



Accessibility Assessment Report

BCA 2016

**Project Address: Tower B One Circular Quay,
1 Alfred St Sydney NSW 2000**

Client: Yuhu Group (Australia) Pty Ltd

Report Number: 152779

Revision: 07 S4.55

18 DECEMBER 2018

REPORT REVISION HISTORY

Revision	Date Issued	Revision Description				
01	13/10/16	Preliminary Review - Prepared by Rachael Telling, reviewed by Brendan Bennet				
02	26/10/16	S96 Review - Prepared by Rachael Telling, reviewed by Brendan Bennet				
03	06/01/17	60% DD Review - Prepared by Adam DeLooze, reviewed by Rachael Telling				
04	08.03.17	100% DD Review - Prepared by Adam DeLooze, reviewed by Brendan Bennett				
05	26.06.17	Tender Issue - Prepared by Adam DeLooze, reviewed by Brendan Bennett				
06	20/12/18	S4.55 Application amendments				
		<table><tr><th>Prepared by</th><th>Verified by</th></tr><tr><td>Lucy Shepherd Manager - Access</td><td>Adam DeLooze Executive Director – Building BPB0085 – A1 Unrestricted</td></tr></table>	Prepared by	Verified by	Lucy Shepherd Manager - Access	Adam DeLooze Executive Director – Building BPB0085 – A1 Unrestricted
Prepared by	Verified by					
Lucy Shepherd Manager - Access	Adam DeLooze Executive Director – Building BPB0085 – A1 Unrestricted					

Certification

This report has been authorised by City Plan Services P/L, with input from a number of other expert consultants. To the best of our knowledge the accuracy of the information contained herein is neither false nor misleading. The comments have been based upon information and facts that were correct at the time of writing.

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City Plan Services P/L

Suite 6.02, 120 Sussex St, Sydney NSW 2000
P +61 2 8270 3500

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1. EXECUTIVE SUMMARY

This report assesses the level of accessibility compliance achieved Tower B One Circular Quay located at 1 Alfred Street, Sydney NSW 2000.

The documentation provided for assessment has been reviewed against the relevant clauses of the Premises Standards 2010, Building Code of Australia and associated Australian Standards pertaining to the accessibility requirements for people with a disability.

The report does not verify compliance with any standard or code other than those listed within Section 2.3. below.

Generally, compliance with the BCA and AS 1428.1-2009 has been achieved.

The following items are to be considered during design development:

- Ensure at ground level all gradients and ramps comply with the requirements of the BCA and AS 1428.1-2009.
- Ensure accessible sanitary facilities are provided at a minimum of 50% of banks of amenities on all storeys where sanitary facilities are provided.
- Ensure all doors within common areas can achieve clear opening widths and circulation in accordance with the requirements of AS 1428.1-2009.
- Landscape drawings to be provided to detail accessway between Towers A and B, and to ensure compliant level changes are achieved between the landscape and building interface.

It is our opinion that the non-compliances can be addressed at construction certificate stage as the design is developed.

The following report details the nature of the above non-compliances and proposes where design modification or a performance-based approach might be considered.

2. INTRODUCTION

2.1. General

The development, the subject of this report, is for the shared basement beneath towers A and B providing car parking, storage and back of house areas and the mixed-use twenty-nine (29) storey development comprising retail at ground floor level and hotel accommodation and associated common areas and amenities throughout levels 01-25. Tower A is subject to a separate application, refer to Tower A report issued by City Plan Services.

The property is situated within the local government area of City of Sydney.

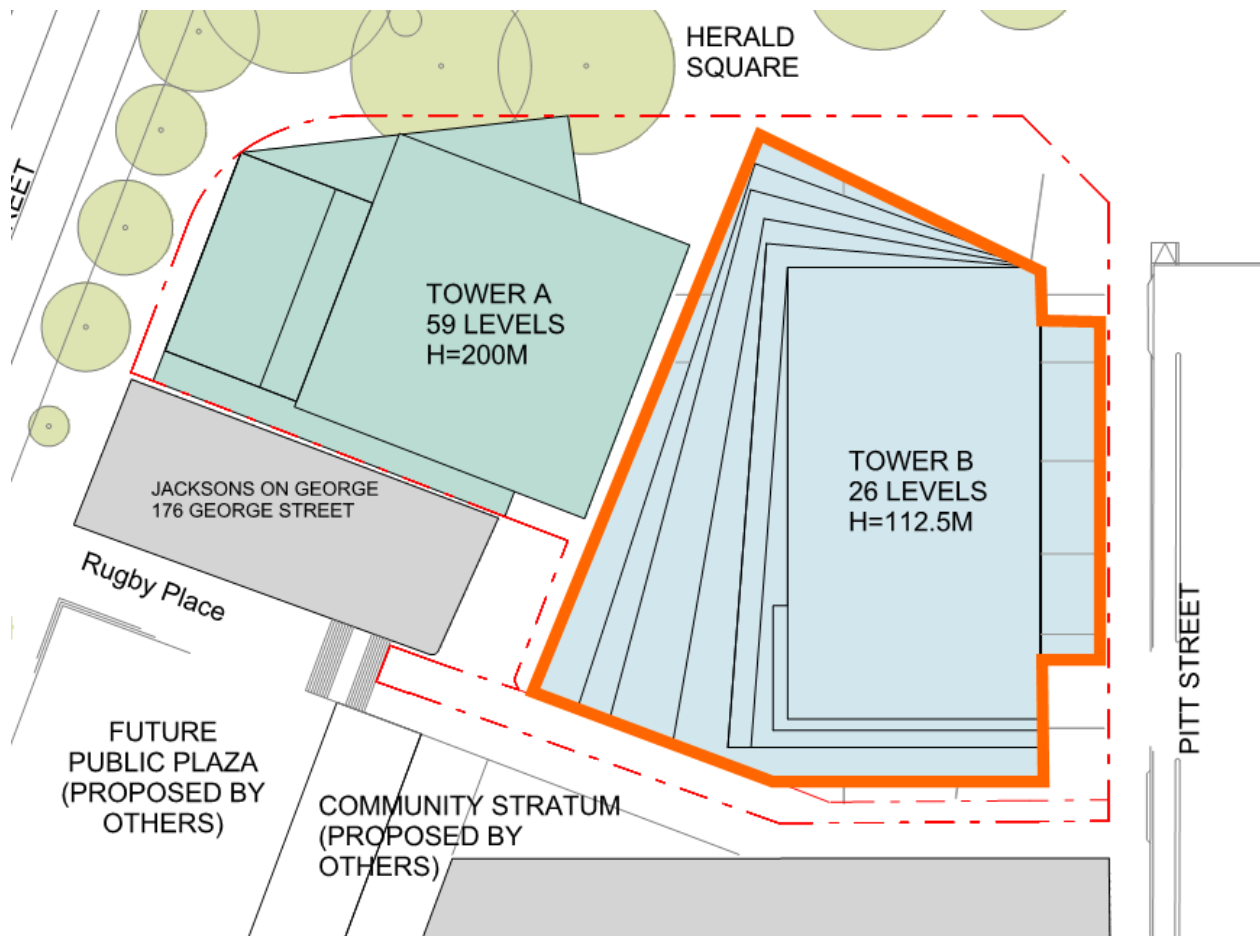


Figure 1 – Location of Tower B at 1 Alfred St, Sydney

2.2. Purpose of Report

This report has been prepared on behalf of Yuhu Group (Australia) Pty Ltd to establish compliance with the access requirements of the Building Code of Australia (hereafter referred to as the BCA), the Disability (Access to Premises - Buildings) Standards 2010 (hereafter referred to as the Premises Standards 2010) and relevant Acts and Regulations of the development application documentation for the proposed works.

2.3. Report Basis

This report is based on:

1. Environmental Planning and Assessment Act 1979.
2. Environmental Planning and Assessment Regulation 2000.
3. Disability (Access to Premises – Buildings) Standards 2010.
4. The Building Code of Australia 2016, amendment 1, inclusive of NSW variations (See Note 1).
5. Australian Standards, as referenced within the BCA:
 - Australian Standard AS1428.1-2009 - Design for access and mobility Part 1: General requirements for access - New building work.
 - Australian Standard AS/NZS 2890.6-2009 Parking Facilities Part 6: Off-street parking for people with disabilities.
 - Australian 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.
 - Australian Standard AS1735.12-1999 Lifts, escalators and moving walks Part 12: Facilities for persons with disabilities.
6. Architectural plans prepared by Crone Architects, as listed in Appendix 1.

Note 1: Building Code of Australia (BCA) 2016 amendment 1 was adopted in NSW on 12 March 2018. The amendment of the BCA in force at the date of lodgement is the version called up by Clause 98 of the Environmental Planning and Assessment Regulation 2000 for the purpose of the building design. Therefore, comments may be subject to changes to comply with updated versions of the Building Code of Australia.

2.4. Exclusions and Limitations

This report has been prepared based on the following limitations and exclusions:

1. This report does not verify compliance with the Building Code of Australia other than the accessibility provisions of Parts D3, F2.4 and E3.6.
2. This report does not consider any heritage controls or restrictions.
3. This report does not include or imply compliance with the Development Consent other than accessibility items specified.

4. This report does not verify compliance with the Disability Discrimination Act, other than the requirement to comply with the Premises Standards 2010.

2.5. Building Description

The proposed building consists of:

Basement 6-3	Class 7a – Carpark Class 7b – Residential storage
Basement 2	Class 2 – Residential lobby Class 3 – Hotel BoH
Basement 1	Class 7b – Residential storage Class 3 – Hotel BoH Class 8 – Hotel substation
Ground Floor	Class 3 – Hotel Class 6 – Retail
Ground Mezzanine	Class 3 - Plant
Level 1	Class 9b – gymnasium, pool and spa
Level 1 Mezzanine	Class 3 - Plant
Level 2	Class 9b – Ballroom / Function
Level 2 Mezzanine	Class 3 - Plant
Level 3	Class 6 – Dining
Level 4 - 22	Class 6 - Restaurant
Level 23	Class 3 - Plant
Level 24	Class 6 - Restaurant
Level 25	Class 6 - Bar

3. DISABILITY (ACCESS TO PREMISES – BUILDING) STANDARDS 2010

The Premises Standards 2010 applies to all new buildings and building parts, including existing buildings undergoing upgrade works. The Premises Standards 2010 aims to provide certainty for the building industry in relation to meeting the DDA requirements for access to buildings. The Premises Standards 2010 generally aligns with the BCA and provides specific prescriptive requirements for compliance with a range of Australian Standards relating to access and associated matters. If a building is designed and constructed under the current BCA and the Premises Standards 2010 there is a greater level of assurance that the design complies with the DDA.

The BCA, in conjunction with the DDA applies to all new buildings, new building works to existing buildings and buildings undergoing significant refurbishment or alteration.

4. ACCESSIBLE AND ADAPTABLE CARPARKING

The shared basement which forms part of the application for Tower B accommodates parking associated with both Class 2 residential and Class 3 Hotel areas.

Class 2 residential bays are located at basement levels 6 – 3. One (1) accessible / adaptable car space is required for each adaptable unit to satisfy Clause 3.7.2 of AS4299-1995, being the only essential carparking feature required for Class C developments. The designated accessible car space should comply with either the requirements of AS 4299-1995 or AS/NZS 2890.6:2009. The Silver Livable Rating required by SEPP 65 does not contain any specific carparking requirements, a total of 25 Adaptable units are proposed within the development, therefore **25** adaptable accessible bays are required, associated with Class 2 requirements.

Class 3 hotel parking is located at basement level 02. Clause D3.5 of the BCA requires that parking for Class 3 accommodation is calculated based upon the total number of carparking spaces by the percentage of accessible sole-occupancy units (to total number sole occupancy units). A total of two (2) accessible bays are required to satisfy Class 3 requirements.

Total spaces associated with Class 3	Total SOUs (including accessible)	Total Accessible SOUs	Percentage Accessible SOU to non-accessible SOU	Accessible parking bay requirement
28	220	10	5%	1.3 (2)

Accessible carparking bays should have a vertical clearance above the car space and the adjacent shared area of a minimum of 2.5m high. The vehicle path from the street to the accessible spaces should have a clear head height of 2.2m. Consideration should be given to services within the carpark as these often reduce the head clearances resulting in further non-compliances.

Bollards are to be positioned within the shared space as shown in Figures 2.2 and 2.3 of AS/NZS 2890.6:2009 (Refer to figure 2 below) and space delineation in accordance with Section 3.2 of AS/NZS 2890.6:2009. The construction certificate documentation is to document compliant shared spaces for all accessible spaces and bollards as per Figure below.

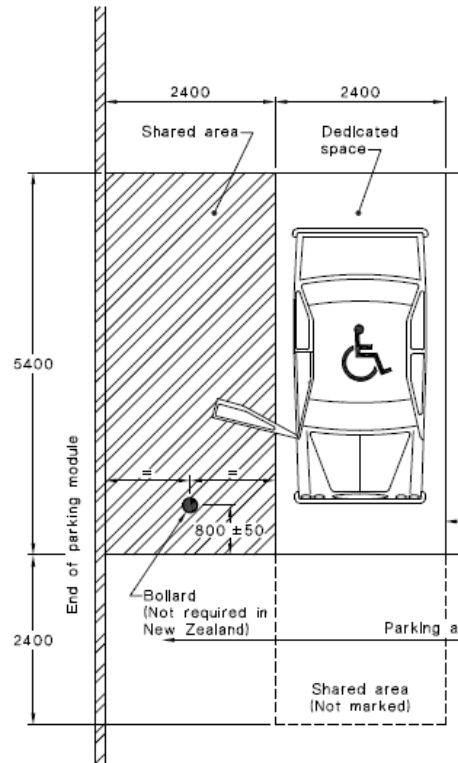


Figure 2

5. BUILDING CODE OF AUSTRALIA ASSESSMENT

This assessment considers the accessibility requirements of the BCA, specifically Clauses D2.17, E3.6, F2.4 and Part D3.

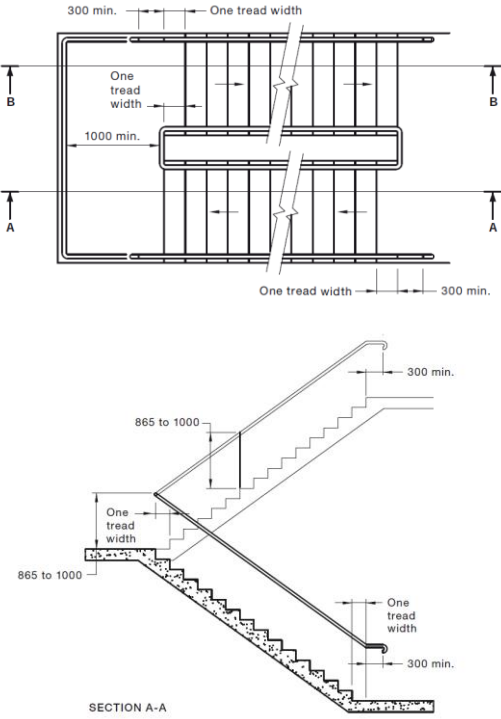
5.1. BCA Interpretation

The following assessment methodology has been applied to the subject development:

- Movable furniture has not been considered as part of this assessment; and
- Some Back of House (BoH) areas have been excluded under BCA Clause D3.4. Refer to Section 5.2 below.

5.2. Access for People with a Disability

BCA Clause	Title	Assessment and Comment	Status
2.17	Handrails in exits	<p>Handrails in exits</p> <p>Handrails are required along at least one side of all fire-isolated required exit stairways or ramps, or on both sides of stairs or ramps with a total width of more than 2m.</p> <p>Handrails within fire-isolated required exit stairs / ramps are required to comply with Clause 12 of AS1428.1-2009.</p> <p>Clauses 12(e) and 12(j) of AS1428.1-2009 requires that the handrails be consistent throughout the stair and that handrails at landings shall always be continuous. This is generally achieved by providing an offset tread, as shown in figure 28 of AS1428.1-2009, however the offset tread is not a prescriptive requirement and is just one method of achieving consistent handrail heights throughout the stair. Handrails containing vertical sections or sections with an inconsistent height at landings do not achieve compliance with Clause 12 of AS 148.1-2009.</p>	Capable of Complying

BCA Clause	Title	Assessment and Comment	Status
		 <p><i>Figures 3 & 4</i></p> <p>Refer to Section D3.3 for handrail requirements in parts of buildings required to be accessible.</p> <p>Offset treads have been provided within fire-isolated required exits.</p>	
D3.1	General building access requirements	<p>In accordance with Table D3.1, access is to be available in the following areas:</p> <p>Class 2 Residential (basement common areas basement 06 - 02)</p> <p>Access is required to and within not less than one (1) type of room or space for use in common by residents or guests. Within residential basement levels access has been proposed to all storage areas and the basement lobby (basement 02) and bicycle storage area, in</p>	<p>Capable of Complying</p>

BCA Clause	Title	Assessment and Comment	Status
		accordance with the requirements of BCA Clause D3.1.	
		<p>Class 3 Short term accommodation</p> <p>Access is required to and within not less than one (1) of each type of room or space for use in common by residents.</p> <p>Where a lift is installed access is required to the entrance doorway of each SOU and common areas located on levels served by the lift.</p> <p>Accessible SOUs are required to be provided at a rate in accordance with Table D3.1 of the BCA.</p> <p>Not more than two (2) required accessible SOUs may be located adjacent to each other.</p> <p>Where more than two (2) SOUs are required they must be representative of the range of rooms available.</p> <p>A total of 220 SOUs are proposed in total, ten (10) of which have been identified as accessible, in accordance with the requirements of BCA Table D3.1.</p> <p>Accessible SOUs represent the range of views and amenities available. Details of accessible SOU layouts are to be provided within construction certification documentation.</p>	Capable of Complying
		<p>Class 6 Retail</p> <p>Access is required to and within all areas normally used by the occupants to comply with Table D3.1 of the BCA.</p>	Capable of Complying
D3.2	Access to buildings	<p>An accessway (continuous accessible path as defined by AS1428.1-2009) must be provided to a building required to be accessible:</p> <ul style="list-style-type: none"> from the main points of a pedestrian entry at the allotment boundary; and from another accessible building connected by a pedestrian link; and from the required accessible carparking spaces on the allotment. 	<p>Capable of Complying</p> <p>Performance Solution</p>

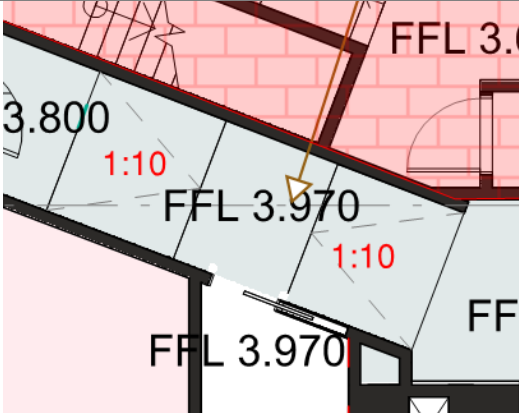
BCA Clause	Title	Assessment and Comment	Status
		<p>Three (3) hotel lobby entrances are proposed (from Pitt St, Rugby Place and opposite George St. The southern doors do not currently provide compliant doorway circulation, refer to Section 13 within AS 1428.1-2009 assessment below.</p> <p>Doorways with multiple leaves, on any accessway are required to achieve a clear opening width of not less than 850mm at one of the leaves, in accordance with AS 1428.1-2009.</p> <p>Detailed construction documentation is to demonstrate compliance with AS1428.1. Landscape plans are to be provided to demonstrate connection to Tower A.</p> <p>It is understood that a performance-based approach will be pursued to justify an accessway via the basement between towers A and B.</p>	
D3.3	Parts of building to be accessible	<p>Every ramp and stairway must comply with:</p> <ul style="list-style-type: none"> for a ramp, except a fire-isolated ramp, clause 10 of AS 1428.1 (gradients, rise, length and landings); and for a stairway, except a fire-isolated stairway, clause 11 of AS 1428.1 (set-backs, nosings, TGSIs, handrail extensions, handrail design); and for a fire-isolated stairway, clause 11.1(f) and (g) of AS 1428.1-2009. <p>Full details to be provided with construction documentation.</p> <p>Handrails and TGSIs are not fully documented and details are to be included in further design documents</p> <p>Accessways require passing spaces in accordance with AS1428.1-2009 (1800 x 2000mm) at maximum 20m intervals where no direct line of sight is available.</p> <p>Turning spaces in accordance with AS1428.1-2009 (1540 x 2070mm) are required within 2m of the end of accessways where it is not possible to</p>	Capable of Complying

BCA Clause	Title	Assessment and Comment	Status
		<p>continue traveling and at maximum 20m intervals along the accessway.</p> <p>Note: Clause 7.4.1(a) of AS1428.1-2009 does not apply and is superseded by BCA Clauses D3.3 (g) and(h), whereby <i>the pile height or pile thickness shall not exceed 11 mm and the carpet backing thickness shall not exceed 4 mm and the carpet pile height or pile thickness dimension, carpet backing thickness dimension and their combined dimension shown in figure 8 of AS1428.1-2009 do not apply and are replaced with 11 mm, 4 mm and 15 mm respectively.</i></p> <p>Details to be included within the construction certificate documentation.</p>	
D3.4	Exemptions	<p>The following areas are not required to be accessible:</p> <ul style="list-style-type: none"> ▪ An area where access would be inappropriate because of the particular purpose for which the area is used. ▪ An area that would pose a health or safety risk for people with a disability. ▪ Any path of travel proving access only to an area exempted by (a) or (b). <p>Within the context of the above the following areas have been excluded under Clause D3.4:</p> <ul style="list-style-type: none"> ▪ Plant rooms at basement levels 06, 02 and 01. ▪ BoH loading area (basement level 01). ▪ Luggage storage rooms and associated accessways (ground floor). ▪ Ground Mezzanine (plant only). ▪ Level 01 mezzanine (plant only). ▪ Level 02 mezzanine (plant only). ▪ Kitchen and BoH lobby (levels 02,03). ▪ Plant and BoH linen (levels 04, 05). ▪ BoH Linen areas (levels 06-22). ▪ Level 23 (plant only). 	Note

BCA Clause	Title	Assessment and Comment	Status
		<ul style="list-style-type: none"> Level 24 kitchen. 	
D3.5	Car parking	<p>Residential</p> <p>One (1) accessible car space associated with each adaptable apartment is required to satisfy Clause 3.7.2 of AS4299-1995. The designated accessible car spaces are required to have minimum dimensions of 6.0m x 3.8m to achieve compliance with AS4299-1995. Assessable parking complying with AS/NZS2890.6-2009 satisfies the requirements of this clause.</p> <p>A total of 25 accessible adaptable spaces have been provided in accordance with the requirements of AS 4299-1995.</p> <p>A total of three (3) accessible car parking bays have been provided, associated with class 3 hotel area, which meets the requirement of BCA Clause D3.5.</p>	Capable of Complying
		<p>Retail and Commercial</p> <p>No bays are associated with retail and commercial areas.</p>	Note
D3.6	Signage	<p>Braille and tactile signage complying with Specification D3.6 must identify the following:</p> <ul style="list-style-type: none"> Each accessible and ambulant sanitary facility. Spaces where hearing augmentation is provided. Each doorway with an Exit Sign (e.g. fire stair doors) must be provided with braille and tactile signage incorporating wording of, "Exit", and "Level", and either, the floor level number or floor level descriptor. Where a pedestrian entrance is not accessible, directional signage incorporating the international symbol for access must be provided to direct a person to the nearest accessible entrance. Where an accessible sanitary facility is not provided at a bank of sanitary facilities directional signage incorporating the 	Capable of Complying

BCA Clause	Title	Assessment and Comment	Status
		<p>international symbol of access to be provided to direct a person to the nearest accessible unisex facility.</p> <p>Signage details have not been specified at this stage.</p> <p>Construction documentation to incorporate a signage schedule and demonstrate compliance.</p>	
D3.7	Hearing augmentation	<p>A hearing augmentation system must be provided where an inbuilt amplification system, other than one uses only for emergency warning is installed in the following areas:</p> <ul style="list-style-type: none"> ▪ In a room in a Class 9b building ▪ In an auditorium, conference room, meeting room or room for judicatory purposes ▪ At any ticket office, teller's booth, reception area or the like, where the public is screened from the service provider. <p>An induction loop system must be provided to not less than 80% of the floor area of the room or space.</p> <p>A system requiring the use of receivers must be available to not less than 95% of the floor area. The number of receivers provided to be calculated in accordance with BCA Clause D3.7.</p> <p>Any screen or scoreboard associated with a Class 9b building and capable of displaying public announcements must be capable of supplementing any public-address system other than a public-address system used for emergency warning purposes only.</p>	Capable of Complying
D3.8	Tactile indicators	<p>Tactile ground surface indicators (TGSIs) are required at all stairs, ramps, escalators / moving walks and overhead obstructions (excluding fire-isolated required exit stairs/ramps).</p> <p>TGSIs are to be documented to the applicable stairs and ramps and are required to comply with sections 1 and 2 of AS/NZS 1428.4.1-2009.</p>	Capable of Complying

BCA Clause	Title	Assessment and Comment	Status
		Construction documentation should demonstrate compliance.	
D3.9	Wheelchair seating spaces in Class 9b assembly buildings	The building does not contain a Class 9b part with fixed seating.	Note
D3.10	Swimming Pools	<p>A swimming pool has been proposed at level 01 with an approximate perimeter of 48m.</p> <p>The pool has a perimeter greater than 40m therefore access is required to and into the swimming pool, via an accessible means of entry in accordance with BCA Specification D3.10.</p> <p>Where required, an accessible entry / exit must be by the following means:</p> <ul style="list-style-type: none"> ▪ a fixed or movable ramp and an aquatic wheelchair; or ▪ a zero depth entry at a maximum gradient of 1:14 and an aquatic wheelchair; or ▪ a platform swimming pool lift and an aquatic wheelchair; or ▪ a sling-style swimming pool lift (except where perimeter is more than 70m). <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying
D3.11	Ramps	<p>A series of connected ramps must not have a combined vertical rise of more than 3.6m.</p> <p>A landing for a step ramp must not overlap a landing for another step ramp or ramp.</p> <p>The following requires design modification or a performance-based approach:</p> <ul style="list-style-type: none"> ▪ The BoH step ramp at ground floor level has an overlapping landing with a second step ramp. Design modification required at construction certificate or pursue a performance-based approach. Refer to Figure 5 below. 	Performance Solution

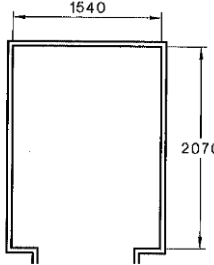
BCA Clause	Title	Assessment and Comment	Status
		 <p>Figure 5 – Step ramp in BoH area at ground floor level</p>	
D3.12	Glazing on an accessway	<p>On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1-2009.</p> <p>Full height glazed panels and doors throughout the building will require compliant visual indicators, specified in accordance with the requirements of Clause 6.6 of AS1428.1-2009.</p> <p>Construction documentation should demonstrate compliance.</p>	Choose an item.
E3.6	Passenger lifts	<p>Passenger lifts are required to be in accordance with BCA Clause E3.6.</p> <p>A total of eight (8) lifts are proposed throughout Tower B.</p> <p>One (1) retail lift serves levels basement 2 – ground, predominantly for use of staff.</p> <p>Two (2) staff BoH lifts serve levels basement 2 – 25.</p> <p>Four (4) guest lifts serve levels basement 2 – 25.</p> <p>One (1) platform lift is proposed to address the level change at the ground floor hotel lobby.</p>	Capable of Complying

BCA Clause	Title	Assessment and Comment	Status
		<p>Current drawings show the lift car size as approximately 1900 x 1600mm, which is in accordance with the requirements of BCA Clause E3.6 for a lift travelling an effective height of more than 12m.</p> <p>Detailed drawings of lift fixtures and fittings will be required for review at design development to ensure compliance with AS1735.12-1999 has been achieved. A lift design statement certifying compliance is to be provided.</p>	
F2.4	Accessible sanitary facilities	<p>Accessible unisex sanitary facilities are to be provided in accordance with BCA Table F2.4.</p> <p>At each bank of toilets where there is one (1) or more toilets in addition to an accessible unisex sanitary compartment a sanitary compartment suitable for a person with an ambulant disability is to be provided.</p> <p>Internal accessible WC layouts have not yet been identified - where two (2) or more unisex sanitary facilities are provided, the number of RH/LH transfer facilities are to be provided as evenly as possible.</p> <p>Sanitary facilities have been provided in the following locations:</p> <ul style="list-style-type: none"> ▪ EOT facilities at basement 2. ▪ Retail facilities at basement 1. ▪ Ground floor facilities within hotel lobby (RH). ▪ Level 02 grand ballroom. ▪ Level 03 all day dining. <p>Ensure within change room at toilets on level 01 (pool and spa) and amenities on level 24 and 25 that accessible sanitary facilities are provided, in accordance with the requirements of F2.4.</p> <p>Ensure Ambulant sanitary facilities are provided at all locations where one (1) or more sanitary facilities have been provided in addition to an accessible compartment.</p>	Capable of Complying

BCA Clause	Title	Assessment and Comment	Status
		Full details of fixtures and fittings compliant with AS1428.1-2009 to be provided within construction certificate documentation.	

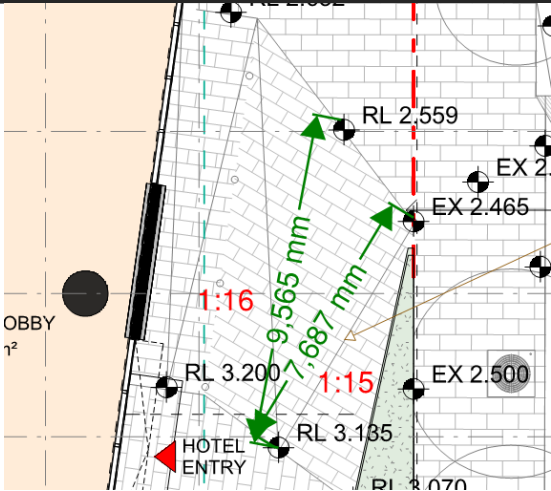
5.2.1. Design for Access and mobility - AS1428.1-2009

1428.1 Clause	Title	Assessment and Comment	Status
6.1	General	The continuous accessible path does not incorporate a step, stairway, turnstile, escalator, moving walk or other impediment.	Capable of Complying
6.2	Height of continuous accessible path of travel	The minimum unobstructed height along the accessible path of travel is to be 2m and 1980mm at doorways. Construction documentation should demonstrate compliance.	Capable of Complying
6.3	Width of continuous accessible path of travel	Unless otherwise specified (such as doors, curved ramps etc.) the minimum unobstructed width along the path of travel is no less than 1000mm. Construction documentation should demonstrate compliance.	Capable of Complying
6.4	Passing space for wheelchairs	Accessways require a circulation space with dimensions not less than 1800mm (W) and 2000mm (L) at 20m intervals where a direct line of sight is not available. Construction documentation should demonstrate compliance.	Capable of Complying
6.5	Circulation space for wheelchair turn	Accessways require turning spaces in accordance with AS1428.1-2009. 60°-90° turns require a minimum circulation space of 1500 x 1500mm with a gradient of not more than 1:40. 30°-60° turns where the width of path of travel is less than 1200mm, require a splay of 500 x 500mm at the internal corner.	Capable of Complying

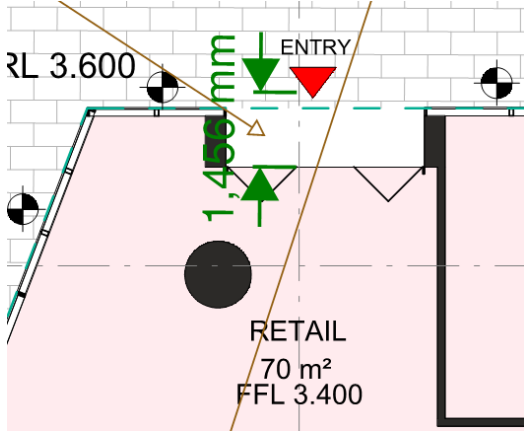
1428.1 Clause	Title	Assessment and Comment	Status
		<p>90°-180° turns require a minimum circulation space of 1540 x 2070mm as per Figure 6 below.</p>  <p>Figure 6</p> <p>Construction documentation should demonstrate compliance.</p>	
6.6	Visual indicators on glazing	<p>On frameless or fully glazed doors, side lights or glazing capable of being mistaken for a doorway where there are no transom visual indicators are required.</p> <p>Contrasting line to be not less than 75mm wide with the lower edge located between 900mm and 1000mm above FFL. The contrasting strip must have a minimum luminance contrast of 30%.</p> <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying
7.1	Floor and ground surfaces	<p>The continuous accessible paths of travel and circulation spaces are to have a slip resistance and should be traversable by wheelchair users and people with an ambulant or sensory disability.</p> <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying
7.2	Tolerances for abutment of surfaces	<p>All abutment of surfaces is required to have a smooth transition including any feature pavement used as a pedestrian zone and along the continuous accessible path of travel.</p> <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying

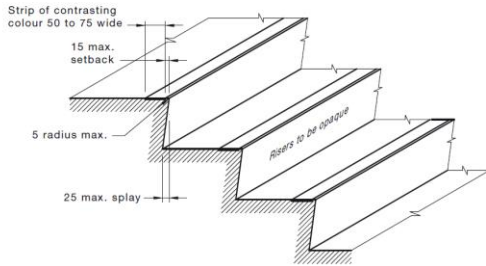
1428.1 Clause	Title	Assessment and Comment	Status
7.3	Changes in level	<p>A change in level along the path of travel should not exceed a vertical tolerance of 3mm, or 5mm if bevelled.</p> <p>Construction documentation should demonstrate compliance</p>	Capable of Complying
7.4	Soft floor coverings	<p>Carpets and mats are required to comply with the requirements of this clause with the exemption of Clause 7.4.1(a) which does not apply and is replaced with Clause D3.3(g) & (h) of the BCA.</p> <p>This level of detail is not currently documented on the plans.</p> <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying
8	Signage	<p>Signage is required to be installed throughout the proposed development in accordance with this provision and Clause D3.6 and Specification D3.6 of the BCA.</p> <p>Where specified by the BCA signage shall be provided in accordance with the technical requirements of AS1428.1-2009.</p> <p>Signage to sanitary facilities / exit doors / areas with hearing augmentation has not been documented at this stage. Construction documentation should demonstrate compliance.</p>	Capable of Complying
9	Tactile ground surface indicators	<p>TGSIs are required to be provided to all moving walkways, escalators, stairways and ramps (excluding fire-isolated) and are to comply with sections 1 and 2 of AS/NZS 1428.4.1:2009.</p> <p>TGSIs are also required where an accessway adjoins a vehicular crossing or driveway at grade.</p> <p>TGSIs should be perpendicular to the direction of travel when approaching the hazard and for the full width of the path of travel.</p> <p>Where handrails are continuous on both sides of the landing and the landing edge is less than</p>	Capable of Complying

1428.1 Clause	Title	Assessment and Comment	Status
		<p>3000mm to the nearest nosing edge, indicators are not required.</p> <p>TGSIs should be set back 300mm \pm10mm from the edge of the hazard (except at railway platforms and wharves).</p> <p>Where the distance of the landing to the nosing edge is less than 3000mm, TGSIs are to be over a distance of 300-400mm.</p> <p>Where the distance of the landing to the nosing edge is more than 3000mm, TGSIs are to be over a distance of 600-800mm.</p> <p>Integrated TGSIs are to have luminance contrast of no less than 30% against the surrounding surface, Discrete TGSIs are to have a luminance contrast of 45% to the surrounding surface.</p> <p>TGSIs have not been specified at this stage.</p> <p>Construction documentation should demonstrate compliance.</p>	
10.1	Walkways, ramps and landings	<p>Walkways, ramps and landings are required to be provided in accordance with the requirements of this clause.</p> <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying
10.2	Walkways	<p>A walkway is proposed from Alfred / Pitt Street to the hotel lobby to address the proposed level change.</p> <p>The following requires design modification at construction certificate:</p> <ul style="list-style-type: none"> ▪ The proposed walkway from Alfred / Pitt Street has a proposed gradient of 1:15 – 1:16 which is not in accordance with the maximum gradient of 1:20 permitted for a walkway in accordance with AS 1428.1-2009. Refer to Figure 7 below. 	Design modification required

1428.1 Clause	Title	Assessment and Comment	Status
		 <p><i>Figure 7 – Proposed walkway from Alfred / Pitt St to hotel lobby</i></p> <p>One of the following is to be provided at walkways:</p> <ul style="list-style-type: none"> ▪ The ground surface abutting the walkways shall be firm and level, follow the grade of the walkway, be of a different material and extend a minimum of 600mm; or ▪ Kerb with a minimum height of 65mm; or ▪ Kerb rail and handrail; or ▪ A wall with a height of not less than 450mm. <p>Landings are not required where the walkways are shallower than a 1:33 gradient.</p> <p>Construction documentation should demonstrate compliance.</p>	
10.3	Ramps	<p>No ramps are proposed at this stage.</p> <p>Ensure all ramps have a gradient of no more than 1:14 and that handrails, kerb rails and TGSIs are provided in accordance with the requirements of AS1428.1-2009.</p> <p>Ramps at a gradient of 1:14 to have landings at minimum 9m intervals and at 15m intervals at a gradient of 1:20.</p>	Note

1428.1 Clause	Title	Assessment and Comment	Status
		<p>Ramps with gradients between 1:20 and 1:14 to have landings at intervals obtained by linear interpolation.</p> <p>Construction documentation should demonstrate compliance.</p>	
10.4	Curved walkways, ramps and landings	<p>Curved ramps and walkways to have a clear width of not less than 1500mm.</p> <p>Curved ramps, walkways and landings are required to have an inner radius in accordance with this Clause (refer to AS1428.1-2009 Figure 20).</p> <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying
10.5	Threshold ramps	<p>Threshold ramps are to have a maximum rise of 35mm, a maximum length of 280mm and a maximum gradient of 1:8.</p> <p>The following requires design modification at construction certificate stage:</p> <ul style="list-style-type: none"> • The threshold ramp proposed at the Staff entry on ground floor level currently has a rise of 50mm in lieu of 35mm at permitted within AS 1428.1-2009. <p>Threshold ramps are required to be located within 20mm of the door leaf which it serves.</p> <p>Construction documentation should demonstrate compliance.</p>	Design Modification Required
10.6	Step ramps	<p>Step ramps are proposed within the BoH lobby area and to address the level change at the north-wester retail tenancy at ground floor level/</p> <p>Ensure all step ramps do not exceed a rise of 190mm, with a maximum gradient of 1:10 and maximum length of 1900mm.</p> <p>The following requires design modification at construction certificate stage:</p> <ul style="list-style-type: none"> ▪ The proposed step ramp at the entrance to the north-west retail tenancy currently has a proposed 200mm level change, which is 	Design Modification Required

1428.1 Clause	Title	Assessment and Comment	Status
		<p>not in accordance with the maximum 190mm rise permitted. Ensure adequate landings are also provided in accordance with the requirements of AS 1429.1-2009. Refer to Figure 8 below.</p>  <p><i>Figure 8 – proposed step ramp at retail tenancy</i></p> <p>Construction documentation should demonstrate compliance.</p>	
10.7	Kerb ramps	<p>No kerb ramps are proposed at this stage</p> <p>Kerb ramps are to be attached to a kerb and have a maximum rise of 190mm, a length not greater than 1250mm and a gradient not steeper than 1:8.</p> <p>Construction documentation should demonstrate compliance.</p>	Note
10.8	Landings	<p>Landings require a minimum length of 1200mm or where a change in direction is 90° or more 1500mm.</p> <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying
11.1	Stairways	<p>Stairways are required to comply with the requirements of this clause.</p> <p>At a property boundary, stairways shall be set back a minimum of 900mm, so that handrails</p>	Design Modification Required

1428.1 Clause	Title	Assessment and Comment	Status
		<p>and TGSIs do not protrude into the traverse path of travel.</p> <p>At an intersection within an internal corridor stairway to be setback a minimum of one tread width + 300mm + handrail return to ensure handrails and TGSIs to not protrude into the traverse path of travel.</p> <p>Stairways are required to have opaque risers and nosings with a contrasting strip not less than 50mm nor more than 75mm in depth, set back a maximum of 15mm from the front of the nosing. Where the contrasting strip is not set back from the front of the nosing then the area of contrast must not extend down the riser by more than 10mm.</p>  <p>NOTE: A chamfered nosing 5 x 5 mm may be used.</p> <p><i>Figure 9</i></p> <p>The following stairways will require review at construction certificate stage to ensure there is sufficient space for compliant handrails:</p> <ul style="list-style-type: none"> ▪ The stairway connecting the Hotel Lobby to the George Street entrance does not have a sufficient setback to provide handrails compliant with AS 1428.1-2009. Refer to Figure 10 below: 	

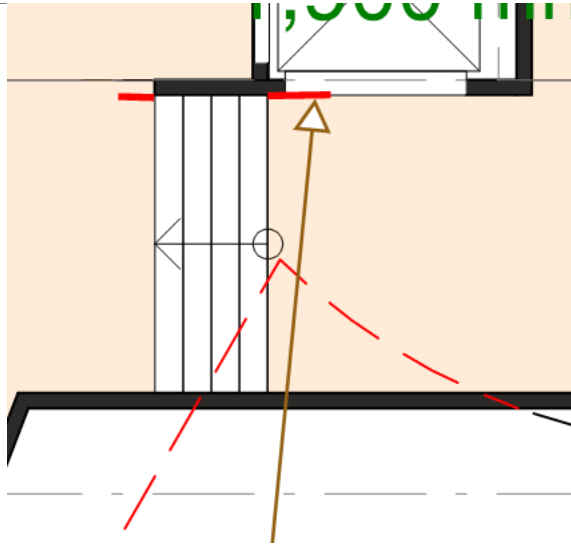


Figure 10 – Hotel lobby handrail extension setback required

- Stairway setback will require review at the Hotel entrance stairway via Pitt St as handrails will protrude into the transverse path of travel. Refer to Figure 11 below.

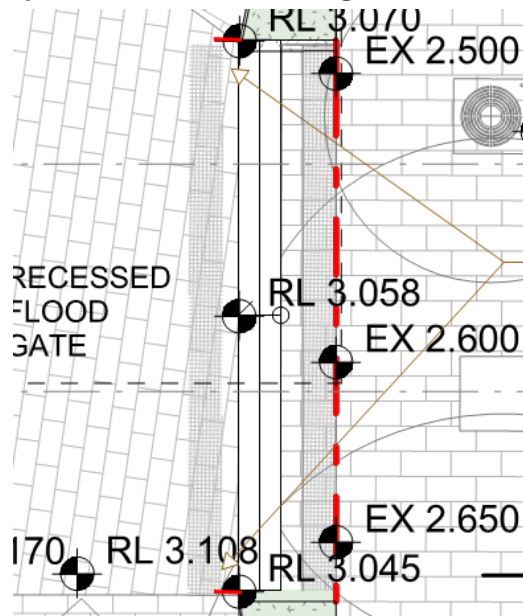
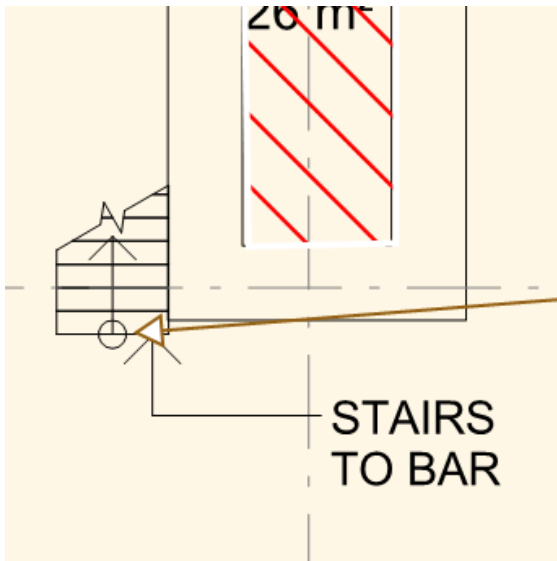
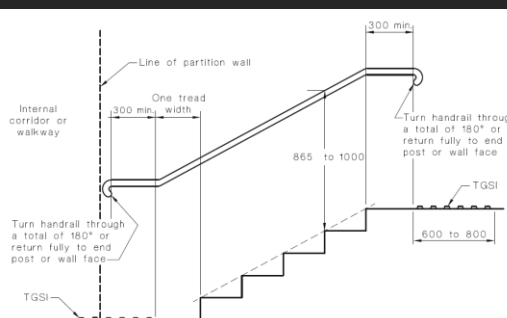


Figure 11 – Ground floor stairway from Pitt St

1428.1 Clause	Title	Assessment and Comment	Status
		<ul style="list-style-type: none"> Ensure stairway on level 24 is recessed adequately so that handrail extensions do not protrude into the traverse path of travel in accordance with the requirements of AS 1428.1-2009. Refer to Figure 12 below.  <p><i>Figure 12 – Stairway at Level 24 from Restaurant to Bar</i></p> <p>This level of detail is not currently documented on the plans and construction documentation should demonstrate compliance.</p>	
11.2	Stairway handrails	<p>Handrails are required on both sides of the stairway and are to be installed in accordance with the requirements of AS1428.1-2009 (fire-isolated required exit stairways excluded).</p> <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying

1428.1 Clause	Title	Assessment and Comment	Status
		 <p><i>Figure 13</i></p>	
12	Handrails	<p>Handrails are required to comply with the requirements of this clause.</p> <p>The top of handrails is required to be 865-1000mm above FFL.</p> <p>Handrails must be circular or elliptical with a cross-section of between 30mm to 50mm and a clearance of a minimum 50mm maintained between the handrails and an adjacent wall surface. Clearance to extend above the top of the handrail by not less than 600mm.</p> <p>Handrails shall have no obstruction and are to be returned in accordance with AS1428.1-2009.</p> <p>Handrail details have not been specified at this stage. Construction documentation should demonstrate compliance.</p>	Capable of Complying
13.1	Doorway luminance contrast	<p>A minimum luminance contrast of 30% must be provided between one of the following:</p> <ul style="list-style-type: none"> door leaf and door jamb; or door leaf and adjacent wall; or architrave and wall; or door leaf and architrave or door jamb and adjacent wall. <p>The minimum width of the luminance contrast is 50mm.</p>	Capable of Complying

1428.1 Clause	Title	Assessment and Comment	Status
		This level of detail is not currently documented on the plans. Construction documentation should demonstrate compliance.	
13.2	Clear opening of doorways	<p>All doors on the continuous accessible path of travel must have a minimum clear unobstructed width of 850mm to the active leaf.</p> <p>Doorways with multiple leaves, on any accessway are required to achieve a clear opening width of not less than 850mm for one of the leaves in accordance with AS1428.1-2009.</p> <p>The following doorways do not achieve minimum clear opening widths require design modification at construction certificate stage:</p> <ul style="list-style-type: none"> ▪ EOT Accessible WC has a door clear opening width of approximately 770mm. ▪ Ensure doorways to accessible Rooms have a minimum clear opening width of 850mm in accordance with AS 1428.1-2009. <p>Construction documentation should demonstrate compliance.</p>	Design Modification Required
13.3	Circulation spaces at doorways	<p>Circulation spaces are required to be provided on both sides of every door on an accessible path of travel.</p> <p>Where swing doors are automated and have a side approach – circulation space is required on the approach side only.</p> <p>In addition to the non-compliances identified in Clause 13.2 above, the following doorways do not comply with circulation requirements and require modification at construction certificate stage:</p> <ul style="list-style-type: none"> ▪ Residential storage at basement 4&5 (south) – ensure latch side clearance away from user is in accordance with AS 1428.1-2009. Refer to Figure 14 below 	Design Modification Required Performance based approach

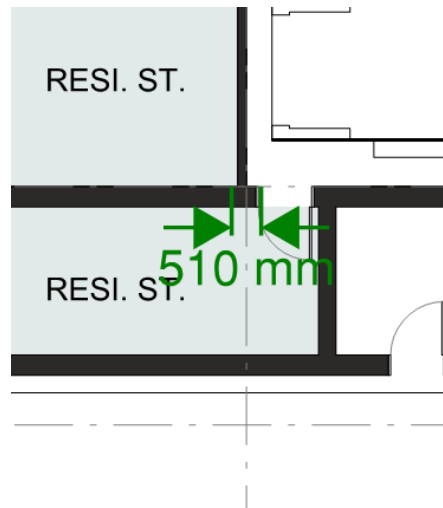


Figure 14 – Residential storage latch side clearance

- Ensure door to residential bicycle store at Basement 02 has a minimum latch side clearance of 510mm away from user. Refer to Figure 15 below

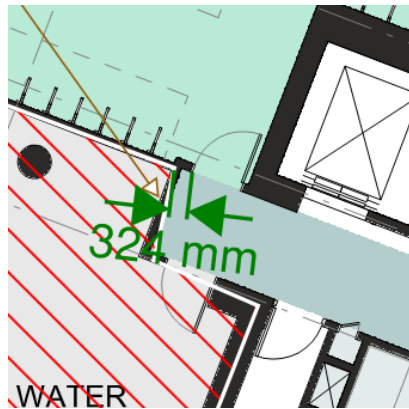
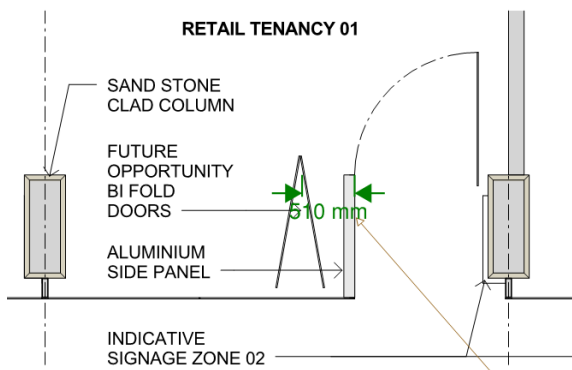
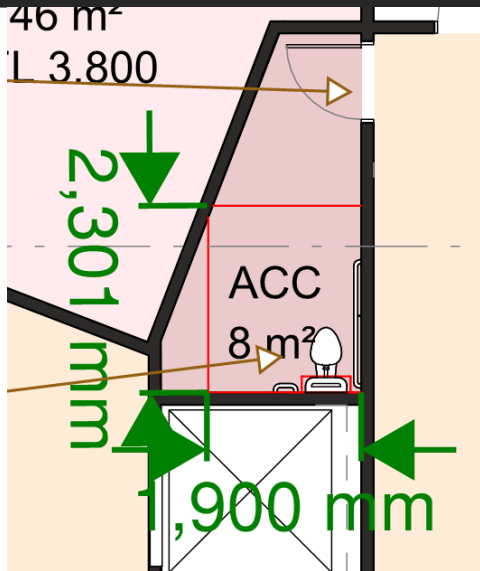


Figure 15 – Residential bicycle store latch side clearance

- At ground floor retail tenancies do not achieve latch side clearance in accordance with AS 1428.1-2009 due to location of aluminium side panel to accommodate bi-fold doors. Ensure all doorways have required latch side clearances at construction certificate stage or pursue a

1428.1 Clause	Title	Assessment and Comment	Status
		<p>performance-based approach to justify DtS non-compliance. Refer to Figure 16 below</p>  <p><i>Figure 16 – Retail tenancy latch side clearances</i></p> <ul style="list-style-type: none"> ▪ Ensure BoH Staff Entrance Door has a latch side clearance in accordance with AS 1428.1-2009 at construction certificate. ▪ Ensure door to amenities (if accessible sanitary facility is proposed) at level 24 has a latch side clearance away from the user in accordance with AS 1428.1-2009. 	
13.4	Distance between successive doorways	<p>A minimum of 1450mm is required between successive doorways in vestibules and air locks. Where the doors encroach into space, the 1450mm is required to be increased by the width of the door.</p> <p>On the path of travel to an ambulant sanitary facility a minimum of 900mm is to be provided between successive doorways.</p> <p>Construction documentation should demonstrate compliance.</p>	Capable of Complying
13.5	Door controls	<p>Door handles are to comply with the requirements of this clause.</p> <p>Door handles should allow the door to be unlocked and opened with one hand, be located between 900mm and 1100mm above FFL, the</p>	Capable of Complying

1428.1 Clause	Title	Assessment and Comment	Status
		<p>handle must be such that the hand of a person will not slip from the handle and the clearance between the handle and door face shall not be less than 35mm and more than 45mm.</p> <p>This level of detail is not currently documented on the plans. Construction documentation should demonstrate compliance.</p>	
14	Switches and general-purpose outlets	<p>All switches and controls on an accessible path of travel are required to be located between 900mm and 1100mm from FFL and not less than 500mm from internal corners.</p> <p>General purpose outlets are required to be located between 600mm and 1100mm from the finished floor level not less than 500mm from internal corners.</p> <p>This level of detail is not currently documented on the plans. Construction documentation should demonstrate compliance.</p>	Capable of Complying
15	Sanitary facilities and showers	<p>Accessible unisex toilet facilities are required to be designed in accordance with the requirements of this section.</p> <p>The general dimensions of the accessible facilities comply with the requirements of AS1428.1-2009.</p> <p>The following requires design modification and construction certificate stage to ensure compliance is achieved:</p> <ul style="list-style-type: none"> ▪ The end of trip accessible facility at basement 2 is approximately 2100mm wide, which will not accommodate an accessible WC and shower. ▪ The Accessible WC within the Hotel Lobby at ground floor is not large enough to accommodate a compliant basin in addition to compliant pan circulation – bathroom layout to be reviewed. Refer to Figure 17 below. 	Design Modification Required

1428.1 Clause	Title	Assessment and Comment	Status
		 <p><i>Figure 17 – Accessible WC at ground floor level</i></p> <p>Specification of fixtures and fittings will be required for future review.</p> <p>Construction documentation should demonstrate compliance.</p>	
16	Ambulant sanitary facilities	<p>Ambulant sanitary facilities are required to be provided at each bank of toilets where an accessible facility is provided in addition to another sanitary facility.</p> <p>The general dimensions of the accessible facilities comply with the requirements of AS1428.1-2009.</p> <p>Signage, compartment door clearance (700mm) grabrails, coat hook and toilet paper dispenser are to be provided in accordance with this Clause.</p>	Capable of Complying
17	Grab rails	<p>Grab rails are required to comply with the requirements of this provision.</p> <p>This level of detail is not currently documented on the plans.</p>	Capable of Complying

1428.1 Clause	Title	Assessment and Comment	Status
		Construction documentation should demonstrate compliance.	
A4	Access controlled entry	<p>Where provided, access control or intercom button into a secure carpark should be positioned to allow a driver to use the device.</p> <p>Any ticket system should cater for someone who may have a weak hand grip.</p> <p>This level of detail is not currently documented on the plans</p>	Capable of Complying

6. CONCLUSION

The design as proposed is considered capable of complying with the BCA 2016, amendment 1 and AS 1428.1-2009. This report has identified areas of non-compliance and indicates the design intent to demonstrate compliance through design modifications or performance-based solution. Whilst the design modifications are to be developed at construction certificate stage, it is our view that the changes will not impact the overall design.

APPENDIX 1

Assessed plans prepared by Crone Architects:

Plan Title	Drawing No	Revision	Date
Basement 6 – Residential	1000	G	07.12.2018
Basement 5 – Residential	1001	F	07.12.2018
Basement 4 - Residential	1002	G	07.12.2018
Basement 3 - Residential	1003	G	07.12.2018
Basement 2 – Hotel BOH & Residential Drop	1004	8	30.11.2018
Basement 1 – Loading & BOH	1005	8	30.11.2018
Ground – Lobby Hotel & Retail	1007	9	30.11.2018
Ground Mezzanine - Plant	1008	8	30.11.2018
Level 01 – Pool & Spa	1009	8	30.11.2018
Level 01 Mezzanine - Plant	1010	8	30.11.2018
Level 02 – Grand Ballroom	1011	8	30.11.2018
Level 02 – Mezzanine Plant	1012	8	30.11.2018
Level 03 – All Day Dining	1013	9	30.11.2018
Level 04 – Hotel Standard	1014	8	30.11.2018
Level 05 – Hotel Standard	1015	8	30.11.2018

Level 06 – Hotel Standard	1016	8	30.11.2018
Level 07 – Hotel Standard	1017	8	30.11.2018
Level 08 – Hotel Standard	1018	8	30.11.2018
Level 09 – Hotel Standard	1019	8	30.11.2018
Level 10 – Hotel Standard	1020	8	30.11.2018
Level 11 – Hotel Standard	1021	8	30.11.2018
Level 12 – Hotel Standard	1022	8	30.11.2018
Level 13 – Hotel Standard	1023	8	30.11.2018
Level 14 – Hotel Standard	1024	8	30.11.2018
Level 15 – Hotel Standard	1025	8	30.11.2018
Level 16 – Hotel Standard	1026	7	30.11.2018
Level 17 – Hotel Standard	1027	7	30.11.2018
Level 18 – Hotel Standard	1028	7	30.11.2018
Level 19 – Hotel Standard	1029	1	30.11.2018
Level 20 – Hotel Suites	1030	7	30.11.2018
Level 21 – Hotel Suites	1031	7	30.11.2018
Level 22 – Hotel Suites	1032	7	30.11.2018
Level 23 - Plant	1033	7	30.11.2018
Level 24 - Restaurant	1034	7	30.11.2018
Level 25 - Bar	1035	8	30.11.2018
East Elevation	2000	7	30.11.2018
North Elevation	2001	7	30.11.2018
West Elevation	2002	7	30.11.2018

South Elevation	2003	7	30.11.2018
East Street Elevation	2004	1	30.11.2018
North Street Elevation	2005	1	30.11.2018
West Street Elevation	2006	1	30.11.2018
South Street Elevation	2007	1	30.11.2018
Retail Façade Details	2012	1	30.11.2018