

Access Report

Date of Report: 14 December 2018

Re: Proposed Bioresources Building at the University of Newcastle
Callaghan NSW

For: de Witt Consulting

Assessment: Plans by Denton Corker Marshall

Project Number D0136

Drawing Numbers A01_0100, A10_0000 (Rev. T1, 25/10/18), A10_0100
(Rev. T2, 30/10/18), A10_0200, A10_0300 (Rev. T2, 29/10/18), A11_0000,
A11_0001, A11_0002, A11_0003, A35_0010, A35_0020, A35_0040 (Rev. T1,
25/10/18)

This Access Report is an assessment of the proposed building to determine if access for people with a disability is provided in accordance with legislative requirements.

The following comments are based on access requirements of the Building Code of Australia 2016 Amendment 1 (BCA), Disability (Access to Premises – Buildings) Standards 2010 (including Amendment No. 1) (Premises Standards), Australian Standards (AS) and Disability Discrimination Act (DDA).

This report contains comments regarding issues of non-compliance, or identifying where insufficient information has been provided for an assessment to be made. Recommendations may also be made to enhance accessibility and minimise the risk of action under the Disability Discrimination Act (DDA).

Unless otherwise specified, all Australian Standards references are from the following:

- AS 1428.1-2009 (including Amendment No. 1)
- AS 1428.2-1992
- AS/NZS 1428.4.1-2009 (including Amendment No. 1)
- AS 1428.5-2010
- AS 1735.12-1999
- AS/NZS 2890.6-2009

Reference is also made to the University of Newcastle (UoN) Design Standard – Access Design Guidelines Version 1 where they contain features which are in addition to those mandated in the accessibility legislation described above.

Access elements	Reference	Assessment
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1. Access requirements

1.1 Access for people with a disability is required:

a) From the main points of pedestrian entry at the allotment boundary. *BCA D3.2
a i*

b) From another accessible building connected by a pedestrian link. *BCA D3.2
a ii*

Comment:

It is understood that there is significant slope to the proposed site due to the surrounding topography. Where new paths are proposed for the approaches to the principal pedestrian entrances, these are to provide a suitable gradient for wheelchair access and otherwise comply with AS 1428.1. For new paths which link the proposed building to existing buildings on the site, every effort should be made to maximise accessibility within site constraints.

c) From accessible car parking on the allotment. *BCA D3.2
a iii* Refer to section 3

d) Through at least 50% of pedestrian entrances, including the principal pedestrian entrance. *BCA D3.2
b*

In this case, the ground level and level 1 entries are both considered principal pedestrian entrances as they serve different parts of the building. The BCA also states that in a building with a total floor area more than 500m², a pedestrian entrance which is not accessible must not be located more than 50m from an accessible pedestrian entrance, which will apply to these entrances.

Comment:

It is noted that there are many additional external doors on ground level, however as these serve loading or maintenance areas considered exempt under BCA D3.4 or are for emergency egress only, they are not specifically assessed for the provision of access within this report.

e) To and within all areas normally used by the occupants. *BCA
Table D3.1*

Access elements	Reference	Assessment
<p>1.2 It is not necessary to provide access for people with a disability to or within an area where access would be inappropriate because of the particular purpose for which the area is used and/or an area that would pose a health or safety risk for people with a disability. Level 2, which comprises plant areas has been considered under this exemption. Ground level service/ maintenance areas, the loading bay and areas which are primarily concerned with storage, delivery and dispatch of waste and heavy and bulky goods could also be considered exempt from the provision of access. In the absence of further information about the duties of staff and potential hazards in other areas of the building, all remaining areas have been considered subject to accessibility provisions.</p> <p>We note that a person with a disability (e.g. a wheelchair user) may have the abilities required to undertake employment or enter the building as a visitor, and DDA action may be taken if facilities are not accessible. Accessible features should therefore be incorporated (e.g. doorways, flush transitions and circulation/turning spaces). We further recommend that the employer consider DDA risk in their policies, procedures and position descriptions as it is unlawful to discriminate against people with a disability in employment.</p>	BCA D3.4	Confirm with PCA
<p>2. Continuous accessible path of travel</p>		
<p>2.1 The continuous accessible path of travel to and within areas required to be accessible is to comply with AS 1428.1 including the following features:</p> <p>a) An unobstructed width of at least 1000mm (with additional space at doorways and changes in direction) and an unobstructed vertical clearance of at least 2000mm (or 1980mm at doorways).</p> <p>b) A continuous accessible path of travel is not to include a step, stairway, turnstile, revolving door, moving walk or other impediment.</p> <p>c) Turning spaces of at least 1540mm x 2070mm are required within 2m of the end of an accessway where it is not possible to continue travelling along the accessway and at maximum 20m intervals.</p>	<p>AS 1428.1 6.3 6.2</p> <p>AS 1428.1 6.1</p> <p>BCA D3.3 c, d, e AS 1428.1 6.5</p>	<p>As scaled from plans</p> <p>Ensure compliance</p> <p>As scaled from plans</p>

Access elements	Reference	Assessment
d) External walkways are required to have firm and level ground of a different material to the walkway abutting the sides of the walkway, extending horizontally for at least 600mm and following the same grade unless a kerb; a kerb rail and handrail; or a wall at least 450mm high is provided.	AS 1428.1 10.2 a	Not yet detailed on plans
e) The transition between floor surfaces is to be flush. A construction tolerance is allowed between surfaces of less than 5mm with rounded edges or less than 3mm tolerance for vertical edges.	AS 1428.1 7.2 Fig. 6, 7	Ensure compliance
f) The gradient and crossfall of a landing or circulation space is required to be shallower than 1:40 (or 1:33 for bitumen surfaces).	AS 1428.1 13.3.1 Appendix C	Ensure compliance
g) External walkways with a gradient shallower than 1:33 are to have a crossfall of 1:40 (or 1:33 for bitumen surfaces) to allow for the shedding of water.	AS 1428.1 10.1 d	Ensure compliance
h) Walkways are to have landings at intervals appropriate to their gradient (i.e. every 15m for 1:20, every 25m for 1:33).	AS 1428.1 10.2 b	Not yet detailed on plans
i) A slip-resistant surface is required for all floor surfaces and the texture is to be traversable by people who use a wheelchair or have an ambulant or sensory disability. The BCA particularly requires slip-resistance of ramps, stair treads, landings and nosing strips to be tested in accordance with AS 4586 and comply with BCA Table D2.14.	AS 1428.1 7.1 BCA Table D2.14 D2.10 c D2.13 a v D2.14 a ii	Obtain certification of slip resistance
j) Where carpets or soft floor coverings are used the pile height is to be 11mm or less with a backing thickness of 4mm or less. Any exposed edges, leading edges and trims are to be flush with their adjoining floor surface (or utilise a covering strip with a maximum height of 10mm and gradient of 1:8).	BCA D3.3 g h AS 1428.1 7.4.1 c Fig. 8	Ensure compliance where present
k) Any grated drains are to have openings less than 13mm in width. Slotted openings with a width of 8-13mm are to be oriented so that the long dimension is transverse to the dominant direction of travel.	AS 1428.1 7.5	Ensure compliance where present

Access elements	Reference	Assessment
3. Approaches and entrances		
3.1 The approach to the principal pedestrian entrance on ground level from the Medical Sciences Lane and associated accessible car parking is not fully detailed on plans. A continuous accessible path of travel is to be provided in accordance with AS 1428.1, including the features outlined in section 2 of this report.	<i>BCA D3.2 a i, b</i>	Not yet detailed on plans
3.2 A ramp is shown for the approach to the principal pedestrian entrance on level 1. This is to comply with AS 1428.1, including the following features:	<i>BCA D3.3 a</i>	
a) Sharp transitions are to be provided between the planes of landings and ramps.	<i>AS 1428.1 10.1 a</i>	Ensure compliance
b) Ramps exceeding 1900mm in length are required to have a maximum gradient of 1:14.	<i>AS1428.1 10.3 a</i>	Not yet detailed on plans
c) Ramp gradients are to be constant throughout its length (a construction tolerance of 3% is allowed provided no section is steeper than 1:14).	<i>AS 1428.1 10.3 b</i>	Ensure compliance
d) For a 1:14 gradient ramp, landings are required to be placed at least every 9m. For a 1:20 gradient ramp, landings are required to be placed at least every 15m.	<i>AS 1428.1 10.3 c</i>	Compliance achievable
e) Landings are to be at least 1200mm long where there is no change in direction. Landings are to be at least 1500mm long where there is a change in direction of 90° or less (the internal corner is to be truncated for 500mm in both directions as in AS 1428.1 Fig. 25 B).	<i>AS 1428.1 10.8.1 a AS 1428.1 10.8.1 b Fig. 25B</i>	Compliance achievable/ not yet fully detailed
f) Handrails are required on both sides of ramps.	<i>AS 1428.1 10.3 e</i>	Not yet detailed on plans
g) Kerbs or kerb rails are required on both sides of the ramp. Kerbs are to be at least 65mm high or kerb rails should have their lower edge no higher than 65mm and extend to at least 150mm. They are to be aligned underneath the handrail or may be set back up to 100mm providing that there are no vertical posts in front of them. The specific dimensions required for kerbs or kerb rails may depend on the position of any vertical support posts.	<i>AS 1428.1 10.3 i j</i>	Not yet detailed on plans

Access elements	Reference	Assessment
h) The BCA requires slip-resistance of ramps to be tested in accordance with AS 4586 and comply with BCA Table D2.14.	<i>BCA Table D2.14</i> <i>D2.10 c</i>	Obtain certification of slip resistance
i) Tactile ground surface indicators are required at the top and bottom of ramps.	<i>BCA D3.8</i> <i>a iv</i>	Not yet detailed on plans
3.3 It is noted that upgrades to the existing car park on the southern side of the proposed building are proposed as a future stage of construction. Where building work is undertaken, upgrades are to include the provision of an accessible approach from accessible car parking spaces to the level 1 entrance.		Compliance required for future building work

4. Doorways

4.1 All doorways are required to have a minimum clear opening width of 850mm (note that a standard 870mm door leaf will not meet this requirement). At least one leaf of multiple leaf doors is to meet this requirement.	<i>BCA D3.2 e</i> <i>AS 1428.1</i> <i>13.2</i>	Not yet detailed on plans
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Comments:

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| a) A scaled assessment indicates that each leaf of some multiple leaf doors will be narrower than 900mm and is therefore unlikely to achieve a clear opening width of 850mm to the active leaf. One larger and one smaller leaf could instead be installed to achieve compliance. There may be some scenarios under which the proposed door configuration could achieve compliance on a performance basis, such as where both doors open automatically on the use of a swipe card or other situations where doors must open simultaneously. Further details are to be provided for assessment where an alternative to AS 1428.1 is proposed. | | Provide details for assessment |
| b) This excludes doors which are not required to be accessible such as those to areas considered exempt under BCA D3.4 and doors to male and female toilets and change rooms (these toilet and change room doors are to have a minimum clear opening width of 700mm i.e. a 770mm door leaf). Note that door widths will need to comply with emergency egress requirements and this should be confirmed with the principal certifying authority. | <i>BCA D3.4</i>
<i>AS 1428.1</i>
<i>16.3</i> | Confirm with PCA |

Access elements		Reference	Assessment
4.2	All doors or doorframes are required to have a minimum 30% luminance contrast to their adjacent surface.	AS 1428.1 13.1	Not yet detailed on plans
4.3	Door handles are to be capable of being unlocked and opened with one hand and placed at a height between 900-1100mm. A D-lever handle is considered to provide adequate grip to prevent the hand from slipping off during operation.	AS 1428.1 13.5.2 13.5.3	Not yet detailed on plans
4.4	Circulation space is required at each door. Dimensions are to be confirmed on site to ensure minimum clearances, which vary depending on the direction of approach and clear width of the door, achieve compliance with AS 1428.1. Note that dimensions are to be clear of the finished surface (e.g. wall/skirting) or any other obstruction (e.g. fire equipment) and are minimum dimensions. Where builders require some construction tolerance, dimensions should be increased to ensure minimum clearances are obtained.	AS 1428.1 13.3	
Plans were scaled where dimensions are not shown, and circulation spaces were generally found to be in accordance with AS 1428.1, except for:			
	a) Start up equipment and fixtures encroach into the required latch side circulation spaces at doors to large surgery 023, to hold 027, between procedures (flex) 033 and PC2 proc. 034, to and within special tech. 105 and 106, to support 113, and between quarantine proc. room 130 and holding 132. While furniture is not addressed within the BCA, fixed or heavy equipment and fixtures should be relocated to provide access in the initial construction. Easily moveable items can be relocated to suit the needs of the occupants.		Amend for construction
	b) Where future provision equipment is positioned in the locations nominated on plans, this will also obstruct door circulation spaces, however it is anticipated that this equipment can be installed to suit the needs of the occupants as it is provided.		Access achievable
4.5	The force required to open a door is not to exceed 20N. Note that doors required to be fire doors or smoke doors do not need to comply with this requirement.	AS 1428.1 13.5.2 e	Ensure compliance

Access elements	Reference	Assessment
<p>4.6 Frameless or fully glazed doors, and any glazing capable of being mistaken for a doorway or opening is required to have a solid, non-transparent line:</p> <ul style="list-style-type: none"> a) With a minimum 30% luminance contrast when viewed from both sides. b) For the full width of the glazing. c) At least 75mm wide. d) At a height between 900mm-1000mm. 	<p>BCA D3.12 AS 1428.1 6.6</p>	<p>Not yet detailed on plans</p>
<p>A chair rail, hand rail or transom may adequately indicate that the glazing is not a doorway or opening.</p>		
<p>Comment: This requirement will apply to glazing on the northern side of ground level and to glazed external walls on level 1. Where drawing number A11_0000 indicates that a frit pattern will be applied to glazing on the northern side of ground level, it should be noted that this patterning is unlikely to achieve compliance in itself, as it is anticipated to comprise frosted decals. An additional opaque stripe would therefore be required to satisfy AS 1428.1.</p>		
<p>4.7 Where the transition between floor surfaces is not flush, a ramped threshold is to be provided with a maximum length of 280mm, maximum height of 35mm and maximum gradient of 1:8. It is to be located within 20mm of the door leaf which it serves.</p>	<p>AS 1428.1 10.5 Fig. 21</p>	<p>Ensure compliance</p>

5. Lifts

<p>5.1 Two passenger lifts are proposed at the western end of the building to provide vertical circulation between levels.</p>		<p>Compliance achievable</p>
<p>Comment: We note that while staff and visitors to the building may benefit from the provision of a path of travel from the level 1 entry to the ground level meeting and future function areas which is direct and does not pass through secure areas, this is considered to be an operational matter rather than an access requirement of the BCA and referenced Australian Standards.</p>		

	Access elements	Reference	Assessment
5.2	Passenger lifts are required to: <ul style="list-style-type: none"> a) Be one of the types identified in Table E3.6a and comply with the limitations listed in the table. b) Not rely on a constant pressure device for its operation if the lift car is fully enclosed. 	<i>BCA E3.6 a, c</i>	Ensure compliance
5.3	Passenger lifts are required to have accessible features including: <ul style="list-style-type: none"> a) A handrail complying with AS 1735.12. b) Lift floor dimensions of at least 1100mm x 1400mm (for lifts which travel less than 12m). c) Minimum clear door opening of 900mm in accordance with AS 1735.12. d) Passenger protection system complying with AS 1735.12 (for all lifts with a power operated door). e) Lift landing doors at upper landings. f) Lift car and landing control buttons complying with AS 1735.12. g) Lighting complying with AS 1735.12 (for all enclosed lift cars). h) All lifts serving more than 2 levels are to have: <ul style="list-style-type: none"> i. Automatic audible information within the car to identify the level each time the lift stops. ii. Audible and visual information at each lift landing to indicate the arrival of the lift. i) Emergency hands-free communication including a button that alerts a call centre of a problem and a light to signal that the call has been received. 	<i>BCA E3.6 b Table E3.6b</i>	Ensure compliance

Comment:

Note that the BCA may have additional requirements including increased dimensions where stretcher facilities are required.

Access elements	Reference	Assessment
6. Stairs		
6.1 Stairs are shown on the eastern and western sides of the building for emergency egress. Where stairs are fire-isolated, they are to have the following features:	<i>BCA D3.3 a</i>	
a) Non-slip edge strips with a minimum 30% luminance contrast, for 50mm-75mm deep, across the full width of the stairs. Edge strips may be set back a maximum of 15mm from the front of the nosing and are not to extend down the riser more than 10mm. Note that edge strips with multiple lines may not achieve compliance, particularly where the nosing and inserts are of differing colours.	<i>BCA D3.3 a iii AS1428.1 11.1 f g</i>	Ensure compliance
b) The BCA requires slip-resistance of stair treads and landings or their nosing strips to be tested in accordance with AS 4586 and comply with BCA Table D2.14.	<i>BCA Table D2.14 D2.13 a v D2.14 a ii</i>	Obtain certification of slip resistance
c) It is recommended, as best practice, that handrails complying with AS 1428.1 be provided on both sides of fire-isolated stairs to improve safety during emergency egress.	<i>AS 1428.1 11.2 b</i>	As shown on plans
Comment: Where it is expected that the stairs will be used for alternative vertical circulation, full compliance with AS 1428.1 is recommended.		Consider compliance
7. Handrails		
7.1 Handrails are required along both sides of the ramp for the approach to the level 1 entry. They are to comply with AS 1428.1, including the following features:	<i>BCA 2.17 c D3.3 a i AS 1428.1 10.3 e</i>	
a) Handrails are required to have a circular or elliptical cross section. The diameter for circular handrails is to be 30-50mm, or the height and width for elliptical handrails is to be 30-50mm with the greater dimensions in the horizontal axis.	<i>AS 1428.1 12 b</i>	Ensure compliance
b) Exposed edges and corners of handrails are required to have a radius of at least 5mm.	<i>AS 1428.1 12 c</i>	Ensure compliance

Access elements	Reference	Assessment
c) The top of handrails is required to be at a height between 865mm-1000mm and consistent throughout its length.	AS 1428.1 12 d, e	Not yet detailed on plans
d) Handrails are required to have a 1000mm minimum clear width, or minimum clearance in accordance with circulation space requirements.	AS 1428.1 6.3 13.3	Compliance achievable
e) For ramp ends, handrails are required to extend 300mm horizontally and turn away to the side wall or turn downwards through 180° where they are not continuous with the ongoing walkway.	AS 1428.1 10.3 h Fig. 14 Fig. 15 B	Not yet detailed on plans
f) Handrails are required to be securely fixed and rigid.	AS 1428.1 12 g	Ensure compliance
g) Handrails are required to have a 50mm minimum clearance between the handrail and wall/obstruction to a height of at least 600mm above the handrail.	AS 1428.1 12 h	Ensure compliance
h) Handrails are to have no obstruction to the passage of a hand along the top 270° of the rail.	AS 1428.1 12 i	Ensure compliance
7.2 Handrails required by BCA D2.17 for fire-isolated stairs are to comply with Clause 12 of AS 1428.1 which includes a 30-50mm diameter, 865-1000mm height, 50mm clearance from wall/obstruction and 270° clearance along the top.	BCA D2.17 a vi AS 1428.1 11.2 d, e 12	Ensure compliance
<p>These handrails are to be continuous on the inside at landings, which may require offset treads at intermediate landings to allow for a continuous handrail at a consistent height. Plans show offset treads on the level 1 intermediate landing for stair 1. Ensure that this requirement is addressed for stair 2 and on level 2 for stair 1 where there are two steps in the perpendicular direction to the main flight.</p>	Fig. 28 b	As shown on plans/ ensure compliance
<p>Where it is expected the stairs will be used for alternative vertical circulation, handrails should extend one tread width in the downward angle at the bottom of stairs plus 300mm horizontally. At the top they should extend 300mm horizontally. The ends are to turn away to the side wall or turned downwards through 180°.</p>		As shown on plans/ ensure compliance

Access elements	Reference	Assessment
8. Tactile ground surface indicators		
8.1 Tactile ground surface indicators at the top and bottom of the ramp for the approach to the level 1 entry are to comply with AS 1428.4.1 including:	<i>BCA D3.8 a</i>	
a) Be across the path of travel at right angles to the hazard, for a depth of 600-800mm and set back 300mm from the hazard (where the landing is less than 3m in length, the depth of the tactile indicators may be reduced to 300-400mm).	<i>AS1428.4.1 2.3.1 b 2.3.3 a, b, c, e</i>	Not yet detailed on plans
b) Have luminance contrast of at least 30% for integrated tiles, at least 45% for discrete indicators or at least 60% for discrete indicators consisting of two colours.	<i>AS1428.4.1 2.2 b</i>	Provide details for assessment
Comment: It is recommended that tactile ground surface indicators also be installed to stairs (at the top, bottom and any landing where a handrail is not continuous) where they are expected to be used for alternative vertical circulation.		
8.2 Consideration should also be given to installing tactile ground surface indicators outside the ground level entry if the entry is on grade with the vehicular way. Alternatively, a kerb and kerb ramp or other suitable barrier could be provided to alert pedestrians with a vision impairment of the potential for approaching vehicles.	<i>v B</i>	Provide details for assessment
9. Sanitary facilities		
9.1 Unisex accessible sanitary facilities with a shower are shown on ground level in the amenities at the eastern end of the building and on level 1 in the change room area at the western end of the building. These are evenly distributed between facilities for left- and right-handed use and will satisfy BCA Table F2.4 for the number of accessible facilities required in this type of building.	<i>BCA F2.4 a, b, f, g Table F2.4 a & b</i>	As shown on plans
9.2 In addition to doorway requirements previously listed, an accessible toilet door is to have an in-use indicator installed and the bolt/catch is to be capable of being opened from the outside in an emergency. Where a snib catch is used, the snib handle is to have a minimum length of 45mm from the centre of the spindle.	<i>AS 1428.1 15.2.9 b</i>	Ensure compliance

Access elements	Reference	Assessment
9.3 A sink may encroach into the circulation space of a hinged door provided that a minimum of 300mm clearance is maintained between the door and sink.	AS 1428.1 15.6 b iii Fig. 51A	As scaled from plans
9.4 The minimum required toilet pan circulation space is 1900mm x 2300mm with further space added to one of these dimensions to allow for a sink. The sink may encroach into the pan circulation space for a maximum of 100mm. Some fixtures are permitted within the pan circulation space including: Toilet paper dispenser, grabrails, hand dryers, towel dispensers, soap dispensers, shelves, clothes hanging devices.	AS 1428.1 15.2.8 Fig. 43, 50 15.6 b i 15.2.8.1	As scaled from plans/ ensure compliance
9.5 An accessible toilet pan is to have the following dimensions:	AS 1428.1 15.2.2	
a) The height of the toilet seat is to be 460-480mm.	AS 1428.1 Fig. 38	As scaled for level 1/ confirm for construction
b) The width of the toilet seat is to be a maximum of 400mm.	AS 1428.1 Fig. 38	As scaled for level 1/ confirm for construction
c) The cistern is to be a maximum of 600mm wide at a height of at least 600mm.	AS 1428.1 Fig. 38	N/A with recessed cistern
d) The midline of the pan is to be 450-460mm from the nearest side wall.	AS 1428.1 Fig. 38	As scaled for level 1/ confirm for construction
e) The front of toilet pan is to be 790-810mm from the rear wall.	AS 1428.1 Fig. 38	Amend for level 1/ confirm for construction
f) The front of toilet pan is to be at least 600mm from the cistern or any obstruction.	AS 1428.1 Fig. 38	As scaled for level 1/ confirm for construction

Access elements	Reference	Assessment
9.6 An accessible toilet seat is required to:	AS 1428.1 15.2.3	
a) Be of a full-round type with minimal contours to the top surface.	AS 1428.1 15.2.3 a	Ensure compliance
b) Be securely fixed in position when in use.	AS 1428.1 15.2.3 b	Ensure compliance
c) Have seat fixings that create lateral stability for the seat when in use.	AS 1428.1 15.2.3 c	Ensure compliance
d) Be load-rated to 150kg.	AS 1428.1 15.2.3 d	Ensure compliance
e) Have a minimum luminance contrast of 30% with the background (e.g. pan, wall or floor against which it is viewed).	AS 1428.1 15.2.3 e	Ensure compliance
f) Remain in the upright position when fully raised.	AS 1428.1 15.2.3 f	Ensure compliance
9.7 A backrest is required on all accessible toilets in accordance with AS 1428.1 and is to:	AS 1428.1 15.2.4	
a) Be capable of withstanding a force in any direction of 1100N.	AS 1428.1 15.2.4 a	Ensure compliance
b) Have a height between the toilet seat and lower edge of the backrest of 120-150mm.	AS 1428.1 15.2.4 b Fig. 39 a	As scaled for level 1/ confirm for construction
c) Have a vertical height dimension of 150-200mm and width of 350-400mm.	AS 1428.1 15.2.4 c Fig. 39 a	Confirm for construction
d) Be positioned at an angle of 95-100° (refer to Fig. 39 b).	AS 1428.1 15.2.4 d Fig. 39 b	As scaled for level 1/ confirm for construction
9.8 The flushing control is required to be proud of the surface and is to activate the flush before the button becomes level with the surrounding surface. It is to be located at a height between 600-1100mm in a reachable location. It should not be located in the area required for any grabrails or backrests.	AS 1428.1 15.2.5 Fig. 40	Compliance achievable for level 1/ confirm for construction

Access elements	Reference	Assessment
9.9 The toilet paper dispenser is to be located within 300mm of the front edge of the pan. It is to be located at a height between the top of the toilet seat and 700mm. It should not encroach upon the required grabrail clearance space.	<i>AS 1428.1 15.2.6 Fig. 41</i>	As scaled for level 1/ confirm for construction
9.10 A washbasin is required within an accessible sanitary compartment. It is to comply with AS 1428.1 including the following features:	<i>BCA F2.4 d AS 1428.1 15.2.10</i>	
a) Circulation space around and underneath the sink (it is recommended that the sink project at least 430mm from the wall). Water supply pipes and waste outlets are not to encroach into the required clear space underneath the sink.	<i>AS 1428.1 Fig. 44 A, B 15.3.1 e</i>	Compliance achievable for level 1/ confirm for construction
<p>Comment: A scaled assessment indicates that the level 1 sink will project 400mm from the wall. This sink projection may be required to ensure the sink does not encroach more than 100mm into the 2300mm length for toilet pan circulation.</p>		
b) The front edge of the sink is to be at a height of 800-830mm (and in accordance with manufacturer's instructions).	<i>AS 1428.1 Fig. 44 A, B</i>	As scaled for level 1/ confirm for construction
c) The distance between the front of the washbasin and operable parts (e.g. taps) is not to exceed 300mm.	<i>AS 1428.1 Fig. 44 A, B</i>	As scaled for level 1/ confirm for construction
d) Taps are to have lever handles, sensor plates or other similar controls with at least 50mm clearance from an adjacent surface.	<i>AS 1428.1 15.2.1 a, b</i>	Compliance achievable for level 1/ confirm for construction
9.11 Where provided, a mirror is to comply with AS 1428.1 and be located at the sink. It is to be vertical, have a minimum width of 350mm and extend from a minimum height of 900mm to at least 1850mm above the finished floor level.	<i>AS 1428.1 15.4.1</i>	As scaled for level 1/ confirm for construction
9.12 A shelf is required within an accessible sanitary compartment. The shelf type shown on plans is incorporated into the sink unit with a height of 800-830mm, width of at least 120mm and depth of 300-400mm without encroaching into any circulation spaces.	<i>BCA F2.4 d AS 1428.1 15.4.2</i>	As scaled for level 1/ confirm for construction

	Access elements	Reference	Assessment
9.13	<p>Where provided, soap dispensers, towel dispensers, hand dryers and similar fittings are to be operable by one hand and are to be installed with the height of their operative component or outlet between 900-1100mm and located at least 500mm from an internal corner.</p> <p>Any wall mounted fixtures within a required circulation space are to have a minimum height clearance of 900mm and a maximum projection of 150mm from the finished wall surface.</p> <p>Comment: A scaled assessment indicates that the item to the left of the mirror in the level 1 accessible sanitary facility, which is assumed to be the soap dispenser, will need to be relocated to be 500mm from an internal corner. It may be relocated to the opposite side of the mirror within the latch side door circulation space if the requirements outlined above are satisfied.</p>	<p>AS 1428.1 15.4.3</p> <p>AS 1428.1 15.2.8.1 j</p>	<p>Amend for level 1/ confirm for construction</p>
9.14	<p>An accessible sanitary facility containing a shower is required to have two clothes hooks within reach of the shower seat (i.e. one 400mm from the seat and one 600mm from the seat). These are to be at a height of 1200-1350mm and located at least 500 mm from an internal corner.</p>	<p>AS 1428.1 15.5.10 Fig. 47</p>	<p>Not yet detailed on plans</p>
9.15	<p>The shower is to comply with AS 1428.1 including the following features:</p> <p>a) A minimum width of 1160mm and a minimum length of 1100mm.</p> <p>b) Circulation space is required in front of the shower. Specific dimensions depend on other adjacent fixtures.</p> <p>Comment: A scaled assessment indicates that a 1600mm x 2350mm shower circulation space will overlap slightly with the sink in the level 1 facility. As this is not permitted by AS 1428.1, the sink should be shifted further into the corner to achieve compliance. In the ground level facility, compliance appears to be achievable although space will be tight. Installing a sink with the shelf on the right-hand side will provide some construction tolerance.</p>	<p>AS 1428.1 Fig. 47</p> <p>AS 1428.1 Fig. 47</p>	<p>Compliance achievable/ confirm for construction</p> <p>Amend for level 1/ confirm for ground level</p>

Access elements	Reference	Assessment
c) A folding seat in the shower with a width of 390-400mm, a length of at least 960mm, a height of 470-480mm and located on the side wall.	AS 1428.1 15.5.9 Fig. 47	Amend/ confirm for construction
<p>Comment: The shower seats in both accessible facilities are to be relocated to a maximum 40mm from the rear wall. The position of the shower seat in the level 1 facility has a significant variation from this dimension. Ensure that shower seats have a width of 390-400mm.</p>		
d) The shower rose is to be capable of being hand-held and adjustable between the heights of 1000-1800mm. It is to be located on the rear wall between 580-600mm from the side wall. The bottom of the rail supporting the adjustable shower rose is to be at a height of 1000-1100mm and the top is to be at a height of 1880-1900.	AS 1428.1 15.5.6 Fig. 48	Compliance achievable for level 1/ confirm for construction
e) The length of the flexible hose for the shower head is to be at least 1500mm with its wall outlet and back-flow prevention device being at a height of 695-705mm underneath the shower head support rail.	AS 1428.1 Fig. 48	Ensure compliance
f) The taps and soap holder are to be located with 50mm clearance around the shower rose support rail, at a height of 900-1100mm and between 300-800mm from the side wall.	AS 1428.1 15.5.7 15.5.8 Fig. 48	Amend for level 1/ confirm for construction
<p>Comment: Elevations of the level 1 facility indicate that the lever tap will be located at a height of 1860mm and this is to be amended to a height of 900-1100mm. A 300mm long shelf is shown for the soap holder. While this shelf starts less than 800mm from the side wall, it extends beyond the 300-800mm range required to be in easy reach from the shower seat. Consideration is to be given to providing a soap holder which keeps items on it within a 300-800mm reach range.</p>		
g) The floor waste is to be located in the centre of the shower with the floor gradient within the shower recess being between 1:60 and 1:80.	AS 1428.1 15.5.2 Fig. 47, 49	Not yet detailed on plans

Access elements	Reference	Assessment
9.16 Grabrails are to be provided:		
<p>a) Across the rear wall of the toilet, terminating at least 450mm from the side of the toilet pan. Where the cistern is recessed, the grabrail is to continue behind the toilet to within 50-60mm of the side wall (may be continuous with the grabrail on the side wall).</p> <p>Comment: A scaled assessment indicates that the rear grabrail in the level 1 facility will need to be extended to achieve a 450mm dimension from the side of the pan.</p>	AS 1428.1 15.2.7 Fig. 42	Amend for level 1/ confirm for construction
<p>b) Along the side wall nearest the toilet pan commencing 50-60mm from the rear wall (may be continuous with the rear wall grabrail) and extending horizontally to 100-150mm in front of the toilet pan before turning upward on an angle. The angled component is to extend to a height of at least 1400mm for a 90° angle.</p>	AS 1428.1 15.2.7 Fig. 42	As scaled for level 1/ confirm for construction
<p>c) For the shower on the rear wall starting from the edge of the seat (390-400mm off the side wall) with a minimum length of 660mm (this may be continuous to meet toilet grab rail).</p>	AS 1428.1 15.2.7 Fig. 42	Compliance achievable for level 1/ confirm for construction
9.17 Grabrails are to comply with AS 1428.1 including:		
<p>a) Have a diameter of 30-40mm.</p>	AS 1428.1 17 a	Ensure compliance
<p>b) The top of horizontal grabrail components is to be at a height of 800-810mm.</p>	AS 1428.1 Fig. 42, 48	As scaled for level 1/ confirm for construction
<p>c) Exposed edges and corners of grabrails are to have a radius of at least 5mm.</p>	AS 1428.1 17 b	Ensure compliance
<p>d) Be able to withstand a force of 1100N applied at any position and in any direction.</p>	AS 1428.1 17 c	Ensure compliance
<p>e) Have clearance of 50-60mm between a grabrail and the adjacent wall surface or other obstruction. Clearance above a grabrail is required for a minimum height of 600mm. Clearance below a grabrail is required to extend a minimum of 50mm (except at fixing points).</p>	AS 1428.1 17 d	Ensure compliance

Access elements	Reference	Assessment
<p>f) Be fixed so there is no obstruction to the passage of the hand along the top 270°. The full length of vertical grabrails is to be completely free of obstruction to the passage of the hand.</p>	<p>AS 1428.1 17 e</p>	<p>Ensure compliance</p>
<p>9.18 Toilets suitable for a person with an ambulant disability are shown in the ground level male and female amenities to satisfy BCA F2.4. These are to comply with AS 1428.1 including the following features:</p>	<p>BCA F2.4 c</p>	<p>As shown on plans</p>
<p>a) Internal cubicle width of 900-920mm.</p>	<p>AS 1428.1 Fig. 53 A, B</p>	<p>As scaled from plans</p>
<p>b) Minimum 700mm clear width of doors.</p>	<p>AS 1428.1 16.3</p>	<p>Not yet detailed on plans</p>
<p>c) An in-use indicator is to be installed and the bolt/catch is to be capable of being opened from the outside in an emergency. Where a snib catch is used, the snib handle is to have a minimum length of 45mm from the centre of the spindle.</p>	<p>AS 1428.1 16.3</p>	<p>Ensure compliance</p>
<p>d) Circulation space of 900mm x 900mm within the cubicle and outside the cubicle door.</p>	<p>AS 1428.1 Fig. 53 A, B</p>	<p>As scaled from plans</p>
<p>e) Circulation space of 900mm x 900mm between successive doorways in vestibules and airlocks on a path of travel to ambulant toilets.</p>	<p>AS 1428.1 Fig. 34</p>	<p>Amend for construction</p>
<p>Comment: In the female amenities, the item, which is presumed to be a hand dryer, is to be relocated to provide a 900mm x 900mm clear circulation space at the door to exit the amenities.</p>		
<p>f) The height of the toilet seat is to be 460-480mm.</p>	<p>AS 1428.1 Fig. 53 A</p>	<p>Amend for construction</p>

Access elements	Reference	Assessment
g) Grabrails on both sides with 400mm horizontal and 400mm vertical sections at 90°. The top of horizontal components is to be at a height of 800-810mm and they are to be located commencing 200-250mm behind the front of the toilet pan.	AS 1428.1 16.2 Fig. 53 A	Amend for construction
<p>Comment: A scaled assessment indicates that the height and location of the grabrails in relation to the toilet pans will need to be amended to achieve compliance.</p>		
h) The toilet paper dispenser is to be located within 300mm of the front edge of the pan. It is to be located at a height between the top of the toilet seat and 700mm. It should not encroach upon the required grabrail clearance space.	AS 1428.1 Fig. 53(A)	Amend/ confirm for construction
i) A coat hook at a height of 1350-1500mm.	AS 1428.1 16.5	Not yet detailed on plans

10. Switches and controls

10.1 Switches and controls (except general purpose outlets) are to be placed at a height between 900-1100mm and at least 500mm from an internal corner. These requirements will apply to all security devices such as swipe card entry to the building or secure areas.	AS 1428.1 14.1	Ensure compliance
10.2 Rocker action and toggle switches are to be provided in accessible sanitary facilities and are to have minimum dimensions 30mm x 30mm.	AS 1428.1 14.2	Ensure compliance
10.3 General purpose outlets in accessible sanitary facilities are to be located at a height between 600-1100mm and at least 500mm from an internal corner.	AS 1428.1 14.2	Ensure compliance

11. Sound

11.1 A hearing augmentation system is to be provided where an inbuilt amplification system is installed (other than one used for emergency warning purposes only) in a meeting room or the future function area.	BCA D3.7 a	Not yet detailed on plans
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	Access elements	Reference	Assessment
	<p>Note that the BCA Performance Requirement DP9 also requires any inbuilt communication system for entry (such as an intercom system) to be suitable for people with a hearing impairment, despite omission of specific reference in the Deemed-To-Satisfy Provisions.</p>		
	<p>Where provided, a hearing augmentation is to comply with BCA D3.7 and it is recommended that compliance with AS 1428.5 be achieved as best practice despite this standard not being referenced by the BCA.</p>		<p>Ensure compliance where present</p>
11.2	<p>If an induction loop is installed, it is to be provided to at least 80% of the floor area of the room or space served by the inbuilt amplification system.</p>	<p><i>BCA D3.7 b i</i></p>	<p>Not yet detailed on plans</p>
11.3	<p>If a system using receivers is installed, it is to be available to at least 95% of the room or space served by the inbuilt amplification system. The number of receivers required is to be calculated in accordance with BCA D1.13 and D3.7.</p>	<p><i>BCA D3.7 b ii c</i></p>	

12. Signage

12.1 Signage is required as follows:

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|---|--|--------------------------|
| <p>a) All sanitary facilities and associated airlocks are to be identified with Braille and tactile signage in accordance with BCA Specification D3.6.</p> | <p><i>BCA D3.6
a i A
AS 1428.1
8.1 a iii</i></p> | <p>Ensure compliance</p> |
| <p>b) The unisex accessible sanitary facilities are to be identified by Braille and tactile signage which incorporates the international symbol of access, male and female symbols and identifies if the facility is for left- or right-handed use.</p> | <p><i>BCA D3.6
c
AS 1428.1
8.1 a i, ii</i></p> | <p>Ensure compliance</p> |
| <p>Comment:
In the current configuration, the facility on ground level will be for right-handed use while the facility on level 1 will be for left-handed use.</p> | | |
| <p>c) Toilet cubicles which are suitable for the use of people with an ambulant disability are to be identified by Braille and tactile signage complying with AS 1428.1 which is located on the door of the cubicle.</p> | <p><i>BCA D3.6 d
AS 1428.1
8.1 e
Fig. 9f</i></p> | <p>Ensure compliance</p> |

Access elements	Reference	Assessment
d) Where a hearing augmentation is installed, Braille and tactile signage is required to identify the space containing it and within the room to identify the type of system, area covered and if receivers are being used, where they can be obtained.	<i>BCA D3.6 a i B, b</i>	Ensure compliance
e) Each door required by BCA E4.5 to be provided with an exit sign is to be identified by Braille and tactile signage complying with BCA Specification D3.6. These are to state 'Exit' and 'Level' followed by the floor level number and be located in accordance with BCA Specification D3.6.	<i>BCA D3.6 a ii</i>	Ensure compliance
12.2 Signage is to comply with BCA Specification D3.6 and AS 1428.1 including the following features:		
a) English words are to be incorporated into signage (except to explain the international symbols for access and deafness) and be in title case (ie the first letter of each word is capitalised).	<i>AS 1428.1 8.1 a i C</i>	Ensure compliance
b) The international symbols for access and deafness are to comply with AS 1428.1 (part 8.2) including the figures, proportions and colours.	<i>AS 1428.1 8.2</i>	Ensure compliance
c) Braille and tactile signage is to be located at a height between 1200-1600mm (signs with single lines of characters are to have the tactile characters at a height between 1250-1350mm). Signage is to be placed on the wall on the latch side of the door with the leading edge 50-300mm from the architrave (or on the door where it is not possible to locate in on the wall).	<i>BCA Specification D3.6 2 a, b, c</i>	Ensure compliance
d) Tactile characters are to comply with BCA Specification D3.6 including raised height, being of title case, character dimensions, rounded edges, matt/low sheen finish, letter and word spacing, left justified (single words may be centre justified) and Arial font.	<i>BCA Specification D3.6 - 3</i>	Ensure compliance
e) Signage is to have contrasting colour and luminance between: <ul style="list-style-type: none"> i. The mounting surface and the sign background/border. ii. The sign background and the tactile characters/symbols. 	<i>BCA Specification D3.6 - 4</i>	Ensure compliance

Access elements	Reference	Assessment
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f) Braille is to comply with BCA Specification D3.6 including style and location.	<i>BCA Specification D3.6 - 6</i>	Ensure compliance
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13. Internal space

13.1 Despite furniture and joinery not being specifically addressed by BCA DTS Provisions, the accessible path of travel around fixed elements should be considered in relation to DDA obligations. It is also recommended that the accessible path of travel around unfixed furniture be considered. The potential for such items to be relocated to suit the varying needs of the occupants allows for flexibility in addressing accessibility, however, the occupants should be aware that this may also create circumstances where accessibility is compromised if furniture obstructs a path of travel or circulation space.		Consider DDA risk
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13.2 The UoN Design Standard – Access Design Guidelines contain additional features which are required for all new building work in research spaces, although they acknowledge that these features may not be appropriate for all facilities. Features include:	<i>UoN Access Guidelines Section B3</i>	
a) Any safety equipment provided should be accessible for people with disabilities.		Ensure compliance
b) Fire alarm systems are to include auditory and visual alarms.	<i>AS 1428.2 18.2</i>	Ensure compliance
c) Shut down and isolation controls are to be accessible.		Ensure compliance
d) Eyewash and safety showers are to be accessible in a similar manner to accessible sanitary facilities.	<i>AS 1428.1 15</i>	Ensure compliance
e) At least one accessible, height adjustable workbench is to be provided for every 40 workbenches in laboratory spaces. This is to include under bench space for wheelchairs.	<i>AS 1428.2 24</i>	Ensure compliance
f) Access to workbench controls for water, gas and power. Note that the location of these services must also adhere to the placement and separation of services as governed by statutory regulations i.e. above the bench top and away from potential hazards.		Ensure compliance

Access elements	Reference	Assessment
g) Fume hood and biological safety cabinets are to have wheelchair leg room, and large valve handles and on/off switches located at the front.		Ensure compliance
h) Sinks designed so that at least one of each per laboratory space is accessible to people with disabilities.		Ensure compliance

14. Car parking

<p>14.1 Accessible car parking spaces are to be provided in a car parking area on the same allotment as a building required to be accessible. The BCA specifies that one accessible car parking space is to be provided for every 100 car parking spaces or part thereof associated with a Class 7b or 8 building.</p> <p>Car parking for the proposed building is not yet shown on plans, however we have been advised that two accessible car parking spaces will be relocated to the area adjacent to the Medical Science Loading Bay to serve this building as part of the proposed building work.</p> <p>We understand that upgrades to the existing car parking area to the south of the proposed building are planned in the future and will provide two accessible car parking spaces with another two spaces nearby. These spaces will provide an improved connection to the level 1 entry but are not required as part of the current scope.</p> <p>On completion, all accessible car parking spaces are to comply with AS 2890.6, including the features outlined in this section of this report.</p>	<p><i>BCA D3.5 b c Table D3.5</i></p>	
<p>14.2 Car parking spaces for people with a disability and their associated shared areas require a firm plane surface with a maximum cross fall of 1:40 (1:33 if of a bitumen surface and outdoors).</p>	<p><i>AS 2890.6 2.3</i></p>	<p>Not yet shown on plans</p>
<p>14.3 Car parking spaces for people with a disability require minimum dimensions of 2400mm wide x 5400mm long.</p>	<p><i>AS 2890.6 2.2.1 a</i></p>	<p>Not yet shown on plans</p>
<p>14.4 A shared area is required adjacent to the car parking space. This is to have minimum dimensions of 2400mm wide x 5400mm long and have a bollard located in accordance with AS 2890.6. Note that this shared area may be a common shared area between 2 accessible car parking spaces.</p>	<p><i>AS 2890.6 2.2.1 b e Fig. 2.2, 2.3</i></p>	<p>Not yet shown on plans</p>

	Access elements	Reference	Assessment
14.5	A shared area is also required at one end of the car parking space with minimum dimensions of 2400mm x 2400mm. This may be located within a trafficked area and is not required to be line marked.	AS 2890.6 2.2.1 c Fig. 2.2, 2.3	Not yet shown on plans
14.6	Minimum headroom of 2500mm is required above the accessible car parking space and the associated shared areas. The vehicular path of travel to the accessible spaces is to have minimum vertical clearance of 2200mm.	AS 2890.6 2.4 Fig. 2.7	Not yet shown on plans
14.7	Signage is required to designate accessible car parking spaces for the use of people with a disability (not required where there is a total of 5 or less carparks). The international symbol of access (white symbol on blue background) is to be placed as a pavement marking in accordance with AS 2890.6.	BCA D3.5 d AS 2890.6 3.1	Not yet shown on plans
14.8	It is recommended, as best practice, that vertical signage also be installed (refer to AS 2890.6 Appendix A3). Directional signage will be required at the entry and changes in direction to direct traffic to these spaces.	AS2890.6 A3 a	Consider best practice
14.9	Yellow, slip-resistant pavement markings are to identify dedicated parking spaces and shared areas. Shared areas are to be marked with diagonal lines complying with AS 2890.6.	AS 2890.6 3.2 3.2 b ii	Not yet shown on plans

Conclusion

Access will need to comply with the elements identified in this report.

Generally, the plans assessed show that compliance with requirements for access for people with a disability is subject to incorporation of specific details and some amendments. Requirements and recommendations to achieve compliance with the Premises Standards, Building Code of Australia and Australian Standards for accessibility and to minimise the risk of action under the Disability Discrimination Act, have been explained in this report.

Reference numbers are provided for clarification of comments within this report. Alternatively, the undersigned may be contacted on the details below for further clarification.

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Reasonable care and skill have been exercised in the assessment of the building and the preparation of this report. However, this report shall not be construed as relieving any other party of their responsibilities or obligations.

The advice given is based on the assessment of the plans and other relevant documentation supplied regarding access requirements in the BCA, Australian Standards, Premises Standards and Disability Discrimination Act current at the time. The advice relates specifically to this project and may not apply to any other building or to this building at any other point in time.