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21 May 2018

## DISABILITY ACCESS REPORT



### **Proposed Residential Flat Building**

89 John Whiteway Drive,  
GOSFORD NSW

For:  
Pinnacle Construction Group

Our ref:  
18018



## Executive Summary

Development application documentation for the proposed Residential Flat Building located at 89 John Whiteway Drive Gosford has been reviewed against the requirements of the Building Code of Australia 2016 and The Disability Discrimination Act 1992 with regard to access for persons with a disability. The requirements of the Disability Standards for Access to Premises (Buildings), the Access Code for Buildings and Central Coast Council DCP Accessibility Requirements have also been addressed.

We consider that the drawings presented for assessment, for the purposes of a development application, generally comply with The Building Code of Australia 2016 and the intent of the Disability Discrimination Act 1992, subject to the recommendations made in this report being implemented during the construction process.

The following table summarises compliance status.

Item No.	Description	Compliance Status
<b>Access + Approach</b>		
4.1	Street Boundary to Entrance	Capable of compliance
4.2	Carparking to Entrance	Capable of compliance
4.3	Link between Buildings	Capable of compliance
4.4	Pathways	Capable of compliance
4.5	Accessible Carparking	Capable of compliance
4.6	Accessible Ramps	Capable of compliance
4.7	Stairs	Capable of compliance
4.8	Walkways	Capable of compliance
4.9	Entrances	Capable of compliance
<b>Interior Common Areas</b>		
5.1	Extent of access generally	Compliant
5.2	Circulation Areas	Compliant
5.3	Doorways	Capable of compliance
5.4	Exempt Areas	Compliant
5.5	Floor Finishes	To be addressed in detailed design.
5.6	Carpet	To be addressed in detailed design.
5.7	Controls	To be addressed in detailed design.
5.8	Visual indication to glazing	To be addressed in detailed design.
5.9	Signage	To be addressed in detailed design.
5.10	Thresholds	To be addressed in detailed design.
5.11	Slip Resistance	To be addressed in detailed design.
5.12	Luminance Contrast	Recommendation only
<b>Accessible Sanitary Facilities</b>		
6.1	Accessible Toilets	To be addressed in detailed design
6.2	Ambulant Toilet Cubicles	To be addressed in detailed design if applicable
<b>Vertical Circulation</b>		
7.1	Lifts	Capable of compliance
7.2	Fire Egress Stairs	Capable of compliance
7.3	Fire Egress for People with Disabilities	Recommendation only
<b>Adaptable Housing</b>		
8	Adaptable Housing	Capable of compliance
<b>Livable (Universal) Housing</b>		
9	Livable Housing – Silver Level	Capable of compliance



Construction is to be in accordance with the recommendations made in this access report to ensure compliance. Where construction differs from the drawings, further assessment will be required to ascertain compliance.

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. A high level of maintenance is recommended to ensure continued compliance with access legislation.

**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.

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 member of The Association of Consultants in Access, Australia – membership number 136. Lindsay Perry carries public liability insurance, professional indemnity insurance and income protection.

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**Revision Summary**

Date	Description	Revision
3 May 2018	draft Disability Access Report	0
21 May 2018	draft Disability Access Report	1



## 1. Project Background

This Access Report considers the proposed Residential Flat Building located at 89 John Whiteway Drive Gosford, against the requirements of the Building Code of Australia 2016 (BCA), Disability (Access to Premises) Standards 2010 and The Disability Discrimination Act 1992 (DDA), with regard to access for persons with a disability.

The project is a residential flat building containing two hundred and ninety-nine (299) apartments within five (5) buildings over seven (7) levels with additional basement carparking. The pedestrian approach to the development is from the John Whiteway frontage. Access between the buildings is provided at the podium level with communal facilities being provided within Block B.

The development is to be constructed in two (2) stages. The first stage comprised Blocks A, B and C with the remaining two blocks to be constructed during Stage 2.

Documentation prepared by ADG Architects has been reviewed as follows:

- DA00 A Cover Sheet
- DA01 A Concept Data
- DA01-2 A Concept Data
- DA001 A Site Location
- DA002 A Site Analysis
- DA100 A Site Plan
- DA101 A Staging Plan
- DA102 A Site Photos
- DA200 B Basement Plan
- DA201 B Podium / Ground Floor Plan
- DA202 B Level 1 Plan
- DA203 B Level 2 Plan
- DA204 B Level 3 Plan
- DA205 B Level 4 Plan
- DA206 B Level 5 Plan
- DA207 B Level 6 Plan
- DA208 B Roof Plan
- DA300 A Elevations – Block A, B and E
- DA301 A Elevations – Block C and D
- DA400 A Sections 1
- DA401 A Sections 2
- DA702 A Typical 2 Bed Type 2C (Universal)
- DA711 A Pre and Post Adaptable Unit
- L 100 A Landscape Masterplan

It is estimated that one in five people in Australia have a long-term disability (Australian Bureau of Statistics – 2003). 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.

Lindsay Perry Access have adopted a best practice, performance based approach to access. Assessment is based on project specifics and takes into account various factors such as site topography, heritage and existing site conditions.



## 2. Council Requirements

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The site lies within the Central Coast Council local government area. Gosford City Council DCP 2013 Part 4 - Centres is applicable to the development as the site is within the Gosford Centre.

Accessibility requirements of the DCP Part 4 are as follows:

### 4.1.4.2 Pedestrian Access and Mobility

Any new development must be designed to ensure that safe and equitable access is provided to all, including people with a mobility problems and disabilities. This is of particular concern in Gosford where a significant percentage of the population is 55 years or older and the topography can be difficult to negotiate on foot.

#### Objectives

- To provide safe and easy access to buildings to enable better use and enjoyment by people regardless of age and physical condition, whilst also contributing to the vitality and vibrancy of the public domain.
- To ensure buildings and places are accessible to people with a disability.
- To provide a safe and accessible public domain.

#### Controls

1. Main building entry points should be clearly visible from primary street frontages and enhanced as appropriate with awnings, building signage or high quality architectural features that improve clarity of building address and contribute to visitor and occupant amenity.
2. The design of facilities (including car parking requirements) for disabled persons must comply with the relevant Australian Standard (AS 1428 Pt 1 and 2, or as amended) and the Disability Discrimination Act 1992 (as amended).
3. Barrier free access is to be provided to not less than 20% of dwellings in each development and associated common areas.
4. The development must provide at least one main pedestrian entrance with convenient barrier free access in all developments to at least the ground floor.
5. The development must provide continuous access paths of travel from all public roads and spaces as well as unimpeded internal access.
6. Pedestrian access ways, entry paths and lobbies must use durable materials commensurate with the standard of the adjoining public domain (street) with appropriate slip resistant materials, tactile surfaces and contrasting colours.

### 4.1.6.2 Housing Choice and Mix

A choice of apartment types and mix of sizes in the city centre caters for a variety of socioeconomic groups.

#### Objectives

- Ensure that residential development provides a mix of dwelling types and sizes to cater for a range of household types.
- Ensure that dwelling layout is sufficiently flexible for residents' changing needs over time.
- Ensure a sufficient proportion of dwellings include accessible layouts and features to accommodate changing requirements of residents.
- Ensure the provision of housing that will, in its adaptable features, meet the access and mobility needs of any occupant.



### Controls

In addition to the provisions for apartment mix as per Part 3 of the Residential Flat Design Code, the following additional controls apply.

1. For residential apartment buildings and multi-unit housing on land with less than 20% slope, 15% of all dwellings (or at least one dwelling – whichever is greater) must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes “preadaptation” design details to ensure visitability is achieved.
2. Where possible, adaptable dwellings shall be located on the ground floor, for ease of access. Dwellings located above the ground level of a building may only be provided as adaptable dwellings where lift access is available within the building. The lift access must provide access from the basement to allow access for people with disabilities.
3. The development application must be accompanied by certification from an accredited Access Consultant confirming that the adaptable dwellings are capable of being modified, when required by the occupant, to comply with the Australian Adaptable Housing Standard (AS 4299-1995).
4. Car parking and garages allocated to adaptable dwellings must comply with the requirements of the relevant Australian Standard for disabled parking spaces.

*The development has been designed to reflect the accessibility requirements of the Gosford City Council DCP 2013 Part 4 – Centres. Adaptable housing has been provided within the development.*

### 3. Legislation

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The requirements of BCA 2016 have been adopted in the preparation of this access report. 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 2016 (BCA) Section D3 – Access for People with Disabilities
- The Building Code of Australia 2016 (BCA) Section D2 (in part) – thresholds and slip resistant
- The Building Code of Australia 2016 (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 AS4299 – Adaptable Housing
- Australian Standard AS1735.12 – Lifts, escalators and moving walks: Lifts for persons with a disability
- State Environmental Planning Policy 65 – Residential Design Quality of Residential Apartment Development (SEPP65) – Apartment Design Guide – July 2015
- The Livable Housing Design Guidelines – Edition 4

The accessibility of the proposed development has been considered in regard to the relevant access legislation. 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 DDA is a complaint based law and is administered by the Human Rights and Equal Opportunities Commission

- The **DDA Premises Standards** include an **Access Code** written in the same style as the Building Code of Australia. That is, the Access Code has a number of Performance Requirements that are expressed in broad terms and references to a number of technical Deemed-to-Satisfy Provisions. The Deemed-to-Satisfy provisions refer in many cases to technical details in Australian Standards such as AS1428.1, the primary Australian Standard relating to building access for people with a disability.
- **BCA 2016** for Class 2 buildings, requires that common areas of the building be accessible from at least one floor of sole occupancy units and to the entrance doorway of each sole occupancy located at that level. It also requires access to and within not less than each type of room or space for use in the common areas of the development.
- **SEPP 65 Residential Design Quality of Residential Apartment Development (SEPP65) – Apartment Design Guide 1.**

This policy aims to deliver a better living environment for the residents now choosing this form of housing, and enhance our streetscapes and our neighbourhoods across the State. It does this by establishing a consistent approach to the design and assessment of apartments and the way they are assessed by councils.

The Apartment Design Guide, which forms a part of the policy, explains how to apply SEPP 65's design principles to the design of new apartments. For apartment development applications lodged from 19 June 2015 and determined after 17 July 2015, the Apartment Design Guide applies. This includes a requirement for livable housing. Developments are to provide a minimum 20% of apartments that achieve silver level for livable housing.

- **AS1428 – Design for Access and Mobility** requires the inclusion of a continuous accessible path of travel from the street footpaths and carparking areas to the entry and facilities within the building. It also includes requirements for doorways, stairs, toilets, etc.

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. Amendment 1 of this document was released in 2010.

Part 2 (1992) provides enhanced and best practice requirements. While AS1428.2 is not mandatory, the inclusion of its requirements such as accessible reception counters reduce the risk of a complaint made under the DDA. AS1428.2 is referenced by the Human Rights and Equal Opportunities Commission Advisory Notes for Access to Premises that accompanies the DDA.

Requirements for tactile indicators are included in Part 4.1 (2009) of this standard.

Part 5 (2010) provides requirements for Communication for people who are deaf or hearing impaired but is not referenced by the BCA.

- **AS4299 – Adaptable Housing** provides housing for different community groups with different needs. It involves a move away from special accommodation for persons with a disability, avoiding social dislocation.



- **AS2890.6** applies to the carparking areas generally.
- **AS1735.12** contains requirements for passenger lifts for persons with a disability.
- The **Livable Housing Design Guidelines** have been developed by industry and the community to provide assurance that a home is easier to access, navigate and live in, as well more cost effective to adapt when life's circumstances change. They include Silver, Gold and Platinum Level which cater to differing levels of accessibility.

## **4. Access and Approach**

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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 from the street boundary along John Whiteway Drive, from the accessible carparking areas to the main entrances and between the residential flat buildings at the podium level.

### **4.1 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.

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**Compliance Summary:**

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Capable of compliance

### **4.2 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.

Accessible carparking is provided within the basement levels with lifts provided for access to all levels of the development.

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**Compliance Summary:**

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Capable of compliance

### **4.3 Approach between Buildings**

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

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**Compliance Summary:**

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Capable of compliance.

Landscape drawings indicate accessible ramps as part of the connection between buildings and common areas.



#### 4.4 Pathways Generally

An accessible path of travel is required from the accessible carparking areas to the main entrance of each building / tenancy and from the allotment boundary to the main entrances. The accessible path of travel refers to a pathway which is grade restricted and provides wheelchair access as per the requirements of AS1428.

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**Compliance Summary:**

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Capable of compliance

**Recommendations:**

For compliance with AS1428.1, the following access requirements apply and should be addressed during preparation of the construction certificate documentation to ensure compliance.

We confirm that the pedestrian areas appear to be conducive to the provision of access for persons with a disability.

- 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.

A passing space shall have a minimum width of 1800 for a minimum length of 2000mm. Refer to AS1428.1, Clause 6.4.

#### 4.5 Carparking

For a Class 2 building, the BCA has no specific requirements for the provision of accessible carparking.

Gosford City Council requires that 10% of the required resident and visitor carparking be accessible.

Carparking is provided at the basement levels of the development with lift access to all levels. There are accessible carparking spaces nominated at the basement and ground floor levels. The carparking schedule included within the DA drawing set nominates that 60 visitor spaces are to be provided.

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**Compliance Summary:**

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Capable of compliance – general configuration of accessible carparking is in keeping with current requirements of AS2890.6.

**Recommendations:**

Access requirements for the accessible carparking are as follows and should be addressed during preparation of the construction certificate documentation to ensure compliance.

- 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. For a single space, a total width of 4800mm is required.
- 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.

**4.6 Accessible Ramps**

Accessible ramps are indicated as a means of access to the Stage Two building works and links between buildings, having a nominated gradient of 1:14.

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**Compliance Summary:**

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Capable of compliance – configuration in keeping with access requirements.

**Recommendations:**

Access requirements for the accessible ramp are as follows and should be addressed during preparation of the construction certificate documentation to ensure compliance.

- a. Ramps 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 ramps to have a maximum rise of 3.6m (BCA Clause 3.11).
- c. The ramps are 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 ramps are 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 to be 600-800mm deep across the width of the ramp and set back 300mm from the edge of the ramp (refer AS1428.4, Figure A1).

Tactile indicators will be required at the mid landing where the stair intersects as the handrail is not continuous at this point. Where handrail is continuous along both sides of the landing, tactile indicators are not required.

#### **4.7 Stairs**

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

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##### **Compliance Summary:**

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Capable of compliance subject to further design development.

##### **Recommendations:**

Access requirements for stairs are as follows and should be addressed during preparation of the construction certificate documentation to ensure compliance.

- 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 to be 600-800mm deep across the width of the stair set back 300mm from the edge of the stair.

#### **4.8 Walkways**

Walkways are provided as a part of the pedestrian access between buildings on the site. AS1428.1 defines a walkway as having a gradient of 1:20, which is provided in this instance. The accessible path of travel refers to a pathway which is grade restricted and provides wheelchair access as per the requirements of AS1428.

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##### **Compliance Summary:**

Capable of compliance

##### **Recommendations:**

For compliance with AS1428.1, the following access requirements apply to the pedestrian areas and should be addressed during preparation of the construction certificate documentation to ensure compliance.

- 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.

#### **4.9 Entrances**

The entrances to each of the apartment blocks comprises double swinging doors. At the basement level, entrances are directly into the lifts. All blocks are entranced via the central common areas. Access from the street footpath is available between Blocks A and B.

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##### **Compliance Summary:**

Capable of compliance



**Recommendations:**

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

- 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. Doors 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 – refer to Figure 6.
- d. Doors 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. AS1428.1, Clause 6.6.
- f. 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.
- g. 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 Interior – Common Areas**

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The interior of the building includes foyers, corridors and lift lobby areas that are common to all residents. Accessibility requirements are applicable to these areas – this does not include individual apartments.

Common areas are provided at the roof level of Blocks B, D & E and include a pergola area, lobby and toilet. These areas are also subject to the following accessibility requirements.

### **5.1 Extent of Access Generally – BCA**

Accessibility provisions of the BCA have generally been met.

Access is provided to and within the common area and to the door of individual sole occupancy units. An accessible path of travel is also provided to the residential communal areas.

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**Compliance Summary:**

Compliant

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## 5.2 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.

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**Compliance Summary:**

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Compliant – corridors have been designed to address these requirements.

## 5.3 Doorways Generally

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

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**Compliance Summary:**

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Capable of compliance.

**Recommendations:**

Access requirements for doorways within the accessible path of travel are as follows and should be addressed during preparation of the construction certificate documentation to ensure compliance.

- 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).
- 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.

## 5.4 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.

In this instance, the following areas are considered exempt areas:



- Plant and services area.
- Main Garbage Room
- Recycling Room
- Caretaker room

### 5.5 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 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.

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**Compliance Summary:**

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To be addressed during detailed design stage.

### 5.6 Carpet

AS1428.1 has access requirements for carpet. Where **new** 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.

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**Compliance Summary:**

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To be addressed during detailed design stage.

### 5.7 Controls

New 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.

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**Compliance Summary:**

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To be addressed during detailed design stage.

### 5.8 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. Decals are to be solid. AS1428.1, Clause 6.6.

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**Compliance Summary:**

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To be addressed during detailed design stage.

### 5.9 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.

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**Compliance Summary:**

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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.

**5.10 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.

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**Compliance Summary:**

To be addressed in detailed design stages.

**5.11 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

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**Compliance Summary:**

To be addressed during detailed design stage.



## 6. Sanitary Facilities

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

- 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

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### Compliance Summary:

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This section is applicable to the sanitary facilities to be provide within the communal areas and should be addressed during subsequent design stages.

### 6.1 Unisex Accessible Toilets

A unisex accessible toilet will be required within each of the communal areas where toilets are provided.

#### Recommendations:

Access requirements for the accessible toilet facilities are as follows and should be addressed during preparation of the construction certificate documentation to ensure compliance. 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.

## **6.2 Cubicles for People with an Ambulant Disability**

Where male and female toilets are to be provided in addition to a unisex accessible toilet within the residential common area, cubicles for people with ambulant disabilities will be required.

### **Recommendations:**

Options for the configuration of the ambulant cubicles are illustrated in AS1428.1, Figure 53.

The following should be addressed during preparation of the construction certificate documentation to ensure compliance.

- a. Provide an ambulant cubicle within each bank of male and female toilets in compliance with AS1428.1, Clause 16.
- b. Minimum width of ambulant cubicles to be 900-920mm.



- c. Provide grabrails to ambulant cubicles to comply with AS1428.1, Clause 17 and Figure 53A.
- d. Doors to have a minimum opening width of 700mm and comply with AS1428.1, Figure 53B.
- e. Provide signage to the ambulant cubicles to comply with AS1428.1, Clause 16.4.

## **7. Vertical Circulation**

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Lifts provide the main access between levels of the building. Two lifts are provided within the development. Stairs within the building are fire egress stairs.

### **7.1 Lifts**

Two lifts are provided within each apartment block and we note that this offers a best-practice lift redundancy strategy for the development. The size of the lifts appears to satisfy the requirements of AS1735.12.

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#### **Compliance Summary:**

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Capable of compliance

#### **Recommendations:**

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 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.



## 7.2 Fire 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.

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### Compliance Summary:

Capable of compliance

### Recommendations:

- 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).

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.

## 7.3 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.

## 8. Adaptable Housing

An adaptable housing unit is defined by AS4299 as follows:

*A housing unit which is designed and constructed to meet the performance requirements stated in the standard. It is designed in such a way that it can be modified easily in the future to become accessible to both occupants and visitors with disabilities of progressive frailties.*

There are requirements for both the pre-adaption state and post-adaption states. In the pre-adapted state, an adaptable unit is required to be “visitable” and these requirements are applicable at the time of construction. Other elements are to be provided on adaption of the unit.

Note that the documentation needs to demonstrate that compliance in the post-adapted state is achievable.

At time of construction, the following are required:



- An accessible entrance per AS1428.1 (2009).
- A visitable toilet at the entry level per AS4299
- An accessible path of travel from the entrance to the visitable toilet within the meaning of AS1428.1 (2009)
- An accessible path of travel from the entrance to the living area within the meaning of AS1428.1 (2009)

At **time of adaption**, the following are required:

- Compliance with AS4299 Appendix A – essential criteria. This includes kitchen layouts, laundry layouts, carparking, etc

The following requirements for adaptable apartments are based on AS4299, Section 4 – Design of the Housing Unit, essential criterion as listed in Appendix 1, AS4299 Schedule of Features for Adaptable Housing. Compliance with the following features will achieve a Class C adaptable housing unit.

**Within the proposed development, a total of forty-four (44) adaptable apartments are provided which represents 15% of the total number of apartments per Council DCP requirements. Both pre and post Adaption layouts have been reviewed and are capable of compliance with AS4299.**

## Pre-Adaption Requirements:

### 8.1 Accessible Entrance

Entrances to adaptable housing units are to comply with AS4299 Clauses 4.3.1 and 4.3.2. AS4299 which require that the entry doors comply with AS1428.2 **at time of construction**. The minimum clear opening width of the doorway is to be 850mm and allow for wheelchair maneuverability (provide minimum 1550mm long area in front of the doorway). Entrances to the adaptable housing units to be weatherproofed.

Door hardware is to comply with AS1428. In this regard, entry door hardware is to be in the accessible height range of 900-1100mm above finished floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.

---

#### **Compliance Summary:**

Compliant – the entry doorway to the adaptable apartments offers areas conducive to an accessible entrance.

#### **Recommendations:**

We recommend the use of a 920 door leaf to achieve adequate clear width.

### 8.2 Visitable Toilet

Each adaptable housing unit is required to have a toilet on the entry floor that is a visitable toilet within the meaning of AS4299 **at time of construction**. The toilet is to be installed in compliance with AS1428 (correct set-out distance from fixed walls) and have the capacity to accommodate a grabrail that complies with Figure 4.5 of AS4299. Slip resistant floors are also required.



A visitable toilet is defined as a toilet which has a space of minimum 1250x900mm in front of the toilet clear of door swings.

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**Compliance Summary:**

Compliant – the bathroom within the adaptable apartments offers a visitable toilet arrangement.

### **8.3 Accessible Path of Travel from Entry to Visitable Toilet & Living Area**

The performance requirements of AS4299 require the provision of an accessible path of travel, within the meaning of AS1428.1 (2009), from the entrance to the visitable toilet and a living area. Door circulation and corridor widths need to be designed to reflect this requirement.

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**Compliance Summary:**

Compliant

## **Post Adaption Requirements:**

### **8.4 Private Car Accommodations**

Private carparking spaces for adaptable housing units shall be large enough to enable a person with a wheelchair to get in and out of both the car and the parking space. A width of 3.8m is necessary to enable the driver to alight, open the passenger door and assist a person with a disability into a wheelchair.

Carparking spaces for the adaptable units to have a minimum floor plan dimension of 3.8m x 6.0 (AS4299, Clause 3.7.2). A clear vertical clearance of 2.5m is desirable.

The introduction of AS2890.6 in 2009 offers an approach to the provision of accessible carparking that can be easily accommodated in a standard carparking layout. It offers an accessible space 2400mm wide with a circulation area 2400mm wide adjacent to the space (4800mm for a single space). The circulation area can be “shared” between two accessible spaces (7200mm for two spaces). This offers carparking spaces in excess of the minimum requirement of AS4299 (3800mm).

The abovementioned configuration has been adopted in the provision of carparking for the adaptable unit. With regard to the strata plan, the shared space could become a part of the common title to ensure it remains a circulation area.

---

**Compliance Summary:**

Compliant

Carparking for the adaptable apartments has been provided within the basement carparking areas. The configuration is in keeping with AS2890.6.

### **8.5 Letterboxes**

Letterboxes to adaptable housing units should be located on a hard standing area connected by an accessible path of travel to the adaptable housing unit.

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**Compliance Summary:**

BCA



**Recommendations:**

Letterboxes to adaptable apartments should be provided within the accessible height range of 900-1100mm affl.

### **8.6 Doorways**

Doorways throughout adaptable housing units are required to have a clear opening width of 820mm. **At time of construction, an accessible path of travel within the meaning of AS1428.1 is required from the entrance to the visitable toilet and living area.** Other door circulation areas are to comply with AS1428.1 on adaption of the unit.

All door hardware is to be operable with one hand and in the height range of 900-1100mm above the floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.

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**Compliance Summary:**

Compliant

**Recommendations:**

Requirements for door hardware to be addressed in subsequent design stages.

### **8.7 Internal Corridors**

There is a requirement for all corridors to be minimum 1000mm.

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**Compliance Summary:**

Compliant

### **8.8 Bathrooms**

Bathrooms within an adaptable housing unit are to comply with AS1428 after adaption. Issues to be considered include slip resistant floor, shower minimum 1100x1160mm with future provision for accessible features including handheld shower and grabrails, shower waterproofing to AS3740, recessed soap holder, washbasin with knee clearance, adequate circulation areas, automatic control of hot water, double GPO next to the mirror and the provision of capstan or lever taps. Refer to AS4299, Clause 4.4.4.

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**Compliance Summary:**

Compliant layout

**Recommendations:**

Other items listed above to be addressed in detailed design stages.

### **8.9 Kitchens**

Essential requirements for kitchens within an adaptable housing unit allow for future adaption and include items such as sinks, taps, cooktops, location of oven, cupboard handles, general power outlets, dimensions of the space and location of refrigerator.

Kitchens are required to have a clear space between benches of 1550mm. An area of bench top 800mm wide is required that can be adjusted through the height range of 750 – 850mm above floor



level. Alternatively, a section of this dimension needs to be easily replaceable to achieve this requirement.

---

**Compliance Summary:**

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Compliant – kitchen offers circulation areas as described above.

**Recommendations:**

Other items listed above to be addressed in detailed design stages.

### 8.10 Bedrooms

At least one bedroom within an adaptable housing unit is required to have adequate space for a wardrobe and a queen size bed with minimum 1540mm wide circulation at the foot of the bed and 1000mm at the side of the bed (1200mm preferred) for compliance with AS1428.2, Clause 6.1.

---

**Compliance Summary:**

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Compliant – bedroom 1 offers compliant circulation areas.

**Recommendations:**

Other items listed above to be addressed in detailed design stages.

### 8.11 Living Area

Living areas within an adaptable housing unit are required to have circulation areas that allow a wheelchair to maneuver within the space **at time of construction**. In this regard, an area with 2250mm diameter is required, clear of furniture. AS4299, Clause 4.7 outlines this requirement. A telephone outlet adjacent to a general power outlet is also a requirement for living areas.

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**Compliance Summary:**

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Compliant – the living area within the adaptable unit is an open-plan area which meets the circulation requirements of AS4299.

**Recommendations:**

Other items listed above to be addressed in detailed design stages.

### 8.12 Laundry

Requirements for laundry areas within adaptable housing units include the provision for an automatic washing machine / clothes dryer with clear space in front of the appliances. An area of 1550mm diameter will achieve this requirement. Laundries are to have slip resistant floors and door circulation areas in compliance with AS1428.1.

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**Compliance Summary:**

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Laundry offers compliance being in a cupboard configuration.

### 8.13 Floors Generally

AS4299 requires that all floor surfaces including bathrooms, laundry and external paved surfaces be slip resistant to comply with AS3661.1.



Non-essential items include that after modification, carpets should have short pile and consideration should be given to the fire hazard indices. Floors should be easily cleanable and bold patterns should be avoided to eliminate confusion for persons with vision impairment.

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**Compliance Summary:**

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To be addressed in detailed design stages.

### 8.14 Ancillary Items

Ancillary items are not considered essential items. Switches such as light switches must be located within the accessible height range of 900-1100mm above the floor level.

Power outlets should be located at a height not less than 600mm affl – a height of 1000mm is preferred. They should be located not less than 500mm from internal corners.

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**Compliance Summary:**

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To be addressed in detailed design stages.

## 9. Livable Housing – SEPP 65

The NSW Government promotes better apartment design across NSW through the State Environmental Planning Policy No. 65 – Design Quality of Residential Apartments Development. Developments are to provide a minimum 20% of apartments that achieve silver level for livable housing.

Within this development, a total of sixty (60) apartments are required that are capable of achieving silver level livable housing requirements per the Livable Housing Design Guidelines – Fourth Edition.

Livable housing requirements are summarised below:

### 1. Silver Level

The seven core design elements are applicable for silver level as follows. They apply to **ALL** apartments within the development.

element	requirement:	comments
<b>Dwelling Access</b> There is a safe, continuous, step-free pathway from the street entrance and/or parking area to a dwelling entrance that is level.	Path of travel should be minimum 1000mm wide with no steps; an even, slip resistant surface; crossfall not more than 1:40; and maximum slope of 1:14.  Where a carparking space is relied upon as the safe and continuous pathway to the dwelling, it should be at least 3200mm wide; have a firm and slip-resistant surface; and a crossfall of 1:40 maximum.	Compliant  Not applicable to this development



<p><b>Dwelling Entrance</b> There is at least one level (step-free) entrance into the dwelling to enable home occupants to easily enter and exit the dwelling.</p>	<p>Entrance doors to have a clear opening with of 820mm and have a level transition.</p> <p>1200x1200mm level landing area required on the arrival side of the door.</p>	<p>To be addressed during detailed design stages.</p> <p>Compliant</p>
<p><b>Internal Doors &amp; Corridors</b> Internal doors and corridors facilitate comfortable and unimpeded movement between spaces.</p>	<p>Doorways on the entry level used for living, dining, bedroom, bathroom, kitchen, laundry and sanitary compartment purposes to have a clear opening with of 820mm and level transition between surfaces.</p> <p>Corridors to be 1000mm wide.</p>	<p>To be addressed during detailed design stages.</p> <p>Compliant</p>
<p><b>Toilet</b> The ground (or entry) level has a toilet to support easy access for home occupants and visitors.</p>	<p>A toilet on the ground / entry floor is required to have a circulation area in front of the toilet pan 900x1200mm.</p> <p>Toilet pan is to be provided in a corner of a room.</p>	<p>Compliant</p>
<p><b>Shower</b> The bathroom and shower is designed for easy and independent access for all home occupants.</p>	<p>A bathroom is required to have a non-slip hobless shower, located on the corner of the room.</p>	<p>Compliant</p>
<p><b>Reinforcement of Bathroom &amp; Toilet Walls</b> The bathroom and toilet walls are built to enable grabrails to be safely and economically installed.</p>	<p>Walls to enable safe installation of grabrails to toilet, bath and shower.</p> <p>Reinforcement to be in the form of 25mm noggins or plywood sheeting with 12mm thickness.</p>	<p>To be addressed during detailed design stages.</p>
<p><b>Internal Stairways</b> Where installed, stairways are designed to reduce the likelihood of injury and also enable future adaptation.</p>	<p>Stairs to have a continuous handrail to one side of the stair where the rise is greater than 1m.</p>	<p>Not applicable</p>

**Compliance Summary:**

Fifty-nine (59) apartments are capable of achieving Silver level as per the Livable Housing Design Guidelines. Forty-four (44) are provided as adaptable housing units with fifteen (15) provided as universal housing units. This meets both SEPP 65 and Council DCP requirements.