



ACCESS CONSULTING

1407 PACIFIC HWY WARRAWEE

**ACCESSIBILITY REVIEW –
FOR ISSUE OF CONSTRUCTION CERTIFICATE**

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PREPARED FOR ► Baini Design
REPORT NUMBER ► 0399 REV D FINAL

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Table of Contents

EXECUTIVE SUMMARY & RECOMMENDATIONS	3
1.0 INTRODUCTION	4
1.1 Basis of Report.....	4
1.2 Limitations of the Report	4
1.3 BCA Assessment Data.....	5
2.0 TECHNICAL REVIEW ASSESSMENT & COMMENTARY	6
Section D – Access and Egress	7
PART D3 – ACCESS FOR PEOPLE WITH DISABILITIES	7
Section E – Services & Equipment.....	17
Part E3.6 – Lift Installations	17
Section F – Health & Amenity.....	18
Part F2 – Sanitary & other facilities	18
Adaptable Housing	21
3.0 CONCLUSION	23

REVISION STATUS

REPORT No. & REVISION	DATE	STATUS	WRITTEN	REVIEWED
0367 - REV A	21/02/2017	DRAFT	MS	JA
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0367 - REV C	28/04/2017	FINAL	MS	JA
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EXECUTIVE SUMMARY & RECOMMENDATIONS

This report provides an accessibility design assessment where the development proposes to construct three storeys of apartments atop a basement level carpark.

The purpose of this report is to identify the compliance status of the design with the following:

- Review supplied drawings of the proposed development.
- Relevant accessibility related 'deemed-to-satisfy' requirements of the Building Code of Australia 2016 (BCA) (as are contained within Part D3 and Clause E3.6 & F2.4 of the code).
- Provide a report that will analyse the provisions of disability design and recommend solutions in line with Disability Discrimination Act (DDA), Disability (Access to Premises – Buildings) Standards 2012, the Building Code of Australia 2016 (BCA) and the AS1428 series.
- Demonstrate that at least 70% of the proposed dwellings are 'visitable' in accordance with the relevant standards and condition 21 of DA0109/15.

A detailed 'Technical Review and Commentary' is provided in Part 2.0 of this report, which includes all appropriate technical assessment results & commentary.

1.0 INTRODUCTION

This report provides an accessibility design assessment where the development proposes to construct three storeys of apartments atop a basement level carpark. There are two adaptable units, one on the ground floor and one on the first floor.

The purpose of this report is to identify the compliance status of the design with the following:

- Review supplied drawings of the proposed development.
- Relevant accessibility related 'deemed-to-satisfy' requirements of the Building Code of Australia 2016 (BCA) (as are contained within Part D3 and Clause E3.6 & F2.4 of the code).
- Provide a report that will analyse the provisions of disability design and recommend solutions in line with Disability Discrimination Act (DDA), Disability (Access to Premises – Buildings) Standards 2010, the Building Code of Australia 2016 (BCA) and the AS1428 series.

1.1 Basis of Report

This assessment is based upon –

1. Architectural plans prepared by Bains Design as follows –

Drawing No.	Title	Date
1407 Pacific Hwy Warrabee		
16188/01	Cover Sheet	JUN '17
16188/02	Site Plan	JUN '17
16188/03	Basement Floor Plan	JUN '17
16188/04	Ground Floor Plan	JUN '17
16188/05	First Floor Plan	JUN '17
16188/06	Second Floor Plan	JUN '17
16188/07	Roof Plan	JUN '17
16188/08	Elevations	JUN '17
16188/09	Elevations	JUN '17
16188/10	Sections	JUN '17
16188/11	Sections	JUN '17

2. The Building Code of Australia 2016 (BCA) prepared by the Australian Building Codes Board.

3. The Guide to the BCA 2016, prepared by the Australian Building Codes Board.

4. The Disability (Access to Premises – Building) Standards 2010.

5. Australian Standards AS1428.1-2009 – Design for Access and Mobility - Part 1: General requirements for access - New building work.

6. Australian Standards AS1428.4.1-2009 – Design for Access and Mobility - Part 4.1: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators.

7. Australian Standards AS 4299 – 1995 for the Adaptable Units.

1.2 Limitations of the Report

This report does not assess / include the following –

- Any parts of the BCA not directly referenced in this report.
- Standards not directly referenced in this report.
- Disability Discrimination Act 1992 (DDA focuses on results and does not offer prescriptive compliance options).
- Work Health & Safety considerations.
- Work Cover Authority requirements.
- Local planning policies and/or guidelines.
- This report is not a Part 4A compliance certificate under the Environmental Planning & Assessment Act 1979 or Regulation 2000.

- Does not provide concessions, alternative solutions or exemptions from the requirements of the BCA, other than any directly identified in the Executive Summary of this report.

1.3 BCA Assessment Data

Our understanding of the Building Code of Australia (2016) classification(s) in relation to the project is as follows (TBC by BCA Consultant) –

BCA Building Classifications:

Class 2 (Residential use)

Class 7a (Common)

Multiple Classification

Where parts have different purposes if not more than 10% of the floor area of a storey, being the minor use, is used for a purpose which is a different classification, the classification applying to the major use may apply to the whole storey.

Language

A reference to a building in the BCA is a reference to an entire building or part of a building, as the case requires.

2.0 TECHNICAL REVIEW ASSESSMENT & COMMENTARY

The following table details the compliance status of the architectural design in terms of the prescriptive accessibility provisions of BCA 2016, as are contained within Part D3 and Clauses E3.6 & F2.4 of the code. The table identifies compliance assessment outcomes as follows –

Complies (✓) – BCA design compliance is achieved.

Does not comply (X) – A BCA compliance departure requires rectification. Resolution options are provided.

N/A or Informational (Advice) – Either not applicable or not directly relevant to the project. Detail provided for information purposes only. No action required.

Design Detail – A detailed commentary is provided within the report. Such instances should not be considered deficiencies, but matters for consideration by the design team / assessment authority at relevant stages of design.

BCA Interpretation Note(s) –

(i) The pedestrian footpath / areas outside the property boundary are not assessed as part of this report.

(ii) Stairs are indicated as fire-isolated stairs.

(iii) Readily moveable furniture has been treated as indicative only. The person/s responsible for furnishing the building (parts) should ensure their furnishing layout/s do not cause AS1428.1 circulation deficiencies.

Section D – Access and Egress

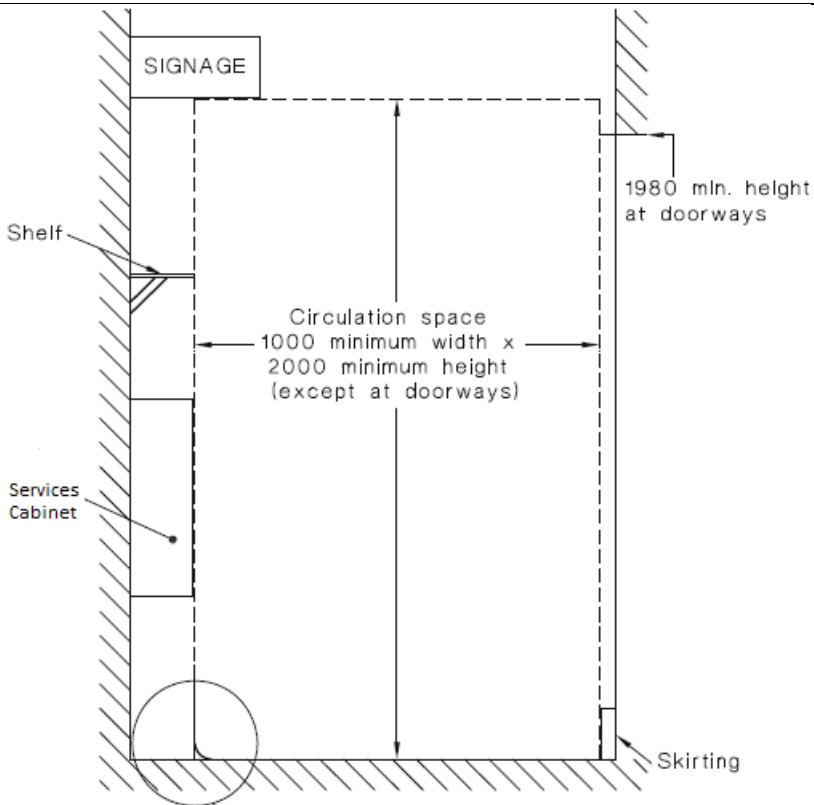
PART D3 – ACCESS FOR PEOPLE WITH DISABILITIES

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
D3.0	DTS Provisions	✓		Noted
D3.1	General access requirements Class 2 - 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. 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. Where a ramp complying with AS 1428.1 or a passenger lift is installed— (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. Class 7a - To and within all areas normally used by the occupants.	✓	✓	The front boundary to the pedestrian entrance has an accessible ramp. The front entrance doors & western side passage doors have one leaf and leaves must have a clear opening width of not less than 850mm – 920mm shown on plans. Complies. Accessible car spaces are provided for the 2 Adaptable units with one visitor space.

Summary of AS1428.1-2009 Requirements for accessways

Continuous accessible path of travel –

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



Doorways / Doors –

(i) All doorways shall have a minimum luminance contrast of 30% between –

- door leaf and door jamb;
- door leaf and adjacent wall;
- architrave and wall;
- door leaf and architrave;
- door jamb and adjacent wall.

(ii) The minimum width of the area of luminance contrast shall be 50mm,

(iii) Door hardware should be generally located between 900-1100mm from the floor and be of lever type with a clearance between the handle and the door face at the centre of the handle being not less than 35mm and not more than 45mm in accordance with AS1428.1-2009,

(iv) Doors shall have a clear opening width of 850mm.

(v) Door handles and related hardware shall be of the type that allows the door to be unlocked and opened with one hand. The handle shall be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch.

(vi) 'D' type handles shall be provided on sliding doors.

(vii) Any snibs shall have a lever handle of a minimum length of 45 mm from the centre of the spindle.

(viii) For doors (other than fire doors and smoke doors) where a door closer is fitted, the force required at the door handle to operate the door shall not exceed the 20N,

(ix) Where an outward opening door is not self-closing, a horizontal handrail or pull bar shall be fixed on the closing face of a side-hung door,

(x) The location of controls for doors and gates above a level surface shall be provided as per Clause 13.5.3.

(xi) Manual controls for power-operated doors shall be located no closer than 500 mm from an internal corner and between 1000 mm to 2000 mm from the hinged door leaf in any position or clear of a surface-mounted sliding door in the open position.

(xii) Push-button controls shall have a minimum dimension of 25 mm diameter and be proud of the surface and shall activate the door before the button becomes level with the surrounding surface.

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

(i) A continuous accessible path of travel and any circulation spaces shall have a slip-resistant surface. The texture of

the surface shall be traversable by people who use a wheelchair and those with ambulant or sensory disability.
(ii) Abutment of surfaces shall have a smooth transition. Design transition shall be 0mm, however, construction tolerances are as follows –

- 0 ±3mm vertical change in level – see Figure 1
- 0 ±5mm change in level provided the edges have a bevelled or rounded edge to reduce the likelihood of tripping – see Figure 2
- Various tolerances for raked joint pavers –
- see Figures 3a - level surfaces, 3b - irregular surfaces & 3c - domed surfaces.

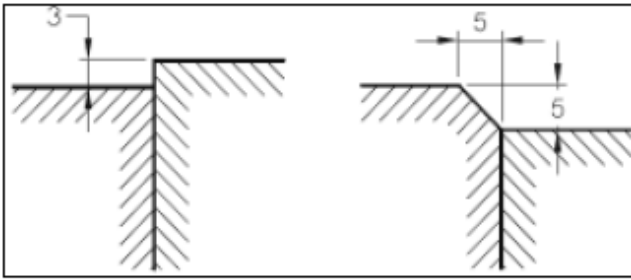


Figure 1

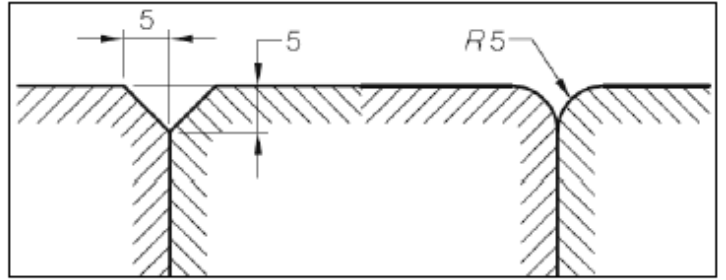


Figure 2

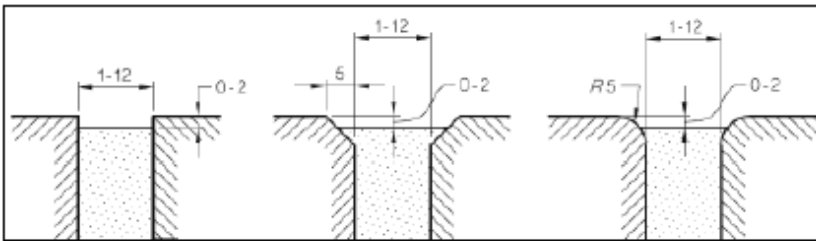


Figure 3a – For continuous paving units – level surfaces

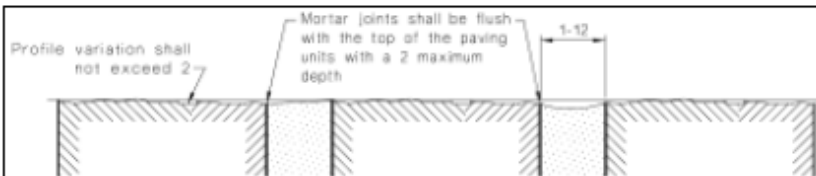


Figure 3b – For continuous paving units – irregular surfaces

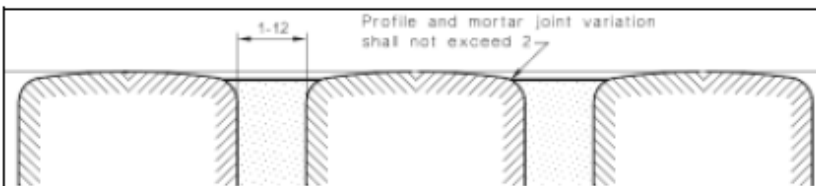


Figure 3c – For continuous paving units – domed surfaces

(xi) Where carpets or any soft flexible materials are used on the ground or floor surface –

- The pile height or pile thickness, shall not exceed 11mm and the carpet backing thickness shall not exceed 4mm,
- Exposed edges of floor covering shall be fastened to the floor surface and shall have a trim along the entire length of any exposed edge,
- At the leading edges, carpet trims and any soft flexible materials shall have a vertical face no higher than 3mm or a rounded bevelled edge no higher than 5mm or above that height a gradient of 1:8 up to a total maximum height of 10mm.

(xii) Matting recessed within an accessible path of travel –

- Where of metal and bristle type construction or similar, its surface shall be no more than 3mm if vertical or 5mm if rounded or bevelled, above or below the surrounding surface; and
- Where of a mat or carpet type material, shall have the fully compressed surface level with or above the surrounding surface with a level difference no greater than 3mm if vertical or 5mm if rounded or bevelled.

Switches and Controls –

(i) All new switches and controls, other than power points, shall be located not less than 900mm nor more than 1100mm above the finished floor and not less than 500mm from internal corners.

(ii) Rocker action and toggle switches shall be provided in accordance with Clause 14.2 in accessible residential sole-occupancy units.

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
D3.2	<p>Access to buildings</p> <p>Compliant access is to be provided from the pedestrian entry at the allotment boundary. An accessway must be provided to a building required to be accessible:</p> <ul style="list-style-type: none"> From the main points of pedestrian entry at the allotment boundary; and From another accessible building connected by a pedestrian link; and From any required accessible carparking space on the allotment. <p>An accessway must be provided through the principal pedestrian entrance, and:</p> <ul style="list-style-type: none"> through not less than 50% of all pedestrian entrances including the principal pedestrian entrance; and in a building with a floor area more than 500m², a pedestrian entrance which is not accessible must not be located more than 50m from an accessible pedestrian entrance. 	✓	✓	<p>Access is required from the main points of pedestrian entrance at the allotment boundary to the building and from the accessible carparking spaces.</p> <p>Compliance has been achieved.</p> <p>We refer to the AS1428.1-2009 summary at Clause D3.1 & D3.3 to assist the design team and/or construction.</p> <p>To achieve 70% visitable units, circulation space has been provided to each unit. An accessible path of travel from the unit entry to the living area has also been provided. Please note – 2 units are adaptable. 70% has been achieved.</p>
D3.3	<p>Parts of building to be accessible</p> <p>In a building required to be accessible:</p> <ul style="list-style-type: none"> every ramp & walkway (except fire-isolated) must comply with Clause 10 of AS1428.1-2009; every stairway (except fire-isolated) must comply with Clause 11 of AS1428.1-2009; All fire-isolated stairways are required to comply with Clause 11.1(f) and (g) of AS 1428.1-2009. accessways must have passing spaces complying with AS1428.1 at max 20m intervals where a direct line of sight is not available; and turning spaces complying with AS1428.1 within 2m of the end of accessways where it is not possible to continue travelling along the accessway, and at max. 20m intervals along the 	✓	✓	<p>Stairs are indicated as being fire-isolated Stairs. Basement exits are not fire-isolated.</p> <p>All fire-isolated stairways are required to comply with Clause 11.1(f) and (g) of AS 1428.1-2009. Luminance contrasting.</p> <p>All ramps (other than fire-isolated ramps) are to be design detailed to comply with the relevant requirements of Clause 10 of AS1428.1-2009. The ramp on the western side has stairs on the corner. TGSIs are required at the top and bottom of stairs and ramps. As a change in direction is required on the ramp, which leads directly to the stairs, TGSIs warning and/or directional pads would be required. Drawings have been amended to show this. Complies.</p> <p>TGSIs are shown in the fire-isolated stairs, but are not required.</p>

- accessway.
- the carpet pile height or pile thickness dimension, carpet backing thickness dimension and their combined dimension shall be 11mm, 4mm and 15 mm respectively.

Compliance has been achieved

The following Clause 10 & Clause 11 summary of AS1428.1-2009 is provided to assist the project team.

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

Clause 10.2 – Walkways

Walkways shall comply with the following:

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

10.3 Ramps

Ramps shall comply with the following:

- The maximum gradient of a ramp exceeding 1900 mm in length shall be 1 in 14.
- 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.
- 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:
 - For ramp gradients of 1 in 14, at intervals not greater than 9 m.
 - For ramp gradients steeper than 1 in 20, at intervals not greater than 15 m.
 - For ramp gradients between 1 in 14 and steeper than 1 in 20, at intervals that shall be obtained by linear interpolation.
- 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, as shown in Figure 13.
- Ramps shall have a handrail complying with Clause 12 on each side of the ramp, as shown in Figure 14.
- 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) and TGSIs do not protrude into the transverse path, as shown in Figure 16. TGSIs shall be installed in accordance with AS 1428.4.1.
- 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 does not protrude into the transverse path of travel as shown in Figure 17.
- 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.
- Ramps and intermediate landings shall have kerbs or kerb rails on both sides that comply with the following:
 - The minimum height above the finished floor shall be 65 mm.
 - 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.
 - 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.

Clause 10.8 - Landings

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

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

Clause 11.1 - Stair construction

Stairs to be constructed as follows:

- Set back min. 0.9m from boundary,
- Where intersection is at an internal corridor, the stair to be set back as per Figure 26(A),
- Have opaque risers,
- Nosings shall not project beyond the face of the riser and the riser may be vertical of 25mm backwards splay,
- Nosing profiles to have a sharp intersection, be rounded up to 5mm radius or be chamfered up to 5mm x 5mm,
- 50mm – 75mm strip to full length of nosing, set back a max. 15mm from the front of the nosing, with a 30% min. luminance contrast. If not set back, luminance contrast to extend down the riser by max 10mm.
- TGSIs installed as per AS1428.4.1.

Clause 11.2 - Stairway handrails

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

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

Clause 12 - Handrails

Design and construction to comply with:

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

D3.4	Exemptions	✓	Noted
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An area where access would be inappropriate because of the particular purpose for which the area is used, or would pose a health or safety risk for people with a disability; is not required to be accessible.

D3.5	Accessible Car parking	✓	✓	<p>1 space is required for every 100 parking spaces or part thereof. 3 shown on the plans.</p> <p>The aforementioned accessible carparking spaces have generally been provided with the prescribed spatial allowance to comply with AS2890.6-2009. The following AS2890.6-2009 summary is provided to assist the project team.</p>
<p>Accessible carparking spaces complying with AS2890.6-2009 must be provided in accordance with Table D3.5 in a Class 2/7a building required to be accessible and on the same allotment as a building required to be accessible.</p>				

Summary of AS2890.6-2009

Clause 2.3 – Pavement slope & surface

- Accessible parking space and shared zones are to have a firm plane surface with a fall not exceeding 1:40 in any direction (1:33 if the surface is a bituminous seal and the parking space is out of doors).
- These areas shall have a slip-resistant surface.

Clause 2.4 – Headroom

- The path of vehicular travel from the car park entrance to all accessible parking spaces and from those spaces to the car park exit shall have a minimum headroom of 2200 mm.
- The headroom above each dedicated space and adjacent shared area, measured from the level of the dedicated space shall be a minimum of 2500 mm. For an angle parking space the headroom of the front of the space and its adjacent shared area may be reduced to lie within the profile shown in Figure 2.7.

Clause 3.1 – Space identification

Each dedicated space shall be identified by means of a white symbol of access in accordance with AS 1428.1 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 as illustrated in Figure 3.1.

Clause 3.2 – Space delineation

- Pavement markings specified in Items (a) and (b) of this Clause shall be yellow and shall have a slip resistant surface. Raised pavement markers shall not be used for space delineation.
- Pavement markings shall be provided as follows:

(a) 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.

(b) Shared areas shall be marked as follows:

(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.

(iii) No shared area markings shall be placed in trafficked areas.

D3.6	Signage	✓	✓	No common sanitary facilities shown.
<p>Accessible buildings must have signage to comply with AS1428.1-2009 as follows</p> <ul style="list-style-type: none"> • braille and tactile signage incorporating the international symbol of access or deafness, 				

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

Summary of Specification D3.6; braille and tactile signs

Part 2 – Location of braille and tactile signs

Signage must be designed and installed as follows:

- Braille and tactile components located not less than 1.2m or greater than 1.6m;
- Single line signs to have tactile characters not less than 1.25m or greater than 1.35m;
- Signs identifying room features or facilities located on wall on the latch side of the door with edge of sign 50mm to 300mm from the architrave (or on the door itself if not possible to have adjacent).
- Signs identifying a door required by E4.5 to be provided with an exit sign, must be located on the side that faces a person seeking egress, and on the wall on the latch side of the door with the leading edge of the sign located between 50mm and 300mm from the architrave (or on the door itself if not possible adjacent).

Part 3 – Braille and tactile sign specification

- Tactile characters to be raised or embossed to a height between 1mm and 1.5mm;
- Sentence case must be used, with 15mm to 50mm high characters for capitals and 50% high for the lower case;
- Tactile characters, symbols and the entire sign / frame to have rounded edges;
- The entire sign including characters, background, negative space or fill of signs to be matt or low gloss finish;
- Min. letter spacing to be 2mm;
- Min. word spacing to be 10mm;
- Thickness of letter strokes between 2mm and 7mm and of Arial typeface;
- Tactile text to be left justified (excluding single words).

Part 4 – Luminance contrast

- Background, negative space and fill to be min. 30% luminance contrast to the mounted surface,
-

- Tactile characters icons & symbols to be min 30% luminance contrast to the background or mount surface,
- Luminance contrasts must be met under the lighting conditions of its surrounds.

Part 5 – Lighting

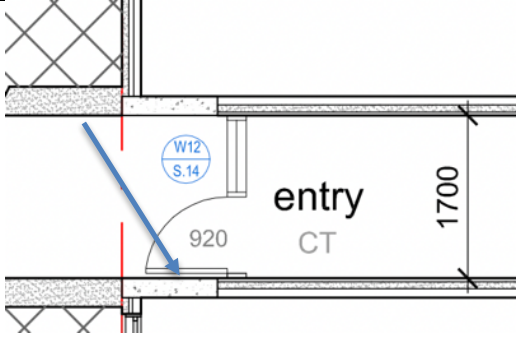
Braille and tactile signs must be illuminated to ensure luminance contrast requirements are met at all times during which the sign is required to be read.

Part 6 – Braille

- Grade 1 braille (uncontracted) as per Australian Braille Authority,
- Raised and domed, and left justified,
- Located 8mm below bottom line of text,
- Solid arrow, if arrow provided,
- On signs with multiple lines, semi-circular braille locator at the left margin must be horizontally aligned with the first line of braille text.

D3.7	Hearing augmentation	X		N/A – No rooms requiring hearing augmentation have been indicated on plan.
D3.8	Tactile Indicators (TGSIs) Accessible buildings must have Tactile Ground Surface Indicators (TGSIs) complying with Sections 1 & 2 of AS/NZS1428.4.1-2009 to warn blind or vision impaired people of approaching stairways (other than fire-isolated), escalators, ramps (other than fire-isolated, step or kerb ramp), any overhead obstruction less than 2m above floor level and an accessway meeting a vehicular way adjacent to any pedestrian entrance to a building.	✓	✓	TGSIs are to be provided to – <ul style="list-style-type: none"> • any overhead obstruction less than 2m above floor level. • top and bottom of all stairways and ramps (except fire-isolated stairways). • where an accessway meets a vehicular way adjacent to any pedestrian entrance to a building
D3.9	Wheelchair seating in class 9b buildings	X		N/A – It is a Class 9b building, but only for assembly buildings such as cinemas, theatres and the like.
D3.10	Swimming pools	X		No swimming pool
D3.11	Ramps On an accessway; a series of connected ramps must not have a combined vertical rise of more than 3.6 m; and a landing for a step ramp must not overlap a landing for another step ramp or ramp.	✓	✓	Complies. The proposed ramps do not rise more than 3.6m nor do landing cross-overs occur.
D3.12	Glazing on an accessway Where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, including any glazing capable of being mistaken for a doorway or opening, shall be clearly marked for their full width with a solid contrasting line. The contrasting line shall be not less than 75mm wide and shall extend across the full width the glazing panel. The lower edge of the contrasting line shall be located between 900mm and 1000mm above the plane of the finished floor level. Any contrasting line on the glazing shall provide a minimum of 30% luminance	✓	Advice	Any such glazing on an accessway must be clearly marked in accordance with AS 1428.1-2009. Attention to the doors on the ground floor leading from the lobby if they are frameless.

contrast when viewed against the floor surface or surfaces within 2m of the glazing on the opposite side.



Section E – Services & Equipment

Part E3.6 – Lift Installations

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
E3.6	<p>Passenger lifts</p> <p>Every passenger lift must:</p> <p>be one of the types identified in Table E3.6a, subject to the limitations on use specified in the Table; and</p> <ul style="list-style-type: none"> • have accessible features in accordance with Table E3.6b; and • not rely on a constant pressure device for its operation if the lift car is fully enclosed. 	✓	✓	<p>Plans indicate ample space (2100mm x 1600mm).</p> <p>Provides an accessible path of travel from the main entrance & basement to each unit.</p> <p>Complies.</p>

Section F – Health & Amenity

Part F2 – Sanitary & other facilities

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
F2.4	<p>Accessible sanitary facilities</p> <p>In a building required to be accessible:</p> <ul style="list-style-type: none"> • Accessible unisex sanitary compartments must be provided as per Table F2.4(a), • Accessible unisex showers must be provided as per Table F2.4(b), • At each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1 must be provided for use by males and females. • An accessible unisex sanitary compartment must contain a closet pan, washbasin, shelf or bench top and adequate disposal of sanitary towels. • Circulation spaces, fixtures and fittings of all accessible sanitary facilities must comply with AS1428.1. • Where two or more of each type of accessible unisex sanitary facility are provided, the number of left and right-handed mirror image facilities must be provided as evenly as possible. • An accessible unisex facility must be located so that it can be entered without crossing an area reserved for one sex. 	✓	✓	<p>Accessible facilities not required to class 2 units.</p> <p>Adaptable units to comply with AS 4299 – 1995 clause 4.4.</p> <p>In this regard and to offer detail to the project team, the following summary of AS1428.1- 2009 requirements for accessible & ambulant sanitary facilities is provided.</p> <p>Units (G1, G2, G3, G4, 1.2, 1.3, 1.4, 2.2, 2.3 & 2.4) have a minimum 1250mm x 900mm wide space in front of the toilet that is clear of the door swings and fixtures. This equates to 83% of the units having the 'visitable' toilet requirement. 70% minimum has been achieved.</p>

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

Water Taps – Must have:

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

WC pan clearances

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

Seat – As follows:

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

Backrest – As follows:

- be capable of withstanding 1100 N,
- height to the lower edge of backrest to the top of the WC pan of 120mm to 150mm,
- vertical height of 150mm-200mm and a width of 350mm and 400mm,
- front edge of the centre of the backrest to be at an angle of 95⁰ to 100⁰.

Flushing control

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

Toilet paper dispenser

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

Grabrails

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

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

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

Baby change tables

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

Summary of AS1428.1-2009 requirements for Accessible & Ambulant Sanitary Facilities (Continued)

WC doors

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

Washbasins for unisex accessible sanitary facilities

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

Washbasins – As follows:

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

Mirrors

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

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

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

Soap dispensers, towel dispenser and similar fittings

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

Clothes-hanging devices

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

Sanitary disposal unit

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

Switches and general purpose outlets

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

Showers

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

Circulation spaces in accessible sanitary facilities

- Circulation spaces in accessible sanitary facilities shall be in accordance with Clause 15.2.8 and Figures 43-47 and 50.
- Circulation spaces, including door circulation space, may be overlapped.
- Fixtures shall not encroach circulation space except:
 - a. Washbasin in WC circulation as per Figure 43,

Summary of AS1428.1-2009 requirements for Accessible & Ambulant Sanitary Facilities (Continued)

- b. Washbasin in shower circulation as per Figure 50,
- c. Washbasin in door circulation as per Figure 51(A) and 51(B).
- Clearances beneath washbasin as per Clause 15.3.

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

General

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

Grabrails

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

Doors

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

Coat hook

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

Adaptable Housing

Two adaptable units are on the plans and the units designated as adaptable are units G.4 and 1.4. At DA stage, there is sufficient information to certify compliance with the Standard and the units comply with the spatial requirements of AS4299 for Adaptable Housing.

AS 4299 Adaptable Housing Class C

Area	Requirement	Compliance	Comment
The Site	An accessible path of travel from the street, letterboxes, car park and to common facilities is provided	Yes	Accessible path of travel provided from street to unit via ramp to the front door.
Carparking	A carspace 6m x 3.8m is provided for one unit and an accessible space is provided for the other.	Yes	3 accessible carspaces are shown (2 adaptable units)
Unit Entry	The entry is accessible, covered, level, has a low threshold, permits wheelchair manoeuvrability and has an 850-clear door with lever handles.	Yes	Plans indicate latchside clearance for Unit 4 on the ground floor & first floor.
Interior - General	Access to bathroom, kitchen, laundry, living areas and outside areas is provided.	Yes	Unit & balcony RL are different (500mm), may require a threshold ramp.
	Doors are 820mm clear (870 leaf) with corridors a min. 1000mm wide with circulation space at doors as per AS1428.1	Yes	Plans indicate compliance

Living / Dining Rooms	Provision for circulation space of min 2250 diameter, a telephone point adjacent to GPO and lighting which can achieve min 300 lux	Yes	Circulation space provided, detail shown on plans. 4.7
Kitchen	Floor surface to be non-slip with 1550 clear between benches and circulation space at door to comply with AS1428.1. Workbenches can be setout to provide requirements of AS 4299 including tap type and location, GPO locations.	Yes	Circulation space provided.
Main Bedroom	Can accommodate a queen size bed, wardrobe and circulation to AS 1428.2	Yes	Shown on plans
Bathroom	Provision to allow bathroom to be converted to complying with AS 1428.1. The floor is slip resistant and the shower recess is hobless and can provide a compliant shower area with provision for grabrails, mirror, GPO etc.	Yes	Area is large enough to be compliant with detail shown on hobless shower, grabrails, mirrors GPO etc.
Toilet	An accessible toilet or an enlarged toilet with an area 1200x900w in front of pan is provided which is capable of modification to comply with AS 1428.1. The floor is slip resistant and the wall is capable of installing grabrails.	Yes	Two toilets shown on plans. Area of approx. 2300mm x 2300mm for main bathroom and 2300mm x 1000mm in front of toilet in the ensuite.
Laundry	Circulation at doors to comply with AS 1428.1 is provided with adequate circulation in front of appliances (min 1550mm). Provision for washing machine and drier is available with a double GPO and an accessible path of travel to clothesline if provided. The floor is slip resistant.	Yes	Area shown on plans. Circulation at doors complies.
Door Hardware	Lever door handles are provided, located 900-1100mm above floor	Yes	Detail is shown on plans. 4.3.4

3.0 CONCLUSION

The primary purpose of this report is to identify the compliance status of the design with the relevant accessibility-related Deemed-to-Satisfy requirements of the Building Code of Australia 2016 (BCA) and the principles of adaptable housing.

The plans demonstrate that at least 70% of the proposed dwellings are 'visitable' in accordance with the relevant standards and condition 21 of DA0109/15.

The outcome of the report highlights that the current design contains minor compliance departures with the Deemed-to-Satisfy requirements of the BCA, however, such can be readily resolved by minor design changes at the Construction Certificate stage, as nominated at Part 2.0 of this report.

Regards,

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