



lindsay perry access

Access Report

LAHC

Proposed Boarding House

189 Riverside Drive

AIRDS NSW 2560

For: Crawford Architects

Ref: LP_20279



Document Control

This report has been prepared based on the documentation available and time allocated to conduct the review. All reasonable attempts have been made to identify key compliance matters.

Revision Summary:

approved by: Lindsay Perry	Draft	12 February 2022
	Revision 1	8 April 2022
	Revision 2	12 May 2022
	Revision 3	12 October 2022
	Revision 4	13 October 2022
	Revision 4	22 March 2022

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Clarifications:

This report is limited to items within drawings listed in this report only.

Any dimensions quoted throughout this report and within Australian Standards are CLEAR dimensions, not structural.

The recommendations throughout this report reflect the professional opinion and interpretation of Lindsay Perry Access Pty Ltd. This may differ from that of other consultants.

Definitions:

The following terminology has been used throughout this report:

Compliant | compliance with current accessibility legislation has been achieved

Compliant Configuration | circulation and spatial planning requirements are compliant

Capable of compliance | compliance is achievable through detailed design

Not Yet Compliant | circulation and spatial planning requirements have not yet been met

To be addressed during detailed design stage | details not available at DA stage

To be confirmed | inadequate information is provided to determine compliance



Executive Summary

Development application documentation for the LAHC Boarding Housing Development located at 189 Riverside Drive Airs NSW 2560, has been reviewed against current accessibility legislation.

The following table summarises our findings.

Item No.	Description	Compliance Status
The Disability (Access to Premises) Standards		
5.1	Access Code	Refer BCA requirements
5.2	New Work & The Affected Part	Not applicable
Access to Bus Stops		
6	Access to Bus Stops	Compliant
Access and Approach		
7.1	Allotment Boundary to Entrance	Compliant
7.2	Accessible Carparking to Entrance	Compliant
7.3	Accessways (Pathways Generally)	Compliant configuration
7.4	Accessible Carparking	Compliant configuration
7.5	Accessible Entrances	Compliant configuration
Interior		
8.1	Extent of Access Generally	Compliant
8.2	Circulation Areas	Compliant
8.3	Doorways	Compliant configuration
8.4	Exempt Areas	Compliant
8.5	Floor Finishes	To be addressed during detailed design
8.6	Carpet	To be addressed during detailed design
8.7	Controls	To be addressed during detailed design
8.8	Visual Indication to Glazing	To be addressed during detailed design
8.9	Tactile Indicators	To be addressed during detailed design
8.10	Signage	To be addressed during detailed design
8.11	Slip Resistance (Ramps & Stairs)	To be addressed during detailed design
Vertical Circulation		
9.1	Lifts	Capable of compliance
9.2	Stairs	Capable of compliance
Accessible Rooms		
10.1	Doorways	Compliant configuration
10.2	Bathrooms	Capable of compliance
10.3	Circulation Areas	Best practice recommendation
10.4	Floor Finishes	To be addressed during detailed design
10.5	Carpet	To be addressed during detailed design
10.6	Controls	To be addressed during detailed design
10.7	Kitchenette	Best practice recommendation
10.8	Robes	Best practice recommendation



We consider that the drawings presented for assessment, for the purposes of a development application, generally comply with current statutory requirements.

A handwritten signature in black ink, appearing to read 'Lindsay Perry'.

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1 Project Background

The project is a new Boarding House that provides eight (8) studios over two (2) levels, one (1) of which is accessible, with common areas at the ground floor level. A lift provides access between levels. Two (2) carparking spaces are provided within the development, one (1) of which is accessible.



Figure 1 | Proposed Development

2 Reviewed Documentation

Documentation prepared by Crawford Architects has been reviewed as follows:

dwg no.	drawing name	revision
A001	Cover Sheet	15
A002	Site Analysis Plan	10
A003	Tree Analysis Plan	07
A015	Deep Soil Area Analysis	09
A100	Existing Site Survey	08
A101	Site Plan	08
A200	Ground Floor General Layout Plan	16
A201	First Floor General Layout Plan	13
A202	Roof Plan	10
A203	Cut & Fill Plan	07
A300	Existing and Proposed Street Views	09
A301	Elevations	12
A310	Sections	08
A500	3D Views and Finishes Schedule	10
A501	Room Type Schedule	06
A510	Solar Access Ground Floor Plan	10
A511	Solar Access First Floor Plan	10
A520	Shadow Diagrams	0

3 Council Requirements

Campbelltown Council DCP July 2016 Amendment No 5, Part 17 for Boarding Houses requires the following to be provided:

17.3.2 Access for People with Disabilities

Boarding houses shall comply with the minimum access requirements contained within the BCA and Australian Standard 1428 – Design for Access and Mobility.



4 Legislation

Access assessment has been made against Access Legislation including:

- The Commonwealth Disability Discrimination Act 1992 (DDA)
- Disability (Access to Premises (Buildings)) Standards 2010
- Access Code for Buildings 2010
- The National Construction Code Building Code of Australia Volume 1 2019, Amendment 1 (BCA)
 - Section D2.14 / D2.15 / D2.17 – landings, thresholds and slip resistance
 - Section D3 – Access for People with Disabilities
 - Section E3.6 – Passenger Lifts
 - Section F2.4 – Accessible Sanitary Facilities
- Australian Standard AS1428.1 (2009) Amendment 1 & 2, – Design for Access and Mobility
- Australian Standard AS1428.2 (1992) – Design for Access and Mobility: Enhanced and additional requirements – Buildings and facilities
- Australian Standard AS1428.4.1 (2009) Amendment 1 – Design for Access and Mobility: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators
- Australian Standard AS2890.6 (2009) – Parking Facilities – Off street carparking For People with Disabilities.
- Australian Standard AS1735.12 – Lifts, escalators and moving walks: Lifts for persons with a disability

A summary of the requirements of relevant legislation follows.

The Disability Discrimination Act 1992

The DDA requires independent, equitable, dignified access to all parts of the building for all building users regardless of disability. The DDA makes it unlawful to discriminate against a person on the grounds of disability.

The Disability (Access to Premises) Standards

The Disability (Access to Premises - buildings) Standards 2010 (the Premises Standards) commenced on 1 May 2011. Any application for a building approval for a new building or upgrade of an existing building on or after that date triggers the application of the Premises Standards.

The Premises Standards include an **Access Code** written in the same style as the Building Code of Australia. It has a number of Performance Requirements that are expressed in broad terms and references a number of technical Deemed-to-Satisfy Provisions.

The National Construction Code / Building Code of Australia (Volume 1)

The Building Code of Australia (BCA) is contained within the National Construction Code (NCC) and provides the minimum necessary requirements for safety, health, amenity and sustainability in the design and construction of new buildings (and new building work in existing buildings) throughout Australia. The BCA is a performance-based code.



The BCA for Class 3 buildings requires access for people with disabilities as follows:

- 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, TV room, individual shop, dining room, public viewing area, ticket purchasing service, lunch room, lounge room, or the like.
- For a total of 8 rooms, access must be provided to and within **one (1)** sole occupancy units. Not more than 2 required accessible sole-occupancy units may be located adjacent to each other. Where more than 2 accessible sole-occupancy units are required, they must be representative of the range of rooms available.
- 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.

AS1428 – Design for Access and Mobility

The AS1428 Suite provides design requirements for accessibility generally, covering all types of disabilities. AS1428.1 and AS1428.4.1 are referenced by the NCC / BCA.

- Australian Standard AS1428.1 (2009) Amendment 1 & 2, – Design for Access and Mobility contains access requirements that are mandatory for the provision of access for persons with a disability and is referred by the BCA
- Australian Standard AS1428.2(1992) – Design for Access and Mobility: Enhanced and additional requirements – Buildings and facilities provides enhanced and best practice requirements that will minimize DDA risk
- Australian Standard AS1428.4.1 (2009) Amendment 1 – Design for Access and Mobility: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators

AS2890.6 – Off-street Carparking for People with Disabilities

AS2890.6 (2009) applies to the carparking areas generally.

AS1735– Lifts, escalators and moving walks

AS1735.12 (1992) contains requirements for passenger lifts for persons with a disability.



5 The Disability (Access to Premises) Standards

Any application for a building approval for a new building or upgrade of an existing building triggers the application of the Premises Standards.

The Premises Standards include an Access Code written in the same style as the Building Code of Australia. Additionally, it offers a number of concessions for existing buildings as outlined below.

5.1 Access Code

The Premises Standards include an Access Code written in the same style as the Building Code of Australia.

Compliance Summary:

Refer to BCA requirements throughout subsequent sections of this report.

5.2 New Work and The Affected Part

The Disability (Access to Premises – Buildings) Standards apply to **...a new part, and any affected part, of a building**, to the extent that the part of the building is...a Class 3, 5, 6, 7, 8, 9 or 10 building (Clause 2.1).

New work is defined as follows (Clause 2.1 (4)):

- An extension to the building or a modified part of the building.

An **affected part** is defined as follows (Clause 2.1 (5)):

- The principal pedestrian entrance of an existing building that contains a new part; and
- Any part of an existing building, that contains a new part, that is necessary to provide a continuous accessible path of travel from the entrance to the new part.

Compliance Summary:

Not applicable

Commentary:

The new work and affected part provisions are not applicable to new developments.

6 Access to Bus Stops

The development site is located within 90m of bus stops along Riverside Drive. Bus route 884 offers a loop service between Campbelltown and Airds with the bus stops located on the same side of the roadway as the development site – there is no need to cross the roadway to access bus services.

The existing footpath infrastructure offers an accessible path of travel between the development site and the bus stop (identified as Riverside Drive after Kelburn Place).



Figure 2 | Location of Bus Stop



Figure 3 | Existing Footpath



Figure 4 | Existing Footpath



Figure 5 | Existing Footpath



Figure 6 | Existing Bus Stop



Bus Route 884 operates seven days a week. The timetable indicates it is an accessible bus route and operates on a regular basis throughout the day.

Routes 884, 884W, 885

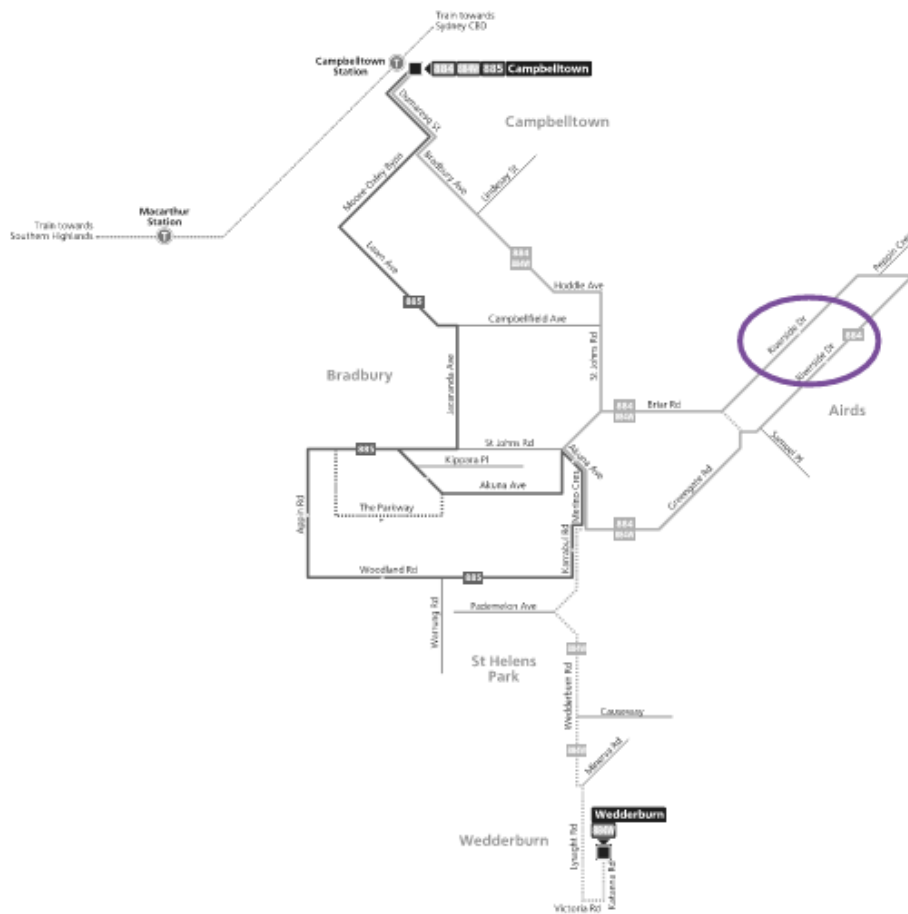


Figure 7 | Bus Route 884 Route Map

7 BCA | Access and Approach + External Areas Generally

The approach to the building needs to be considered when considering access for persons with a disability. The BCA has three requirements for the approach to the building for persons with a disability.

An accessible path of travel is required to the building entrance from the allotment boundary at the main points of pedestrian entry, from accessible carparking areas and from any adjacent and associated accessible building.

In this instance, the approach to the building has been considered as follows:

- from the allotment boundary at the pedestrian entrance along Riverside Drive to the building entrance
- from the accessible carparking area to the building entrance.



Figure 8 | Overall Site Plan

7.1 Approach from Allotment Boundary

The BCA requires that a continuous accessible path of travel be provided from the allotment boundary at the main points of pedestrian entry to the main entrance.

Compliance Summary:

Compliant

Commentary:

An accessible path of travel is provided to the building entrance from the allotment boundary along Riverside Drive.



7.2 Approach from Accessible Carparking

The BCA requires that a continuous accessible path of travel be provided from the accessible carparking areas to the main entrance.

Compliance Summary:

Compliant

Commentary:

An accessible path of travel is provided from accessible carparking space at the rear of the site.

7.3 Accessways (Pedestrian Areas Generally)

The accessible path of travel refers to a pathway which is grade restricted and provides wheelchair access as per the requirements of AS1428.

Compliance Summary:

Compliant Configuration

Commentary:

Pathways are a minimum 1300mm wide and have a level surface.

Accessibility Requirements:

For compliance with AS1428.1, the following access requirements apply.

- a. The minimum unobstructed width of all pathways is to be 1000mm (AS1428.1, Clause 6.3). A width of 1200mm is preferred for compliance with AS1428.2.
- b. All pathways are to be constructed with no lip or step at joints between abutting surfaces (a construction tolerance of 3mm is allowable, or 5mm for bevelling edges).
- c. The maximum allowable crossfall of pathways is to be 1:40.
- d. The ground abutting the sides of the pathways should follow the grade of the pathway and extend horizontally for 600mm. We note that this is not required where there is a kerb or handrail provided to the side of the pathway.
- e. Pathways to have passing bays complying with AS1428.1 at maximum 20m intervals where a direct line of site is not available. They are required within 2m of the end of the pathway where it is not possible to continue travelling along the pathway.



7.4 Accessible Carparking

There is a requirement for the provision of accessible carparking within this development. The number of accessible spaces within a Class 3 building is to be calculated by multiplying the total number of carparking spaces by the percentage of accessible sole-occupancy units to the total number of sole-occupancy units.

Compliance Summary:

Compliant Configuration

Commentary:

Carparking is provided to the rear of the building. Plans show two (2) carparking spaces, one (1) of which is accessible. The number of accessible spaces achieves BCA compliance.

Overall configuration of the accessible carparking space and associated shared area achieves compliance with current legislation including spatial arrangement, chevron markings and provision of a bollard.

Accessibility Requirements:

Access requirements for the accessible carparking are as follows.

- a. Accessible carparking to be a minimum of 2400mm wide with a shared area to one side of the space 2400mm wide. Circulation space can be shared between adjacent accessible carparks.
- b. Provide a bollard to the shared circulation space as illustrated in AS2890.6, Figure 2.2.
- c. The maximum allowable crossfall of accessible carparking area to be, 1:40 (1:33 for bituminous surfaces). This crossfall applies both parallel and perpendicular to the angle of parking.
- d. For covered carparking, the clear height of the accessible carparking space to be 2500mm as illustrated in AS2890.6, Figure 2.7.
- e. Designated accessible carparking is to be identified using the International Symbol for Access (ISA) between 800 and 1000mm high placed as a pavement marking in the centre of the space between 500-600mm from its entry point. The perimeter of the space is to be identified by an unbroken yellow & slip resistant line 80-100mm wide (except where there is a kerb or wall)
- f. Shared space to be identified using yellow slip-resistant & unbroken stipes 150 to 200mm wide with spaces 200 to 300mm between stipes. Stipes to be at an angle of 45° to the side of the space.



7.5 Accessible Entrances

In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance, and not less than 50% of all pedestrian entrances including the principal pedestrian entrance.

Compliance Summary:

Compliant Configuration

Commentary:

There are two (2) entrances to the building – the main entrance and the entrance from the car parking area. Each provide a single hinged door that achieve compliant circulation areas.

A single hinged gate is provided within the path of travel to the accessible carparking space. The gate is required to have a clear 850mm opening space. Compliant circulation areas are provided.

Accessibility Requirements:

The following access requirements apply to the accessible entrance.

- a. Entrances to comply with AS1428.1(2009), Clause 13 as part of the accessible path of travel.
- b. Doors are to have a minimum clear opening width of 850mm to comply AS1428.1(2009), Clause 13.2 as part of the accessible path of travel.
- c. Entrance doorways to have complying circulation areas as illustrated in AS1428.1(2009), Figure 31. Circulation areas to have a maximum crossfall of 1:40.
- d. Doorways to have minimum 30% luminance contrast as described in AS1428.1(2009), Clause 13.1.
- e. Door thresholds to be level to provide seamless entry as part of the accessible path of travel. Maximum allowable construction tolerance is 3mm for compliance with AS1428.1(2009), 5mm where beveled edges are provided between surfaces.
- f. Doors to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5)
- g. Door handles and related hardware shall be able to be unlocked and opened with one hand per AS1428.1 (2009), Clause 13.5.1. The handles shall enable a person who cannot grip to operate the door without their hand slipping from the handle. We recommend the use of lever handles.



8 BCA | Interior

The interior areas subject to accessibility requirements include the residential common areas being the entry, corridors, bin store, common room and outside communal open space. The following do not apply to individual units.

8.1 Extent of Access Generally – BCA

Access for people with disabilities is required to the door of individual sole occupancy units at each level. An accessible path of travel is also required to the residential communal areas. BCA requires the provision of one (1) accessible room based on a total of eight (8) sole occupancy units. Unit 01 is nominated as the accessible room.

Compliance Summary:

Compliant

8.2 Circulation Areas

BCA (Clause D3.3) requires the provision of turning spaces and passing areas to corridors to enable wheelchair circulation throughout a building.

Turning spaces 1540mm wide by 2070mm long are required within 2m of the end of corridors to enable a wheelchair to turn through 90° and passing areas 1800mm wide by 2000mm long are required every 20m along a corridor unless there is a clear line of sight.

Within corridor areas, 1500x1500mm is required to facilitate a 90° turn by a wheelchair. This must be accommodated within accessible areas.

Compliance Summary:

Compliant

8.3 Doorways Generally

AS1428.1 has requirements for doorways within the accessible path of travel to enable independent access for people using a wheelchair.

Compliance Summary:

Complaint configuration

Commentary:

Doorways within the accessible path of travel generally achieve the required circulation areas for compliance.

Accessibility Requirements:

Access requirements for doorways within the accessible path of travel are as follows.



- a. Doorways within the accessible path of travel to have a minimum clear opening width of 850mm (AS1428.1(2009), Clause 13.2). We recommend the use of a 920 leaf door as a minimum to achieve adequate clear width. For double doors, the operable leaf must achieve this clear opening width.
- b. All doorways within the accessible path of travel to have complying circulation areas as illustrated in AS1428.1(2009), Figure 31. Circulation areas to have a maximum crossfall of 1:40.
- c. Doorways to have minimum 30% luminance contrast as described in AS1428.1(2009), Clause 13.1.
- d. Door to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5)
- e. Door handles and related hardware shall be able to be unlocked and opened with one hand per AS1428.1 (2009), Clause 13.5.1. The handles shall enable a person who cannot grip to operate the door without their hand slipping from the handle. We recommend the use of lever handles.
- f. Doorways to external areas to achieve a level threshold as part of the accessible path of travel. Maximum allowable construction tolerance is 3mm for compliance with AS1428.1(2009), 5mm where beveled edges are provided between surfaces.
- g. Doorways to have operational forces per AS1428.1 (2009), Clause 13.5.2. A maximum allowable force of 20N is required to operate the door.

8.4 Exempt Areas

BCA Clause D3.4 does not require access for people with disabilities to areas that would be inappropriate due to the particular use of the area or would pose a health and safety risk. This includes the path of travel to these areas.

Compliance Summary:

None specified

8.5 Floor Finishes

All floor finishes are to be flush to provide an accessible path of travel throughout the different areas of the building. Maximum allowable construction tolerance is 3mm (5mm for beveled edges) as part of the accessible path of travel.

Compliance Summary:

To be addressed during detailed design stages



8.6 Carpet

BCA requires that the pile height or pile thickness shall not exceed 11 mm and the carpet backing thickness shall not exceed 4 mm.

Compliance Summary:

To be addressed during detailed design stage.

8.7 Controls

Controls such as light switches, GPOs, alarm keypads, card swipes, etc are to be located within the accessible height range of 900-1100mm above the floor level and not within 500mm of an internal corner to comply with AS1428.1(2009), Clause 14.

Compliance Summary:

To be addressed during detailed design stage.

8.8 Visual Indication to Glazing

Provide decals to all full height glazing that can be mistaken for a doorway to assist persons with a vision impairment. Decals to be solid and have a minimum 30% luminance contrast to the background colour and be not less than 75mm high located within the height range of 900-1100mm above the finished floor level

Compliance Summary:

To be addressed during detailed design stage.

8.9 Tactile Indicators

For a building that is required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching a stairway (other than a fire isolated stair); an escalator; a moving walkway; a ramp (other than a fire isolated ramp, step ramp, kerb ramp or swimming pool ramp); and in the absence of a suitable barrier, an overhead obstruction less than 2m above the floor level or an accessway, meeting a vehicular way if there is no kerb or kerb ramp (BCA D3.8).

Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background color (45% for discrete tactile indicators and 60% for discrete two-tone tactile indicators).

Compliance Summary:

To be addressed during detailed design stage.

8.10 Signage

Signage to identify sanitary facilities, hearing augmentation and required exits are to be provided in accordance with BCA Clause D3.6. This includes provision of the International Symbol for Access or International Symbol for Deafness as appropriate. Signage to comply with AS1428.1 (2009), Clause 8.

Compliance Summary:

To be addressed during detailed design stage.



Accessibility Requirements:

Access requirements for signage are as follows. Note that this does not include general wayfinding signage.

- a. Braille and tactile signage formats as outlined within BCA Specification D3.6 that incorporate the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1 must be provided to identify the following:
 - each door required by E4.5 to be provided with an exit sign and state level
- b. Braille and tactile components of the sign to be located not less than 1200mm and not higher than 1600mm affl.
- c. Signage to be located at the latch side of the doorway with the leading edge of the sign 50-300mm from the architrave. Where this is not possible, the sign can be located on the door.

Sample sign is as follows. This is an example only – ensure selected signage complies with BCA Specification D3.6 including provision of Braille locator for multiple lines of text and characters.

Exit Level G

8.11 Slip Resistance (Stairs and Ramps)

The BCA defines the following slip resistance requirements for stairs and ramps:

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

Compliance Summary:

To be addressed during detailed design stage.



9 BCA | Vertical Circulation

A lift provides the main means of access between levels of the building. Stairs are provided in association with the lift.

9.1 Lift

Where lifts are provided within a building to facilitate access between levels, they must meet the minimum requirements of the NCC / BCA with regard to the internal lift car size, which is dependent upon the total vertical distance that the lift travels.

Compliance Summary:

Capable of compliance

Commentary:

A lift provides for access between levels.

The overall size of the lift shaft can accommodate a lift car of adequate dimensions for compliance with BCA.

Accessibility Requirements:

The following access requirements apply to the lifts. These requirements are for disabled access only and do not include requirements for stretchers.

- a. Lift is to comply with AS1735.12 and be fully automatic as required by the BCA, Clause E3.6.
- b. Minimum internal dimensions of the lift car to be 1100mm wide x 1400mm deep BCA, Clause E3.6 – for a lift that travels less than 12m.
- c. Clear opening of the lift door to be minimum 900mm.
- d. Provide a handrail complying with the provisions for a mandatory handrail in AS1735.12.
- e. All lift control buttons are to be in the accessible height range of 900-1100mm affl and have a minimum 30% luminance contrast to the background colour. This includes buttons within the lift car and at each public lift lobby. All buttons are to be provided with information in Braille and tactile formats.
- f. Auditory / voice cues are to be provided within the lift car to assist persons with a vision impairment.
- g. Series of door opening devices that will detect a 75mm diameter rod across the door opening between 50 mm and 1550mm above the floor level.
- h. Emergency hands-free communication, including a button that alerts a call centre of a problem, a light to signal that the call has been received by the call centre and a light indicating assistance is being dispatched.



9.2 Stairs

AS1428.1 has access requirements for all stairs other than fire isolated egress stairs and is applicable in this instance.

Compliance Summary:

Compliant configuration

Commentary:

Stairs are provided adjacent to the lift for access to the first-floor level.

Overall configuration is in keeping with current legislation including width and handrails with extensions both sides. Ensure provision of tactile indicators top and bottom and contrasting non-slip nosings to treads.

Accessibility Requirements:

Access requirements for public access stairs are as follows.

- a. Stair construction to comply with AS1428.1, Clause 11.1.
- b. Stairs to have closed or opaque risers. Open risers cause confusion for persons with a vision impairment and may trigger conditions such as epilepsy due to light penetrating through the open risers.
- c. Where the stair intersects with an internal corridor, the stair shall be set back in accordance with AS1428.1 Figure 26C/D to allow adequate space for handrail extensions and tactile indicators.
- d. Provide handrails, with extensions, to both sides of the stair (AS1428.1, Clause 11.2). Handrails to have an external diameter between 30-50mm to assist persons with a manual disability such as arthritis. Handrails should be continuous around the landings where possible.

Handrails are required on both sides of the stair to cater for left and right-handed disabilities. A central handrail is also an acceptable solution where adequate width is available.

- e. Stair nosings to have minimum 30% luminance contrast strip 50-75mm wide to the top of the stair tread to assist persons with a vision impairment. The strip can be set back 15mm from the edge of the riser.
- f. Stair nosings shall not project beyond the face of the riser.
- g. Provide tactile indicators at the top and bottom of the stair to comply with BCA Clause D3.8 and AS1428.4.1.
Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background colour. For discrete tactile indicators, 45% luminance contrast is required (60% where two-tone indicators are used).



10 BCA | Accessible Sole Occupancy Unit

There is one (1) accessible sole occupancy unit (Room 01) provided within the building at the ground floor level. It has been designed to facilitate wheelchair access. The following access requirements apply to the accessible room.

10.1 Doorways

Doorways within the accessible rooms (including the entrance door) are to comply with the requirements of AS1428.1 as a part of the accessible path of travel.

Compliance Summary:

Capable of compliance

Commentary:

Doors within the accessible room (Room 01) achieve compliant circulation areas.

Ensure doorways to the private open space achieve the required circulation areas for compliance with AS1428.1.

Accessibility Requirements:

Access requirements for doorways within the accessible rooms are as follows.

- a. Doorways within the accessible rooms to have a minimum clear opening width of 850mm (AS1428.1(2009), Clause 13.2).
- b. Doorways within the accessible rooms to have complying circulation areas as illustrated in AS1428.1(2009), Figure 31. Circulation areas to have a maximum crossfall of 1:40.
- c. Doorways to have minimum 30% luminance contrast as described in AS1428.1(2009), Clause 13.1.
- d. Doors to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5)

10.2 Bathroom

Bathroom within the accessible rooms should comply with the requirements of AS1428.1.

Compliance Summary:

Capable of compliance

Commentary:

Overall room dimensions and the arrangement of fixtures within the bathroom is conducive to compliance with current accessibility legislation.



Accessibility Requirements:

Accessibility requirements for the bathroom are as follows.

- a. Accessible bathroom to comply with AS1428.1(2009), Clause 15 including set-out of fittings and fixtures, circulation areas and doorways.

WC Pan:

- b. Crucial dimensions for the toilet are 450mm from centreline of pan to side wall, 800mm from front of pan to rear wall and a seat height of 470mm.
- c. A minimum clear dimension of 1400mm is required from the toilet pan to any other fixture (see figure 43).
- d. Grabrails to be provided at the side and rear of the toilet in compliance with AS1428.1 at a height of 800mm.
- e. Toilet seat shall be of the full round type, be securely fixed in position when in use and have fixings that create lateral stability. They should be load rated to 150kg, have a minimum 30% luminance contrast to the background colour (eg pan, wall or floor) and remain in the upright position when fully raised.
- f. Provide a backrest to accessible toilets to comply with AS1428.1, Clause 15.2.4.

Basin:

- g. For the basin, a minimum dimension of 425mm is required from the centreline of the basin to the side wall and height of basin to be between 800 and 830mm.
- h. Taps to have lever handles, sensor plates or similar controls. For lever taps, a minimum 50mm clearance to be provided to adjacent surfaces.

Shower:

- i. Accessible showers are to comply with AS 1428.1, Clause 15.5 and include accessible features such as grabrails, adjustable height shower rose and fixtures within an accessible height range.
- j. Floor waste to be positioned 550mm and 580mm from enclosing shower walls as illustrated in AS1428.1 (2009), Figure 47a.
- k. The minimum dimension of an accessible shower to be 1160 x 1000mm. A folding seat, at a height of 470mm is to be provided. All taps to be located within the height range of 900-1100mm above the finished floor level.
- l. Circulation space in front of the shower is to be provided as illustrated in AS1428.1, Figure 47.



10.3 Circulation Areas

It is best practice to provide circulation areas within the accessible studios for wheelchair access. A minimum 1540mm wide circulation at the foot of the bed (for compliance with AS1428.2, Clause 6.1) is recommended.

Compliance Summary:

Compliant

10.4 Floor Finishes

All floor finishes are to be flush to provide an accessible path of travel throughout the different areas of the building. Maximum allowable construction tolerance is 3mm (5mm for beveled edges) as part of the accessible path of travel.

Compliance Summary:

To be addressed during details design stage

10.5 Carpet

BCA states that clause 7.4.1(a) of AS 1428.1 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.

Compliance Summary:

To be addressed during details design stage

10.6 Controls

Controls such as light switches, GPOs, alarm keypads, card swipes, intercoms, etc are to be located within the accessible height range of 900-1100mm above the floor level to comply with AS1428.1(2009), Clause 14.

Compliance Summary:

To be addressed during details design stage

10.7 Kitchenette – Best Practice Recommendation

Requirements for kitchens are provided with AS1428.2, Appendix A. Recommendations for the dimensioning, layout and arrangement of kitchens are offered to maximize usability for persons with a disability. They are not mandatory / statutory requirements. Some key principles are as follows:

- a. The height of benches should be between 700-850mm affl. We note that no height will suit all users. We recommend a height of 850mm as per AS1428.2, Clause 24.1.1. At least one work surface should provide a clear width opening beneath the surface of not less than 820mm to allow for the frontal approach of a person using a wheelchair.
- b. Clearance in front of the bench of 1540mm is encouraged to facilitate a 180° turn by a wheelchair



- c. Shelves and cupboards should be installed in accordance with AS1428.2, Clause 24.2. The most usable height range for persons using a wheelchair is 230-1350mm affl.
- d. Acceptable hardware for cupboards includes touch latches and D shaped pull handles.
- e. A shallow sink should be provided.

10.8 Robes – Best Practice Recommendation

Robes within the accessible apartment to have hanging rods provided at 1350mm affl.



11 Best Practice Measures for Consideration

We recommend a best practice approach to accessibility that goes beyond minimum standards and embraces the intent of the DDA. The following measures will promote inclusion and participation for all users.

11.1 Accessways

We recommend that the accessible path of travel be a minimum 1200mm wide to comply with AS1428.2. Wider pathways will allow easy access for more people who have a permanent disability, people with a temporary disability, people pushing prams and elderly people using walking frames and the like. This is in keeping with the principles of Universal Design.

For or a wheelchair and a pram to pass 1500mm is required and for two wheelchairs to pass requires 1800mm.

11.2 Automatic Entrance Doors

The provision of automatic sliding doorways maximizes access for people with a disability. Further, delivery drivers, people carrying parcels and the elderly also benefit from the provision of automatic doors.

Automatic doors provide safe, convenient access for everyone, regardless of age or ability in keeping with universal design principles. They also offer COVID-19 mitigation measures, reducing the transfer of germs and bacteria.

11.3 Luminance Contrast

Luminance contrast assists people with a vision impairment to navigate the built environment. Mandatory items that require luminance contrast are tactile indicators, accessible toilet seats and doorways as outlined in other sections of this report. The following can also be provided as a best practice measure to ensure ease of use:

- Minimum 30% luminance contrast between floors and walls or between walls and skirting boards;
- Minimum 30% luminance contrast between the ground surface and obstructions such as columns, bollards and street furniture;
- To assist people with vision impairment locate the building entrance, consider providing features with a minimum 30% luminance contrast to the background surface such as an entry mat or awning.
- Minimum 30% luminance contrast between the floor and the entrance mat (this allows people with vision impairment to locate the entrance);
- Minimum 30% luminance contrast between walls and handrails.

11.4 Visual Indication to Glazing (additional measures)

To ensure full height glazing that can be mistaken for a doorway is highlighted, we recommend the provision of a “double decal” as per international precedent. This involves the provision of two (2) decal strips that have a minimum 30% luminance contrast to each other. As such, the background colour does not need to be relied upon.



11.5 Kitchenette

While not a statutory requirement, the provision of wheelchair accessible benches promotes inclusion. The following recommendations for the dimensioning, layout and arrangement of kitchens are offered to maximize usability for persons with a disability. Some key principles are as follows:

- The height of benches should be between 700-850mm affl noting that no height will suit all users. We recommend a height of 850mm.
- Clearance in front of the bench of 1540mm is encouraged to facilitate a 180° turn by a wheelchair
- Acceptable hardware for cupboards includes touch latches and D shaped pull handles.
- A shallow sink should be provided. Optimum bowl depth is 150mm with clearances under as per requirements for handbasins.

11.6 Seating

A proportion of accessible seating should be provided that offers provides back and arm rests.

A seat height of 450mm is optimal; with arms that extend a further 260mm +/- 40mm in height. · Armrests should not extend beyond the perimeter of the base or legs of the seat to ensure stability of the chair when rising with use of only one armrest.

Seats located adjacent to accessways should be set back at least 600mm to allow leg room without obstructing the adjacent path of travel.

11.7 Furniture and Joinery Hardware

The use of D-type pull handles to furniture and joinery that provide a minimum 35mm clearance between the rear face of the handle and the face of the drawer is generally recommended to promote accessibility and inclusion.

11.8 Wayfinding – Signage

Signs and symbols should be provided to inform all users. A signage system which informs all users is encouraged. The use of pictograms and directional cues is recommended as is the use of luminance contrast to ensure the message is clear and legible.

11.9 Terminology (Best-practice recommendation)

The use of positive terminology such as “accessible” should be used when referring to accessible facilities such as toilets and carparking. This term is preferable to “disabled” which is commonly used. This principle is to be adopted through the design and documentation of a project and on signage throughout the completed building.

11.10 Provision of “Bed- Shakers”

We recommend the provision of “bed-shakers” within accommodation buildings such as hotels or boarding houses. For a person with hearing loss who is unable to hear the emergency alarm or smoke alarm, an alerting system becomes a critical aspect in terms of emergency egress. A specialized alarm, called a 'Bed Shaker,' can be installed next to the bed, and alerts those in the accommodation using a strobe light and vibrating pad that can be placed under the mattress or pillow. The alert is activated when an accompanying traditional smoke / fire alarm sounds.



12 Conclusion

This report demonstrates that the fundamental aims of accessibility legislation are achievable within the LAHC Boarding Housing Development at 189 Riverside Drive Airs NSW. Spatial planning and general arrangements of facilities will offer inclusion for all building users.

Disability is often defined as any limitation, restriction or impairment which restricts everyday activities and has lasted or is likely to last for at least 6 months. Disabilities can be very varied. They can be physical, cognitive, intellectual, mental, sensory, or developmental. They can be present at birth or can occur during a person's lifetime. They can also be permanent or temporary. In Australia, almost one in five people – 4.3 million – have a disability with one in three having severe or profound core activity limitation.

Equity and dignity are important aspects in the provision of access to buildings for all users. With respect to people with a disability, equity and dignity are sometimes overlooked in the construction of new buildings or refurbishment works. The design approach needs to maintain a high level of equity for people with disabilities and meet the performance requirements of the BCA. The performance requirements adopt two main concepts in the provision of access for people with a disability being to the degree necessary and safe movement. Both of these concepts need to be achieved within the context of equitable and dignified access.

In this respect, a wide range of disabilities needs consideration and a compromise reached between requirements of different disability groups. Measures need to be implemented to ensure inclusion of all users, not a particular disability group in isolation.

