ARCHITECTURE & ACCESS

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Access Strategy - Student Accommodation SOU Provisions

Col James (Student Accomodation) - 83-123 Eveleigh Street, Redfern (7040)

Access Consulting

Contents

Performance Solution Assessment Report

Project Number: 7040

Date

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Prepared for

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Revision History

Doc #	Rev	Title	Author	QA Reviewer	Date
01	-	Performance Solution - Accessible SOU Provisions	Andrew Sanderson	Melanie Bond	9/6/2017

1. Introduction

The proposed project is multi storey student accommodation building located at 83-123 Everleigh Street, Redfern. The building is to include 596 beds over 522 Rooms to be constructed over 23 Levels plus plant. The facility to be provided include the following:

- Lower Ground
  - Lobby
  - Landscaped Courtyard
  - Plant/Loading Dock
  - Gymnasium
  - Lounge
  - Family Room
  - Kitchen
  - Cinema
  - Amenities
  - Laundry
  - Services area
- Upper Ground
  - Forecourt
  - Entry Lounge/Lobby
  - Reception
  - Administration
  - Meeting Rooms
  - Studio and Cluster Accommodation Units
- Levels 1- 20
  - Studio and Cluster Accommodation Units
- Level 21
  - Studio and Cluster Accommodation Units
  - Lounge
  - Courtyard/Landscaped Terrace

Vertical travel to the upper levels is provided by 3 lifts. A stair is provided for pedestrian movement between the lower ground and the upper ground

In addition four fire stairs are provided for egress from the upper levels.

The occupants of this building are predominantly University staff and students. The sole occupancy units are for students only.
There are retail facilities located on the ground level.

Under the National Construction Code (NCC/BCA) the classification of the residential component of the building is Class 3. The building works have been assessed for this performance solution under NCC/ BCA 2016.

NCC/BCA Deemed to Satisfy compliance requires a total number of Accessible Sole Occupancy Units to be provided within this development. The number required would be 20.

This report is prepared to demonstrate an alternative approach to the allocation and numbers of Accessible Sole Occupancy Units for this specific project. This approach is termed the Access Strategy - Student Accommodation SOU Provisions and has been developed by Architecture & Access.

The strategy is written in the style of a Performance Solution to address the National Construction Code (NCC/BCA) requirements. Applicable NCC/BCA clauses addressed in this report are:

Performance Solution item	NCC/BCA 2016 PR	NCC/BCA 2016 DTS Comparison Clause
Accessible Student Accommodation SOU Provisions	DP1(a)(iii)	D3.1 Table D3.1 Requirements for Access for people with a Disability - Class 3 Dwellings. D3.9 Wheelchair Seating Spaces

2. Scope of appointment

Architecture & Access were engaged by Deicorp Constructions to provide access advice for the design and construction of this project. During this process provision of a Performance solution report specific to the area identified above was identified. This report is specific to the item listed within this report and is not transferable to similar situations within this or other projects. If any additional items have been identified these are documented in other reports.

This Performance Solution is completed within the parameters of the NCC/BCA.

2.1 Supporting documentation

The Performance Solution developed is based on the following supporting documentation:

Drawing	Title	Revision
Architectural Drawings	DA Submission - For Client Approval	P

Architecture & Access accept no responsibility for the accuracy of the drawings or for any documentation updates that affect this Performance Solution and supersede the above documentation.

Refer to Appendix D for further details.

3. Referenced Legislation

Refer to Appendix E for the relevant state legislation that this report is based on and takes into consideration.

4. NCC/BCA Compliance

Performance Requirements Compliance

The NCC/BCA states in Part A0.2 that Performance Requirements can only be satisfied by a -

(a) Performance Solution; or

(b) Deemed-to-Satisfy Solutions; or

(c) combination of (a) and (b).

Assessment method

The NCC/BCA details the options below (or a combination of them) as acceptable assessment methods to determine a building solution that complies with the Performance Requirements.

The assessment methods available for this report are noted in Part A0.5 - Assessment Methods of the BCA.

(a) Evidence to support that the use of material, form of construction or design meets a Performance Requirement or a Deemed-to-Satisfy Provision as described in A2.2
(b) Verification Methods such as -
(i) the Verification Methods in the NCC/BCA; or
(ii) such other Verification Methods as the appropriate authority accepts for determining compliance with the Performance Requirements
(c) Expert Judgement
(d) Comparison with the Deemed-to-Satisfy Provisions

Architecture & Access believe they provide a suitable case, based on A0.5 (c) Expert Judgement and (d) Comparison with the Deemed-to-Satisfy Provisions to assist in the development of a performance based solution in conjunction with Architecture & Access' level of specialised knowledge within the area of accessibility.

5. Proposed Performance Solution - SOU Provisions

Proposed Performance Solution

The proposed building solution is that of the 522 sole occupancy units (total number) within the Stydent accommodation project, 23 will be specifically designed and constructed as Accessible Sole Occupancy Units. These rooms will, as far as can be anticipated, be sufficient to meet the needs of people with a disability.

The 23 Accessible sole occupancy units will be divided into three types of sole occupancy units to more closely meet the needs of people with mobility impairments (7 SOUs); hearing/speech impairments (11 SOU's); and vision impairments (5 SOUs). Users with multiple disabilities are accommodated within the rooms for mobility impairments.

Accessible units will be distributed throughout the building and the building operator is required to allocate these based on user requirements.

Relative to the NCC Deemed to Satisfy requirements this approach provides for an increase in the total number of rooms available for a person with a disability, but fewer rooms that comply with the accessible allocation requirements of the NCC Deemed to Satisfy.

Relevant Performance Requirement

The objective of this Performance Solution is to demonstrate the compliance with the Performance Requirement identified below, and to provide access that is dignified and equitable for people with disabilities.

The specific clause for the relevant NCC/BCA Performance Requirement is:

- DP1(a)(iii) in that access must be provided to the degree necessary, to enable people to access work and public spaces, accommodation, and facilities for personal hygiene.

Comparable DTS Requirements

The following items detail the applicable DTS provisions used for comparative purposes, as summarised in the introduction of this report.

- D3.1 in that Buildings and parts of buildings must be accessible as required by Table D3.1 REQUIREMENTS FOR ACCESS FOR PEOPLE WITH A DISABILITY, unless exempted by D3.4.

- For a Class 3 Building Table 3.1 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"; and
- "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 area, lunch room, lounge room or the like"; and
- Where a AS1428.1 2009 compliant ramp or passenger lift is installed (a) to the entrance doorway of each sole occupancy unit and (b) to and within rooms or spaces for use in common by the residents, located on the levels served by the lift or ramp".
- Not more than 2 required accessible sole-occupancy units may be located adjacent to each other and where more than 2 accessible sole occupancy units are provided they must be representative of the range of rooms available.
- "To and within the appropriate number of sole-occupancy units representative of the total number of sole-occupancy units as per Table 3.1. Where 1-10 SOUs are provided, 1 accessible unit. Where 11-40 SOUs are provided, 2 accessible units. Where 41-60 SOU, 3 accessible units. Where 61-80 SOU, 4 accessible units. Where 81-100 SOU, 5 accessible units. Where 101-200 SOU, 5 accessible plus 1 additional per every 25 of part thereof in excess of 100. Where 201-500 SOU, 9 accessible plus 1 additional per every 30 of part thereof in excess of 200. Where more than 500 SOU, 19 accessible plus one additional accessible per every 50 units or part thereof in excess of 500."

6. Performance Solution Assessment - Student Accommodation

Proposed Approach

To determine an approach to the provision of accessible rooms within this facility, Architecture & Access have used figures obtained from the Australian Bureau of Statistics Survey of Disability, Ageing and Carers in Australia (2015,2003) regarding numbers of Australians living with a disability[1,3], the total population of Australia[2] and data regarding the number of students reported to have disability (Department of Education & Training, 2015).

This strategy has resulted in this Performance Solution's proposed approach to allocate the Sole Occupancy Units for people with a disability in three different configurations:

- Rooms for users with Mobility Impairments and Multiple Disabilities
- Rooms for users with Speech or Hearing Impairments.
- Rooms for users with Vision Impairments

This strategy this Performance Solution is based on two key sets of data:

a) Disability Sub Categories:

Statistical data from the Australian Bureau of Statistics provides information about the total numbers of Australians who report living with a disability in 2015 (18.3% of the total population[1]) and provides data about the proportions of users living with three key subsets of different types of disability[1 3].

These three identified subsets for which statistical data is available are - people with a vision impairment; people with a hearing and speech impairment and people with a mobility impairment. Full details regarding the statistics and data can be reviewed below in the Appendices along with information regarding the impact of disability subsets in environmental settings.

Given the presence of varying types of disabilities, it is reasonable to expect the accommodation to provide facilities commensurate with each disability group. This philosophy is the basis of the

proposed approach - with accommodation options being provided based on one individual having a different disability than another individual and SOU provisions meeting the needs of individuals.

Whilst this will accommodate many individuals with a disability, some individuals may report multiple disabilities and therefore it is inappropriate to totally segregate each disability group. For example, a person with a vision impairment may also have a physical impairment such as restricted hand function or lower limb impairment and a person with a hearing impairment may also have a vision impairment. To ensure the needs of individuals with multiple disabilities are met Architecture & Access are therefore placing a condition on this strategy that rooms for people with mobility impairments are also designed to accommodate specific requirements of other disability subsets.

There are other sub sets if disability that are not attributed to one of the three disability sub categories. Architecture & Access believe the needs of these groups are predominantly met within the legislative requirements associated with the entire building and therefore do not require specific design or can be accommodated within one of the room types detailed above (e.g. People with single upper limb or hand function impairments may be accommodated within standard accommodation as they can use an unimpaired limb to operate controls).

Provision of three types of rooms available for the three key identified disability groups with provisions based on the proportion of people who experience these disabilities. Architecture & Access have classified these sub categories as:

- Type A SOU Accommodation
  - Primarily for people with a mobility impairment; will also provide for people with multiple disabilities.
  - Rooms that will incorporate the full NCC Deemed to Satisfy (DTS) legislative requirements of Class 3 buildings plus enhanced room provisions.
  - To be representative of the 14.9% of the total Australian population of people with a disability who required use of a mobility aid[1].
- Type B SOU Accommodation
  - For people with a hearing and speech impairment.
  - To be representative of the 25.9% of the total Australian population of people with a disability who require use of a communication aid[1].
- Type C SOU Accommodation
  - For people with a vision impairment
  - To be representative of the 11.2% of the total Australian population of people with a disability who report to have a vision impairment[1].

b) Educational Data:

Statistical data demonstrates that in 2015 60,019 students enrolled in higher education reported to have a disability, representing 5.8% of the total domestic student population in Australia in 2015[6]. The domestic undergraduate percentage of students with a disability for the same year is reported at 6.2%[7].

Australian Government Department of Education and Training details a goal of 8% for the percentage of enrolled students with a disability relative to the total number of students to reflect proportion of people with a disability aged 15-64 relative to the general population of the same age.

Architecture & Access have considered this desirable goal of 8% of students with a disability relative to the entire population of students as a starting point for determining the number of sole occupancy room allocations for people with a disability.

Project Specific SOU Allocations

A total of 522 SOU student accommodation are being provided within this project. These rooms are all allocated within, 5 Bed clusters, Studio, Twin rooms, single rooms, student SOU dwellings spread over 21 levels of the building.

To establish the provided number of sole occupancy units for a person with disability an initial calculation of 8% of the total number of sole occupancy units for the project provides information on the percentage of rooms that would meet the target representation for people with a disability within the total student population.

- In this project that would result in 42 sole occupancy units that would be potential in use by a student with a disability (8% of total number of SOU)

This number does not represent the total number of rooms that require specialist adaptation for a person with a disability. When the statistics related to people with specific disabilities and the use of aids and equipment by people with a disability are factored into this number it can be determined that only a percentage of these rooms require adaptation. A large number of people who identify to having a disability do not require specialist environmental provisions (for example - people with learning difficulties; mental illnesses and minor physical impairments).

Architecture & Access have used the key statistical data on the percentages of people in the general Australian population with a disability who report to (a) use a mobility aid; (b) have a speech/hearing impairment who require a communication aid and (c) have a vision impairment to calculate the required Accessible Type room numbers from the determined number of sole occupancy units that would potentially be in use by a student with a disability.

Using this information Architecture & Access are proposing disability specific room allocations (Type A, B and C) within this project to be as follows:

Disability Group	**Room Type**	**Calculation Method**	**No. Required (Based on project total of 522 SOU)**
Mobility Impairment & Multiple Disability	Type A	14.9% of 41.76 (14.9% of the Australian population of people with a disability documented to have a mobility impairment; xx is the 8% goal to represent the ideal number of SOUs for students with a disability within the total number of SOUs provided.)	7
Speech and Hearing Impairment	Type B	25.9% of 41.76 (25.9% of total Australian population of people with a disability documented to have a speech/hearing impairment;xx is the 8% goal to represent the ideal number of SOUs for students with a disability within the total number of SOUs provided.)	11
Vision Impairment	Type C	11.2% of 41.76 (11.2% of total Australian population of people with a disability documented to have a vision impairment;xx is the 8% goal to represent the ideal number of SOUs for students with a disability within the total number of SOUs provided.)	5

Total			23

A detailed list of what each Type of Room must entail to meet this classification is within the Conditions section of this report.

NCC/BCA Deemed to Satisfy Comparison

Should this project adhere to the NCC/BCA DTS D3.1 sole occupancy unit allocation a total number of 20 Accessible sole occupancy units should be provided (of the 522 total sole occupancy units throughout the project).

"To and within the appropriate number of sole-occupancy units representative of the total number of sole-occupancy units as per Table 3.1.

- Where more than 500 SOU, 19 accessible plus one additional accessible per every 50 units or part thereof in excess of 500.
  - This equates to between 4% of the total number of rooms to a maximum of 550 rooms and a percentage of 3.83% for this project based on 522 rooms."

The NCC/BCA DTS provisions require each accessible room to comply with the mandated requirements of AS1428.1 2009 inclusive of circulation spaces and fitout.

As can be seen by the table above the total number of rooms being proposed by Architecture & Access for people with a disability (23 rooms) exceeds the total number required by the NCC/BCA DTS provisions.

This project complies to the other NCC/BCA D3.1 Deemed to Satisfy requirements in that:

- Access has been provided 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"; and
- Access has been provided 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 area, lunch room, lounge room or the like"; and
- Where a AS1428.1 2009 passenger lift is installed access has been provided (a) to the entrance doorway of each sole occupancy unit and (b) to and within rooms or spaces for use in common by the residents, located on the levels served by the lift.
- Not more than 2 required accessible sole-occupancy units are located adjacent to each other and where more than 2 accessible sole occupancy units are provided they must be representative of the range of rooms available.

In comparison to the percentages of Accessible sole occupancy rooms required, NCC/BCA Deemed to Satisfy requirement D.9 for the number of wheelchair seating spaces in Class 9b assembly buildings (Cinemas, auditoriums and theatres and the like) is 5% for spaces with a total of 60 seats; 2% for spaces with a total of 150 seats and 1.9% for spaces with 1000 seats. [Reference: NCC/BCA Table 3.9 Class 9b (a)]. Whilst not a direct comparison, it can be compared that in developments with Sole Occupancy Rooms that are representative of a total number of rooms greater than 60 the requirement for provisions is proportionally greater than it would be for Accessible provisions within Assembly buildings.

Assessment

The National Construction Code 2016 (NCC/BCA)[5] defines "Accessible" as "having features to permit use by people with disabilities". This definition most commonly applies to features required by users with mobility requirements who need greater circulation spaces and particular fixtures and fittings to

facilitate independence. To ensure features provided within Sole Occupancy Units best enable use by people with disabilities Architecture & Access have approached this Performance Solution with a mindset that individuals have different access needs and SOU rooms can therefore be designed to meet these different requirements.

In this developed strategy, the total room numbers provided for someone with a disability exceed the NCC/BCA Deemed to Satisfy (DTS) room provision requirements. This increase in the total number accessible rooms for students with a disability can be assessed as an improvement on the Deemed-to-Satisfy provisions of both the NCC/BCA and the Disability (Access to Premises - Buildings) Standards. It also surpasses one of the goals of the Review of the Disability (Access to Premises - Buildings) Standards 2010[7] which is to avoid any reduction to the total number of allocated number of rooms for people with a disability in Class 3 buildings as per the DTS requirements.

Rather than providing a fixed number of generic accessible rooms that primarily cater for users with a mobility impairment the proposed Performance Solution also better reflects the statistical prevalence and needs of individual users with a disability by providing rooms that are specifically designed and customized to some of the most prevalent disability conditions whilst maintaining provisions for users with multiple disabilities.

7. Conditions to this Performance Solution

Building Features Conditions

1. Accessible Room Provisions & Distributions

a) Accessible rooms are to be provided as per the Type A,B,C and Number of SOU Allocations Table required as listed in Performance Solution Assessment section of this report.

b) It is not acceptable to group all Type A, Type B or C rooms on a single level in the building. Accessible Room provisions are required to be spread across all levels of the building. Specific distribution for this project is:

- Type A rooms spread across 7 floors
- Type B rooms spread across 11 floors
- Type C Rooms spread across 5 floors

c) The distribution of accessible accommodation rooms, including Type A rooms must be equitable and representative of the range of amenity provided for all users.

2. Accessible Room Design and Fitout:

The rooms must be designed to meet the requirements for each specific type of disability as well as meet the needs of people who may have other types of restrictions. The facilities required relative to the different room types are as follows:

Type A – Mobility Impairment & Multiple Impairment within an enhanced Accessible room design:

- Fully compliant room in accordance with AS 1428.1.
  - Including, however not limited to, appropriate door circulation spaces, clear path widths and circulation spaces within the bedroom and living areas, increased toilet and shower facilities with appropriate grabrails and fittings.
- Accessible Bathrooms to be provided as ensuites to the bedroom.
- Features of joinery including handles, wardrobe and desk fitout as detailed in AS 1428.2.
- Door to SOU to meet 20N (max) of force to operate requirement. If door is fire rated it is required to be automated or fitted with door closer which is triggered to operate in fire alarm conditions

- Television with caption decoder (if provided).
- Visual fire alarms.
- Provision of a door bell and light-emitting receiver.
- Accessible communication means between SOU and reception (eg. Smart phone/tablet connectivity)
- Dimming switches on all light controls for light adjustment.
- Additional lighting within the room including task lighting above the desk, washbasin, vanity mirror and at the wardrobe. These are preferably triphosphorous fluorescent light strips, which offer natural diffused light.
- Use of colour contrast between wall, floor, doors and furnishings.
- Matte and low reflective surfaces.
- Tap hardware in kitchens and bathrooms which clearly defines hot and cold allocations.
- Light switch plates or light switches to be of 30% luminance contrast to the background on which they are mounted.
- Occupant use GPOs to have switch plates or switches that are of 30% luminance contrast to the background on which they are mounted.
- Provision of at least one additional occupant use double GPO in an accessible location suitable or use for charging specialist equipment (eg power wheelchair or sleep aponea machine)

Type B – Speech and Hearing Impairment, to be provided within a standard accommodation room:

- Television with caption decoder (if provided).
- Visual fire alarms.
- Provision of a door bell and light-emitting receiver.
- Accessible communication means between SOU and reception (eg. Smart phone/tablet connectivity)
- Door hardware as required by AS1428.1.
- Door luminance contrast as required by AS1428.1.

Type C – Vision Impairment, to be provided a standard accommodation room:

- Paths to be free from projecting wall mounted obstacles.
- Dimming switches on all light controls for light adjustment.
- Additional lighting within the room including task lighting above the desk, washbasin, vanity mirror and at the wardrobe. These are preferably triphosphorous fluorescent light strips, which offer natural diffused light.
- Use of colour contrast between wall, floor, doors and furnishings.
- Matte and low reflective surfaces.
- Tap hardware in kitchens and bathrooms which clearly defines hot and cold allocations.
- Step free shower recess.
- Vertical grab rail in the shower to extend 1000-1880 (minimum). Rail to be graspable with a diameter of 30-40mm; located with a clearance between the grab rail and the wall of between 50-60mm and fastened to be able to withstand 1100N of force.
- Any glazed shower screens to be fitted with visual indicators as per AS1428.1 2009 glazing requirements.
- Pan lid and seat that has a 30% luminance contrast (minimum) to the pan, as required by AS1428.1.
- Door hardware as required by AS1428.1.
- Door luminance contrast as required by AS1428.1.
- Light switch plates or light switches to be of 30% luminance contrast to the background on which they are mounted.
- Occupant use GPOs to have switch plates or switches that are of 30% luminance contrast to the background on which they are mounted.

3. Building Wide Accessible Features

1. Common areas of the building must comply with the legislative requirements of the National Construction Code unless specific Performance Solutions have been identified and prepared.

2. Identification signage to the doors of all SOU accommodation rooms in tactile (raised) text. Text to in San Serif typeface; Upper Case letters and numbers to have a height between 15mm-55mm; lower case letters to be half the height of upper case letters; text raised by 1-1.5mm above the background, text to be displayed horizontally, have rounded edges and be installed at a height between 1200-1600mm. All tactile text to be of matte finish and a minimum of 30% luminance contrast to the surface on which it is finished.

3. Identification signage to doors of occupant use common areas in tactile raised text and Braille. Signage specifications to be as per AS1428.1 2009 requirements.

4. Directional signage is provided to ensure independent way finding to all occupant use accommodation rooms and facilities within the building. Signage location is to be consistent in location and style. Directional signage common areas in tactile (raised) text. Text to in San Serif typeface; Upper Case letters and numbers to have a height between 15mm-55mm; lower case letters to be half the height of upper case letters; text raised by 1-1.5mm above the background, text to be displayed horizontally, have rounded edges and be installed at a height between 1200-1600mm. All tactile text to be of matte finish and a minimum of 30% luminance contrast to the surface on which it is finished.

5. Visual fire alarms to be provided in occupant use common areas.

Operational Management Conditions

1. The Operator accept the need to develop and implement an Operational Management plan to manage the accessibility needs of people with a disability relative to the rooms available and allocate and/or reallocate rooms to ensure accommodate of user access requirements. This Performance Solution is reliant on adherence to the identified operational management plan. Deviation from the operational management plan may create a situation where equitable and dignified access is not provided and a complaint under the Disability Discrimination Act may be possible.

2. The Operator must develop and implement an evacuation plan for people with disabilities. This may include Personal Emergency Evacuation plan for occupants. The plan may include assisted evacuation. The education of staff and fire wardens is imperative to a plan, focusing on methods of assisting people with disabilities and behaviour of people during emergencies.

3. The Operator is required to ensure marketing material advertising the presence of accessible SOU accommodation is available to potential users. Material must incorporates information about the different types of accessible rooms offered, be provided in accessible formats and if website information is available be included within the website content.

General Conditions

1. All parties that have responsibility for the management of the building/tenancy are aware of the existence and conditions of this Performance Solution. Information pertaining to this solution is required to be communicated to any current or future occupant, contractor, etc. of the building/ tenancy who may be affected by this Performance Solution.

2. This report may no longer be valid if there is a change of circumstances and compliance with the relevant performance requirements of the NCC/BCA will be required.

3. This Performance Solution report is expected to be referenced on the Occupancy Permit/ Certificate of Final Inspection [VIC] issued by the relevant building surveyor and it acknowledges that all assumptions, recommendations and conditions of this report are adhered to as part of the occupation of the subject building.

8. Performance Solution Compliance Statement

Architecture & Access believe that the proposed Performance Solution will satisfy the performance clausesDP1(a)(iii) of the NCC/BCA to a level which is as far as reasonable, and to the degree necessary to ensure suitable Sole Occupancy Units are available for people with disabilities within this building.

This solution has considered the historical changes to the SOU accommodation requirements in Class 3 buildings; the statistical data regarding the prevalence of disability sub groups within the Australian population and the Australian Student population; the reported demand on Accessible SOU rooms in facilities like this one; how the building will be operated; the users affected by this performance solution and the specific needs of these users.

9.0 Conclusion

Architecture & Access believe the Performance Solution outlined within this report which details an Accessible Strategy to Student Accommodation Sole Occupancy Unit provisions is a suitable solution that achieves compliance to the degree necessary with the relevant Performance Requirements of the National Construction Code - Building Code of Australia 2016.

The Performance Solution listed is specific to the current function and use of the building. Should this alter, this report is no longer applicable and the building owner and/or operator may expose themselves to a complaint under the Disability Discrimination Act.

The solution detailed is subject to the conditions that are outlined above.

Should there be any queries regarding this report please contact the office of Architecture & Access.

Kind regards

Andrew Sanderson,
Accredited Member ACAA

Appendix A - Background Information - Accommodation Legislation

Disability Standards for Education

The Disability Standards for Education 2005 are formulated under the Disability Discrimination Act 1992 and to aim prevent discrimination by an educational authority against a person on the ground of the person's disability or a disability of any associates of that person. The Standard covers enrolment; participation; curriculum development/accreditation/delivery; student support services; and elimination of harassment and victimisation. Provision of access to Accommodation can be considered as a requirement for equitable access to student support services and facilities that enable participation in education.

Disability (Access to Premises) Standards

The Disability (Access to Premises - Buildings) Standards (DAPS) were developed to assist people responsible for the design, construction or management of buildings to meet the requirements of Section 23 of the *Disability Discrimination Act 1992* (Cth) (DDA) which makes it unlawful to discriminate against a person with a disability in relation to access to, or use of premises.

DAPS aims to ensure access for people with disabilities is provided to new and existing buildings (undergoing renovation or upgrade that requires a building approval) on an independent, equitable, dignified and functional basis. It is unlawful under the DDA to contravene the DAPS. Under Part 3 of the DAPS, this applies to the Building Certifier, Building Developer, Building Manager. These individuals have responsibility for or control over a new building or new building works and must ensure that the building complies with the Access Code section of the DAPS.

The Access Code is written in the same style as the BCA in that it has a number of Performance Requirements that are expressed in broad terms and references a number of technical Deemed-to-Satisfy Provisions. Complying with the access code can be achieved through the following:

(a) Complying with the relevant Deemed-to-Satisfy Provisions (subsection 3.2 (1), or

(b) Proposing an alternative to the Deemed-to-Satisfy Provisions that satisfies the Performance Requirements of the Access Code, or can be shown to be at least equivalent to the Deemed-to-Satisfy Provisions of the Access Code (subsections 3.2 (2) and (3)).

The DAPS allows and encourages innovative solutions to meet the Performance Requirements through the development of new technologies and through the use of alternatives approaches, so long as the proposed solution provides equivalent or better access than the Deemed-to-Satisfy Provisions (Part 3, Subsection 3.2 (2) and (3)).

BCA and NCC Class 3 Requirements

Prior to 1996, the BCA only required 3% of accommodation rooms to be accessible, with a maximum of three rooms for up to 99 rooms. No additional accessible rooms were required for accommodation with more than 99 rooms. All states had the same requirement except South Australia which included a variation requiring 5% of rooms in Class 3 accommodation to be accessible.

Following previous discussions with John Kennedy, Compliance Officer with the Australian Building Codes Board (ABCB), Architecture & Access understands that in the lead up to BCA 1996 the number of variations in each state was required to be reduced so a national approach could be adopted. As such, this South Australian variation was incorporated into the main document without significant research being carried out. Within the discussions held with the ABCB, it was noted that the size of Class 3 developments in South Australia are generally somewhat smaller than those within Victoria, New South Wales and Queensland.

Appendix B - Background Information - Disability Prevalence

How Many People have Disabilities?

The Survey of Disability, Ageing and Carers (SDAC) collects information about the wellbeing, functioning and social & economic participation of people with disability in Australia. In 2015, the published SDAC data indicates 4.3 million people, or nearly 1 in 5 people report to be living with a disability in Australia, representing 18.3% of the total population[1]. The majority of people with a disability report having a physical condition as their long term health condition. The other 21.5% report mental and behavioural disorders[1]. The total population of Australia as at June 30 2015 was 23,781,200 people[2].

The survey defines disability as any limitation, restriction or impairment which restricts everyday activities and has lasted, or is likely to last, for at least six months. Disabilities may be grouped in accordance with the following, as defined by the Survey of Disability, Ageing and Carers:

- Sensory including,
  - Any loss of sight which may not be suitably corrected by glasses or contact lenses;
  - Loss of hearing where communication is restricted or an aid is required; and
  - Speech difficulties, including an inability to speak.

- Intellectual including,
  - Those who have shown significantly below average intelligence level (based on an IQ test); and
  - Those who may experience significant difficulties with the personal skills needed for everyday living.

- Physical including,
  - Paralysis including incomplete use of arms, fingers, legs or feet;
  - Disfigurement or deformity;
  - Difficulty gripping or holding items;
  - Restriction in physical activities or in doing physical work;
  - Blackouts, fits or loss of consciousness;
  - Chronic or recurrent pain or discomfort that restricts everyday activities;
  - Shortness of breath or respiratory difficulties;
  - Balance or coordination problems.

- Psychosocial/Cognitive including,
  - Nervous or emotional conditions which may restrict everyday activities;
  - Mental illness or condition requiring assistance or supervision;
  - Head injury, stroke or other brain damage with long-term effects that restrict everyday activities.

Intellectual disabilities and psychosocial/cognitive impairments are usually associated with reduced learning, planning, memory or social skills, which in some cases may affect judgement, perception and reasoning ability. The needs of people with intellectual disabilities and psychosocial/cognitive impairments are accommodated within the built environment through the provision of safety features, way-finding and other design aspects which are considered good design that benefits all occupants of the building. As these recommendations are general in nature and some of these features are addressed through Deemed to Satisfy provisions within a building, this group of people with disabilities has been excluded from this report for simplicity.

The remaining three key groups of people with disabilities, include those who require use of a mobility aid (mobility impairment), a communication aid (primarily hearing or speech restrictions), and those who reported a limitation as a result of a sight or vision impairment. The 2015 SDAC findings indicate

2.2 million Australians with a disability used aids or equipment because of their condition, which is just over half of all people with a disability[1].

How Many People have a Mobility, Hearing/Speech or Vision Impairments

The following figures relate to those in the population who have reported a restriction or limitation as a result of their disability or disabilities, and not individuals who do not experience limitations in the core activities of self-care, mobility, communication or who are not restricted in schooling or employment.

(i) Mobility Impairments

In 2015, the number of people who require use of a mobility aid is 639,300 which is just over half (14.9%) of the total number of people with disability[1]. This figure includes those who require the use of a support cane, walking stick, crutches, walking frame, manual or motorized wheelchairs, scooter, specially modified vehicle, or other mobility aid. From the 639,300 figure and the 2015 total population of Australia[2] it can be calculated that 2.69% of the total Australian population in 2015 required use of a mobility aid.

It is acknowledged that users of canes, walking sticks and crutches would not require the full circulation spaces as required under the Australian Standards and would not preclude an individual from standing or moving in a standard room. However, these users may not be excluded from statistical data, as individuals may require use of more than one type of aid. In addition, it is Architecture & Access' professional opinion that those who require the use of a mobility aid, including a walking stick or crutches, are at risk of falling and are likely to require additional circulation space in which to move and balance.

(ii) Hearing or Speech Impairments

The second group for consideration is those with hearing or speech impairments who require use of communication aids, such as electronic or non-electronic reading or writing aids, speaking aids, or mobile or cordless telephones, in addition to those who require use of a hearing aid, have a cochlear implant, or other hearing aids. In 2015 SDAC data indicates 1.1 million Australians with a disability used a communication aid[1]. This equates to 25.9% of people who report to have a disability[1] and 4.63% of the total population.

(iii) Vision Impairments

The third group for consideration in regards to access is those with sight or vision impairments, including those with partial or total blindness. No data was included for this population in the published 2015 SDAC results so this document is reliant on the 2003 published results which indicate that 480,300 people reported limitations as a result of their vision impairment[3]. Note that this data is exclusive of people who have refractive error - a condition of the eye that can be treated through the use of prescription glasses or lenses.

It can be calculated that this equates to 11.2% of people who report to have a disability[1] and 2.02% of the total population.

Note: Given that published SCAD 2015 numbers of people utilising aids and equipment are consistent with those reported in the SCAD 2003 survey, it has been assumed that similar assimilation for the number of people with a vision impairment can be made. Additionally, as the reported total number of people with a vision impairment in 2003 (480,300) is less than that reported by Vision Australia in 2013[4] (357,000 people) Architecture & Access are confident this figure is a suitable representation of the current population.

Affects of Poorly Designed Environments on People with Disabilities

People with different disabilities experience different impediments within buildings and landscaped areas. Some of the impediments to access include:

Mobility Impairments

- Insufficient circulation space for mobility aid, carer space and personal space.
- Inability to mobilise over long distances. High fatigue levels.
- Difficulty accessing joinery without the provision of knee and foot clearance. Unable to reach high level shelving.
- Lack of access to suitable car parking.
- Surface finishes that hinder mobility aid use or create trip and slip hazards
- Lack of GPOs to charge mobility equipment (including wheelchairs, scooters, beds etc).

The facilitation of independent access for people with mobility impairments is often considered the most difficult as the subsequent spatial requirements can present the biggest challenge to designers.

Speech

- Areas of insufficient light
- Areas with poor acoustic treatment

Hearing

- Lack of alternative visual communication systems
- Difficulty using vertical transportation without visual information.
- Restricted numbers of hearing augmentation listening systems
- Inability to hear alarm/communication systems such as building evacuation warning systems
- Balance problems
- Lack of GPO's to charge communication systems

Sight

- Lack of information at changes in direction, changes in level, to identify hazards/obstacles eg projecting features, stair soffits);
- Difficulty in locating landmarks, identifying doorways and determining orientation and direction in unfamiliar environments;
- Inconsistent signage in the environment (size, colour, contrast, illumination and type)
- Lack of tactual information in the everyday environment;
- Difficulty using vertical transportation without auditory information.
- Lack of environmental cues to use to orientate self to objects (eg armrests on chairs)
- Lack of warning from visual alarms/communication systems.

Physical Impairment (Other)

- Inability to operate fittings and fixtures that cannot be easily grasped or operated (eg door handles, switches, lift buttons and taps).
- Inability to open doors due to high operational forces or with heavy door closers.
- Environments that induce fatigue (long distances).

Intellectual Disabilities/ Cognitive Impairments:

- Complex environments (visual & auditory) can be overwhelming.

Appendix C - Background Information - Students & Disability

National Disability Strategy 2010-2010 (NDS)

The National Disability Strategy 2010-2020 provides a ten-year national policy framework for improving life for Australians with disability, their families and carers. It represents a commitment by all levels of government, industry and the community to a unified, national approach to policy and program development[10].

The National Disability Strategy sets out six priority areas for action to improve the lives of people with disability, their families and carers[10]. These are:

1. Inclusive and accessible communities—the physical environment including public transport; parks, buildings and housing; digital information and communications technologies; civic life including social, sporting, recreational and cultural life.
2. Rights protection, justice and legislation—statutory protections such as anti-discrimination measures, complaints mechanisms, advocacy, the electoral and justice systems.
3. Economic security—jobs, business opportunities, financial independence, adequate income support for those not able to work, and housing.
4. Personal and community support—inclusion and participation in the community, person-centred care and support provided by specialist disability services and mainstream services; informal care and support.
5. Learning and skills—early childhood education and care, schools, further education, vocational education; transitions from education to employment; life-long learning.
6. Health and wellbeing—health services, health promotion and the interaction between health and disability systems; wellbeing and enjoyment of life.

The NDS identifies a significant gap between students with a disability and those without in the attainment of year 12 or equivalent, vocational training/training qualifications and participation in university studies[10]. Amongst other items the Learning and skills priority area of the National Disability Strategy identified the need for action to reduce barriers people with disability face in accessing education systems and requirement for specific policy direction to strengthen the capacity of education providers to deliver inclusive, high quality educational programs and improve the disparity in educational outcomes for people with a disability[10]. Provision of suitable student accommodation options can be considered a means of enabling access to higher education for people with a disability.

Higher Education and Disability Prevalence

The Australian Government Department of Education and Training produces yearly statistical data regarding the number of enrolled domestic and international students at higher education institutions, including data regarding the number of enrolled students reporting to have a disability. Students with a disability are defined as students who self-report disability to their higher education provider, either at the time of enrollment of during the course of their studies[7,8]. The most recent fully published set of data from the Department of Education and Training for 2015[6].

In 2015 a total of 1,410, 133 students (domestic and international) were enrolled at higher education institutions[6]. 979, 426 of these were undergraduate students and 386,915 were post graduate students[6].

Of these 1,410, 133 students; 60,019 students were reported to have a disability, representing 5.8% of the total domestic student population in Australia in 2015[6].

The National Centre for Student Equity in Higher Education (NCSEHE) at Curtain University produces a yearly document that details trends in domestic undergraduate student enrollment in Australian Higher Education in key equity groups including students with a disability[7,8]. The reports makes reference to the percentage of domestic undergraduate students with a disability from 2007-2015 (referencing the Australian Government Department of Education and Training's data) which demonstrates a steady increase in the percentage of students with a disability relative to the total number of domestic enrolled students. In 2007 students with a disability represented 4.4% of the total domestic undergraduate student population, with the percentage rising to 6.2% in 2015[7]. This 2015 domestic undergraduate percentage of 6.2% is marginally higher than the 5.8% of the total domestic population[6].

The 2014 NCSEHE report makes reference to a National enrolment performance reference value of a population share of 8% for domestic undergraduate students with a disability relative to the total number of enrolled domestic undergraduate students[8]. This 8% equity group reference value appears to stem from 2008 National goal to increase higher education attainment in Australia by 2025 and is statistical representation of the population of people with a disability within the general population[8].

Architecture & Access have considered this 8% of students with a disability relative to the entire population of students as a starting point for determining sole occupancy room allocations.

International Students and Disability Prevalence

In 2015, there were 363,298 overseas student enrolments in Australian Higher education facilities[6], which represented just under 26% of all student enrolments. For providers of higher education, overseas students are defined as students who are neither Australian nor New Zealand citizens and who are enrolled in a higher education course at some point over the year[11]. Statistical data indicates that the numbers of overseas student enrolments is steadily increasing[6,11,12] and that the export of education is of economic benefit to Australia[11,12].

Anecdotal reports of the student accommodation population detail high usage by overseas students (up to 75-80% usage in some instances). It is reported that these students are required to have Overseas Student Health Cover. As such it could be hypothesized that they are less likely to have disabilities due to the additional onus associated with insurance and as such are less likely to require accessible rooms for mobility impairments.

Although this is valuable information to consider, Architecture & Access have determined that at present it is not appropriate to rely on anecdotal evidence as the basis for Accessible room provisions, particularly as evidence also demonstrates a steady increase of the number of people with a disability enrolling in Higher Education institutions. Additionally there is a need to future proof the building for future student requirements.

Appendix E - Referenced legislation

The relevant legislation and standards listed below are applicable to this report.

State Legislation

New South Wales

- State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
- State Environmental Planning Policy (Infrastructure) 2007

Relevant Codes and Australian Standards

- National Construction Code 2016 Volume 1 - Building Code of Australia Class 2 to Class 9 Buildings (NCC/BCA)
- Australian Standard AS 1428.1: 2009 - Design for access and mobility, Part 1: general requirements for access - New building work (AS 1428.1)
- Australian Standard AS 1428.1: 2001 Design for access and mobility – General requirements for access – New building work (AS 1428.1: 2001)
- Australian/New Zealand Standard AS/NZS 1428.4.1: 2009 - Design for access and mobility, Part 4.1: Means to assist the orientation of people with vision impairment - Tactile ground surface indicators (AS/NZS 1428.4.1)
- Australian Standard AS 1428.2: 1992 Design for access and mobility – Enhanced and additional requirements (AS 1428.2)
- Australian Standard AS 1428.5: 2010 Design for access and mobility – Communication for people who are deaf or hearing impaired (AS 1428.5)
- Australian Standard AS 1735.12: 1999 Lifts, escalators and moving walks – Facilities for persons with disabilities (AS 1735.12)
- Disability Standards for Education 2005

Appendix F - Referenced Statistics

[1] Australian Bureau of Statistics (ABS) (2015 - Issued 18/10/2016). *Disability, Ageing and Carers: Summary of Findings, Australia*. ABS Cat. No. 4430.0. Canberra: ABS.

[2] Australian Bureau of Statistics (ABS) (2015 - Issued 17/12/2015). *Australian Demographic Statistics, June 2015*. ABS Cat. No. 3101.0. Canberra: ABS.

[3] Australian Bureau of Statistics (ABS) (2003). *Disability, Ageing and Carers, Australia: Disability and Long Term Health Conditions*. Table 4. ABS Cat. No. 4430.0.55.001. Canberra: ABS.

[4] Vision Australia, Blindness and Low Vision in Australia. Retrieved March 6, 2017 http://www.visionaustralia.org/learn-more/newly-diagnosed/blindness-and-vision-loss.

[5] Australian Building Codes Board - *BCA 2016 (Volume One)*. Canberra: Australian Government and States and Territories of Australia.

[6] Australian Government Department of Education and Training (2016). *Selected Higher Education Statistics - 2015 Student Data including Appendix 2.* Retrieved March 7, 2017 https://www.education.gov.au/selected-higher-education-statistics-2015-student-data.

[7] Review of the Disability (Access to Premises - Buildings) Standards 2010 (ABS) (2016). Retrieved March 6, 2017 https://industry.gov.au/industry/IndustrySectors/buildingandconstruction/Documents/Review-of-the-Premises-Standards-Report.PDF

[8] Koshy, P. (2014). Student Equity Performance in Australian Higher Education: 2007 to 2012. National Centre for Student Equity in Higher Education (NCSEHE), Perth: Curtin University.

[9] Koshy, P. (2016). Student Equity Performance in Australian Higher Education: 2008 to 2015. National Centre for Student Equity in Higher Education (NCSEHE), Perth: Curtin University.

[10] Australian Government Department of Social Services (2011), National Disability Strategy Summary Document, Retrieved March 7, 2017 https://www.dss.gov.au/disability-and-carers/news/2011/national-disability-strategy-2010-2020

[11] Australian Bureau of Statistics (ABS) (2013 - Issued 25/7/2013). *Australian Social Trends, July 2013*. ABS Cat. No. 4102.0. Canberra: ABS.

[12]Australian Bureau of Statistics (ABS) (2002 - Issued 9/5/2002). *Australian Social Trends, 2002*. ABS Cat. No. 4102.0. Canberra: ABS.

Appendix G - Experience

Architecture & Access (Aust) Pty Ltd is a small business providing consultancy services to the construction and property industry. Our staff have relevant backgrounds, qualifications and experience including architecture, access consulting, project management and occupational therapy. The company has strong links with the professional body, Association of Consultants in Access Australia (ACAA) and have ACAA Accredited Membership holders and Associate Membership holders.

The team at Architecture & Access (Aust) Pty Ltd are passionate advocates with a strong belief in the spirit and intent of the Disability Discrimination Act 1992 (Cth), whose specialised knowledge is highly regarded within the building industry. They approach the built environment from the perspective of creating an accessible environment for all users.

Within any environment Architecture & Access (Aust) Pty Ltd apply the obligations of the Disability Discrimination Act (DDA); the Disability (Access to Premises - Buildings) Standards 2010; National Construction Code, Building Code of Australia and relevant technical requirements of the AS1428 series for access and mobility and applicable documentation. The desired outcome within any project is an environment that ensures functionality, equity and independence of movement for all users.

Please find attached the Curriculum Vitae of the ACAA Accredited member who has approved this report.

CV Attachments

Existing Attachments	Description	Version Added
Andrew_Sanderson_CV.pdf		1

(See PDF Attachments)