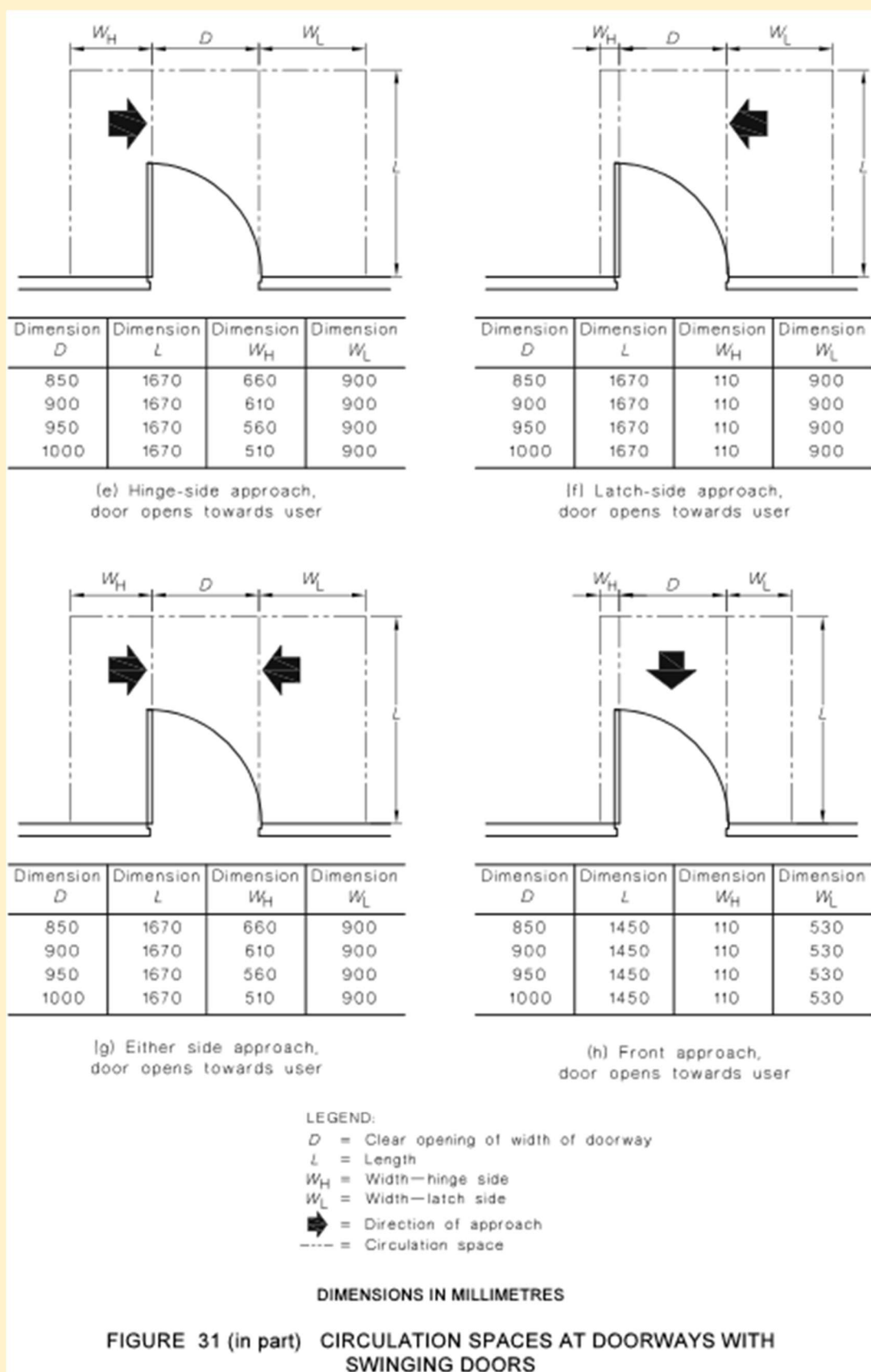
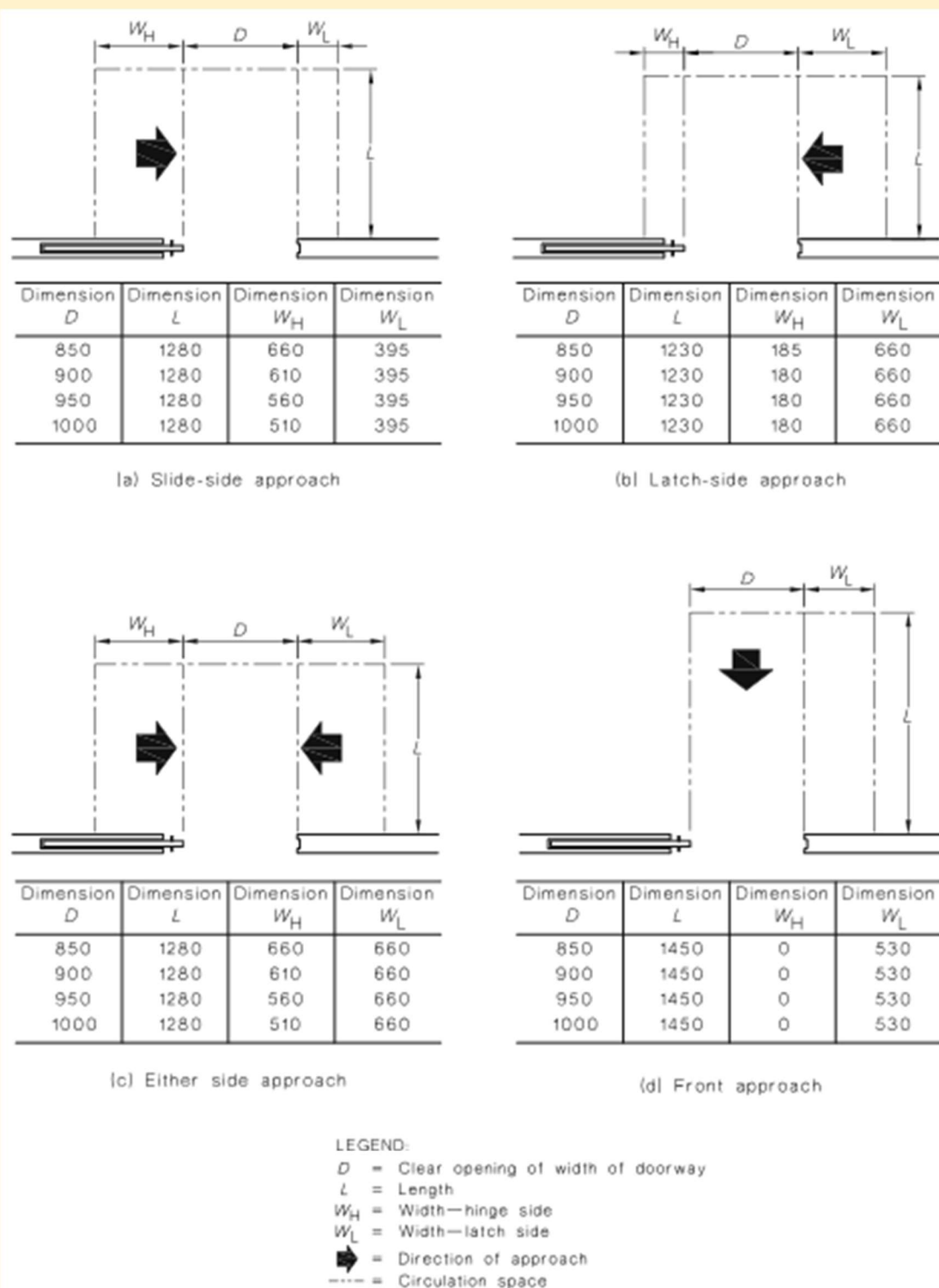


FIGURE 31 (in part) CIRCULATION SPACES AT DOORWAYS WITH SWINGING DOORS

REQUIREMENTS



REQUIREMENTS

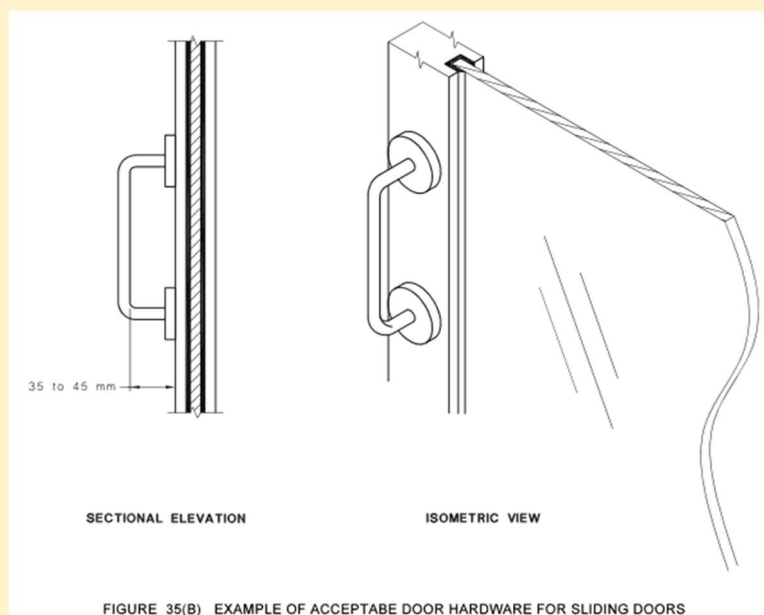
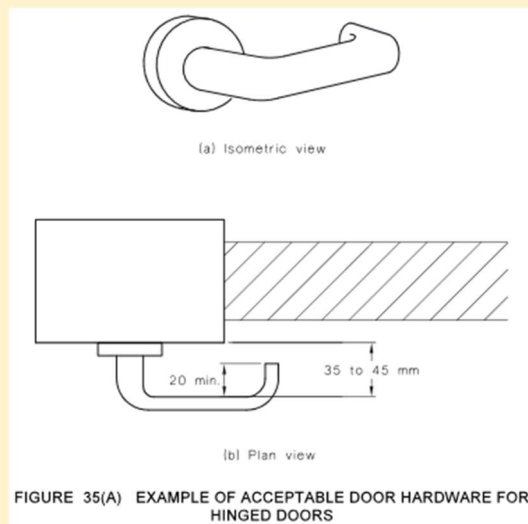


DIMENSIONS IN MILLIMETRES

FIGURE 32 CIRCULATION SPACES AT DOORWAYS WITH SLIDING DOORS

REQUIREMENTS

- (e) Door handles and related hardware and accessories shall comply with the following:
- (i) The door handle 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.
 - (ii) The clearance between the handle and the back plate or door face at the centre grip section of the handle shall be not less than 35 mm and not more than 45 mm.
 - (iii) 'D' type handles shall be provided on sliding doors.
 - (iv) Where snibs are installed, they shall have a lever handle of a minimum length of 45 mm from the centre of the spindle.
 - (v) 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 following:
 - (A) To initially open the door..... 20 N
 - (B) To swing or slide the door20 N.
 - (C) To hold the door open between 60° and 90°.....20 N.
 - (vi) 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, as shown in Figure 36 of AS1428.1-2009.

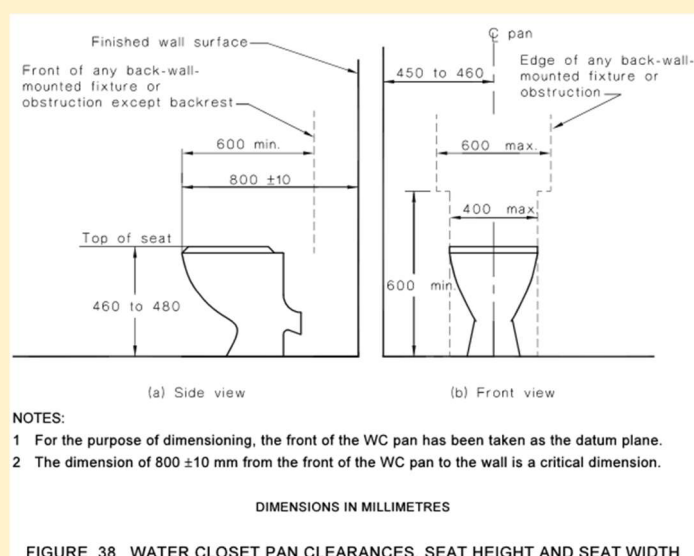


REQUIREMENTS

- (f) Controls that need to be grasped or turned shall be not less than 900 mm and not more than 1100 mm above the plane of the finished floor.
- (g) Controls that only need to be pushed, such as panic bars on egress routes, shall be not less than 900 mm, and not greater than 1200 mm above the plane of the finished floor.
- (h) Controls that only need to be touched shall be not less than 900 mm, and not greater than 1250 mm above the plane of the finished floor, and not less than 500 mm from an internal corner except as specified in AS 1735.12-1999.
- (i) Handles on sliding doors shall be not less than 60 mm from the door jamb or doorstop when in the open or closed position.
- (j) Manual controls to power-operated doors shall be located on the continuous accessible path of travel 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.

SANITARY FACILITIES

- (a) Water taps shall comply with the following:
 - (i) Taps shall have lever handles, sensor plates, or other similar controls.
 - (ii) Lever handles shall have not less than 50 mm clearance from an adjacent surface.
 - (iii) Where separate taps are provided for hot and cold water, the hot water tap shall be placed to the left of the cold water tap for horizontal configurations, or above the cold water tap for vertical configurations.
 - (iv) Where hot water is provided, the water shall be delivered through a mixing spout.
- (b) WC pan clearances, including set-out, seat height and seat width shall be as shown in Figure 38 of AS1428.1-2009.



- (c) A toilet seat shall be provided on accessible toilets. The toilet seat shall-
 - (i) be of the full-round type, (i.e., not open fronted) and with minimal contours to
 - (ii) the top surface;
 - (iii) be securely fixed in position when in use;
 - (iv) have seat fixings that create lateral stability for the seat when in use;
 - (v) be load-rated to 150 kg; and
 - (vi) have a minimum luminance contrast of 30% with the background (e.g., pan, wall or floor against which it is viewed).

REQUIREMENTS

-
- (i) Option A
- (ii) Option B
- (a) Side view showing optional systems for grabrail at sides of pan
- (b) Grabrail at back of pan and sectional view of grabrail at side of pan
- DIMENSIONS IN MILLIMETRES
- FIGURE 42 POSITIONS OF GRABRAILS IN WATER CLOSETS

REQUIREMENTS

- (h) For each WC, the unobstructed circulation space from the finished floor to a height of not less than 2000 mm shall be as shown in Figure 43 of AS1428.1-2009, except for the following, which are allowed to intrude into the circulation space:
- (i) The toilet paper dispenser - see Clause 15.2.6 of AS1428.1-2009.
 - (ii) Grabrails - see Clause 15.2.7 of AS1428.1-2009.
 - (iii) Washbasin limited to 100 mm intrusion as shown in Figure 43 of AS1428.1-2009.
 - (iv) Hand dryers and towel dispensers.
 - (v) Soap dispensers - Clause 15.4.3 of AS1428.1-2009.
 - (vi) Shelves - Clause 15.4.2 of AS1428.1-2009.
 - (vii) Wall cabinets, where provided, which shall not protrude more than 150 mm into the circulation space. The mounting of wall cabinets shall be at least 900 mm above floor level and the top shelf shall be a maximum of 1250 mm above floor level.
 - (viii) Clothes hanging devices - see Clause 15.4.4 of AS1428.1-2009.
 - (ix) Portable sanitary disposal unit as shown in Figure 43 of AS1428.1-2009.
 - (x) Other wall mounted fixtures, such as dispensing units and sharps disposal units, which shall have 900 mm minimum height clearance from the finished floor level and a maximum projection of 150 mm from finished wall surface.

The overlapping of circulation spaces shall be in accordance with Clause 15.6 of AS1428.1-2009.

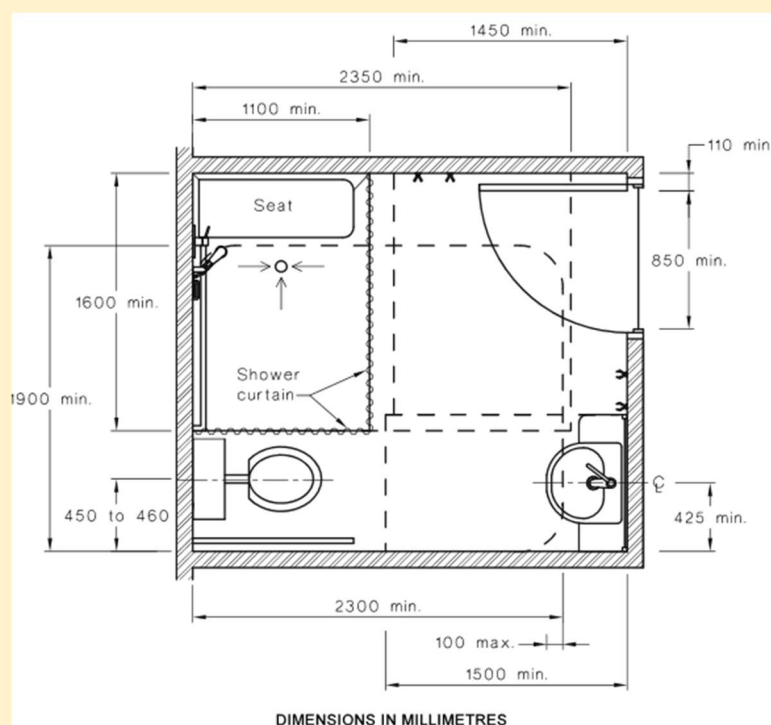


FIGURE 50 SANITARY COMPARTMENT SHOWING OVERLAP OF WASHBASIN
FIXTURE INTO SHOWER CIRCULATION SPACE

- (i) Where installed, baby change tables shall—
 - (i) not encroach into the circulation space of any other toilet facility when in the folded up position; and
 - (ii) have a maximum height of 820 mm and a minimum clearance underneath of 720 mm when in the open position.

REQUIREMENTS

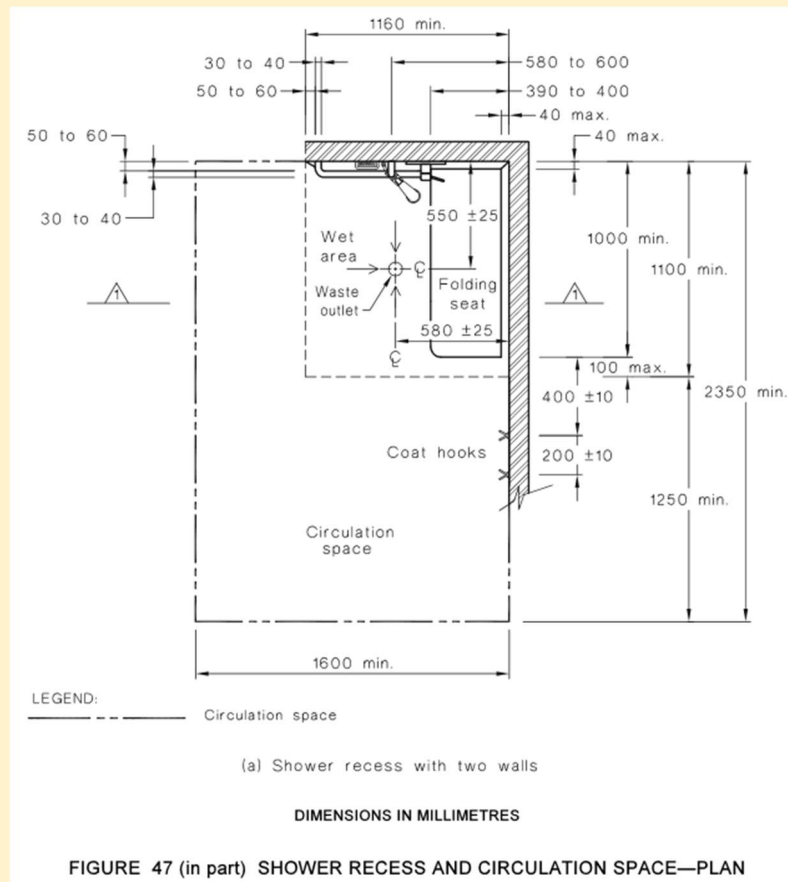
- (j) WC doors may be either hinged or sliding. WC doors shall comply with the following:
 - (i) Outward-opening doors shall have a mechanism that holds the door in a closed position without the use of a latch.
 - (ii) Doors shall be provided with an in-use indicator and a bolt or catch. Where a snib 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.
 - (iii) The force required to operate the door shall be in accordance with Clause 13.5.2(e) of AS1428.1-2009.
 - (iv) Door handles and hardware shall be in accordance with Clause 13.5 of AS1428.1-2009.
- (k) A hand-washing facility shall be provided inside the toilet cubicle and shall form part of the accessible unisex facility.
- (l) The installation of washbasins shall comply with the following:
 - (i) The washbasin shall be outside the pan circulation space as shown in Figure 43 of AS1428.1-2009.
 - (ii) Water taps shall comply with Clause 15.2.1 of AS1428.1-2009.
 - (iii) Exposed hot water supply pipes shall be insulated or located so as not to present a hazard.
 - (iv) The projection of the washbasin from the wall and the position of taps, bowl and drain outlet shall be determined in accordance with Figures 44(A) and 44(B) of AS1428.1-2009; except in sole-occupancy units, where Figure 45 of AS1428.1-2009 shall apply.
 - (v) Water supply pipes and waste outlet pipes shall not encroach on the required clear space under the washbasin.

For each washbasin fixture, the unobstructed circulation space shall be as shown in Figure 46 of AS1428.1-2009; except in sole occupancy units, where Figure 45 of AS1428.1-2009 shall apply. The washbasin fixture and its fittings are the only fixtures permitted in this space.
- (m) In all sanitary facilities, the mirror shall be located either above or adjacent to the washbasin.

Where provided, a vertical mirror with a reflective surface not less than 350 mm wide shall extend from a height of not more than 900 mm to a height of not less than 1850 mm above the plane of the finished floor. Where provided, a second vertical mirror shall extend from a height of not less than 600 mm to a height of not less than 1850 mm above the plane of the finished floor.
- (n) Shelf space shall be provided adjacent to the washbasin in one of the following ways:
 - (i) As a vanity top at a height of 800 mm to 830 mm and a minimum width of 120 mm and depth of 300 mm to 400 mm without encroaching into any circulation space.
 - (ii) As a separate fixture—
 - (A) within any circulation space at a height of 900 mm to 1000 mm with a width of 120 mm to 150 mm and length of 300 mm to 400 mm; and
 - (B) external to all circulation spaces at a height of 790 mm to 1000 mm with a minimum width of 120 mm and minimum length of 400 mm.
- (o) Where provided, soap dispensers, towel dispensers, hand dryers and similar fittings shall be operable by one hand, and shall be installed with the height of their operative component or outlet not less than 900 mm and not more than 1100 mm above the plane of the finished floor, and no closer than 500 mm from an internal corner.
- (p) A clothes-hanging device shall be installed 1200 mm to 1350 mm above the plane of the finished floor and not less than 500 mm out from any internal corner.
- (q) Where provided, the sanitary disposal unit shall be located as a portable unit as shown in Figure 43 of AS1428.1-2009 or as a recessed unit within 500 mm from the pan.
- (r) Where provided near the washbasin, switches and general purpose outlets shall be located in accordance with Clause 14 of AS1428.1-2009 and as close to the shelf or worktop as practicable.

REQUIREMENTS

- (s) Shower recesses and the circulation space for each shower recess from the finished floor to a height of not less than 900 mm shall be as shown in Figure 47 of AS1428.1-2009. Grabrails, shower hose fittings; taps, soap holder, shelf (if provided) and the folding seat are the only fixtures permitted in these spaces.
- (t) Shower recess fittings shall be provided as shown in Figures 47 and 48 of AS1428.1-2009. Not less than two clothes-hanging devices, as specified in Clause 15.4.4 of AS1428.1-2009, shall be fitted outside the shower recess. One such device shall be located within 400 ± 10 mm and the other within 600 ± 10 mm of the folding seat.
- (u) The requirements for the floor and waste outlet are as follows:
 - (i) The floor of the shower recess and associated circulation space shall be self- draining and without a step-down, raised step kerb or hob at the entry to the recess.
 - (ii) The waste outlet for the shower shall be provided in accordance with Figure 47 of AS1428.1-2009.
 - (iii) The slope of the floor of the shower recess shall have a gradient between 1 in 60 and 1 in 80, as shown in Figure 49 of AS1428.1-2009.
 - (iv) The slope of floor of the remainder of the sanitary facility shall have a gradient between 1 in 80 and 1 in 100, as shown in Figure 49 of AS1428.1-2009.



REQUIREMENTS

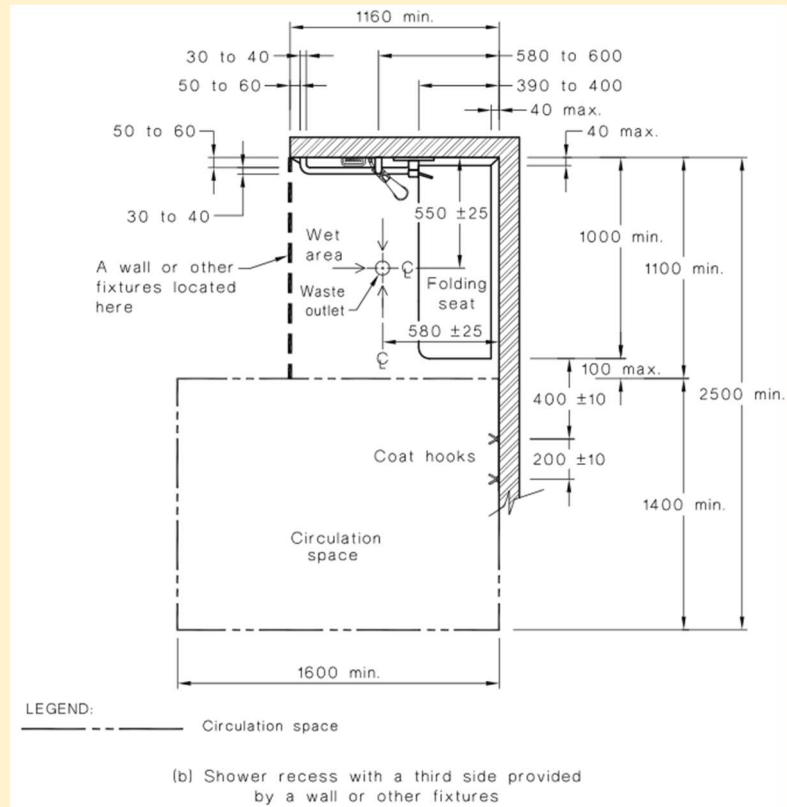


FIGURE 47 (in part) SHOWER RECESS AND CIRCULATION SPACE—PLAN

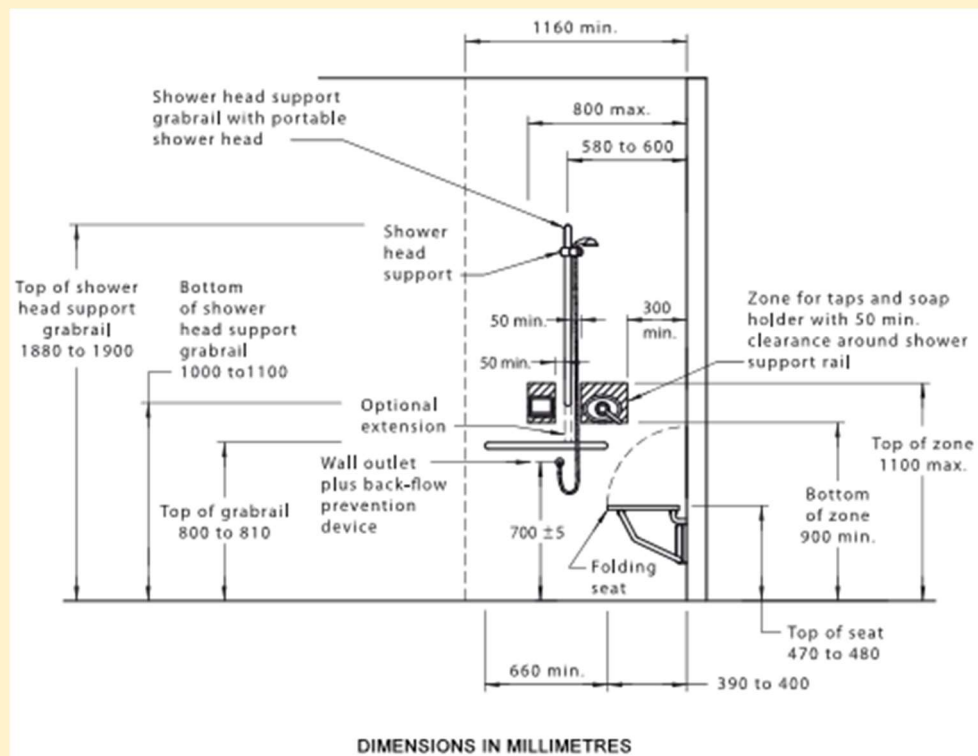
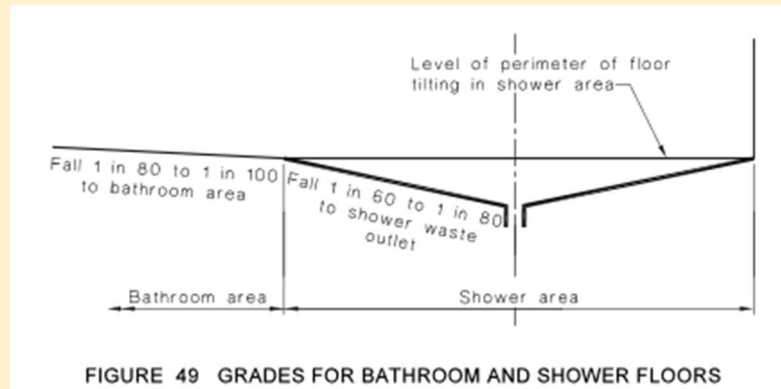
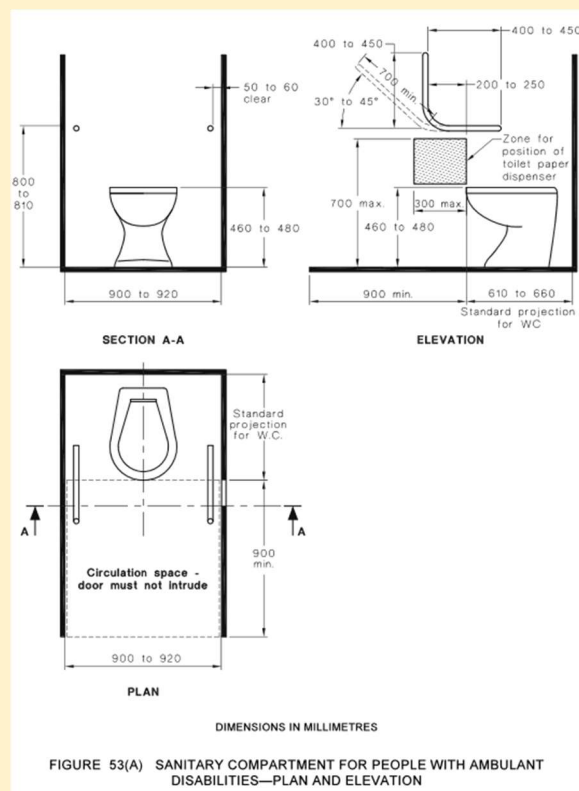


FIGURE 48 SHOWER RECESS FITTINGS—ELEVATION

REQUIREMENTS



- (v) The circulation spaces in accessible sanitary facilities shall be in accordance with Clause 15.2.8 and Figures 43 to 47 and 50 of AS1428.1-2009.
- (w) Sanitary compartments for people with ambulant disabilities shall be in accordance with Figures 53(A) and 53(B) of AS1428.1-2009, with grabrails shall be installed in accordance with Clause 17 and Figure 53(A).
- (x) Doors to sanitary compartments for people with ambulant disabilities shall have –
 - (i) openings with a minimum clear width of 700 mm, and shall comply with Figure 53(B); and
 - (ii) 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.
- (y) A coat hook shall be provided within the sanitary compartment and at a height between 1350 mm to 1500 mm from the floor.



REQUIREMENTS

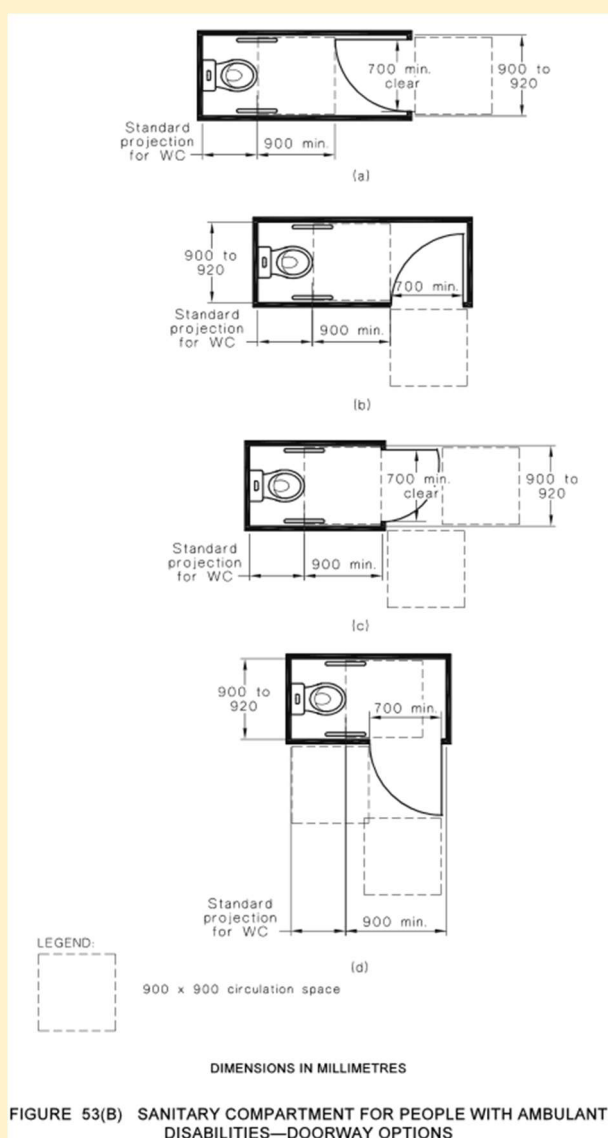


FIGURE 53(B) SANITARY COMPARTMENT FOR PEOPLE WITH AMBULANT DISABILITIES—DOORWAY OPTIONS

GRABRAILS

- Grabrails shall be not less than 30 mm and not more than 40 mm outside diameter; or they shall have a sectional shape within the limits of 30 mm to 40 mm diameter.
- Exposed edges and corners of grabrails shall have a radius of not less than 5 mm.
- The fastenings and the materials and construction of grabrails shall be able to withstand a force of 1100 N applied at any position and in any direction without deformation or loosening or rotation of the fastenings or fittings.
- The clearance between a grabrail and the adjacent wall surface or other obstruction shall be not less than 50 mm and not more than 60 mm. The clearance above a horizontal grabrail shall extend above the top of the grabrail by not less than 600 mm. The clearance below a horizontal or angled rail shall be a minimum of 50 mm except at fixing points.
- Grabrails shall be fixed so that there is no obstruction to the passage of the hand along the top 270° arc of horizontal and angled grabrails. There shall be no obstruction to the passage of the hand for the full length of vertical grabrails.



ADAPTABLE HOUSING ASSESSMENT REPORT

PROJECT:	Stage 1 - 400-404 Cabramatta Road West, 2-18 Orange Grove Road & 6 Links Avenue Cabramatta NSW 2166
STAGE:	Development Application Phase
REFERENCE:	22010A.4-AS4299
DATE:	23 rd May 2023
CLIENT:	Tcon Constructions Pty Ltd

Document Information

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1	Final issue	22 November 2022
2	Report updated and reissued as final	28 November 2022
3	Report updated and reissued as final	14 December 2022
4	Report updated to assess amended design documentation against BCA 2022	23 May 2023

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1. Introduction

1.1 Project Description

The proposed development is understood to form part of a multi stage development (Stage 1 and Stage 2), of which the subject development is known as Stage 1.

The proposed Stage 1 development is proposed to include the construction of 53 townhouses with a combination of 2 & 3 storey townhouses and basement carparking located below 17 townhouses that will accommodate up to 47 vehicles.

The distribution of residential townhouses comprising Block A – H, including off-street carparking is highlighted in the site plan below.

As part of the proposed development, it is identified that 6 sole occupancy units are proposed to be provided as adaptable in accordance with the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995.

The adaptable units identified are noted as being U.45, U.46, U.47, U.48, U.49 and U.50, located at Block G.

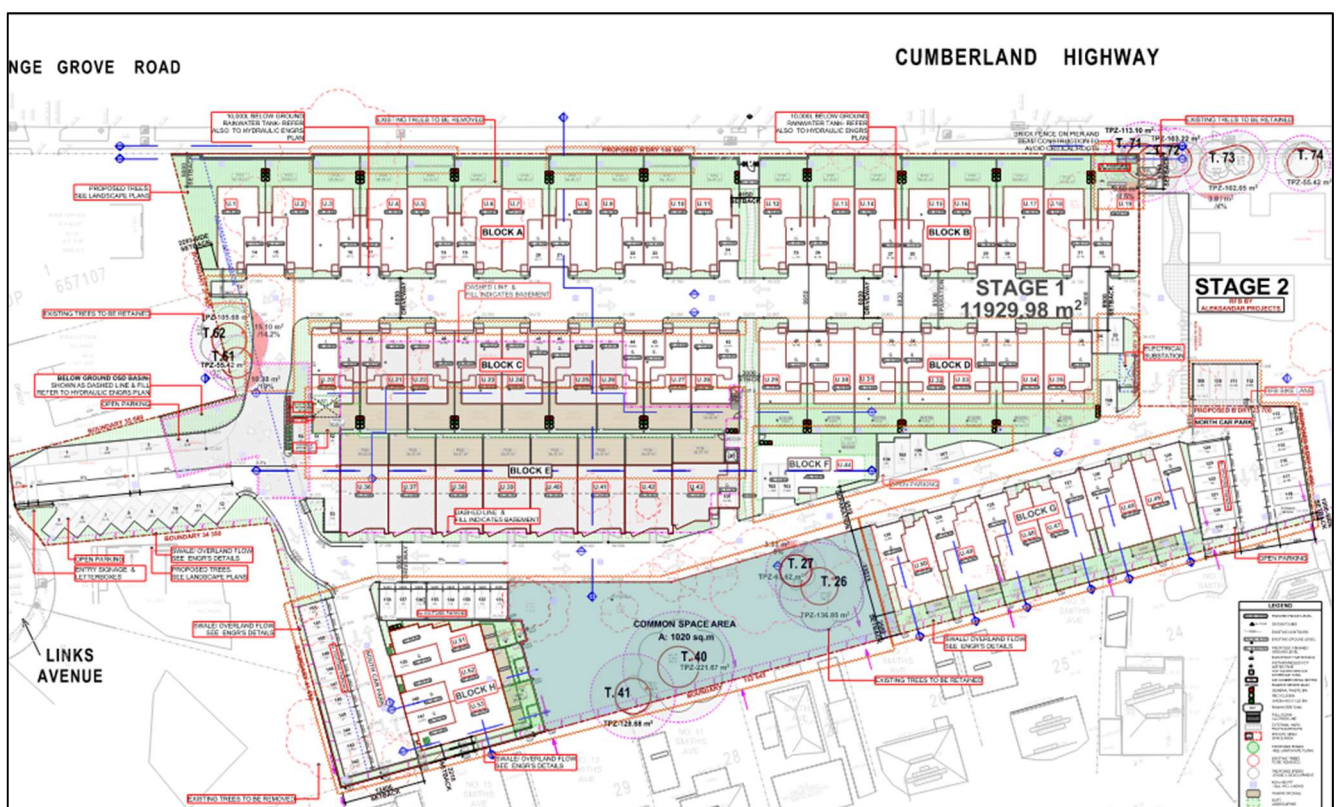


Figure 1.1 – Site plan

1.2 Intent of Report

The purpose of this report is to provide an assessment of the proposed scope of works against the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995.

Where non-compliances are identified, recommendations for resolution are to be provided, as applicable.

1.3 Limitations

This report does not include nor imply that an assessment of the following has been completed for the proposed works -

- (a) Structural Adequacy, Design & Performance;
- (b) Fire, Mechanical, Hydraulic and Electrical Services Design & Performance;
- (c) Work Health & Safety Act 2011;
- (d) Work Cover Authority Requirements;
- (e) Service & Utilities Authority Requirements;
- (f) The Disability Discrimination Act (DDA) 1992;
- (g) National Construction Code Volume 1 2022;
- (h) National Construction Code Volume 2 2022;
- (i) National Construction Code Volume 3 2022 (Plumbing Code of Australia 2022);
- (j) Livable Housing Australia (LHA) Design Guidelines Fourth Edition.

1.4 Documentation Assessed

This assessment is based upon the documentation referenced within **Annexure 1** of this report.

2. Adaptable Housing Summary

2.1 General

The purpose of the Adaptable Housing Australian Standard (AS4299-1995) is to provide guidelines on adaptable housing to those involved in designing or building new dwellings or renovations, including –

- (a) Project home developers;
- (b) Designers, builders, owners and users of private housing;
- (c) Developers and designers of specialized housing such as retirement villages; and
- (d) Public housing bodies.

Adaptable housing units shall be designed and constructed to meeting the following performance requirements-

- (a) **Visibility** – To visitable by people who use wheelchairs, in that there must be at least one wheelchair accessible entry and path of travel to the living area and to a toilet that is either accessible or visitable.
- (b) **Avoidance of level changes** – To have no steps and to avoid level changes where possible.
- (c) **Maneuverability** – This shall include the following:
 - (i) To provide space sufficient to maneuver a wheelchair within a living area, the kitchen and an accessible path of travel linking these areas.
 - (ii) To provide space sufficient to maneuver a wheelchair within a bedroom, a bathroom and a toilet or to provide a design and details whereby after adaptation there will be sufficient space to maneuver a wheelchair within these facilities and an accessible path of travel linking these facilities to the entry, living and kitchen areas.
- (d) **Ease of adaptation** – If the design for adaptation required further demolition of walls then these walls shall be non-loadbearing and free of electrical and plumbing services.
- (e) **Ease of reach** – To provide electrical controls, taps, and some shelves and cupboards at levels to suit people who use wheelchairs.
- (f) **Future laundry facilities** – To provide laundry facilities that after adaptation will be accessible to people who use wheelchairs. Those laundry facilities may be external to the adaptable housing unit, providing a wheelchair accessible path of travel is available from the adaptable housing unit to the laundry facilities.

2.2 Classification Levels

Adaptable Housing units may be designed and constructed to meet the following classification levels, which are categorized by the level of essential and desirable features incorporated –

Class A – All essential and all desirable features incorporated.

Class B – All essential and 50% desirable features incorporated, including all those notated ‘first priority’.

Class C – All essential features incorporated.

2.3 Proposed Class C Adaptable Housing Units

The proposed development is understood to be required to achieve 1 unit per 10 units to meet the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995, meaning that for the 53 residential units proposed, at least 6 units are required to be provided as adaptable.

It is noted on plans assessed that 6 units, as highlighted **red** in the figures below, are proposed to be provided as adaptable.

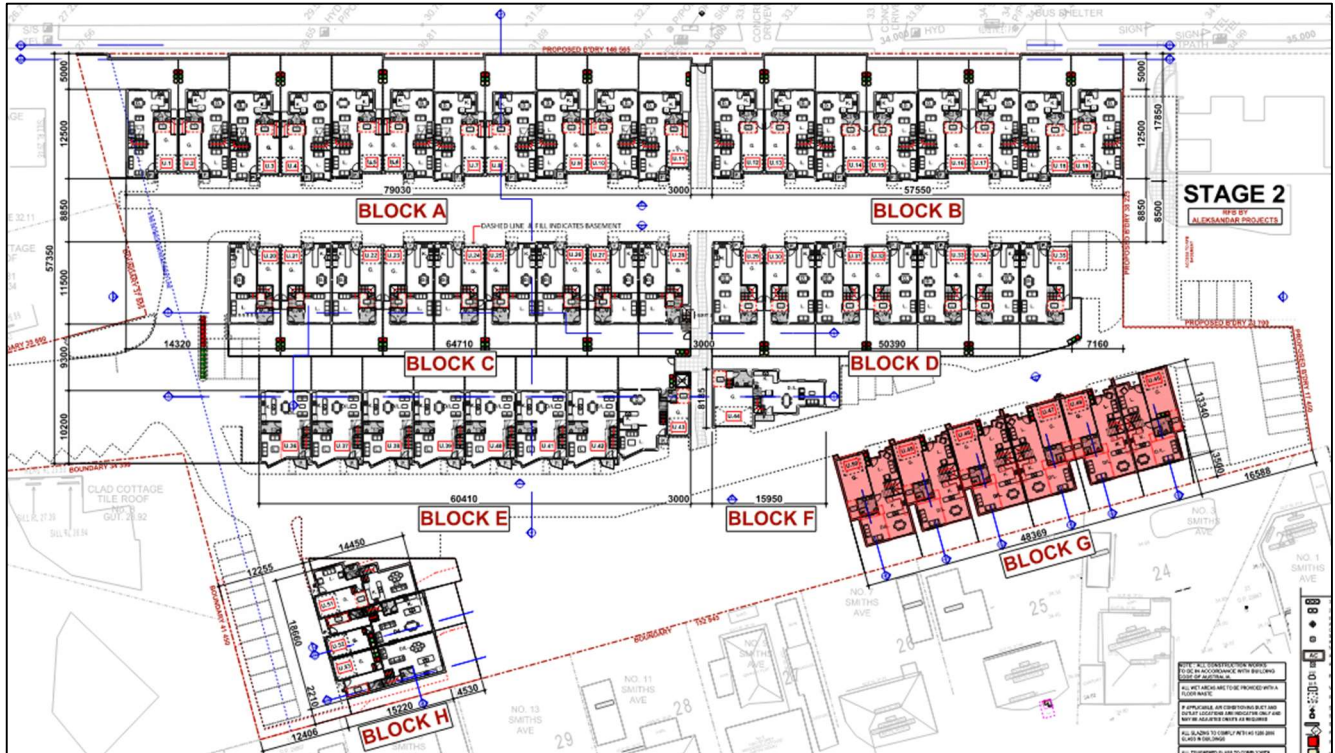


Figure 2.1 – Site Plan

3. Assessment Summary

The following table summarises the status of compliance of the proposed design in the context of the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995.

The status of compliance against each applicable feature assessed has adopted the following abbreviations-

C	Complies. The proposed design satisfies the requirements of the relevant Class C essential features of AS4299-1995.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the relevant Class C essential features of AS4299-1995, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the relevant Class C essential features of AS4299-1995.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the requirements of the relevant Class C essential features of AS4299-1995.
N/A	Not applicable. The requirements of the relevant Class C essential features of AS4299-1995 do not apply.

A detailed clause by clause assessment is outlined in Section 4 of this report.

AS4299-1995 - CLASS C ESSENTIAL FEATURE/S			STATUS				
Item No.	Room / Item	Clause	C	CRA	DNC	FIR	N/A
DRAWINGS							
1.	Provision of drawings showing the housing unit in its pre-adaptation and post-adaptation stages.	2.3	X				
SITING							
2.	A continuous accessible path of travel from street frontage and vehicle parking to entry complying with AS1428.1.	3.3.2		X			
LETTERBOXES IN ESTATE DEVELOPMENTS							
3.	Letterboxes to be on hard standing area connected to accessible pathway.	3.8		X			
PRIVATE CAR ACCOMODATION							
4.	Carparking space or garage min. area 6.0m x 3.8m.	3.7.2		X			
ACCESSIBLE ENTRY							
5.	Accessible entry.	4.3.1		X			
6.	Accessible entry to be level (i.e., max 1:40 slope).	4.3.2		X			
7.	Threshold to be low-level.	4.3.2		X			

AS4299-1995 - CLASS C ESSENTIAL FEATURE/S			STATUS				
Item No.	Room / Item	Clause	C	CRA	DNC	FIR	N/A
8.	Landing to enable wheelchair maneuverability.	4.3.2		X			
9.	Accessible entry door to have 850mm min. clearance.	4.3.1		X			
10.	Door lever handles and hardware to AS1428.1.	4.3.4		X			
INTERIOR: GENERAL							
11.	Internal doors to have 820mm min. clearance.	4.3.3	X				
12.	Internal corridors min. width of 1000mm.	4.3.7	X				
13.	Provision for compliance with AS1428.1 for door approaches.	4.3.7		X			
LIVING ROOM & DINING ROOM							
14.	Provision for circulation space of min. 2250mm diameter.	4.7.1		X			
15.	Telephone adjacent to GPO.	4.7.4		X			
16.	Potential illumination level min. 300 lux.	4.10		X			
KITCHEN							
17.	Minimum width 2.7m (1550mm clear between benches).	4.5.2	X				
18.	Provision for circulation at doors to comply with AS1428.1.	4.5.1		X			
19.	Provision for benches planned to include at least one work surface of 800mm length, adjustable in height from 750mm to 850mm or replaceable.	4.5.5		X			
20.	Refrigerator adjacent to work surface.	4.5.5		X			
21.	Kitchen sink adjustable to heights from 750mm to 850mm or replaceable.	4.5.6		X			
22.	Kitchen sink bowl max. 150mm deep.	4.5.6		X			
23.	Tap set capstan or lever handles or lever mixer.	4.5.6(e)		X			
24.	Tap set located within 300mm of front of sink.	4.5.6(e)		X			
25.	Cooktops to include either front or side controls with raised cross bars.	4.5.7		X			
26.	Cooktops to include isolating switch.	4.5.7		X			
27.	Work surface min. 800mm length adjacent to cooktop at same height.	4.5.7		X			
28.	Oven located adjacent to an adjustable height or replaceable work surface.	4.5.8		X			

AS4299-1995 - CLASS C ESSENTIAL FEATURE/S			STATUS				
Item No.	Room / Item	Clause	C	CRA	DNC	FIR	N/A
29.	GPOs to comply with AS1428.1. At least one double GPO within 300mm of front of work surface.	4.5.11		X			
30.	GPO for refrigerator to be easily reachable when the refrigerator is in its operating position.	4.5.11		X			
31.	Slip resistant floor surface.	4.5.4		X			
MAIN BEDROOM							
32.	At least one bedroom of area sufficient to accommodate queen size bed and wardrobe and circulation space requirements of AS1428.2.	4.6.1		X			
BATHROOM							
33.	Provision for bathroom area to comply with AS1428.1.	4.4.1		X			
34.	Slip resistant floor surface.	4.4.2		X			
35.	Shower recess-no hob. Minimum size 1160 x 1100 to comply with AS1428.1.	4.4.4(f)		X			
36.	Shower area waterproofed to AS3740 with floor to wall to waste.	4.4.4(f)		X			
37.	Recessed soap holder.	4.4.4(f)		X			
38.	Shower taps positioned for easy reach to access side of shower sliding track.	4.4.4(f)		X			
39.	Provision for adjustable, detachable hand held shower rose mounted on a slider grabrail or fixed hook (plumbing and wall-strengthening provision).	4.4.4(h)		X			
40.	Provision for grabrail in shower to comply with AS1428.1.	4.4.4(h)		X			
41.	Tap sets to be capstan or lever handles with single outlet.	4.4.4(c)		X			
42.	Provision for washbasin with clearances to comply with AS1428.1.	4.4.4(g)		X			
43.	Double GPO beside mirror.	4.4.4(d)		X			
TOILET							
44.	Provision of either 'visitable toilet' or accessible toilet.	4.4.3		X			
45.	Provision to comply with AS1428.1.	4.4.1		X			
46.	Location of WC pan at correct distance from fixed walls.	4.4.3		X			
47.	Provision for grab rail zone.	4.4.4(h)		X			
48.	Slip resistance floor surface.	4.4.2		X			

AS4299-1995 - CLASS C ESSENTIAL FEATURE/S			STATUS				
Item No.	Room / Item	Clause	C	CRA	DNC	FIR	N/A
LAUNDRY							
49.	Circulation at doors to comply with AS1428.1.	4.8		X			
50.	Provision for adequate circulation space in front of or beside appliances (min. 1550mm depth).	4.8		X			
51.	Provision for automatic washing machine.	4.8(c)		X			
52.	Where clothes line is provided, an accessible path of travel to this.	4.8(a)		X			
53.	Double GPO.	4.8(g)		X			
54.	Slip-resistant floor surface.	4.9.1		X			
DOOR LOCKS							
55.	Door hardware operable with one hand, located 900-1100mm above floor.	4.3.4		X			

4. Detailed Assessment

A detailed assessment of the proposed scope of works in the context of the Class C provisions of the Adaptable Housing Australian Standard (AS4299-1995) has been undertaken, as outlined below.

The status of compliance against each applicable AS4299-1995 clause assessed has adopted the following abbreviations-

C	Complies. The proposed design satisfies the requirements of the relevant Class C essential features of AS4299-1995.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the relevant Class C essential features of AS4299-1995, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the relevant Class C essential features of AS4299-1995.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the relevant Class C essential features of AS4299-1995.
Note	Information is provided to guide the reader and not as specific assessment of the relevant Class C essential features of AS4299-1995.
N/A	Not applicable. The requirements of the relevant Class C essential features of AS4299-1995 do not apply.

DRAWINGS

Clause No.	Requirement/s	Comment/s	Status
2.3	Drawings showing the housing unit in its pre-adaptation and post-adaptation stages shall be provided. A description of how the adaptation is to be achieved shall also be provided.	Drawings for the proposed adaptable housing units in the pre and post adaptation stages have been provided.	C

SITING

Clause No.	Requirement/s	Comment/s	Status
3.3.2	An accessible path of travel from the street frontage carparking area or drop-off point shall be provided to all adaptable housing units. As a minimum, this accessible path shall comply with AS1428.1 and shall be continuous, slip-resistant, hard-surfaced and shall not incorporate any step, stairway or other impediment which would prevent it from being safely negotiated by people with disabilities.	A path of travel from the street frontage to each unit is to be provided to all adaptable housing units. Consideration shall be provided to ensure the accessible path of travel complies with the requirements of AS1428.1-2009.	CRA

LETTERBOXES IN ESTATE DEVELOPMENTS			
Clause No.	Requirement/s	Comment/s	Status
3.8	<p>Letterboxes shall comply with Australia / New Zealand Post regulations.</p> <p>Where letterboxes are centrally located in residential estate developments they should be adjacent to the street entry. Letterboxes and parcel racks should be lockable.</p>	<p>The letterboxes should be located adjacent to the street entry.</p> <p>Letterboxes shall comply with Australia / New Zealand Post regulation and letterboxes and parcel lockers should be lockable.</p>	CRA

PRIVATE CAR ACCOMODATION			
Clause No.	Requirement/s	Comment/s	Status
3.7.2	<p>Garages and carports shall have minimum internal dimensions of 6.0m x 3.8m. A 2.5m internal vertical clearance is desirable. A garage may be reduced if a hard surfaced level outside space of minimum dimensions 5.4m x 3.8m is provided as a sheltered carpark, or can be provided in the future.</p> <p>NOTE: A level surface includes surfaces with a gradient of up to 1:40.</p>	<p>The garages for each adaptable unit are identified as having internal dimensions of 6m x 3.8m.</p> <p>The internal vertical clearance is to be 2.5m for each garage and have a level surface not steeper than 1:40.</p>	CRA

ACCESSIBLE ENTRY			
Clause No.	Requirement/s	Comment/s	Status
4.3.1	At least one entry door complying with AS1428.2 shall be provided.	The adaptable unit entry doors are identified as being capable of complying with AS1428.2, appropriate to clearances and circulation space/s.	CRA
4.3.2	The accessible entry door shall be provided with a landing outside the door with a maximum fall of 1:40 and a low threshold at the entry door to exclude water.	The entry doors to the proposed adaptable units are to be provided with a landing surface not steeper than 1:40 and have a threshold to exclude water.	CRA
4.3.2	The threshold shall allow for the smooth transition of a wheelchair.	<p>The threshold of the entry doors to the adaptable units are to be detailed to allow for a smooth transition of a wheelchair.</p> <p>Consideration for the abutment of surfaces in accordance with Clause 7.2 of AS1428.1 is to be provided, whereby the construction tolerances shall be as follows –</p> <p>(a) 3mm vertical; or</p> <p>(b) 5mm, provided the edges have a beveled or rounded edge to reduce the likelihood of tripping.</p>	CRA
4.3.2	The landing shall be of sufficient area to enable wheelchair maneuverability.	The landings at the adaptable unit entry doors are to have sufficient area to enable wheelchair maneuverability.	CRA

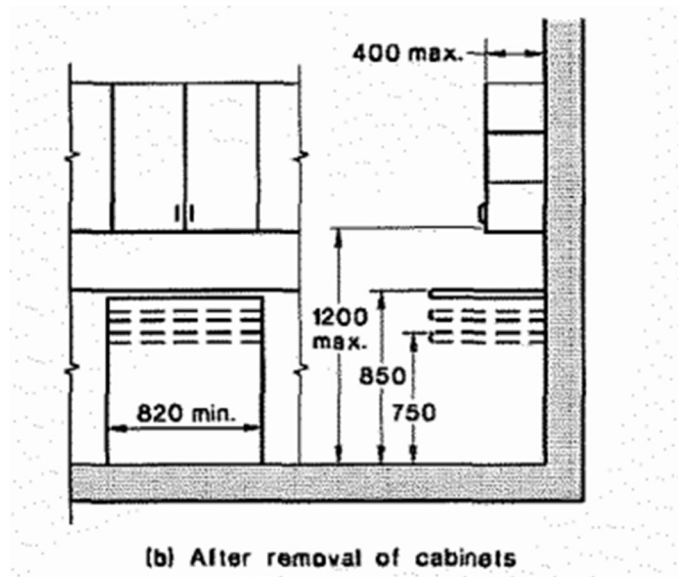
ACCESSIBLE ENTRY			
Clause No.	Requirement/s	Comment/s	Status
4.3.1	Accessible entry door to have 850mm min. clearance.	The adaptable unit entry doors are to be provided with a clear opening width of min. 850mm.	CRA
4.3.4	Door lever handles and hardware shall be not less than 900mm nor more than 1100mm above the plane of the finished floor and shall be in accordance with AS1428.1.	Door lever handles and hardware are of a 'D' type handles and located 900mm-1100mm above the finished floor in accordance with Clause 13.5 of AS1428.1.	CRA

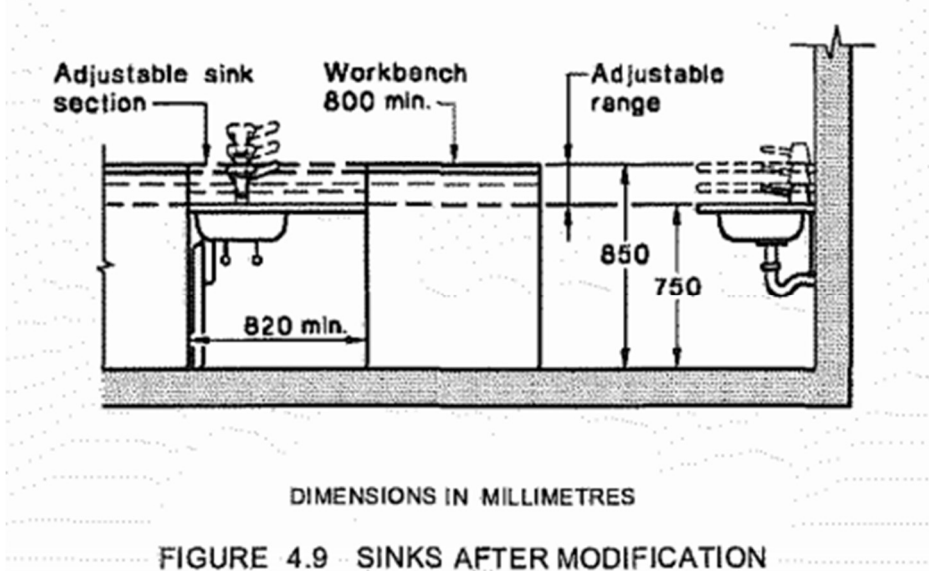
INTERIOR: GENERAL			
Clause No.	Requirement/s	Comment/s	Status
4.3.3	Internal doors throughout shall have a minimum clear opening of 820mm, except where otherwise described.	Internal doors at the entry level of the adaptable units are identified as being provided with clear opening width less than 820mm.	C
4.3.7	Internal corridors shall have a minimum width of 1000mm.	Internal corridors are identified as having a minimum width of 1000mm.	C
4.3.7	After adaptation, circulation spaces at doorways shall comply with AS1428.1.	After adaptation, circulation spaces at doorways at the entry level of the adaptable units are to comply with AS1428.1.	CRA

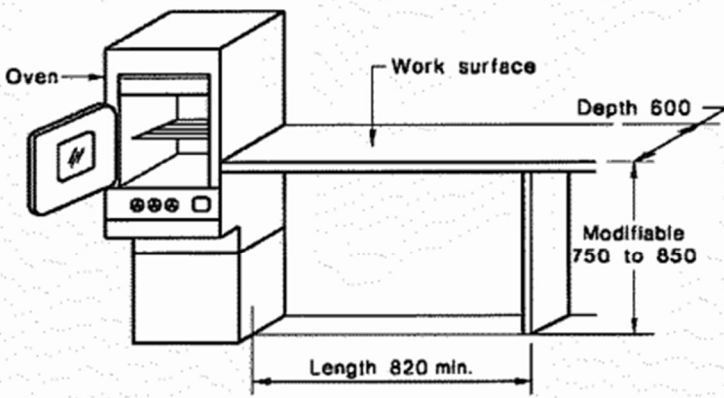
LIVING ROOM & DINING ROOM			
Clause No.	Requirement/s	Comment/s	Status
4.7.1	Provision shall be made for circulation space to enable a 360-degree wheelchair turn after the furniture has been placed. NOTE - An area of 2250mm minimum diameter after the furniture has been placed will satisfy this requirement.	A 2250mm diameter spatial provision to be provided to enable a 360-degree wheelchair turn, that is free of furniture, within the living room of the adaptable housing units.	CRA
4.7.4	A telephone outlet shall be provided in the living-dining area. This should be adjacent to a GPO.	Details are to be provided to ensure that a telephone outlet is provided adjacent to a GPO within the living-dining areas, at the post adaptation stage.	CRA
4.10	Provision shall be made for the illumination level of 300-350 lux for people with visual impairment.	Details are to be provided to ensure that provision for the illumination level of 300-350 lux is provided within the living & dining rooms, at the post adaptation stage.	CRA

KITCHEN

Clause No.	Requirement/s	Comment/s	Status
4.5.2	<p>Minimum clearances in front of appliances and between base cabinets shall be provided at the outset.</p> <p>A minimum clearance of 1550mm shall be maintained between all opposing base cabinets, appliances and walls to allow for a 180 degree turn by a person in a wheelchair.</p>	Clearances between the benches within the kitchen are identified as being min. 1550mm.	C
4.5.1	<p>The potential configuration of the kitchen area after adaptation shall be demonstrated.</p> <p>The final configuration of the kitchen after adaptation shall be shown to comply with Clause 4.5.3, whereby circulation spaces at door shall comply with AS1428.1.</p>	Details are to be provided to ensure circulation at doors within the kitchen comply with AS1428.1, at post adaptation.	CRA
4.5.5	At least one section of the work surface, not less than 800mm in length, should be adjustable or replaceable as a unit at variable heights within the range 750mm to 850mm above the finished floor surface.	Details are to be provided to ensure at least one section of the work surface, not less than 800mm in length, is provided adjustable or replaceable as a unit at variable heights within the range 750mm to 850mm above the finished floor surface.	CRA



KITCHEN			
Clause No.	Requirement/s	Comment/s	Status
4.5.5	A refrigerator shall be located adjacent to a work surface.	Details are to be provided to ensure the refrigerator within each adaptable unit is located adjacent to a work surface.	CRA
4.5.6	The kitchen sink shall be adjustable or replaceable as a unit at variable heights within the range 750mm-850mm above the finished floor surface.	Details are to be provided to ensure the kitchen sink within each adaptable unit is able to be adjustable or replaceable as a unit at variable heights within the range 750mm-850mm above the finished floor surface.	CRA
 <p style="text-align: center;">DIMENSIONS IN MILLIMETRES</p> <p style="text-align: center;">FIGURE 4.9 SINKS AFTER MODIFICATION</p>			
4.5.6	The maximum depth of the bowl of the sink should be 150mm. This would only apply to the main bowl of a double bowl sink.	Details are to be provided to ensure the maximum depth of the bowl of the sink is 150mm.	CRA
4.5.6(e)	Taps shall comply with AS1428.1.	Details are to be provided to ensure taps comply with AS1428.1 – (a) Taps shall have lever handles, sensor plates, or similar controls. (b) Lever handles shall have not less than 50mm clearance from an adjacent surface. (c) Where separate taps are provided for hot and cold water, the hot water tap shall be placed to the left of the cold water tap for horizontal configurations, or above the cold water tap for vertical configurations. (d) Where hot water is provided, the water shall be delivered through a mixing spout.	CRA
4.5.6(e)	Taps or their operating handles shall be within 300mm of the front of the sink to allow for ease of operation.	Details are to be provided to ensure taps or their operating handles are within 300mm for the front of the sink.	CRA
4.5.7	Cooktops shall have controls which do not require reaching over the hotplates to adjust them. Control shall have raised cross-bars for ease of grip.	Details are to be provided to ensure the cooktops have controls which do not require reaching over the hotplates to adjust them.	CRA

KITCHEN			
Clause No.	Requirement/s	Comment/s	Status
4.5.7	Cooktops should be provided with isolating switches or gas stop valves which can be easily and safely operated while the cooktop is in use.	Details are to be provided to ensure the cooktops are provided with isolating switches or gas stop valves.	CRA
4.5.7	Cooktops shall have an adjacent work surface of 800mm minimum length at the same height.	Details are to be provided to ensure the cooktops are provided with an adjacent work surface of min. 800mm length, at the same height as the cooktop.	CRA
4.5.8	Ovens shall be located adjacent to a work surface that is not less than 800mm in length, and is adjustable or replaceable as a unit at variable heights within the range 750mm to 850mm above the finished floor surface.	Details are to be provided to ensure the ovens are located adjacent to a work surface that is not less than 800mm in length, and is adjustable or replaceable as a unit at variable heights within the range 750mm to 850mm above the finished floor surface.	CRA
 <p style="text-align: center;">DIMENSIONS IN MILLIMETRES</p> <p style="text-align: center;">FIGURE 4.10 OVENS</p>			
KITCHEN			
Clause No.	Requirement/s	Comment/s	Status
4.5.11	General purpose outlets shall be located to comply with AS1428.1. At least one double general purpose outlet shall be located with a horizontally accessible reach over a work surface at a maximum of 300mm from the front of the work surface.	Details are to be provided to ensure the GPOs are located not less than 900mm nor more than 1100mm above the finished floor and not less than 500mm from internal corners in accordance with AS1428.1. At least one double general purpose outlet shall be located with a horizontally accessible reach over a work surface at a maximum of 300mm from the front of the work surface.	CRA
4.5.11	The GPO for the refrigerator shall be easily reachable when the refrigerator is in its operating position.	Details are to be provided to ensure the GPO for the refrigerator is easily reachable when the refrigerator is in operating position.	CRA

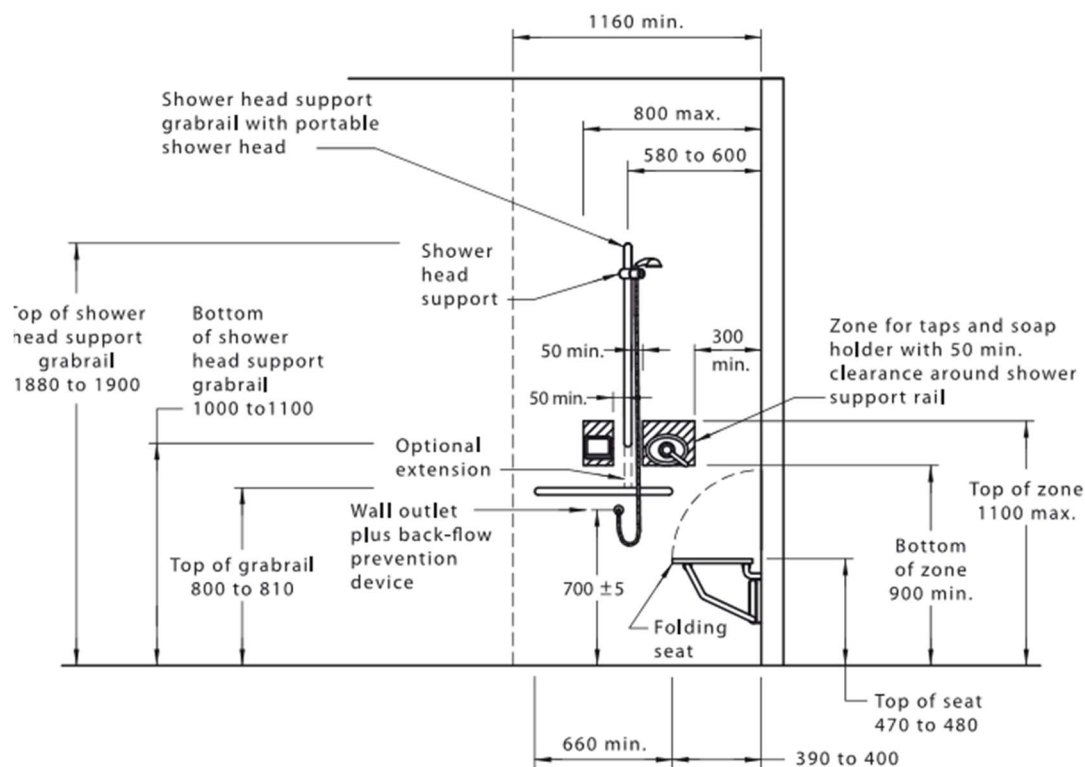
KITCHEN			
Clause No.	Requirement/s	Comment/s	Status
4.5.4	The floor surface shall be slip-resistant to comply with AS/NZS 3661.1.	Floor surfaces within the kitchens of the adaptable units are to be documented to ensure they are slip resistant in accordance with AS/NZS 3661.1.	CRA

MAIN BEDROOM			
Clause No.	Requirement/s	Comment/s	Status
4.6.1	At least one bedroom shall be capable of accommodating a queen size bed and a wardrobe and the circulation space requirements of AS1428.2 clear of wardrobe fixtures.	Details are to be provided to demonstrate that the main bedroom is provided with adequate clearances and circulation spaces, whilst being capable of accommodating a queen size bed (1530mm x 2030mm) and wardrobe.	CRA

BATHROOM			
Clause No.	Requirement/s	Comment/s	Status
4.4.1	The bathroom area shall be adaptable, at a minimum cost, to potentially comply with AS1428.1.	The compartment containing the shower area is to be readily adapted to comply with the requirements of AS1428.1, in relation to circulation spaces and location of fixtures and fittings.	CRA
4.4.2	Floor surfaces shall be slip-resistant to comply with AS/NZS 3661.1.	Floor surfaces within the bathroom are to be documented to ensure they are slip resistant in accordance with AS/NZS 3661.1.	CRA
4.4.4(f)	The shower compartment shall be a minimum size of 1160 x 1100mm. Any waterproofing system used in the shower compartment shall be such that it can be extended to suit the larger, hobless configuration as required by AS1428.1.	The shower compartment within a bathroom of each adaptable unit is to be provided with a minimum size of 1160mm x 1100mm. Details are to be provided to ensure the waterproofing system used in the shower compartment can be extended to suit the larger, hobless configuration as required by AS1428.1.	CRA
4.4.4(f)	The shower area shall be waterproofed to comply with AS3740.	Details are to be provided to ensure the shower areas are waterproofed to comply with the requirements of AS3740. This is to be provided from the onset at the pre-adaptation stage.	CRA
4.4.4(f)	The soap holder shall be recessed.	Details are to be provided to ensure that the soap holder within each bathroom is recessed.	CRA

BATHROOM

Clause No.	Requirement/s	Comment/s	Status
4.4.4(f)	The position of the shower taps shall be such that the clearances and heights required by AS1428.1 are achieved.	Details are to be provided to ensure that the position of the shower taps shall be such that the clearances and heights required by AS1428.1 are achieved.	CRA



DIMENSIONS IN MILLIMETRES

FIGURE 48 SHOWER RECESS FITTINGS—ELEVATION

BATHROOM

Clause No.	Requirement/s	Comment/s	Status
4.4.4(h)	Provision for adjustable, detachable hand held shower rose mounted on a slider grabrail or fixed hook (plumbing and wall-strengthening provision).	Details are to be provided to ensure provision for an adjustable, detachable hand held shower rose mounted on a slider grabrail or fixed hook (plumbing and wall-strengthening provision), is provided.	CRA
4.4.4(h)	Provision for grabrails shall be made in the modified configurations as required by AS1428.1.	Details are to be provided to ensure provision for grab rails is provided within shower area to meet the future requirements of AS1428.1.	CRA

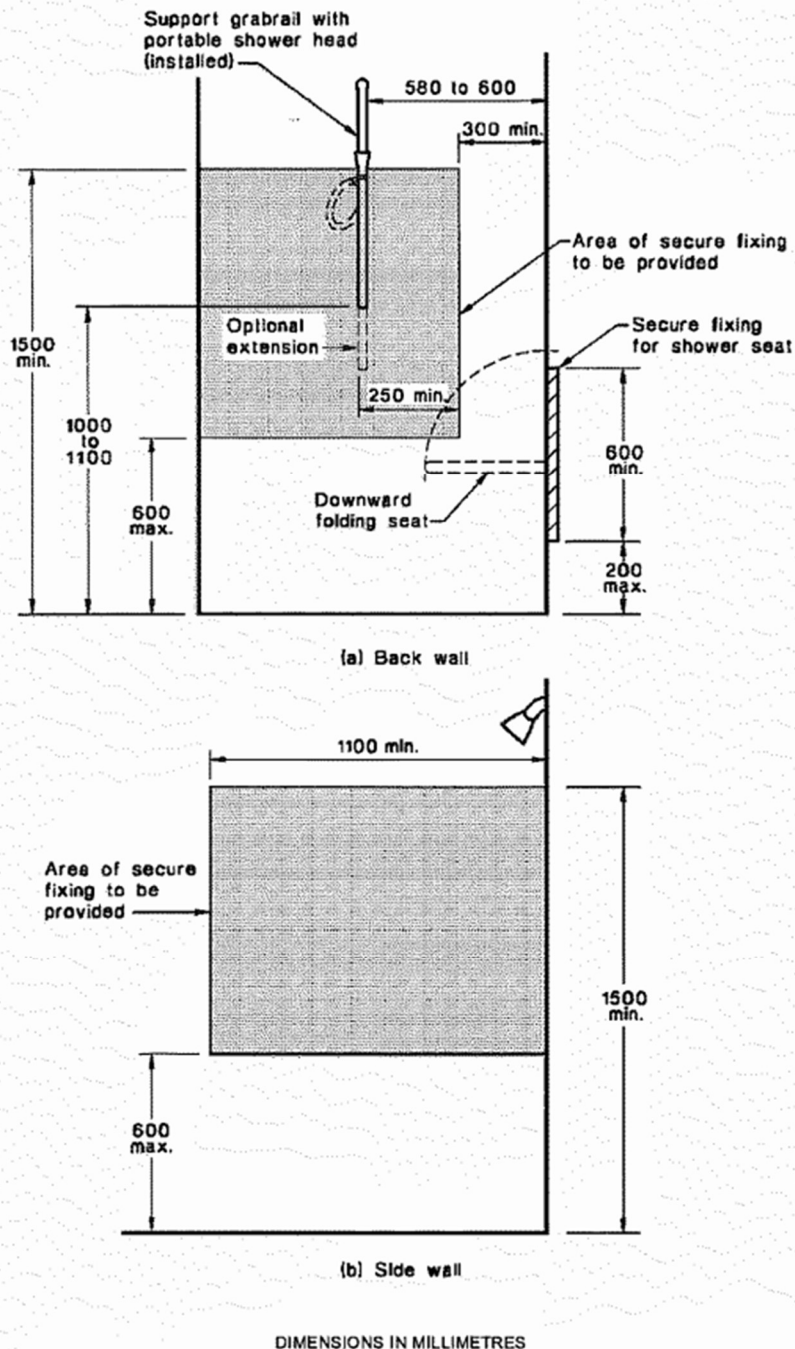


FIGURE 4.6 REINFORCED AREAS FOR SUBSEQUENT INSTALLATION OF GRABRAILS IN SHOWER COMPARTMENTS

BATHROOM

Clause No.	Requirement/s	Comment/s	Status
4.4.4(c)	Tap sets throughout shall have capstan or lever handles.	Details are to be provided to ensure the tap sets throughout the bathroom are provided as capstan or lever handles, at the post adaptation stage.	CRA
4.4.4(g)	The washbasin shall be located such that circulation spaces to adjacent doors, WC pans and other components, and knee clearances are either provided in accordance with AS1428.1 or will be provided at adaptation.	Details are to be provided to ensure the washbasin within the main bathroom is provided to meet the required circulation spaces to adjacent doors, WC pans and other components, and knee clearances are provided in accordance with AS1428.1 at post adaptation stage.	CRA

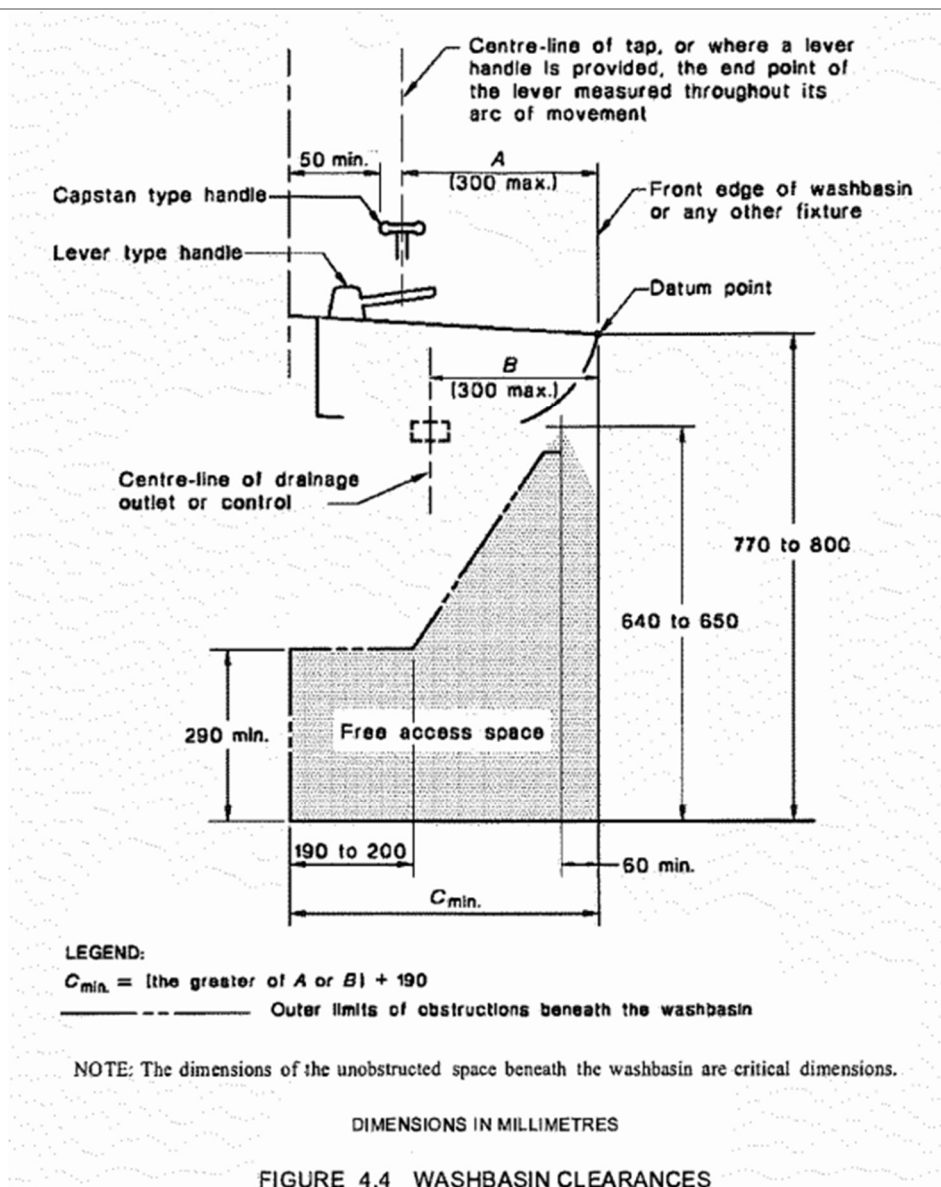
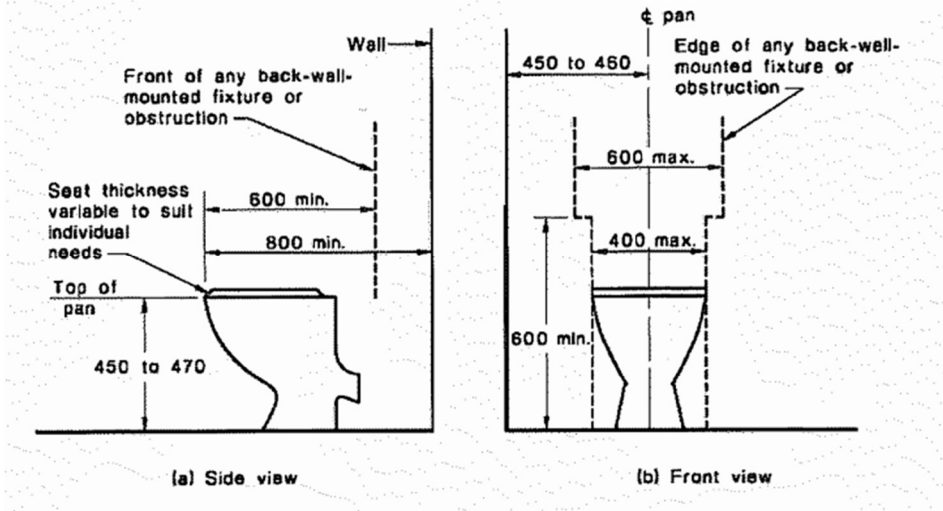


FIGURE 4.4 WASHBASIN CLEARANCES

BATHROOM			
Clause No.	Requirement/s	Comment/s	Status
4.4.4(d)	A double GPO shall be located adjacent to the mirror.	Details are to be provided to ensure that a double GPO is provided adjacent to the mirror within the bathrooms.	CRA

TOILET			
Clause No.	Requirement/s	Comment/s	Status
4.4.3	Each housing unit shall be provided with either a visitable toilet or an accessible toilet.	The compartment containing the toilet is to be reviewed to ensure it is provided with adequate dimensions to be readily adapted to comply with the requirements of AS1428.1, in relation to circulation spaces and location of fixtures and fittings.	CRA
4.4.1	The toilet shall be adaptable, at a minimum cost, to potentially comply with AS1428.1.	Details are to be provided to demonstrate that the toilet is capable of being adaptable to potentially comply with AS1428.1.	CRA
4.4.3	The WC pan shall initially be positioned at the correct distance from any fixed walls.	The outlet for the WC pan in the post adaption layout shall be capped for future connection from the outset, at a distance that is in accordance with AS1428.1 from any fixed walls that will incorporate grab rails.	CRA
 <p>The image contains two technical drawings of a toilet. Drawing (a) is a side view showing the toilet pan and its relationship to a wall. It indicates a minimum distance of 600 mm from the front of any back-wall-mounted fixture or obstruction to the front of the pan, and a minimum distance of 800 mm from the wall to the front of the pan. The seat thickness is noted as variable to suit individual needs. The height from the floor to the top of the pan is specified as 450 to 470 mm. Drawing (b) is a front view showing the toilet pan and its relationship to a wall. It indicates a minimum distance of 450 to 460 mm from the edge of any back-wall-mounted fixture or obstruction to the front of the pan. The maximum width of the pan is 600 mm, and the maximum width of the bowl is 400 mm. The height from the floor to the top of the pan is specified as 600 mm.</p>			
4.4.4(h)	Provision for grabrails shall be made in the modified configurations as required by AS1428.1.	Details are to be provided to ensure provision for grab rails are provided for future adaptation, to meet the requirements of AS1428.1.	CRA
4.4.2	Floor surfaces shall be slip-resistant to comply with AS/NZS 3661.1.	Floor surfaces within the toilet are to be documented to ensure they are slip resistant in accordance with AS/NZS 3661.1.	CRA

LAUNDRY			
Clause No.	Requirement/s	Comment/s	Status
4.8	If a separate room is used for a laundry, circulation spaces at doors shall be in accordance with AS1428.1.	If a separate room is used for a laundry, circulation spaces at doors shall be in accordance with AS1428.1.	CRA
4.8	Provision for adequate circulation space shall be made in front of or beside appliances and under or adjacent to the tub to enable people who use wheelchairs to use all the facilities. NOTE - An area of 1550mm diameter will satisfy this requirement.	The laundry room within each of the proposed adaptable units is to be provided with adequate circulation space in front of or beside appliances. .	CRA
4.8(e)	Provision shall be made for an automatic washing machine.	Details are to be provided to ensure that a double GPO is provided within the laundry rooms.	CRA
4.8(a)	There shall be a clothes drying facility. Where a clothes line is provided, an accessible path of travel shall be provided to the clothes line.	Details are to be provided to ensure a clothes drying facility is provided. This may be provided by a clothes line or clothes drying machine within each unit.	CRA
4.8(g)	A double GPO shall be provided as a minimum.	Details are to be provided to ensure that a double GPO is provided within the laundry rooms.	CRA
4.9.1	Floor surfaces shall be slip resistant to comply with AS/NZS 3661.1.	Floor surfaces within the laundry rooms are to be documented to ensure they are slip resistant in accordance with AS/NZS 3661.1.	CRA

DOOR LOCKS			
Clause No.	Requirement/s	Comment/s	Status
4.3.4	Door handle and related hardware shall be of the type that allows the door to be unlocked and opened with one hand, at a height not less than 900mm nor more than 1100mm above the plane of the finished floor.	The door schedule is to document the requirement for door handles and related hardware to be unlocked and opened with one hand, at a height not less than 900mm nor more than 1100mm above the plane of the finished floor.	CRA

5. Conclusion

In concluding the review undertaken, it is considered that based on the documentation provided (as referenced in Annexure 1), subject to recommendations outlined in Section 4, the proposed scope of works is capable of complying with the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995.



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ANNEXURE 1 – Documentation Assessed

This assessment is based on the following documentation –

Discipline	Architectural
Organisation	Designiche P/L
Documentation Type	Plans

Plan No.	Title	Revision	Date
06	SITE PLAN	B	01.05.23
27	TYPICAL FLOOR PLAN (BLOCK G)	B	01.05.23
28	TYPICAL FLOOR PLAN (BLOCK G)	B	01.05.23
29	TYPICAL FLOOR PLAN (BLOCK G)	B	01.05.23



ACCESSIBILITY ASSESSMENT REPORT

PROJECT:	Stage 1 - 400-404 Cabramatta Road Cabramatta West NSW 2166
STAGE:	Development Application Phase
REFERENCE:	22010B.2-ACCESS
DATE:	14 th December 2022
CLIENT:	Tcon Constructions Pty Ltd

Document Information

ISSUE	DESCRIPTION	DATE
1	Preliminary issue	31 August 2022
2	Final issue	14 December 2022

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1. Introduction

1.1 Project Description

The proposed development is understood to form part of a multi stage development (Stage 1 and Stage 2), of which the subject development is known as Stage 2.

The proposed multi-level residential development is proposed to include the construction of 87 residential apartments distributed over 6 levels that are located above 2 levels of basement carparking.



Figure 1.1 – Perspective view south



Figure 1.2 – Section view

1.2 Intent of Report

The purpose of this report is to provide an assessment of the proposed scope of works against the relevant provisions of the Building Code of Australia (BCA) Volume One 2019 Amendment 1.

Where non-compliances are identified, recommendations for resolution are to be provided in the form of a deemed to satisfy solution and/or performance-based solution, as applicable.

1.3 Limitations

This report does not include nor imply that an assessment of the following has been completed for the proposed works -

- (i) Structural Adequacy, Design & Performance;
- (ii) Fire, Mechanical, Hydraulic and Electrical Services Design & Performance;
- (iii) Work Health & Safety Act 2011;
- (iv) Work Cover Authority Requirements;
- (v) Service & Utilities Authority Requirements;
- (vi) The Disability Discrimination Act (DDA) 1992;
- (vii) Plumbing Code of Australia 2019 Amendment 1;
- (viii) Any BCA DtS Provisions other than those contained within the relevant Accessibility Provisions of the BCA (i.e. Part D3, E3.6, F2.4 & F2.9);
- (ix) The relevant Energy Efficiency Provisions as contained within the BCA (i.e. Section J);
- (x) Proposed scope of works forming part of the Stage 1 proposed development.

1.4 Documentation Assessed

This assessment is based upon the documentation referenced within **Annexure 1** of this report.

2. Building Description

2.1 General

The proposed multi-level residential development is proposed to include the construction of 87 residential apartments distributed over 6 levels that are located above 2 levels of basement carparking.

The building is noted as being positioned at the intersection of two road frontages (Orange Grove Road and Cabramatta Road West), with access to the building provided via each road frontage.

For the purposes of the Building Code of Australia assessment, the building is described hereunder.

2.2 Classification/s

The building has been identified as having the following building classifications –

Classification	Description
2	Residential
7a	Carpark

2.3 Rise in Storeys

The building has been determined as having a rise in storeys of 6.

2.4 Effective Height

The building has been determined as having an effective height of 15.5m.

2.5 Type of Construction

The building has been determined as being of Type A Construction, on the basis the building has a rise in storeys of 6 and the use of the topmost level is of a Class 2 use.

2.6 Principal Pedestrian Entrance/s

Referring to Figure 2.1 below, the principal pedestrian entrance to the building (highlighted **red**) has been assessed as shown.



Figure 2.1 – Pedestrian entrance/s

Access to the building has been assessed further in D3.2 of the report.

2.7 Exemptions

The following areas have been identified as not required to be accessible in accordance with D3.4 of the BCA, based on the particular purpose for which it is to be used as well as the potential health or safety risk posed for people with a disability -

- (i) Storage Areas; and
- (ii) Plant & Equipment Rooms; and
- (iii) Service Rooms; and
- (iv) Waste Room.

2.8 Interpretation Notes

The following interpretations have been adopted as part of the assessment undertaken for the proposed development -

- (i) The internal stairways serving each storey have been assessed as a required fire isolated stairway.

3. Assessment Summary

The following table summarises matters identified as 'Does Not Comply' and/or 'Further Information Required', with all other matters assessed considered to be either compliant and/or capable of complying via design detail.

A detailed clause by clause assessment is outlined in Section 4 of this report.

Item	Clause	Issue/s	Recommendation/s for resolution
1.	D3.1	The door serving the outdoor swimming pool on the ground floor is provided with a latch side clearance of less than 530mm.	The subject doorway is to be reconfigured so that a latch side clearance of not less than 530mm is provided in accordance with Clause 13 of AS1428.1-2009. Consideration for a hinge side clearance of 110mm and clear opening width of the doorway of 850mm shall also be provided.
2.	D3.1	The turning space at the landing providing access to the outdoor common area located adjacent to the outdoor pool area is less than 1,500mm x 1,500mm to allow for a 90 degree turn.	The subject landing is to be reconfigured to so that a turning space of not less than 1500mm x 1500mm is provided.

4. Detailed Assessment

A detailed assessment of the proposed scope of works in the context of the applicable Deemed to Satisfy provisions of the Building Code of Australia (BCA) has been undertaken, as outlined below.

The status of compliance against each applicable BCA clause assessed has adopted the following abbreviations-

C	Complies. The proposed design satisfies the requirements of the BCA clause.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the BCA clause, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the BCA clause.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the BCA clause.
PPS	Potential for Performance Solution.
Note	Information is provided to guide the reader and not as specific assessment of the BCA clause.
N/A	Not applicable. The requirements of the BCA clause do not apply.

SECTION D: ACCESS AND EGRESS

Part D3 – Access for people with a disability

BCA Clause		Comment/s	Status
D3.1	General building access requirements	<p><u>Requirement/s</u></p> <p>Except as excluded under Section 2.7 of this report, access for people with a disability must be provided –</p> <ul style="list-style-type: none"> (i) From a pedestrian entrance required to be accessible to at least 1 floor containing sole occupancy units and to the entrance doorway of each sole occupancy unit located on that level. (ii) To and within not less than 1 of each type of room or space for use in common by the residents, including a cooking facility, sauna, gymnasium, swimming pool, common laundry, games room, individual shop, eating area, or the like. (iii) Where a ramp complying with AS1428.1-2009 or a passenger lift is installed – <ul style="list-style-type: none"> (a) To the entrance doorway of each sole occupancy unit; and (b) To and within rooms or spaces for use in common by the residents, located on the levels served by the lift or ramp. (iv) To and within any level containing accessible carparking spaces. <p><u>Issue/s</u></p> <p>The following issues are identified -</p> <ul style="list-style-type: none"> (i) The door serving the outdoor swimming pool on the ground floor is provided with a latch side clearance of less than 530mm; and (ii) The turning space at the landing providing access to the outdoor common area located adjacent to the outdoor pool area is less than 1,500mm x 1,500mm to allow for a 90 degree turn. 	DNC

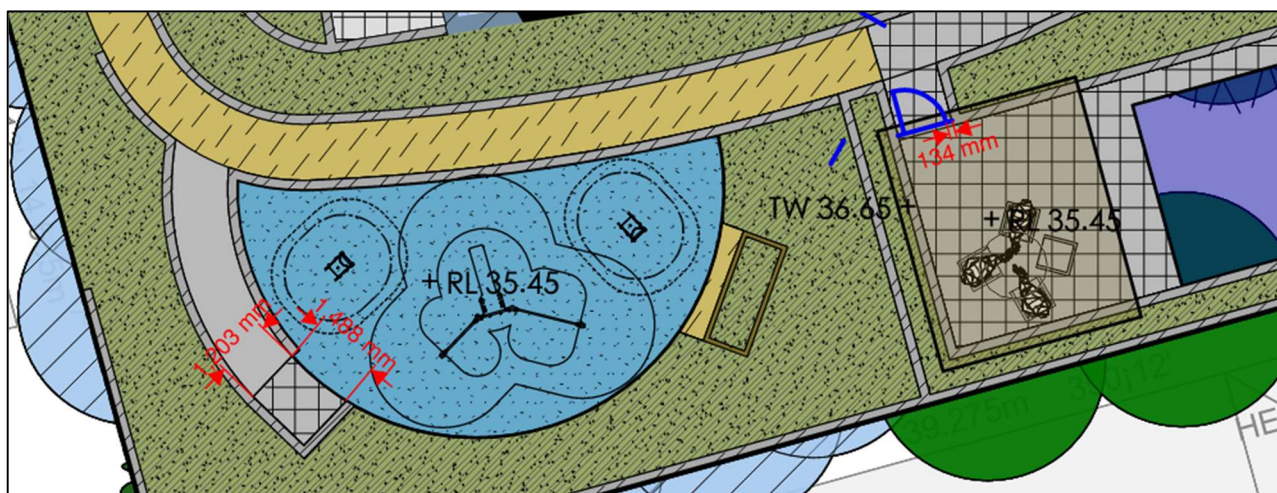


Figure 4.1 – Outdoor common areas

Part D3 – Access for people with a disability

BCA Clause		Comment/s	Status
D3.2	Access to buildings	<p><u>Requirement/s</u></p> <p>An accessway complying with AS1428.1-2009 must be provided to the building —</p> <ul style="list-style-type: none"> (i) from the main points of a pedestrian entry at the allotment boundary; and (ii) from any required accessible carparking space on the allotment. 	CRA
D3.3	Parts of buildings to be accessible	<p><u>Requirement/s</u></p> <ul style="list-style-type: none"> (a) any ramp and stairway, except for ramps and stairways in areas exempted by D3.4, must comply with— <ul style="list-style-type: none"> (i) for a ramp, clause 10 of AS 1428.1-2009; and (ii) for a stairway, clause 11 of AS 1428.1-2009; (iii) for a fire isolated stairway, clause 11(f) and (g) of AS1428.1-2009; and (b) the passenger lifts must comply with E3.6; and (c) accessways must have turning spaces complying with AS1428.1-2009 within 2m of the end of accessways where it is not possible to continue travelling along the accessway; and (d) clause 7.4.1(a) of AS 1428.1-2009 does not apply and is replaced with 'the pile height or pile thickness shall not exceed 11 mm and the carpet backing thickness shall not exceed 4 mm'; and (e) the carpet pile height or pile thickness dimension, carpet backing thickness dimension and their combined dimension shown in Figure 8 of AS 1428.1-2009 do not apply and are replaced with 11 mm, 4 mm and 15 mm respectively. 	CRA
D3.4	Exemptions	Refer section 2.7 of this report for areas identified as not required to be accessible in accordance with this clause .	Note

Part D3 – Access for people with a disability

D3.5	BCA Clause	Comment/s	Status
	Accessible carparking	<p><u>Requirement/s</u></p> <p>Accessible carparking spaces need not be provided for the Class 2 part of the building.</p> <p>Nevertheless, it is identified that the following is proposed –</p> <ul style="list-style-type: none"> (a) 3 accessible visitor car spaces (b) 9 adaptable unit car spaces <p>In this regard, the accessible car space and associated shared area allocated for the visitors must be provided to comply with the requirements of AS/NZS 2890.6-2009.</p> <p>Refer the Adaptable Housing Assessment Report prepared by this office (P22010B.2-AS4299) for detailed commentary and requirements associated with the adaptable unit car spaces.</p> <p><u>Comment/s</u></p> <p>As per the requirements of AS/NZS 2890.6-2009 –</p> <ul style="list-style-type: none"> (a) The dedicated (non-shared) space shall be 2400mm wide x 5400mm long. (b) The shared areas on one side of the dedicated space shall be 2400mm wide x 5400mm long. (c) The dedicated space and shared area shall be at the same level. (d) Bollards shall be provided 750-850mm from the front of the shared area and at equal distance from each side of the shared area. (e) Each parking space shall comprise a firm plane surface with a fall not exceeding 1:40 in any direction and have a slip-resistant surface. (f) The path of travel from the carpark entry to the accessible car space and from the space to the carpark exit shall have a minimum head room of 2.2m. (g) The head room above the dedicated accessible car space and adjacent shared area shall be minimum 2.5m. (h) Each dedicated space shall be identified by means of a white symbol of access in accordance with AS 1428.1-2009 between 800 mm and 1000 mm high placed on a blue rectangle with no side more than 1200 mm, placed as a pavement marking in the centre of the space between 500 mm and 600 mm from its entry point. (i) Dedicated parking spaces shall be outlined with unbroken lines 80 to 100 mm wide on all sides excepting any side delineated by a kerb, barrier or wall. (j) Shared areas shall be marked as follows: <ul style="list-style-type: none"> (i) Walkways within or partly within a shared area shall be marked with unbroken longitudinal lines on both sides of the walkway excepting any side delineated by a kerb, barrier or wall. (ii) Other vacant non-trafficked areas, which may be intentionally or unintentionally obstructed (e.g. by unintended parking), shall be outlined with unbroken lines 80 to 100 mm wide on all sides excepting any side delineated by a kerb, barrier or wall, and marked with diagonal stripes 150 to 200 mm wide with spaces 200 mm to 300 mm between stripes. The stripes shall be at an angle of 45 ±10 degrees to the side of the space. 	CRA

Part D3 – Access for people with a disability

BCA Clause		Comment/s	Status
D3.6	Signage	<p><u>Requirement/s</u></p> <p>(a) Braille and tactile signage complying with Specification D3.6 must identify each door required by E4.5 to be provided with an exit sign and state—</p> <p>(A) “Exit”; and</p> <p>(B) “Level”; and either</p> <p>(aa) the floor level number; or</p> <p>(bb) a floor level descriptor; or</p> <p>(cc) a combination of (aa) and (bb).</p> <p>(b) Where a pedestrian entrance is not accessible, directional signage incorporating the international symbol of access, in accordance with AS 1428.1 must be provided to direct a person to the location of the nearest accessible pedestrian entrance.</p>	CRA
D3.7	Hearing augmentation	Not applicable. Not required for the subject development	N/A
D3.8	Tactile indicators	<p><u>Requirement/s</u></p> <p>Tactile ground surface indicators complying with Sections 1 and 2 of AS/NZS 1428.4.1-2009 must be provided to warn people who are blind or have a vision impairment that they are approaching –</p> <p>(a) A stairway, other than a fire isolated stairway; and</p> <p>(b) A ramp, other than a fire isolated ramp, step ramp, kerb ramp; or swimming pool ramp; and</p> <p>(c) In the absence of a suitable barrier, an overhead obstruction less than 2m above the floor level and an accessway meeting a vehicular way adjacent to any pedestrian entrance to a building.</p>	CRA
D3.9	Wheelchair seating spaces in Class 9b assembly buildings	Not applicable. No Class 9b part proposed.	N/A
D3.10	Swimming pools	Not applicable. The pool is identified as having a total perimeter of less than 40m.	N/A
D3.11	Ramps	Not applicable. A series of connected ramps or step ramps are not proposed.	N/A
D3.12	Glazing on an accessway	<p><u>Requirement/s</u></p> <p>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 for their full width with a solid and non-transparent contrasting line in accordance with Clause 6.6 of AS1428.1-2009.</p> <p>Clause 6.6 of AS1428.1-2009 requires that the contrasting line shall be not less than 75 mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level.</p> <p>Any contrasting line on the glazing shall provide a minimum of 30% luminance contrast when viewed against the floor surface or surfaces within 2 m of the glazing on the opposite side.</p>	CRA

SECTION E: SERVICES AND EQUIPMENT

Part E3 – Lift installations

BCA Clause		Comment/s	Status
E3.6	Passenger lifts	<p><u>Requirement/s</u></p> <p>The passenger lifts connecting all levels of the building must –</p> <ul style="list-style-type: none"> (a) Be one of the types identified in Table E3.6a, subject to the limitations on use specified in the Table; and (b) Have accessible features in accordance with Table E3.6b; and (c) Not rely on a constant pressure device for its operation if the lift car is fully enclosed. <p>Based on the proposed lift, the following features must apply, as detailed in Table E3.6b of the BCA –</p> <ul style="list-style-type: none"> (a) Handrail complying with provisions for a mandatory handrail in AS1735.12 (b) Lift floor dimension of not less than 1400mm x 1600mm. (c) Minimum clear door opening complying with AS1735.12. (d) Passenger protection system complying with AS1735.12. (e) Lift landing doors at the upper landing. (f) Lift car and landing control buttons complying with AS1735.12. (g) Lighting in accordance with AS1735.12 (<u>if an enclosed lift car</u>). (h) Automatic audible information within the lift car to identify the level each time the car stops; and audible and visual indication at each lift landing to indicate the arrival of the lift car; and audible information is to be provided in a range between 20-80dB(A) at a maximum frequency of 1500 Hz. (i) Emergency hands-free communication, including a button that alerts a call centre of a problem and a light to a signal that the call has been received. 	CRA

SECTION F: HEALTH AND AMENITY

Part F2 – Sanitary and other facilities

BCA Clause		Comment/s	Status
F2.4	Accessible sanitary facilities	Not applicable. No accessible unisex sanitary compartments required.	N/A
F2.9	Accessible adult change facilities	Not applicable. The subject building does not require a unisex adult change facility.	N/A

5. Conclusion

In concluding the review undertaken, it is considered that based on the documentation provided (as referenced in Annexure 1), the proposed scope of works is capable of complying with the relevant accessibility deemed to satisfy provisions and/or performance requirements of the Building Code of Australia (BCA) Volume 1 2019 Amendment 1.

Where compliance is to be obtained via a performance-based solution for any BCA provision, it is considered that any such solution/s will not necessitate significant changes to the proposed design.



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ANNEXURE 1 – DOCUMENTATION ASSESSED

This assessment is based on the following documentation –

Discipline	Architectural
Organisation	Aleksander Projects
Documentation Type	Plans

Plan No.	Title	Revision	Date
DA02	STAGE 2: SITE + ROOF PLAN	A	16.11.2022
DA03	STAGE 2: BASEMENT 2 PLAN	A	16.11.2022
DA04	STAGE 2: BASEMENT 1 PLAN	A	16.11.2022
DA05	STAGE 2: GROUND FLOOR PLAN	A	16.11.2022
DA06	STAGE 2: TYPICAL LEVEL 2-4 PLANS	A	16.11.2022
DA07	STAGE 2: LEVEL 5 FLOOR PLAN	A	16.11.2022
DA08	STAGE 2: LEVEL 6 FLOOR PLAN	A	16.11.2022
DA10	STAGE 2: SECTION A-A	A	16.11.2022
DA11	STAGE 2: NORTH + SOUTH ELEVATIONS	A	16.11.2022
DA12	STAGE 2: EAST + WEST ELVATIONS	A	16.11.2022



ADAPTABLE HOUSING ASSESSMENT REPORT

PROJECT:	Stage 2 - 400-404 Cabramatta Road Cabramatta West NSW 2166
STAGE:	Development Application Phase
REFERENCE:	22010B.2-AS4299
DATE:	14 th December 2022
CLIENT:	Tcon Constructions Pty Ltd

Document Information

ISSUE	DESCRIPTION	DATE
1	Preliminary issue	31 August 2022
2	Final issue	14 December 2022

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1. Introduction

1.1 Project Description

The proposed development is understood to form part of a multi stage development (Stage 1 and Stage 2), of which the subject development is known as Stage 2.

The proposed multi-level residential development is proposed to include the construction of 87 residential apartments distributed over 6 levels that are located above 2 levels of basement carparking.

As part of the proposed development, it is identified that 9 sole occupancy units are proposed to be provided as adaptable in accordance with the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995.

The adaptable units identified are noted as being unit B104, B203, B204, B303, B304, B403, B404, B503 and B504.



Figure 1.1 – Perspective view south



Figure 1.2 – Section view

1.2 Intent of Report

The purpose of this report is to provide an assessment of the proposed scope of works against the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995.

Where non-compliances are identified, recommendations for resolution are to be provided, as applicable.

1.3 Limitations

This report does not include nor imply that an assessment of the following has been completed for the proposed works -

- (i) Structural Adequacy, Design & Performance;
- (ii) Fire, Mechanical, Hydraulic and Electrical Services Design & Performance;
- (iii) Work Health & Safety Act 2011;
- (iv) Work Cover Authority Requirements;
- (v) Service & Utilities Authority Requirements;
- (vi) The Disability Discrimination Act (DDA) 1992; and
- (vii) Plumbing Code of Australia 2019 Amendment 1; and
- (viii) Building Code of Australia (BCA) Volume 1 & Volume 2, 2019 Amendment 1;
- (ix) Livable Housing Australia (LHA) Design Guidelines Fourth Edition.

1.4 Documentation Assessed

This assessment is based upon the documentation referenced within **Annexure 1** of this report.

2. Adaptable Housing Summary

2.1 General

The purpose of the Adaptable Housing Australian Standard (AS4299-1995) is to provide guidelines on adaptable housing to those involved in designing or building new dwellings or renovations, including –

- (a) Project home developers;
- (b) Designers, builders, owners and users of private housing;
- (c) Developers and designers of specialized housing such as retirement villages; and
- (d) Public housing bodies.

Adaptable housing units shall be designed and constructed to meeting the following performance requirements-

- (a) **Visibility** – To visitable by people who use wheelchairs, in that there must be at least one wheelchair accessible entry and path of travel to the living area and to a toilet that is either accessible or visitable.
- (b) **Avoidance of level changes** – To have no steps and to avoid level changes where possible.
- (c) **Maneuverability** – This shall include the following:
 - (i) To provide space sufficient to maneuver a wheelchair within a living area, the kitchen and an accessible path of travel linking these areas.
 - (ii) To provide space sufficient to maneuver a wheelchair within a bedroom, a bathroom and a toilet or to provide a design and details whereby after adaptation there will be sufficient space to maneuver a wheelchair within these facilities and an accessible path of travel linking these facilities to the entry, living and kitchen areas.
- (d) **Ease of adaptation** – If the design for adaptation required further demolition of walls then these walls shall be non-loadbearing and free of electrical and plumbing services.
- (e) **Ease of reach** – To provide electrical controls, taps, and some shelves and cupboards at levels to suit people who use wheelchairs.
- (f) **Future laundry facilities** – To provide laundry facilities that after adaptation will be accessible to people who use wheelchairs. Those laundry facilities may be external to the adaptable housing unit, providing a wheelchair accessible path of travel is available from the adaptable housing unit to the laundry facilities.

2.2 Classification Levels

Adaptable Housing units may be designed and constructed to meet the following classification levels, which are categorized by the level of essential and desirable features incorporated –

Class A – All essential and all desirable features incorporated.

Class B – All essential and 50% desirable features incorporated, including all those notated 'first priority'.

Class C – All essential features incorporated.

2.3 Proposed Class C Adaptable Housing Units

The proposed development is understood to be required to achieve 1 unit per 10 units to meet the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995, meaning that for the 87 residential units proposed, at least 9 units are required to be provided as adaptable.

It is noted on plans assessed that 9 units, as highlighted **red** in the figures below, are proposed to be provided as adaptable.



Figure 2.1 – Ground floor plan



Figure 2.2 – Typical level 2-4 plans



3. Assessment Summary

The following table summarises the status of compliance of the proposed design in the context of the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995.

The status of compliance against each applicable feature assessed has adopted the following abbreviations-

C	Complies. The proposed design satisfies the requirements of the relevant Class C essential features of AS4299-1995.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the relevant Class C essential features of AS4299-1995, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the relevant Class C essential features of AS4299-1995.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the requirements of the relevant Class C essential features of AS4299-1995.
N/A	Not applicable. The requirements of the relevant Class C essential features of AS4299-1995 do not apply.

A detailed clause by clause assessment is outlined in Section 4 of this report.

AS4299-1995 - CLASS C ESSENTIAL FEATURE/S			STATUS				
Item No.	Room / Item	Clause	C	CRA	DNC	FIR	N/A
DRAWINGS							
1.	Provision of drawings showing the housing unit in its pre-adaptation and post-adaptation stages.	2.3	X				
SITING							
2.	A continuous accessible path of travel from street frontage and vehicle parking to entry complying with AS1428.1.	3.3.2		X			
LETTERBOXES IN ESTATE DEVELOPMENTS							
3.	Letterboxes to be on hard standing area connected to accessible pathway.	3.8		X			
PRIVATE CAR ACCOMODATION							
4.	Carparking space or garage min. area 6.0m x 3.8m.	3.7.2		X			
ACCESSIBLE ENTRY							
5.	Accessible entry.	4.3.1		X			
6.	Accessible entry to be level (i.e., max 1:40 slope).	4.3.2		X			
7.	Threshold to be low-level.	4.3.2		X			
8.	Landing to enable wheelchair maneuverability.	4.3.2		X			
9.	Accessible entry door to have 850mm min. clearance.	4.3.1		X			
10.	Door lever handles and hardware to AS1428.1.	4.3.4		X			
INTERIOR: GENERAL							
11.	Internal doors to have 820mm min. clearance.	4.3.3		X			
12.	Internal corridors min. width of 1000mm.	4.3.7		X			
13.	Provision for compliance with AS1428.1 for door approaches.	4.3.7			X		

AS4299-1995 - CLASS C ESSENTIAL FEATURE/S			STATUS				
Item No.	Room / Item	Clause	C	CRA	DNC	FIR	N/A
LIVING ROOM & DINING ROOM							
14.	Provision for circulation space of min. 2250mm diameter.	4.7.1			X		
15.	Telephone adjacent to GPO.	4.7.4		X			
16.	Potential illumination level min. 300 lux.	4.10		X			
KITCHEN							
17.	Minimum width 2.7m (1550mm clear between benches).	4.5.2			X		
18.	Provision for circulation at doors to comply with AS1428.1.	4.5.1		X			
19.	Provision for benches planned to include at least one work surface of 800mm length, adjustable in height from 750mm to 850mm or replaceable.	4.5.5		X			
20.	Refrigerator adjacent to work surface.	4.5.5		X			
21.	Kitchen sink adjustable to heights from 750mm to 850mm or replaceable.	4.5.6		X			
22.	Kitchen sink bowl max. 150mm deep.	4.5.6		X			
23.	Tap set capstan or lever handles or lever mixer.	4.5.6(e)		X			
24.	Tap set located within 300mm of front of sink.	4.5.6(e)		X			
25.	Cooktops to include either front or side controls with raised cross bars.	4.5.7		X			
26.	Cooktops to include isolating switch.	4.5.7		X			
27.	Work surface min. 800mm length adjacent to cooktop at same height.	4.5.7			X		
28.	Oven located adjacent to an adjustable height or replaceable work surface.	4.5.8		X			
29.	GPOs to comply with AS1428.1. At least one double GPO within 300mm of front of work surface.	4.5.11		X			
30.	GPO for refrigerator to be easily reachable when the refrigerator is in its operating position.	4.5.11		X			
31.	Slip resistant floor surface.	4.5.4		X			
MAIN BEDROOM							
32.	At least one bedroom of area sufficient to accommodate queen size bed and wardrobe and circulation space requirements of AS1428.2.	4.6.1			X		
BATHROOM							
33.	Provision for bathroom area to comply with AS1428.1.	4.4.1		X			
34.	Slip resistant floor surface.	4.4.2		X			
35.	Shower recess-no hob. Minimum size 1160 x 1100 to comply with AS1428.1.	4.4.4(f)		X			
36.	Shower area waterproofed to AS3740 with floor to wall to waste.	4.4.4(f)		X			
37.	Recessed soap holder.	4.4.4(f)		X			
38.	Shower taps positioned for easy reach to access side of shower sliding track.	4.4.4(f)		X			

AS4299-1995 - CLASS C ESSENTIAL FEATURE/S			STATUS				
Item No.	Room / Item	Clause	C	CRA	DNC	FIR	N/A
39.	Provision for adjustable, detachable hand held shower rose mounted on a slider grabrail or fixed hook (plumbing and wall-strengthening provision).	4.4.4(h)		X			
40.	Provision for grabrail in shower to comply with AS1428.1.	4.4.4(h)		X			
41.	Tap sets to be capstan or lever handles with single outlet.	4.4.4(c)		X			
42.	Provision for washbasin with clearances to comply with AS1428.1.	4.4.4(g)		X			
43.	Double GPO beside mirror.	4.4.4(d)		X			
TOILET							
44.	Provision of either 'visitable toilet' or accessible toilet.	4.4.3		X			
45.	Provision to comply with AS1428.1.	4.4.1		X			
46.	Location of WC pan at correct distance from fixed walls.	4.4.3	X				
47.	Provision for grab rail zone.	4.4.4(h)		X			
48.	Slip resistance floor surface.	4.4.2		X			
LAUNDRY							
49.	Circulation at doors to comply with AS1428.1.	4.8		X			
50.	Provision for adequate circulation space in front of or beside appliances (min. 1550mm depth).	4.8		X			
51.	Provision for automatic washing machine.	4.8(c)		X			
52.	Where clothes line is provided, an accessible path of travel to this.	4.8(a)		X			
53.	Double GPO.	4.8(g)		X			
54.	Slip-resistant floor surface.	4.9.1		X			
DOOR LOCKS							
55.	Door hardware operable with one hand, located 900-1100mm above floor.	4.3.4		X			

4. Detailed Assessment

A detailed assessment of the proposed scope of works in the context of the Class C provisions of the Adaptable Housing Australian Standard (AS4299-1995) has been undertaken, as outlined below.

The status of compliance against each applicable AS4299-1995 clause assessed has adopted the following abbreviations-

C	Complies. The proposed design satisfies the requirements of the relevant Class C essential features of AS4299-1995.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the relevant Class C essential features of AS4299-1995, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the relevant Class C essential features of AS4299-1995.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the relevant Class C essential features of AS4299-1995.
Note	Information is provided to guide the reader and not as specific assessment of the relevant Class C essential features of AS4299-1995.
N/A	Not applicable. The requirements of the relevant Class C essential features of AS4299-1995 do not apply.

DRAWINGS

Clause No.	Requirement/s	Comment/s	Status
2.3	Drawings showing the housing unit in its pre-adaptation and post-adaptation stages shall be provided. A description of how the adaptation is to be achieved shall also be provided.	Drawings for the proposed adaptable housing units in the pre and post adaptation stages have been provided.	C

SITING

Clause No.	Requirement/s	Comment/s	Status
3.3.2	An accessible path of travel from the street frontage carparking area or drop-off point shall be provided to all adaptable housing units. As a minimum, this accessible path shall comply with AS1428.1 and shall be continuous, slip-resistant, hard-surfaced and shall not incorporate any step, stairway or other impediment which would prevent it from being safely negotiated by people with disabilities.	An accessible path of travel from the street frontage is noted as being provided. Additionally, lift access to the adaptable units above the entry level as well as from the car spaces associated with the proposed adaptable units is provided. Consideration shall be provided to ensure the accessible path of travel complies with the requirements of AS1428.1.	CRA

LETTERBOXES IN ESTATE DEVELOPMENTS			
Clause No.	Requirement/s	Comment/s	Status
3.8	Letterboxes shall comply with Australia / New Zealand Post regulations. Where letterboxes are centrally located in residential estate developments they should be adjacent to the street entry. Letterboxes and parcel racks should be lockable.	Letterboxes are to be centrally located, adjacent to the street entry. Letterboxes shall comply with Australia / New Zealand Post regulation and letterboxes and parcel lockers should be lockable.	CRA

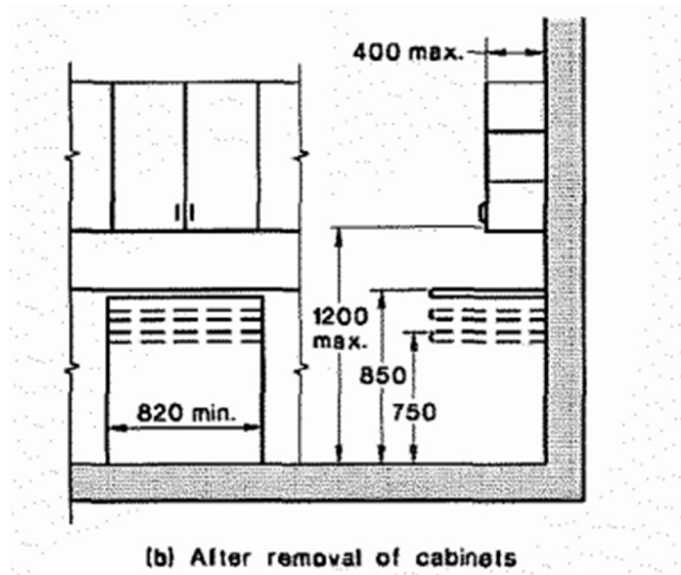
PRIVATE CAR ACCOMODATION			
Clause No.	Requirement/s	Comment/s	Status
3.7.2	Garages and carports shall have minimum internal dimensions of 6.0m x 3.8m. A 2.5m internal vertical clearance is desirable. A garage may be reduced if a hard surfaced level outside space of minimum dimensions 5.4m x 3.8m is provided as a sheltered carpark, or can be provided in the future. NOTE: A level surface includes surfaces with a gradient of up to 1:40.	9 car spaces associated with the adaptable housing units are identified within the basement 01 level. The proposed car spaces are indicated as intending to comply with the requirement of AS/NZS 2890.6-2009.	CRA

ACCESSIBLE ENTRY			
Clause No.	Requirement/s	Comment/s	Status
4.3.1	At least one entry door complying with AS1428.2 shall be provided.	The adaptable unit entry doors are identified as being capable of complying with AS1428.2, appropriate to clearances and circulation space/s.	CRA
4.3.2	The accessible entry door shall be provided with a landing outside the door with a maximum fall of 1:40 and a low threshold at the entry door to exclude water.	The entry doors to the proposed adaptable units are identified as having a level landing, as required.	CRA
4.3.2	The threshold shall allow for the smooth transition of a wheelchair.	The threshold of the entry doors to the adaptable units are to be detailed to allow for a smooth transition of a wheelchair. Consideration for the abutment of surfaces in accordance with Clause 7.2 of AS1428.1 is to be provided, whereby the construction tolerances shall be as follows – (a) 3mm vertical; or (b) 5mm, provided the edges have a beveled or rounded edge to reduce the likelihood of tripping.	CRA
4.3.2	The landing shall be of sufficient area to enable wheelchair maneuverability.	The landings at the adaptable unit entry doors are demonstrated as having sufficient area to enable wheelchair maneuverability.	CRA
4.3.1	Accessible entry door to have 850mm min. clearance.	The adaptable unit entry doors are identified having a clear opening width of min. 850mm.	CRA
4.3.4	Door lever handles and hardware shall be not less than 900mm nor more than 1100mm above the plane of the finished floor and shall be in accordance with AS1428.1.	Details are to be provided to ensure the door lever handles and hardware are of a 'D' type handles and located 900mm-1100mm above the finished floor in accordance with Clause 13.5 of AS1428.1.	CRA

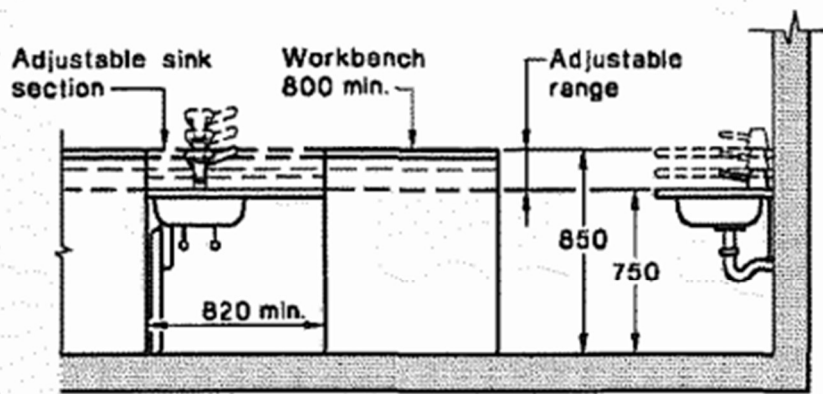
INTERIOR: GENERAL			
Clause No.	Requirement/s	Comment/s	Status
4.3.3	Internal doors throughout shall have a minimum clear opening of 820mm, except where otherwise described.	Internal doors throughout the adaptable units are to be provided with clear opening widths less than 820mm.	CRA
4.3.7	Internal corridors shall have a minimum width of 1000mm.	Internal corridors are identified as having a minimum width of 1000mm.	CRA
4.3.7	After adaptation, circulation spaces at doorways shall comply with AS1428.1.	The circulation spaces at all internal doorways, including the 2 nd bedroom is to comply with AS1428.1.	DNC

LIVING ROOM & DINING ROOM			
Clause No.	Requirement/s	Comment/s	Status
4.7.1	Provision shall be made for circulation space to enable a 360-degree wheelchair turn after the furniture has been placed. NOTE - An area of 2250mm minimum diameter after the furniture has been placed will satisfy this requirement.	A 2250mm diameter spatial provision to be provided to enable a 360-degree wheelchair turn, that is free of furniture, within the living room of the adaptable housing units.	DNC
4.7.4	A telephone outlet shall be provided in the living-dining area. This should be adjacent to a GPO.	Details are to be provided to ensure that a telephone outlet is provided adjacent to a GPO within the living-dining areas, at the post adaptation stage.	CRA
4.10	Provision shall be made for the illumination level of 300-350 lux for people with visual impairment.	Details are to be provided to ensure that provision for the illumination level of 300-350 lux is provided within the living & dining rooms, at the post adaptation stage.	CRA

KITCHEN			
Clause No.	Requirement/s	Comment/s	Status
4.5.2	Minimum clearances in front of appliances and between base cabinets shall be provided at the outset. A minimum clearance of 1550mm shall be maintained between all opposing base cabinets, appliances and walls to allow for a 180 degree turn by a person in a wheelchair.	Details are to be provided to ensure the clearances between the benches within the kitchen is not less than 1550mm, at the pre adaptation stage.	DNC
4.5.1	The potential configuration of the kitchen area after adaptation shall be demonstrated. The final configuration of the kitchen after adaptation shall be shown to comply with Clause 4.5.3, whereby circulation spaces at door shall comply with AS1428.1.	Details are to be provided to ensure circulation at doors within the kitchen comply with AS1428.1, at post adaptation.	CRA
4.5.5	At least one section of the work surface, not less than 800mm in length, should be adjustable or replaceable as a unit at variable heights within the range 750mm to 850mm above the finished floor surface.	Details are to be provided to ensure at least one section of the work surface, not less than 800mm in length, is provided adjustable or replaceable as a unit at variable heights within the range 750mm to 850mm above the finished floor surface.	CRA



KITCHEN			
Clause No.	Requirement/s	Comment/s	Status
4.5.5	A refrigerator shall be located adjacent to a work surface.	Details are to be provided to ensure the refrigerator within each adaptable unit is located adjacent to a work surface.	CRA
4.5.6	The kitchen sink shall be adjustable or replaceable as a unit at variable heights within the range 750mm-850mm above the finished floor surface.	Details are to be provided to ensure the kitchen sink within each adaptable unit is able to be adjustable or replaceable as a unit at variable heights within the range 750mm-850mm above the finished floor surface.	CRA

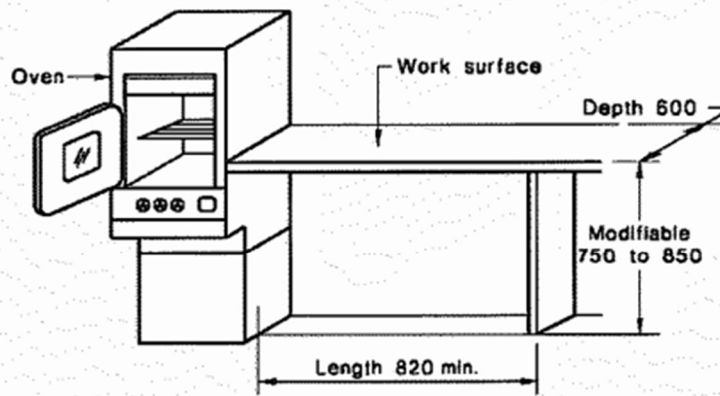


DIMENSIONS IN MILLIMETRES

FIGURE 4.9 SINKS AFTER MODIFICATION

KITCHEN

Clause No.	Requirement/s	Comment/s	Status
4.5.6	The maximum depth of the bowl of the sink should be 150mm. This would only apply to the main bowl of a double bowl sink.	Details are to be provided to ensure the maximum depth of the bowl of the sink is 150mm.	CRA
4.5.6(e)	Taps shall comply with AS1428.1.	Details are to be provided to ensure taps comply with AS1428.1 – (a) Taps shall have lever handles, sensor plates, or similar controls. (b) Lever handles shall have not less than 50mm clearance from an adjacent surface. (c) Where separate taps are provided for hot and cold water, the hot water tap shall be placed to the left of the cold water tap for horizontal configurations, or above the cold water tap for vertical configurations. (d) Where hot water is provided, the water shall be delivered through a mixing spout.	CRA
4.5.6(e)	Taps or their operating handles shall be within 300mm of the front of the sink to allow for ease of operation.	Details are to be provided to ensure taps or their operating handles are within 300mm for the front of the sink.	CRA
4.5.7	Cooktops shall have controls which do not require reaching over the hotplates to adjust them. Control shall have raised cross-bars for ease of grip.	Details are to be provided to ensure the cooktops have controls which do not require reaching over the hotplates to adjust them.	CRA
4.5.7	Cooktops should be provided with isolating switches or gas stop valves which can be easily and safely operated while the cooktop is in use.	Details are to be provided to ensure the cooktops are provided with isolating switches or gas stop valves.	CRA
4.5.7	Cooktops shall have an adjacent work surface of 800mm minimum length at the same height.	Details are to be provided to ensure the cooktops are provided with an adjacent work surface of min. 800mm length, at the same height as the cooktop.	DNC
4.5.8	Ovens shall be located adjacent to a work surface that is not less than 800mm in length, and is adjustable or replaceable as a unit at variable heights within the range 750mm to 850mm above the finished floor surface.	Details are to be provided to ensure the ovens are located adjacent to a work surface that is not less than 800mm in length, and is adjustable or replaceable as a unit at variable heights within the range 750mm to 850mm above the finished floor surface.	CRA



DIMENSIONS IN MILLIMETRES

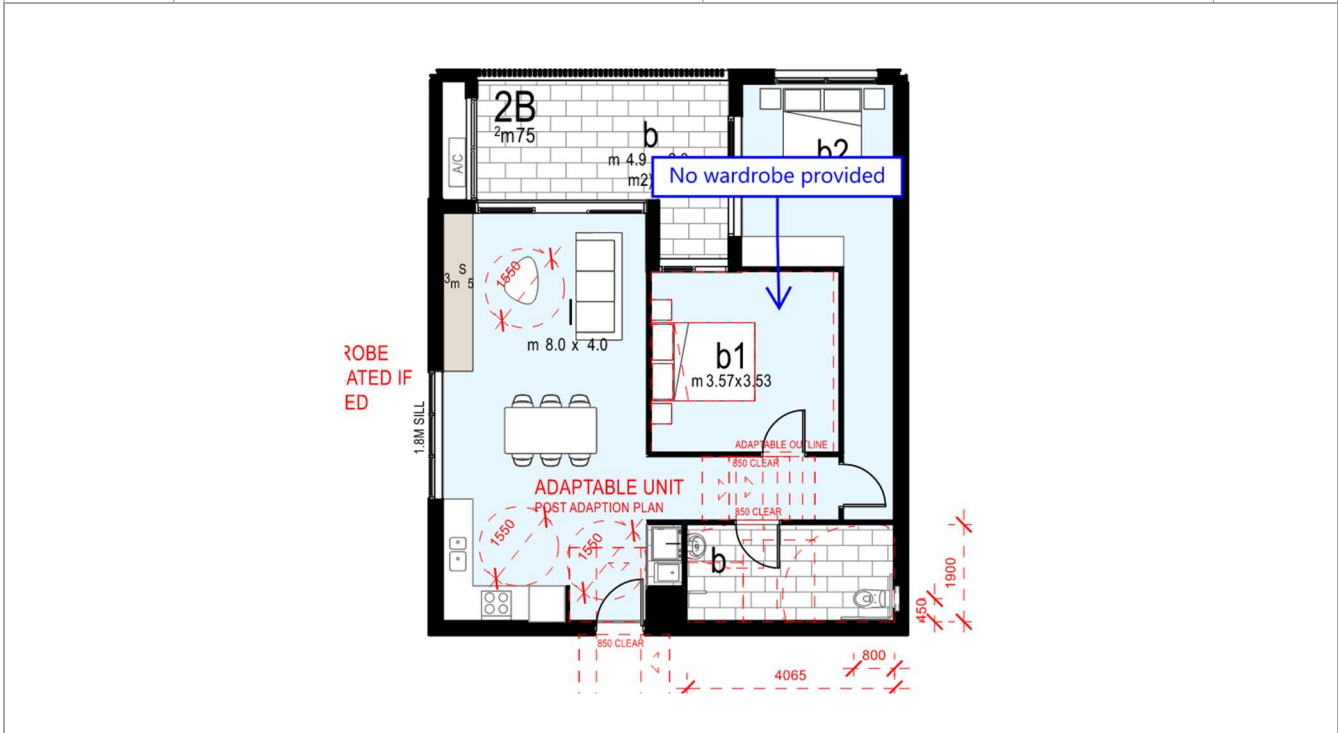
FIGURE 4.10 OVENS

KITCHEN

Clause No.	Requirement/s	Comment/s	Status
4.5.11	General purpose outlets shall be located to comply with AS1428.1. At least one double general purpose outlet shall be located with a horizontally accessible reach over a work surface at a maximum of 300mm from the front of the work surface.	Details are to be provided to ensure the GPOs are located not less than 900mm nor more than 1100mm above the finished floor and not less than 500mm from internal corners in accordance with AS1428.1. At least one double general purpose outlet shall be located with a horizontally accessible reach over a work surface at a maximum of 300mm from the front of the work surface.	CRA
4.5.11	The GPO for the refrigerator shall be easily reachable when the refrigerator is in its operating position.	Details are to be provided to ensure the GPO for the refrigerator is easily reachable when the refrigerator is in operating position.	CRA
4.5.4	The floor surface shall be slip-resistant to comply with AS/NZS 3661.1.	Floor surfaces within the kitchens of the adaptable units are to be documented to ensure they are slip resistant in accordance with AS/NZS 3661.1.	CRA

MAIN BEDROOM

Clause No.	Requirement/s	Comment/s	Status
4.6.1	At least one bedroom shall be capable of accommodating a queen size bed and a wardrobe and the circulation space requirements of AS1428.2 clear of wardrobe fixtures.	<p>Details are to be provided to demonstrate that the main bedroom is provided with adequate clearances and circulation spaces, whilst being capable of accommodating a queen size bed (1530mm x 2030mm) and wardrobe –</p> <p>(a) 1m each side of the bed</p> <p>(b) A space of 1540mm x 2070mm at the foot of the bed</p>	DNC

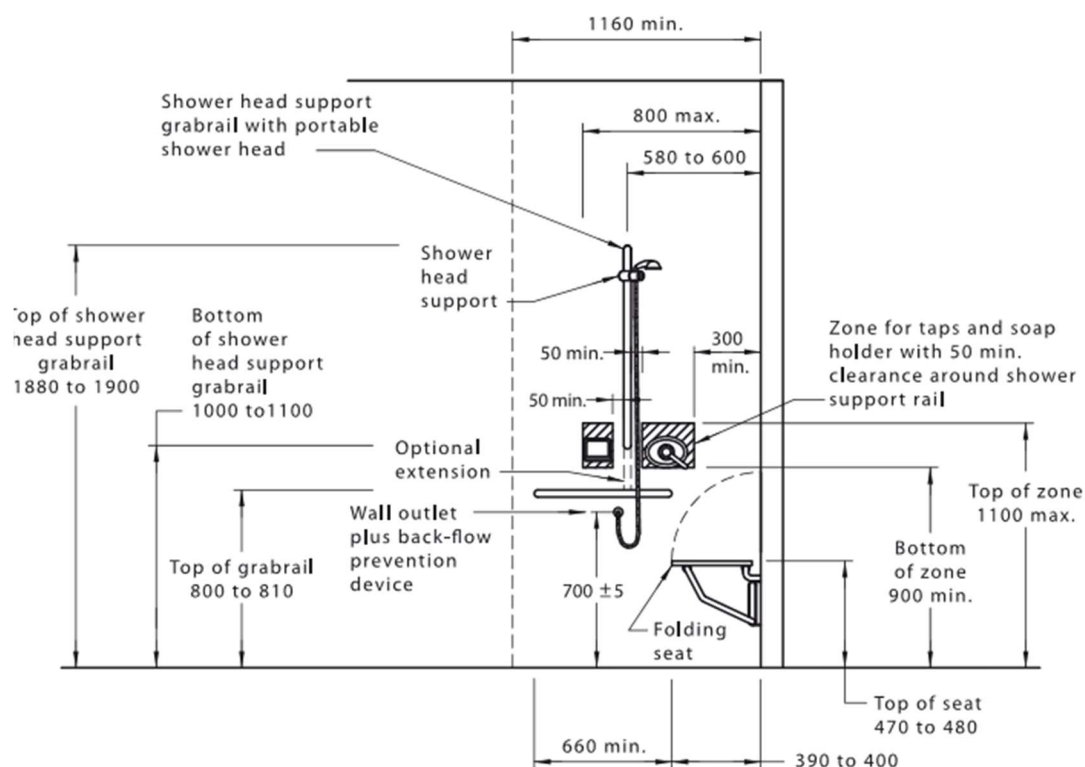


BATHROOM

Clause No.	Requirement/s	Comment/s	Status
4.4.1	The bathroom area shall be adaptable, at a minimum cost, to potentially comply with AS1428.1.	The bathroom is indicated as being able to be readily adapted to potentially comply with AS1428.1, in relation to circulation spaces and location of fixtures and fittings.	CRA
4.4.2	Floor surfaces shall be slip-resistant to comply with AS/NZS 3661.1.	Floor surfaces within the bathroom are to be documented to ensure they are slip resistant in accordance with AS/NZS 3661.1.	CRA
4.4.4(f)	The shower compartment shall be a minimum size of 1160 x 1100mm. Any waterproofing system used in the shower compartment shall be such that it can be extended to suit the larger, hobless configuration as required by AS1428.1.	The shower compartment within a bathroom of each adaptable unit is noted as being provided with a minimum size of 1160mm x 1100mm. Details are to be provided to ensure the waterproofing system used in the shower compartment can be extended to suit the larger, hobless configuration as required by AS1428.1.	CRA
4.4.4(f)	The shower area shall be waterproofed to comply with AS3740.	Details are to be provided to ensure the shower areas are waterproofed to comply with the requirements of AS3740. This is to be provided from the onset at the pre-adaptation stage.	CRA

BATHROOM

Clause No.	Requirement/s	Comment/s	Status
4.4.4(f)	The soap holder shall be recessed.	Details are to be provided to ensure that the soap holder within each bathroom is recessed.	CRA
4.4.4(f)	The position of the shower taps shall be such that the clearances and heights required by AS1428.1 are achieved.	Details are to be provided to ensure that the position of the shower taps shall be such that the clearances and heights required by AS1428.1 are achieved.	CRA

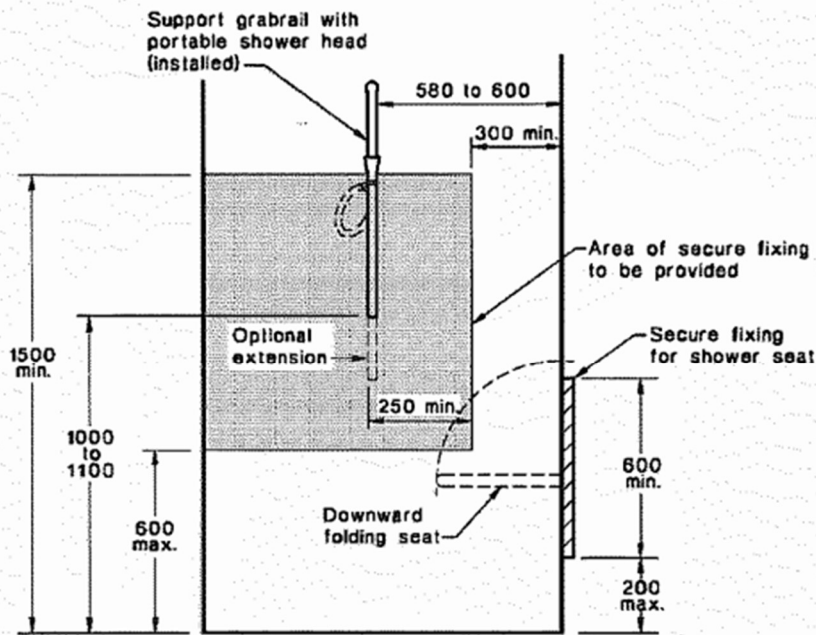


DIMENSIONS IN MILLIMETRES

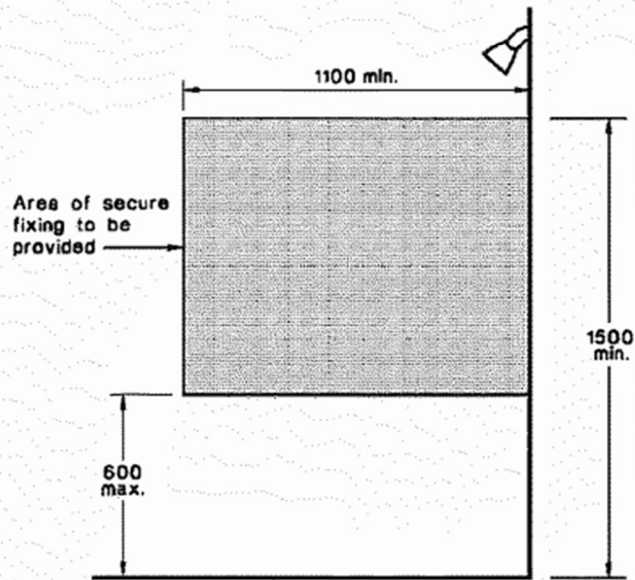
FIGURE 48 SHOWER RECESS FITTINGS—ELEVATION

BATHROOM

Clause No.	Requirement/s	Comment/s	Status
4.4.4(h)	Provision for adjustable, detachable hand held shower rose mounted on a slider grabrail or fixed hook (plumbing and wall-strengthening provision).	Details are to be provided to ensure provision for an adjustable, detachable hand held shower rose mounted on a slider grabrail or fixed hook (plumbing and wall-strengthening provision), is provided.	CRA
4.4.4(h)	Provision for grabrails shall be made in the modified configurations as required by AS1428.1.	Details are to be provided to ensure provision for grab rails is provided within shower area to meet the future requirements of AS1428.1.	CRA



(a) Back wall



(b) Side wall

DIMENSIONS IN MILLIMETRES

FIGURE 4.6 REINFORCED AREAS FOR SUBSEQUENT INSTALLATION OF GRABRAILS IN SHOWER COMPARTMENTS

BATHROOM

Clause No.	Requirement/s	Comment/s	Status
4.4.4(c)	Tap sets throughout shall have capstan or lever handles.	Details are to be provided to ensure the tap sets throughout the bathroom are provided as capstan or lever handles, at the post adaptation stage.	CRA
4.4.4(g)	The washbasin shall be located such that circulation spaces to adjacent doors, WC pans and other components, and knee clearances are either provided in accordance with AS1428.1 or will be provided at adaptation.	Details are to be provided to ensure the washbasin within the main bathroom is provided to meet the required circulation spaces to adjacent doors, WC pans and other components, and knee clearances are provided in accordance with AS1428.1 at post adaptation stage.	CRA

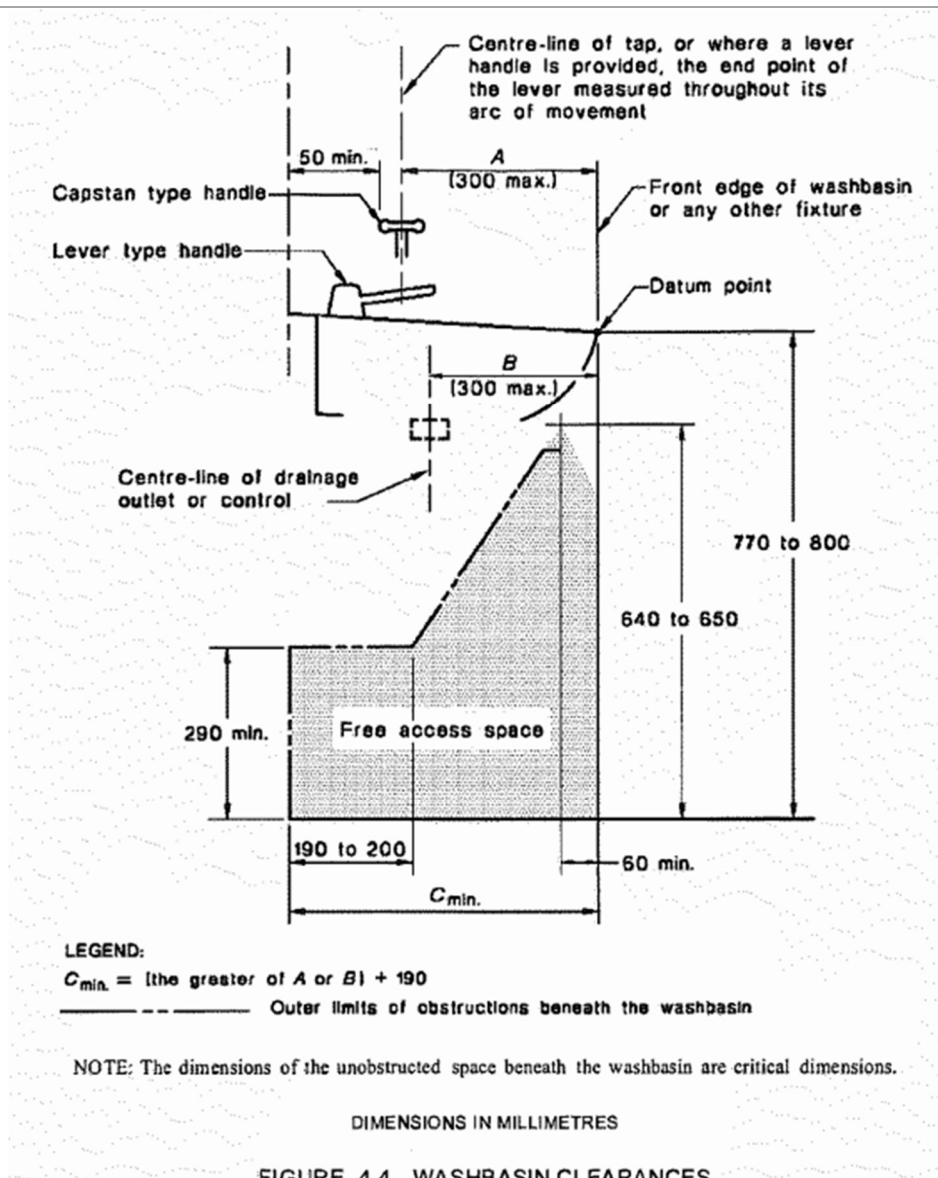
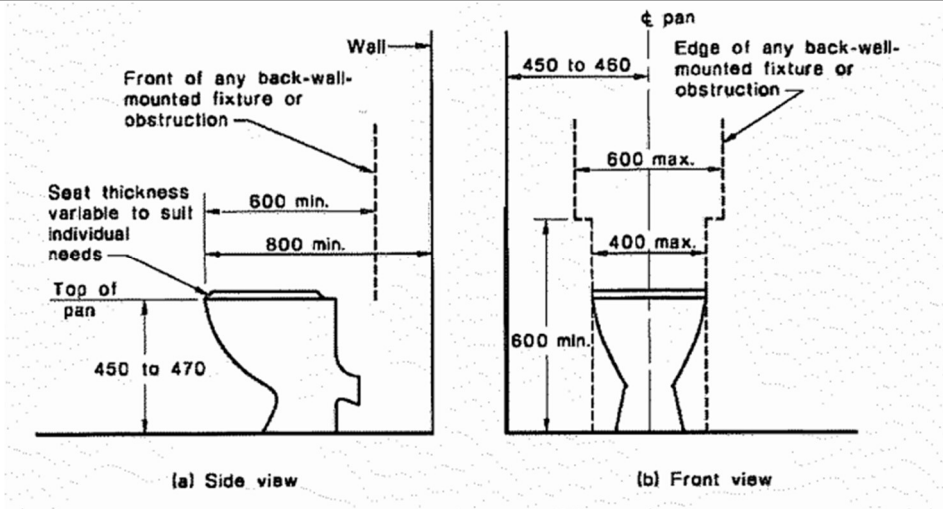


FIGURE 4.4 WASHBASIN CLEARANCES

4.4.4(d)	A double GPO shall be located adjacent to the mirror.	Details are to be provided to ensure that a double GPO is provided adjacent to the mirror within the bathrooms.	CRA
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TOILET			
Clause No.	Requirement/s	Comment/s	Status
4.4.3	Each housing unit shall be provided with either a visitable toilet or an accessible toilet.	The compartment containing the toilet is identified as being provided with adequate dimensions to be readily adapted to comply with the requirements of AS1428.1, in relation to circulation spaces and location of fixtures and fittings.	CRA
4.4.1	The toilet shall be adaptable, at a minimum cost, to potentially comply with AS1428.1.	Details are to be provided to demonstrate that the toilet is capable of being adaptable to potentially comply with AS1428.1.	CRA
4.4.3	The WC pan shall initially be positioned at the correct distance from any fixed walls.	The WC pan within the toilet of each adaptable unit is identified being positioned 450-460mm from adjacent fixed walls and 800mm from the rear wall to the front of the pan.	C
 <p>(a) Side view</p> <p>(b) Front view</p>			
4.4.4(h)	Provision for grabrails shall be made in the modified configurations as required by AS1428.1.	Details are to be provided to ensure provision for grab rails are provided for future adaptation, to meet the requirements of AS1428.1.	CRA
4.4.2	Floor surfaces shall be slip-resistant to comply with AS/NZS 3661.1.	Floor surfaces within the toilet are to be documented to ensure they are slip resistant in accordance with AS/NZS 3661.1.	CRA

LAUNDRY			
Clause No.	Requirement/s	Comment/s	Status
4.8	If a separate room is used for a laundry, circulation spaces at doors shall be in accordance with AS1428.1.	The laundry area within each of the proposed adaptable units are identified as having adequate spaces to comply with the requirements of AS1428.1.	CRA
4.8	Provision for adequate circulation space shall be made in front of or beside appliances and under or adjacent to the tub to enable people who use wheelchairs to use all the facilities. NOTE - An area of 1550mm diameter will satisfy this requirement.	The laundry area within each of the proposed adaptable units are identified as being provided with an area of 1550mm in front of the laundry appliances or adjacent to the tub.	CRA
4.8(e)	Provision shall be made for an automatic washing machine.	Details are to be provided to ensure that a double GPO is provided within the laundry rooms.	CRA

LAUNDRY			
Clause No.	Requirement/s	Comment/s	Status
4.8(a)	There shall be a clothes drying facility. Where a clothes line is provided, an accessible path of travel shall be provided to the clothes line.	Details are to be provided to ensure a clothes drying facility is provided. It is noted that a clothes line is not proposed, hence it is assumed a clothes drying machine is to be provided within the laundry contained within each unit.	CRA
4.8(g)	A double GPO shall be provided as a minimum.	Details are to be provided to ensure that a double GPO is provided within the laundry rooms.	CRA
4.9.1	Floor surfaces shall be slip resistant to comply with AS/NZS 3661.1.	Floor surfaces within the laundry rooms are to be documented to ensure they are slip resistant in accordance with AS/NZS 3661.1.	CRA

DOOR LOCKS			
Clause No.	Requirement/s	Comment/s	Status
4.3.4	Door handle and related hardware shall be of the type that allows the door to be unlocked and opened with one hand, at a height not less than 900mm nor more than 1100mm above the plane of the finished floor.	The door schedule is to document the requirement for door handles and related hardware to be unlocked and opened with one hand, at a height not less than 900mm nor more than 1100mm above the plane of the finished floor.	CRA

5. Conclusion

In concluding the review undertaken, it is considered that based on the documentation provided (as referenced in Annexure 1), subject to recommendations outlined in Section 4, the proposed scope of works is capable of complying with the Class C provisions of the Adaptable Housing Australian Standard AS4299-1995.



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ANNEXURE 1 – DOCUMENTATION ASSESSED

This assessment is based on the following documentation –

Discipline	Architectural
Organisation	Aleksander Projects
Documentation Type	Plans

Plan No.	Title	Revision	Date
DA02	STAGE 2: SITE + ROOF PLAN	A	16.11.2022
DA03	STAGE 2: BASEMENT 2 PLAN	A	16.11.2022
DA04	STAGE 2: BASEMENT 1 PLAN	A	16.11.2022
DA05	STAGE 2: GROUND FLOOR PLAN	A	16.11.2022
DA06	STAGE 2: TYPICAL LEVEL 2-4 PLANS	A	16.11.2022
DA07	STAGE 2: LEVEL 5 FLOOR PLAN	A	16.11.2022
DA08	STAGE 2: LEVEL 6 FLOOR PLAN	A	16.11.2022
DA10	STAGE 2: SECTION A-A	A	16.11.2022
DA11	STAGE 2: NORTH + SOUTH ELEVATIONS	A	16.11.2022
DA12	STAGE 2: EAST + WEST ELVATIONS	A	16.11.2022