



lindsay perry access

Disability Access Report

Gosford Gateway

8-16 Watt Street

GOSFORD NSW

For: Jarre Pty Ltd

Ref: LP_20082



Executive Summary

Concept Design documentation for Gosford Gateway located at 8-16 Watt Street Gosford, has been reviewed against the requirements of the Building Code of Australia 2019 and The Disability Discrimination Act 1992 regarding access for people with a disability. The requirements of the Disability (Access to Premises) Standards 2010 have also been addressed.

We consider that the drawings presented for assessment, for the purposes of the concept design, generally comply with the above-mentioned statutory requirements. The following table summarises compliance status.

The report includes recommendations and comments regarding accessibility options to be considered during detailed design stages. A best practice approach to the provision of accessible features is encouraged.

The recommendations throughout this report reflect the professional opinion and interpretation of Lindsay Perry. This may differ from that of other consultants. We aim to provide practical, performance-based advice based on project specifics that will maximize access for persons with a disability to the built environment.

Lindsay Perry is a qualified Access Advisor, being an accredited within Australia (ACAA No. 136) and at the international level (GAATES No. BE-02-106-18). Lindsay Perry Access Pty Ltd carries public liability insurance, professional indemnity insurance and workers compensation insurance.

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Revision Summary

Date	Description	Revision
2 April 2020	Concept Design Access Report	1

1. Project Background

This Access Report considers the Gosford Gateway located at 8-16 Watt Street Gosford, against the requirements of the Building Code of Australia 2019 and The Disability Discrimination Act 1992 regarding access for people with a disability. The requirements of the Disability (Access to Premises) Standards 2010 have also been addressed.

The project is a masterplan for the redevelopment of a large site opposite Gosford Train Station and Bus Interchange. The development will comprise three (3) towers positioned around a central public square / piazza that accommodate uses such as commercial, hotel, retirement living, generally residential, education and healthcare.

At its highest point, the development contains twenty-seven (27) levels with an additional five (5) levels of basement carparking.



Figure 1 | Proposed Development

The site provided a walk-through link between Watt Street and Mann Street via the central public plaza offering pedestrian links throughout the city centre. The area provides an active community space and the design will encourage cultural diversity.

Access for people with disabilities is a key issue in the development of the pedestrian areas with pedestrian linkages and street activation needing to consider activity limitations of some users.

2. Reviewed Documentation

Documentation prepared by ADG Architects has been reviewed as follows:

- SSD Concept Submission
- Architectural Plans – 8-16WATT ST
- (received via Google Doc 1 April 2020)
- <https://drive.google.com/open?id=1FWqdhg928lhHVatrL52woPg2kFpF0Ko>



3. 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 Building Code of Australia 2019 (BCA) Section D3 – Access for People with Disabilities & Section D2 (in part) – thresholds and slip resistant
- The Building Code of Australia 2019 (BCA) Section E3.6 – Lifts
- Australian Standards AS1428.1(2009) Amendment 1, AS1428.2(1992), AS1428.4(2009) – Design for Access and Mobility
- 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 **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 - 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 purpose of the Premises Standards (and corresponding changes to the Building Code of Australia and state and territory building law) is:
 - to ensure that dignified, equitable, cost-effective and reasonably achievable access to buildings, and facilities and services within buildings, is provided for people with disability, and
 - to give certainty to building certifiers, developers and managers that if the Standards are complied with, they cannot be subject to a successful complaint under the DDA in relation to those matters covered by 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 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 and compliance can be met through satisfying the deemed-to-satisfy provisions or by meeting the prescribed performance requirements. Performance Solutions offer a means of compliance



with the Building Code of Australia (BCA) by demonstrating that the performance requirements of the BCA, rather than the deemed-to-satisfy provisions, have been met. This can be done through methods such as a comparative analysis or expert judgement.

- **BCA 2019** for Class 2 buildings, requires access 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.

Access for people with disabilities is also required 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.

- **BCA 2019** 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.

The number of accessible sole occupancy units is determined by the total number – a portion of which need to be accessible to people with disabilities.

- The **BCA 2019** for Class 5 buildings requires access for people with disabilities to and within all areas normally used by the occupants.
- The **BCA 2019** for Class 6 buildings requires access for people with disabilities to and within all areas normally used by the occupants.
- The **BCA 2019** for Class 9b buildings requires access for people with disabilities to and within all areas normally used by the occupants.
- **AS1428 – Design for Access and Mobility**
 - Part 1 (2009) of this standard contains access requirements that are mandatory for the provision of access for persons with a disability and is referred by the BCA.
 - Part 2 (1992) provides enhanced and best practice requirements.
 - Requirements for tactile indicators are included in Part 4.1 (2009) of this standard.
- **AS2890.6** applies to the carparking areas generally.
- **AS1735.12** contains requirements for passenger lifts for persons with a disability.



4. The Best-Practice Approach to Accessibility

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. This includes physical disability, intellectual disability, and sensory impairments such as vision and hearing. It does not include those with a short-term (temporary) disability or the continuing aging population.

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.

While accessibility legislation caters largely for mobility, there are other disability groups that need to be considered in the design of the public buildings. The following suggestions have been made to promote inclusion for all users and represent the major disability groups.

4.1 People with Non-Ambulant Disabilities

A physical disability is the presence of an impairment which may have diverse effects within and among individuals including effects on physical activities such as mobility. Being non-ambulant refers to people unable to walk. Individuals who have a non-ambulant disability will generally use a manual or electric wheelchair for mobility.

We recommend the following to cater for people with non-ambulant disabilities:

- a. Provide a continuous accessible path of travel, within the meaning of AS1428.2
- b. Provision of compliant kerb ramps, pavement joints and crossfalls
- c. Direct and generous circulation routes

4.2 People with Ambulant Disabilities

Being ambulant means being able to move or walk about. An ambulant disability identifies individuals that have their mobility affected but are still able to walk. The effects of an ambulant disability may mean dependency on equipment such as walking frames, crutches or a scooter.



We recommend the following to cater for people with ambulant disabilities:

- a. Provide resting areas, with seating, at regular intervals along the path of travel. AS1428.1 (1992) recommends seating at 60m. Seating should include back and arm rests.

4.3 People with Vision Impairment

The term vision impairment is used to describe people with any significant loss of sight. Low vision can be caused by a number of different diseases, conditions or accidents. Some eye conditions are congenital (present at or near birth), some are caused by a disease or infection and others can be caused by accidents or through exposure to damaging UV rays (sunlight) / chemicals.

We recommend the following to cater for people with vision impairment:

- a. Way-finding cues including tactile signage / maps.
- b. Limitation of reflective, polished or mirrored surfaces.
- c. The use of luminance contrast to define circulation areas
- d. Landmarks that can be used for orientational purposes – sculptures, statues, and the like
- e. Minimal use of tactile indicators.
- f. The provision of information in audible format.
- g. Introduction of shore lines and / or the provision of clear building lines to assist in shore lining.

4.4 People with Hearing Impairment

The term hearing impairment is used to describe people with a hearing loss who communicate predominately orally.

We recommend the following to cater for people with hearing impairment:

- a. The provision of assisted listening devices where information is provided in audio formats.
- b. The provision of information in a visual format.

4.5 People with Intellectual Disabilities

Intellectual disability is a disability characterized by significant limitations both in intellectual functioning and adaptive behaviour, which covers many everyday social and practical skills. This disability can originate before the age of 18 (for example Downs Syndrome) or can be acquired through brain injury, psychiatric conditions, neurological illness, etc.

Wayfinding is a major issue for people with intellectual disabilities. Effective wayfinding strategies minimise the level of cognitive functioning required to reach a destination and as such lower the incidence of disorientation and increase the feeling of inclusion. Factors to consider in designing to accommodate intellectual disabilities is that strobe lighting and intense colour have been found to trigger seizures while clam and soft lighting reduce the onset of seizures; reflective surfaces can trigger seizures; music and noise can impact levels of stress and anxiety, leading to seizures.



We recommend the following to cater for people with intellectual disabilities:

- a. The use of simple signage strategies with graphics that are consistent in design and systematically located.
- b. The use of landmarks as reference points – fountains, statues, and the like
- c. Clearly articulated circulation zones
- d. Elimination of visual clutter along circulation routes (leads to unneeded cognitive processing).
- e. The use of non-reflective building materials.

Best practice options are not mandatory but will minimise the risk of a complaint made under the DDA. The DDA requires independent, equitable, dignified access to all parts of the building for all building users regardless of disability and is the only act dealing exclusively with disability legislation. The act is a complaint-based law administered by the Human Rights Commission under the Disability Discrimination Commissioner.

The Access to Premises Advisory Notes were produced by the Disability Discrimination Commissioner and issued in 1997 to assist those people responsible for new building work including architects, developers and building owners. It advocates the implementation of AS1428.2 that provides enhanced accessibility measures. Although not required by the BCA, AS1428.2 the adoption of this standard minimises the risk of a complaint made under the DDA.

5. Access and Approach | External Areas

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 entrances along Watt Street, Mann Street and Faunce Street to the building entrances;
- from the accessible carparking area to the building entrances;
- the link between the proposed buildings;
- the pedestrian access generally through the central public plaza.



Figure 2 | Overall Site Plan



Figure 3 | Concept Landscape Plan

5.1 Approach from Street 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.

Comments:

The development provides opportunities for an active streetscape that maximises accessibility. Pedestrian access can be provided from all three street frontages to maximise opportunities for all members of the community.

5.2 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.

Comments:

Accessible carparking will be available within the basement car parking areas and we not that lift access is provided to all three buildings.



5.3 Approach between Associated Buildings

The BCA requires that a continuous accessible path of travel be provided between associated accessible buildings.

Comments:

The public plaza offers opportunities for accessible links through and within the site. We note that a walkway / ramp system is shown to overcome the existing topography of the site and enhance accessibility generally.

5.4 Pathways Generally

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

Comments:

For compliance with AS1428.1, the following access requirements apply and should be addressed during detailed design stages.

- 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.

5.5 Accessible Carparking

There will be a requirement for the provision of accessible carparking within this development. Accessible carparking is shown at each basement level in close proximity to the lifts. The overall configuration of the spaces meets current accessibility requirements.

The total number of accessible spaces will be dependent upon the allocation of the carparking spaces to the various uses within the development, as defined by BCA.

Comments:

Access requirements for the accessible carparking are as follows and should be addressed during detailed design stages.



- 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, 1:33 (for outdoor spaces). 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) –ground and vertical signage is required. Signage is to comply with AS1428.1.

5.6 Kerb Ramps

Where kerb ramps are provided to pedestrian areas within the accessible path of travel, the configuration of kerb ramps is to be in accordance with AS1428.

Comments

The following access requirements apply to kerb ramps and should be addressed during detailed design stages.

- a. Kerb ramps to comply with AS1428(2009) Amendment 1, Clause 10.7
- b. Maximum gradient of the kerb ramps to be 1:8 and maximum length to be 1520mm (providing a maximum height of 190mm).
- c. Kerb ramps to have a non-slip surface as required by AS1428.
- d. A tooled joint should be provided between parts of the kerb ramp to assist persons with a vision impairment with orientation.
- e. Kerb ramps are to be aligned across the roadway.

5.7 Step Ramps

Where step ramps are provided as a part of the accessible path of travel to the building entrances, the configuration of step ramp is to be in accordance with AS1428.

Comments:

The following access requirements apply to step ramps and should be addressed during detailed design stages.

- a. The configuration of the step ramp is to comply with the requirements of AS1428.1, Clause 10.6.

- b. Maximum gradient of the step ramp to be 1:10 and maximum length to be 1900mm (providing a maximum height of 190mm).
- c. Provide landings at the top and bottom of the step ramp to comply with AS1428.1, Clause 10.8.2.
- d. Step ramp to be enclosed on both sides (minimum height 450mm) or a kerb and handrail needs to be installed. Where a kerb is to be installed, the height of kerb rails is to be less than 65mm or greater than 150mm above the finished surface level. This is to ensure that the foot plate of a wheelchair cannot become lodged on the kerb rail.

5.8 Accessible Ramps

Accessible ramps are indicated within the concept plan documentation for pedestrian access throughout the site. They are provided in conjunction with stairs.



Figure 3 | Accessible Ramps

Comments:

Access requirements for the accessible ramp are as follows and should be addressed during detailed design stages.

- a. Ramp to comply with AS1428.1, Clause 10.3. Maximum allowable gradient of the ramp is 1:14, minimum clear width to be 1000mm and maximum length between landings to be 9m (for 1:14 gradient).
- b. Accessible ramp is to have a maximum rise of 3.6m (BCA Clause 3.11).
- c. The ramp is required to be set back a minimum 900mm from the property boundary (AS1428.1, Clause 10.3 (f)). This allows tactile indicators and handrail extensions to occur within the boundary and not protrude into the footpath area.
- d. Provide handrails, with extensions, to both sides of the ramp to comply with AS1428.1, Clause 12. Handrails to have an external diameter between 30-50mm to assist persons with a manual disability such as arthritis. Handrails are required on both sides of the ramp to cater for left and right-handed disabilities.



- e. Where ramp is not enclosed, provide kerb rails in accordance with AS1428.1. The height of kerb rails is to be less than 65mm or greater than 150mm above the finished surface level. This is to ensure that the foot plate of a wheelchair cannot become lodged on the kerb rail.
- f. Provide tactile indicators at the top and bottom of the ramps to comply with BCA Clause D3.8 and AS1428.4.

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).

Tactile indicators at the top and bottom of the ramps are usually required to be 600-800mm deep across the width of the ramp and set back 300mm from the edge of the ramp (refer AS1428.4.1, Figure A1).

5.9 Stairs

Stairs are provided as a part of the pedestrian access throughout the site. AS1428.1 has access requirements for all public access stairs and is applicable in this instance.

Comments:

Access requirements for stairs are as follows and should be addressed during detailed design stages.

- a. Stairs to comply with AS1428.1(2009), Clause 11.2.
- b. Where the stair intersects the property boundary, the stair shall be set back a minimum of 900mm so that handrail extensions and tactile indicators do not protrude into the traverse path of travel.
- c. 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 riser.
- d. Provide handrails, with extensions, to both sides of the stair (AS1428.1 (2009), Clause 11.2 & 12). Handrails to have an external diameter between 30-50mm to assist persons with a manual disability such as arthritis.

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. In this instance, the use of a double handrail is encouraged so that two users can travel in opposite directions and maintain their grip on the handrail.

- 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.

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).

Tactile indicators at the top and bottom of the stair are usually required to be 600-800mm deep across the width of the stair set back 300mm from the edge of the stair.

5.10 Walkways

AS1428.1 defines a walkway as having a gradient of 1:20,. The accessible path of travel refers to a pathway which is grade restricted and provides wheelchair access as per the requirements of AS1428.

Comments:

For compliance with AS1428.1, the following access requirements apply to the pedestrian areas and should be addressed during detailed design stages.

- a. The minimum unobstructed width of walkways is to be 1000mm (AS1428.1, Clause 6.3). A width of 1200mm is preferred for compliance with AS1428.2.
- b. Walkways are to be constructed with no lip or step at joints between abutting surfaces (a construction tolerance of 3mm is allowable, 5mm for bevelled edges -refer to Figure 6 of AS1428.1).
- c. The maximum allowable crossfall of a walkway is to be 1:40.
- d. Surface of the walkway to be slip-resistant.
- e. The ground abutting the sides of the walkway should follow the grade of the pathway and extend horizontally for 600mm. This is not required where there is a kerb or handrail provided (refer to AS1428.1 Clause 10.2).
- f. Maximum allowable gradient of the walkway is 1:20 and maximum length between landings to be 15m (for 1:20 gradient). Landings to be a minimum 1200mm in length (where there is no change in direction). For changes in direction of 180°, landings to be 1540mm in length – refer to AS1428.1(2009), Clause 10.8.



5.11 Pedestrian Crossings

There are marked pedestrian crossings to the perimeter of the site to enable a safe pedestrian link to surrounding facilities such as the train station, Kibble Park and Burns Place Park.

Comments:

Where kerb ramps are to be provided at the roadway to provide an accessible path of travel for persons with a disability across the pedestrian crossing, access requirements for the kerb ramps are contained within this Access Report.

Where the pedestrian crossing is at the same level as the roadway, provide tactile indicators to both sides of the roadway to alert persons with a vision impairment of the hazard. Tactile indicators to be 600-800mm deep across the width pedestrian crossing. Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background colour.

5.12 Threshold Ramps

To mitigate water ingress, it is sometimes necessary to contrast a threshold ramp at building entrances.

Comments:

Threshold ramps are to offer compliance with AS1428.1 (2009). Requirements are as follows and should be addressed during preparation of the construction certificate documentation to ensure compliance.

- a. Threshold ramp to comply with AS1428.1, Clause 10.5.
- b. Threshold ramp to have a maximum rise of 35mm, maximum length of 280mm and maximum gradient of 1:8.
- c. Threshold ramp to be located within 20mm of the door leaf that it services.

5.13 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.

In a building with a total floor area more than 500 sqm a pedestrian entrance which is not accessible must not be located more than 50m from an accessible pedestrian entrance.

Comments:

Automatic sliding doors are highly recommended for building entrances. as they maximize access for people with a disability to the building.

The following access requirements apply to the entrance and should be addressed during detailed design stages.



- 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.

Where double door sets are provided, one door leaf is to be capable of being held in the closed position to provide door opening widths and circulation to comply with AS 1428.1.

- c. Door threshold 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.
- 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. For glass doors, provide decals 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. Decals are to be solid per AS1428.1, Clause 6.6.
- f. For a best practice approach to access, and to assist people with a vision impairment locate the entrance, consider providing features with a minimum 30% luminance contrast to the background surface such as an entry mat or awning.

5.14 Tactile Indicators at Entrance

BCA Clause 3.8 (a) (v) states that 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 – in the absence of a suitable barrier – an accessway meeting a vehicular way adjacent to any pedestrian entrance to a building...if there is no kerb or kerb ramp at that point, except for areas exempted by D3.4.

Comments:

Recommendations:

The following access requirements apply and should be addressed during detailed design stages.

- a. Where no kerb is provided, install tactile indicators for compliance with BCA Clause D3.8 and AS1428.4.

Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background colour.

Tactile indicators to be 600-800mm deep across the width of the path of travel set back 300mm from the edge of the driveway / roadway.

6 Interior

While the development includes a variety of uses, accessibility principles in all part of the development are fundamentally the same. Access for people with disabilities will need to be provided to and within all areas normally used by the occupants. Proposed uses include retail, commercial, entertainment, conference centre, education, student living, hotel and seniors living.

6.1 Extent of Access Generally – BCA

Access for people with disabilities will generally be required to and within all areas normally used by the occupants. For the student living, hotel and seniors living, consideration will need to be given to the provision of accessible units / sole occupancy units.

Comments:

While the floor plan diagrams are at a conceptual level, we consider that access for people with disabilities has been considered in the design of the development as follows:

- There are nominated accessible carparking areas provided in close proximity to the lifts;
- Floor levels and buildings entrance reflect the natural topography of the site;
- Lifts are provided centrally within each tower, enable access to all levels of the development regardless of the proposed use;
- Where central sanitary facilities are shown, a unisex accessible sanitary compartment with accompanying ambulant cubicles are provided;

6.2 Circulation Areas

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

Comments:

Access requirements for circulation areas as follows and should be addressed during detailed design stages.

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

6.3 Doorways Generally

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

Comments:

Access requirements for doorways within the accessible path of travel are as follows and should be addressed during detailed design stages.



- 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. Doors to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5).

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.

- e. 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.

6.4 Doorways within Vestibules and Air-locks

AS1428 has requirements for circulation areas between doorways within vestibules / airlocks to enable independent access for people using a wheelchair.

Comments:

Provide a minimum dimension of 1450mm between doorways in an airlock / vestibule. Where a doorway encroaches into the space, 1450mm plus the door leaf width is required.

6.5 Doorways within Vestibules and Air-locks to Ambulant Toilet Cubicles

AS1428 has requirements for circulation areas between doorways within vestibules / airlocks as part of the path of travel to ambulant toilet cubicles to enable independent access for people using a mobility aid.

Comments:

Provide a minimum dimension of 900mm between doors. Where a doorway encroaches into the space, 900mm plus the door leaf width is required.

6.6 Accessible Service Counters (Best-practice recommendation)

The provision of an accessible section of counter at service counters will benefit people using wheelchairs or of short stature.



AS1428.2 contains access requirements for service counters which is an enhanced requirement for accessibility but is not mandatory. Compliance with this clause will offer protection from a complaint made under the DDA but is not required by the BCA.

Access requirements for the accessible reception counter, if provided, are as follows.

- a. Accessible counters to comply with AS1428.2, Clause 24.1. Height of the counter is to be between 750mm(±20) and 850mm (±20) above the finished floor level and have foot and knee clearance under the counter. The minimum width of the accessible counter and clearance below is 900mm.

6.7 Hearing Augmentation at Service Counters

For buildings that are required to be accessible, the BCA (Clause D3.7) requires hearing augmentation systems at service counters **where the user is screened from the service provider**. We note that this may not be relevant to this project.

Comments:

Access requirements hearing augmentation at service counters are as follows and should be addressed during detailed design stages if applicable.

- a. Hearing augmentation at service counters to comply with AS1428.5, Clause 3.4 which recommend that provision of an assisted listening system (ALS). Specifications for the ALS are provided in AS1428.5, Clause 4.3.
- b. The hearing augmentation system is to be identified using the International Symbol for Deafness – refer to AS1428.5, Clause 5.1 – and displayed at the reception counters.

6.8 Hearing Augmentation

For buildings that are required to be accessible, the BCA (Clause D3.7) requires hearing augmentation systems within auditoriums, meeting rooms and the like **where an inbuilt amplification system, other than the one used for emergency warning is installed**. The following systems can be used:

- An induction loop to at least 80% of the floor area;
- A system requiring the use of receivers (infrared or the like) to not less than 95%.

Comments:

Given the provision of education, entertainment and conference facilities within the development it is likely that hearing augmentation systems will be required. Access requirements hearing augmentation are as follows and should be addressed during detailed design stages.

- a. Provide hearing augmentation as required by BCA.
- b. The hearing augmentation system is to be identified using the International Symbol for Deafness.



6.9 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.

6.10 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 bevelled edges) as part of the accessible path of travel. Refer to AS1428.1(2009), Clause 7.2 for further details. This should be implemented during construction to ensure compliance.

Comments:

To be addressed during detailed design stages.

6.11 Carpet

AS1428.1 has access requirements for carpet. Where carpet is used as the floor surface, pile height should not exceed 4mm. Exposed edges will be fastened to the floor surface. Carpet trims shall have a vertical face not more than 3mm high.

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.

Comments:

To be addressed during detailed design stage.

6.12 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 and not within 500mm of an internal corner to comply with AS1428.1(2009), Clause 14. This should be implemented during construction to ensure compliance.

Comments:

To be addressed during detailed design stage.

6.13 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. Decals are to be solid. AS1428.1, Clause 6.6.

Comments:

To be addressed during detailed design stage.



6.14 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).

The use of tactile indicators should be minimized through good design.

Tactile indicators are generally required to be 600-800mm deep across the width of the hazard and set back 300mm from the edge of the hazard (refer AS1428.4.1, Figure A1). 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).

Comments:

To be addressed during detailed design stage.

6.15 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.

Comments:

To be addressed during detailed design stage.

Recommendations:

Signage to include information in Braille and tactile signage formats as outlined within BCA Specification D3.6.

- a. Braille and tactile components of the sign to be located not less than 1200mm and not higher than 1600mm affl.
- b. Signage identifying rooms with accessible features or facilities nominated in Clause D3.6 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. This is to allow use of the Braille without obstructing pedestrian traffic through the doorway.
- c. For signage identifying an exit, "exit" and the level must be stated on the sign. It must 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.



6.16 Thresholds

The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless in a building required to be accessible by Part D3, the doorway opens to a road or open space; and is provided with a threshold ramp or step ramp in accordance with AS 1428.1.

Comments:

To be addressed during detailed design stages.

6.17 Slip Resistance

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

Comments:

To be addressed during detailed design stage.

6.18 Luminance Contrast (Best-practice recommendation)

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;
- Minimum 30% luminance contrast between the ground surface and obstructions such as columns, bollards and street furniture;
- 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.

6.19 Seating (Best-practice recommendation)

A proportion of accessible seating should be provided that offers compliance with AS1428.2:1992 Clause 27.

Provide a seat height of 450mm; with side arms that extend a further 260mm +/- 40mm in height. Seating to have a back height of 750mm-790mm (AS 1428.2:1992 Clause 27.2). · Armrests must 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. · Heel space of at least 150mm with a minimum width of 350mm should be provided under seats to assist in rearward adjustments of feet when rising.

Seats located adjacent to pathways to set back at least 600mm to allow leg room without obstructing the adjacent path (AS 1428.2:1992 Clause 27.1(a)).

7 Sanitary Facilities

The BCA / Access Code for Buildings (Clause F2.4) require the provision of sanitary facilities catering for persons with a disability.

7.1 Distribution of Accessible Sanitary Facilities

The following is required to satisfy BCA requirements, noting that not all are applicable to all developments:

- A unisex accessible toilet at each level. Where more than one bank of toilets is provided at any level, at least 50% of those banks will have an accessible toilet facility.
- A unisex accessible shower is required where showers are required by F2.3. In this regard, BCA only requires accessible showers within hospitals, early childhood centres, theatres and sporting venues. Showers are not *required* within commercial, retail or industrial premises. If **required by Clause F2.3**, where one or more showers are provided, 1 accessible shower for every 10 or part thereof must be provided.

To minimize the risk of a complaint made under the DDA, we recommend that where showers are provided for general use, an accessible shower should be provided.

- At each bank of toilets where there is one or more toilets in addition to an unisex accessible sanitary compartment at the bank of toilets, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS1428.1 must be provided for use by males and females
- One unisex accessible adult change facility must be provided: in an accessible part of a shopping centre having a design occupancy of not less than 3,500 people (calculated in the basis of floor area); a sporting venue that has a design occupancy of not less than 35,000 spectators or contains a swimming pool that has a perimeter greater than 70m; a museum or art gallery having a design occupancy of not less than 1,500 patrons; a theatre or the like having a design occupancy of not less than 1,500 patrons; a passenger use area of an airport terminal building providing public transport services.

Comments:

Where sanitary facilities are shown within the development, a unisex accessible sanitary compartment with accompanying ambulant cubicles are provided.



7.2 Unisex Accessible Toilets

A unisex accessible toilet is required at each level of a building where sanitary facilities are provided.

Comments:

Access requirements for accessible toilet facilities are as follows and should be addressed during detailed design stages.

For compliance with AS1428.1(2009), the minimum room dimensions of the accessible toilet are to be 1900x2300mm plus additional area for the handbasin. These are **CLEAR** dimensions. Provision for wall linings needs to be considered.

Where more than one accessible toilet is provided, a mirrored arrangement should be adopted to allow for the option of left and right handed use.

- a. Accessible toilet facilities to be unisex facilities for compliance with the BCA.
- b. Unisex accessible facilities to comply with AS1428.1(2009), Clause 15 including set-out of fittings and fixtures, circulation areas and doorways.

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. A minimum clear dimension of 1400mm is required from the toilet pan to any other fixture (see figure 43).

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.

Grabrails to be provided at the side and rear of the toilet in compliance with AS1428.1 at a height of 800mm.

- c. Taps to have lever handles, sensor plates or similar controls. For lever taps, a minimum 50mm clearance to be provided to adjacent surfaces.
- d. 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.
- e. Provide a backrest to accessible toilets to comply with AS1428.1, Clause 15.2.4.
- f. Accessible toilet to be identified using the International Symbol for Access. Pictograms / lettering to have a minimum 30% luminance contrast to the background colour. Signage is to comply with AS1428.1, Clause 8 and include information in tactile and Braille formats (as required by the BCA).



- g. Doorways 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. Adequate circulation area at the latch side of the doorway is required to allow independent access to the facility – for details refer to AS1428.1, Figure 31.
- h. Door hardware to be located within the accessible height range of 900-1100mm above the finished floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.
- i. Controls such as light switches within the accessible toilet facilities to be in the accessible height range of 900-1100mm above the finished floor level to comply with AS1428.1(2009), Clause 14. Controls should be located not less than 500mm to a corner.
- j. Where more than one unisex accessible toilet is provided within the building, they should be in a mirrored configuration to allow for both left and right handed use.

7.3 Unisex Accessible Shower Facility

A development of this nature will typically include the provision of accessible showers.

Comments:

Access requirements for accessible showers are as follows and should be addressed during detailed design stages.

- a. 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.
- b. Floor waste to be positioned 550mm and 580mm from enclosing shower walls as illustrated in AS1428.1 (2009), Figure 47a.
- c. 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.
- d. Circulation space in front of the shower is to be provided as illustrated in AS1428.1, Figure 47.

7.4 Cubicles for People with an Ambulant Disability

Ambulant cubicles are required for male and female toilet areas in addition to a unisex accessible sanitary compartment.

Comments:

The following should be addressed during detailed design stages.



- a. Options for the configuration of the ambulant cubicles are illustrated in AS1428.1, Figure 53.
- b. Provide an ambulant cubicle within each bank of male and female toilets in compliance with AS1428.1, Clause 16.
- c. Minimum width of ambulant cubicles to be 900-920mm.
- d. Provide grabrails to ambulant cubicles to comply with AS1428.1, Clause 17 and Figure 53A.
- e. Doors to have a minimum opening width of 700mm and comply with AS1428.1, Figure 53B.
- f. Provide signage to the ambulant cubicles to comply with AS1428.1, Clause 16.4.

7.5 Adult Change Facility

Where an adult change facility is required within a building per BCA Clause F2.9, it must be constructed in accordance with Specification F2.9. Note that this is **in addition to the required unisex accessible toilet facilities**. The adult change facility cannot be combined with any other sanitary compartment.

Comments:

Adult change facilities are required in the following developments:

Each accessible adult change facility must—

- be constructed so that all required equipment and fixtures are contained within the same room; and
- if it is a unisex facility, be located such that it can be entered without crossing an area reserved for one sex only.

In each accessible adult change facility, the following must be provided per Specification F2.9:

- A hoist complying with Clause 3.
- A toilet pan, seat, backrest and grabrails complying with Clause 4.
- A washbasin and tap complying with Clause 5.
- Fixtures and fittings as specified in Clause 6.
- A change table complying with Clause 7.
- Changing rails complying with Clause 8.
- An automated entrance door complying with Clause 9.
- Signage complying with Clause 10.
- Operating instructions for the hoist and change table in accordance with Clause 11.
- Circulation spaces complying with Figure 2.



8 Vertical Circulation

The vertical circulation throughout the development is primarily lifts.

8.1 Lifts

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.
Minimum internal dimensions of the lift car to be 1400mm wide x 1600mm deep BCA, Clause E3.6 – for a lift that travels over 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.

8.2 Platform Lifts

The BCA has limitations for the use of this type of lift as follows. It must not travel more than 12m. Confirmation should be sought from the manufacturers to confirm compliance with AS1735.16 prior to installation of platform lifts.

Basic access requirements for Part 16 lifts are as follows (BCA Table E3.6a).

- a. Car size should be a minimum of 1100x1400mm to accommodate a wheelchair.
- b. Clear opening of the lift door to be minimum 900mm.



- c. Provide a handrail complying with the provisions for a mandatory handrail in AS1735.12.
- d. 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.

8.3 Accessible Ramps

AS1428.1 defines an accessible ramp as having a gradient between 1:19 and 1:14. Access requirements for accessible ramps are as follows and should be addressed during detailed design stages.

- a. Ramps to comply with AS1428.1, Clause 10.3.
- b. Maximum allowable gradient of the ramp is 1:14, minimum clear width to be 1000mm and maximum length between landings to be 9m (for 1:14 gradient).
- c. Where the ramp intersects with an internal corridor, the ramp shall be set back in accordance with AS1428.1 Figure 16 to allow adequate space for handrail extensions and tactile indicators.
- c. Provide handrails, with extensions, to both sides of the ramp to comply with AS1428.1, Clause 12. Handrails to have an external diameter between 30-50mm to assist persons with a manual disability such as arthritis. Handrails are required on both sides of the ramp to cater for left and right handed disabilities.
- d. Where ramp is not enclosed, provide kerb rails in accordance with AS1428.1. The height of kerb rails is to be less than 65mm or greater than 150mm above the finished surface level. This is to ensure that the foot plate of a wheelchair cannot become lodged on the kerb rail.
- e. Provide tactile indicators at the top and bottom of the ramps 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.

8.4 Stairs

AS1428.1 has access requirements for all stairs other than fire isolated egress stairs and is applicable for all general use stairs. Access requirements for public access stairs are as follows and should be addressed during detailed design stages.

- 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 AS2418.1 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).

Tactile indicators at the top and bottom of the stair to be 600-800mm deep across the width of the stair set back 300mm from the edge of the stair.

8.5 Fire Isolated Egress Stairs

Stairs are provided throughout the development to enable egress in the event of a fire.

Designated fire egress stairs are not considered public access stairs and therefore are not subject to the requirements of AS1428.1 with the exception of contrasting nosing strips and handrail requirements. These are required per AS1428.1.

Access requirements for fire isolated egress stairs are as follows and should be addressed during detailed design stages.

- a. 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.
- b. Stair nosings shall not project beyond the face of the riser.



- c. Handrails in a required exit serving an area required to be accessible, are to be designed and constructed to comply with AS 1428.1, Clause 12 (BCA D2.17).

Note: handrails within fire-isolated stairs are required to one side only and do not require the provision of handrail extensions. They must have a diameter between 30-50mm; be between 865-1000mm high above the nosing; be a consistent height along the length of the stair – no vertical sections; have a clearance to the wall not less than 50mm; have no obstruction along the length of its passage; and have an end that turns through 180, turns to the ground, or returns fully to an end post.

We recommend the use of the staggered stair to maintain a constant height along the length of the handrail per AS1428.1 (2009), Clause 12.

8.6 Fire Egress for Persons with a Disability

The Access Code for Buildings states that in the event of an emergency, provision must be made for people with vision impairment to locate the exit path (Clause H2.14).

We also recommend that as a part of the emergency evacuation plan for the building, egress for persons requiring assistance be addressed. The provision of places of comparative safety within fire isolated passages would be advantageous to persons with a disability. This consists of a waiting area large enough to accommodate a wheelchair where persons can wait for assistance from emergency services. The waiting area should be identified with appropriate signage that incorporates the International Symbol for Access.

9 Accessible Sole Occupancy Units

Within the development, there is both student living areas and a hotel. Accessible sole occupancy units / rooms will be required within each of these areas.

The following access requirements apply to the accessible rooms and should be addressed during preparation of the construction certificate documentation to ensure compliance.

9.1 Doorways

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

- a. Doorways within the accessible path of travel to have a minimum clear opening width of 850mm (AS1428.1(2009), Clause 13.2).
- 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. Doors to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5)

9.2 Bathroom

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

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

A minimum clear dimension of 1400mm is required from the toilet pan to any other fixture (see figure 43).

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.

Grabrails to be provided at the side and rear of the toilet in compliance with AS1428.1 at a height of 800mm.

The minimum dimensions of the accessible showers 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.



Circulation space in front of the shower is to be provided as illustrated in AS1428.1, Figure 47 – generally a space 1600x1250 is required dependent on arrangement of fixtures.

Shower to be fitted within grabrails and tapware as outlined in AS1428.1.

- b. Taps to have lever handles, sensor plates or similar controls. For lever taps, a minimum 50mm clearance to be provided to adjacent surfaces.
- c. 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.
- d. Provide a backrest to accessible toilets to comply with AS1428.1, Clause 15.2.4.
- e. Doorways 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. Adequate circulation area at the latch side of the doorway is required to allow independent access to the facility – for details refer to AS1428.1, Figure 31.
- f. Door hardware to be located within the accessible height range of 900-1100mm above the finished floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.
- g. Controls such as light switches within the accessible toilet facilities to be in the accessible height range of 900-1100mm above the finished floor level to comply with AS1428.1(2009), Clause 14. Controls should be located not less than 500mm to a corner.

9.3 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. 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. Optimum bowl depth is 150mm with clearances under as per requirements for handbasins. The design of the sink should allow knee and foot clearance to the underside of the bowl for a clear width of no less than 900mm.

9.4 Robes – Best Practice Recommendation

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

9.5 Circulation Areas – Best Practice Recommendation

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

9.6 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 bevelled edges) as part of the accessible path of travel. Refer to AS1428.1(2009), Clause 7.2 for further details. This should be implemented during construction to ensure compliance.

9.7 Carpet

AS1428.1 has access requirements for carpet. Where carpet is used as the floor surface, pile height should not exceed 4mm. Exposed edges will be fastened to the floor surface. Carpet trims shall have a vertical face not more than 3mm high.

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.

9.8 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. This should be implemented during construction to ensure compliance.



10 Conclusion

This report demonstrates that the fundamental aims of accessibility legislation are achievable within the Gosford Gateway. 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.

This report is limited to items within drawings listed in this report only. Future alterations and additions to the building will render the recommendations in this report null and void as we cannot guarantee continued compliance where changes to the building fabric are made.

All dimensions quoted throughout this report and within Australian Standards are CLEAR dimensions, not structural. This needs to be considered in the preparation of the construction certificate documentation to account for wall linings and the like.

Best practice options, as noted in the report, are not mandatory but will minimise the risk of a complaint made under the DDA.

It is estimated that one in five people in Australia have a long-term disability (Australian Bureau of Statistics – 2015). This includes physical disability, intellectual disability, and sensory impairments such as vision and hearing. It does not include those with a short-term (temporary) disability or the continuing aging population.



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