

Job No: IAC-333

11 August 2016

**SYDNEY OPERA HOUSE
BENNELONG POINT
GPO BOX 4274 SYDNEY NSW 2001**

Reference: Eastern Offices Accessibility Review – Access Report
Development Application

Attention: Mr Chris Barling

Dear Chris,

We have prepared this Access Report for the proposed Eastern Offices at the Sydney Opera House.

The output of our consultancy is a DDA Report for the purpose of DA submission for the proposed new eastern offices located at the Sydney Opera House.

Please feel free to contact the writer should you wish to discuss any aspect of this Access Report.

Yours sincerely,



RICHARD SEIDMAN

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ACCESS REPORT DEVELOPMENT APPLICATION



DOCUMENT CONTROL

Project: Sydney Opera House
Eastern Offices
Document Type: Access Report – Development Application
Report Number: IAC-333

The following report register documents the development and issue of this and each subsequent report(s) undertaken by iAccess Consultants.

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Revision History:

Our Reference	Rev	Remarks	Issue Date
IAC-333	-	Access review report prepared and issued to client	11 August 2016
IAC-333	A	Editorial changes to Executive Summary and issued to client	29 August 2016

Richard Seidman

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1. EXECUTIVE SUMMARY

1.1. Overview

This report is for the assessment of the Development Application documentation for the proposed new Eastern Offices of the Sydney Opera House Renewal Project to assess compliance with the provisions of the Disability Discrimination Act 1992, the Disability (Access to Premises – Buildings) Standard and the National Construction Code together with the relevant Australian Standards.

The implementation of the proposed works associated with the Eastern Office Accommodation provides accessible access to work spaces and facilities for personal hygiene as nominated in the NCC Performance Requirement DP1. The content in the report following demonstrates compliance with the statutory requirements of the Disability (Access to Premises – Buildings) Standard and provides a checklist of compliance for the architects when documenting these works. If the works are constructed in accordance with this proposal accessibility compliance will have been achieved.

1.2. PROJECTS

The projects covered by the Front of House redevelopment project as identified in the Accessibility Master Plan (AMP) prepared by Scott Carver.

1.3. NATIONAL CONSTRUCTION CODE – NON-COMPLIANCE

The following items noted at Table 1 have been identified by Group DLA as being non-compliant with the provisions of the National Construction Code and may require further review against the detail design, or may be able to be justified by way of an Alternative Design Solution.

Table 1 – Schedule of accessible issues to be addressed

NO	QUERY OR DTS NON-COMPLIANCE	SUGGESTED RESOLUTION	NCC CLAUSE	NCC PERFORMANCE REQUIREMENT
1.	Proposed handrails require further design considerations as it is understood that there may be designed to match the existing handrails	A justifiable alternative design solution may be required to be prepared	D3 .1, D3 .3	DP2

In order for iAccess Consultants to confirm the design for the Concert Hall complies with the provisions of the Disability (Access to Premises – Buildings) Standard the following items listed in Table 2 require further clarification and confirmation.

Table 2 Access to Premises

ITEM NO.	ITEM	COMMENT	NCC CLAUSE
1.	Principal Pedestrian Entrance	The DAP plan identifies several paths of travel to access the various elements of the Sydney Opera House. The overlap between the lead consultants requires monitoring to ensure that the continuous accessible path of travel can be achieved and maintained	



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2.	Egress	National Construction Code Performance Requirements DP4 and DP6 require evacuation to be considered when addressing the egress provisions. A fire engineered solution is proposed to be undertaken. Details of the strategies have yet to be finalised.	DP4, DP6
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1.4. CHIEF GUIDING DOCUMENTS

The access review has been limited to the works associated with the Eastern Office Project.

iAccess Consultants has participated in the Lead Consultant project meetings.

The report prepared is based on a review of the documentation and the information provided by the client and is intended for their use only.

1.5. Current Legislation

- The legislation addressing accessibility is documented in the following Act, Code and Standards:
- Disability Discrimination Act 1992
- Disability (Access to Premises - Buildings) Standards 2010
- National Construction Code (NCC 2015)
- AS1428.1:2009 Design for access and mobility - General requirements for access - New building work
- AS1428.2:1992 Design for access and mobility - Enhanced and additional requirements - Buildings and facilities
- AS1428.4.1:2009 Design for access and mobility - Means to assist the orientation of people with vision impairment - Tactile ground surface indicators
- AS1428.5:2010 Design for access and mobility - Communication for people who are deaf or hearing impaired

1.6. Premises Standard

As of 1 May 2011 new buildings and existing buildings being refurbished have to comply with the Disability (Access to Premises – Building) Standards (“Premises Standards”) under the Commonwealth Disability Discrimination Act 1992.

The main requirement to come from the Premises Standard relates to the upgrading of the affected part, including the principal pedestrian entrance and the paths to the area of new works. The definition of affected part is limited to the area between (and including) the principal pedestrian entrance and the new work. This may include the requirement to upgrade the following existing areas:

- Entrances
- Accessible sanitary facilities.
- Lifts to upper storeys, either upgrade or provide lifts if they are not existing.
- Passing and turning spaces in corridors.

Various concession or relaxations do apply to certain items mentioned above.

A consideration for upgrade via the Premises Standard is applicable to the following existing building situations:



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- Where an application for a Construction Certificate (“CC”) or Complying Development Certificate (“CDC”) has been received and the applicant for the works is the building owner or building manager; or
- Where an application for a CC or CDC has been received and the building is leased & occupied by a single tenant; or
- The works as deemed Crown development.

1.7. Assumptions

It has been assumed that accessible access has been provided along a continuous accessible path of travel identified as part of the Accessibility Master Plan to the respective areas noted in this review report.

No comment is provided on the accessible path of travel.

1.8. Access requirements yet to be considered

The following access requirements have yet to be considered by the project team:

- handrail designs
- handrail locations
- balustrade designs
- tactile ground surface indicators (TGSIs)
- floor finishes
- nosing details to stairs
- lighting levels
- luminance contrast at doorways
- door hardware
- Braille tactile signage
- evacuation policy in conjunction with the fire engineered solution
- Lighting to the stairs of the eastern and western foyers
- Interior design (Detail)

1.9. Equitable Egress Strategy - NCC Clauses DP4 & DP6

The strategies for equitable egress to address compliance with the provisions of NCC Clauses DP4 & DP6 are being developed by ARUP.

For the purposes of our access assessment we have relied upon the Equitable Emergency Egress Report and the conclusions noted prepared by ARUP.

1.10. Accessible path of Travel

The provision of external accessible paths of travel are achieved as follows:

- Pedestrian accessible paths of travel are provided along the upper and lower concourses from the roundabout at the boundary with Macquarie Street.
- Authorised Vehicle and taxis access is provided from the boundary with Macquarie Street to the designated Principal Pedestrian Entrance,
- The Principal Pedestrian Entrance is located at the area identified as “Under the stairs” from which there are paths of travel to the respective lobbies, theatres, foyers and other facilities of the Sydney Opera House

Accessible paths of travel within the Sydney Opera House are identified in the Accessibility Master Plan.



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2. THEATRE & EVENTS OFFICES

The Theatre and Events Offices are located on the eastern side of the Opera House at levels +12 and +21.

The facility comprises:

- Reception
- Meeting Rooms
- Offices
- Workstation zone
- Support amenities
- WC Facilities

A central interconnecting stair connects the levels of the office within the tenancy. Accessible access between the office levels is via Lift 03.

3. ENTRY TO THE OFFICE

Access to these offices is via the internal path of travel from the Stage Door Entry.

While there is a door to the eastern concourse the path of travel from that external door is not accessible.

The plans provided indicate the various accessible paths of travel to and within these offices.

4. ACCESSIBLE PATHS OF TRAVEL

The plans provided indicate the suggested paths of travel through the tenancy and demonstrate that accessible access is possible to and within the tenancy.

5. STAIR GS26

The detailing of this stair will need to be upgraded from a fire Isolated stair as this stair will become a circulation stair connecting these two levels.

The following will need to be provided to the flights connecting the two office levels:

- Handrails installed to both sides of the stair flights
- Provision of compliant handrail extensions
- Non slip goings
- Installation of non-slip nosing to each going
- Installation of warning TGSIs at landings (TGSIs not required at mid-landings)
- Compliant lighting levels

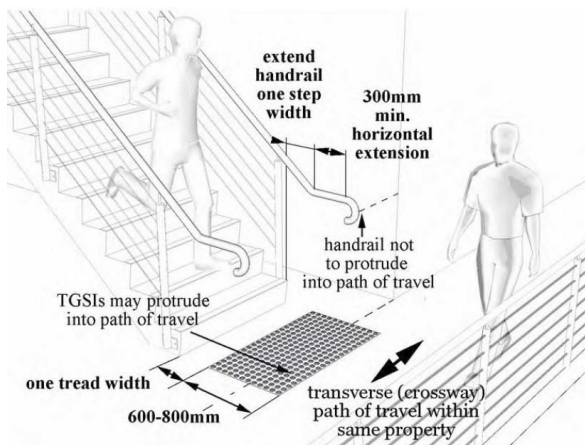
6. STAIR – INTERNAL CIRCULATION STAIR

A new stair is proposed to be installed within the Theatre and Events Office.

The position of the stair will need to be adjusted so that the handrail extensions do not encroach on the path of travel.



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The detailing of the interconnecting stair will need to demonstrate compliance with Clause 11 and 12 of AS1428.1:2009. Specific attention is directed to:

- Handrails design
- Compliant handrail extensions and handrail terminations
- Non slip going
- Installation of non-slip nosing to each going
- Installation of warning TGSIs at landings (TGSIs not required at mid-landings)
- Compliant lighting levels
- Opaque risers

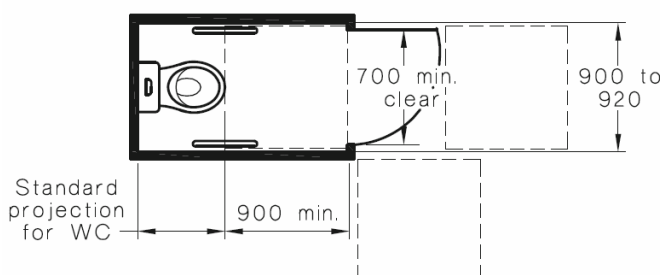
7. WC FACILITIES

The plans indicate WC facilities associated with the Theatre and Events offices.

The number of WC facilities are to be determined by the BCA Consultant.

The plans propose ambulant facilities associated with individual male and female WC amenities. The setout of the Ambulant WC will need to satisfy the provisions of Clause 16 of AS1428.1:2009. Braille Tactile signage will need to be installed to the ambulant WC cubicle doors. The detailing and positioning of the Braille Tactile signage will need to satisfy NCC Clause D3.6 and NCC Specification D3.6.

The circulation at the doorway to the male ambulant WC will need to demonstrate compliance with the provisions of Clause 16 of AS1428.1:2009.



The sizing of the GM.404 Amenities Lobby will need to facilitate a 1540 x 2070mm zone to enable 180deg turns for wheelchair users.



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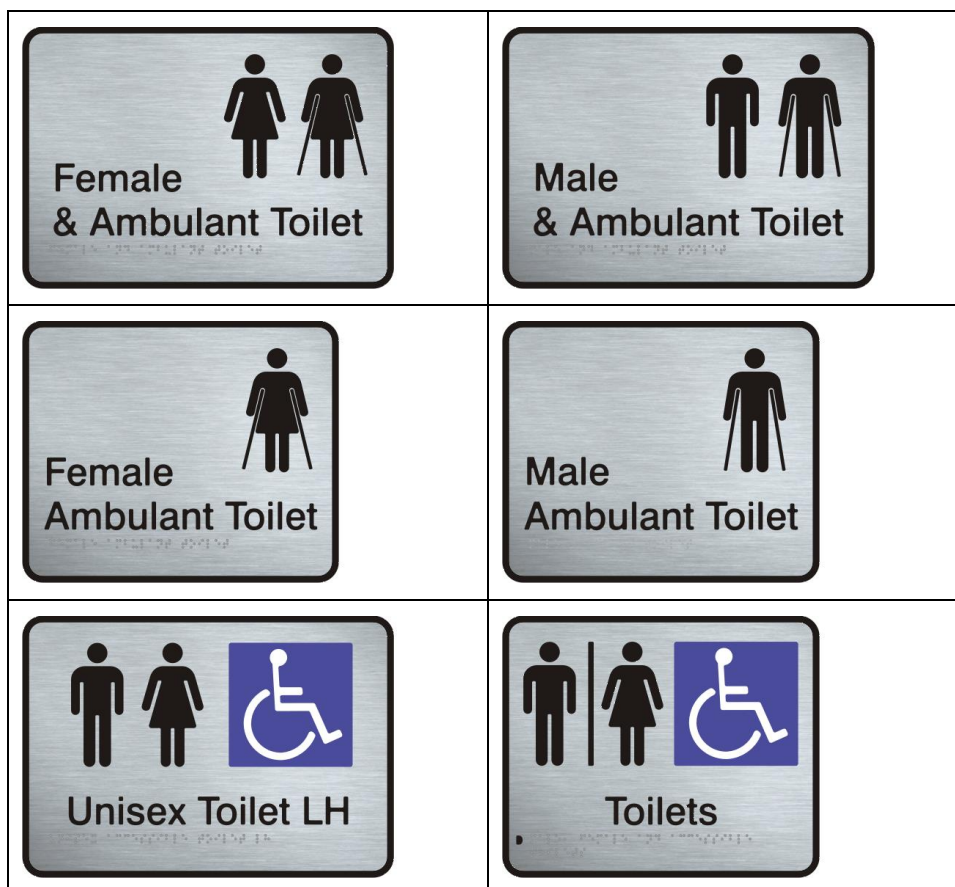


The detailing of the accessible WC will need to satisfy the provisions of Clause 15 of AS1428.1:2009. Refer to the attached Accessible WC checklist which identifies the requirements to be satisfied.

Specific attention is directed to the door hardware. Details of the door hardware have yet to be provided.

If door closers are required to be provided to the doors to the accessible WC then the maximum force required to operate the door must not be greater than 20N. If this cannot be achieved, then door assist devices will need to be installed on the doors.

Braille tactile signage will be required to be installed on the latchside wall in accordance with the requirements of NCC Clause D3.6 and NCC Specification D3.6. The images following provide an example of the type of signage to be provided.



The lighting level with the Accessible WC facility will need to achieve a minimum 200 lx in accordance with Clause 19 of AS1428.2:1992.

The selection of floor finishes within the WC facilities will need to achieve a slip resistance of P3/R10.

8. CIRCULATION – F+B OFFICE

The F+B Office (G.401) may require review.

It will be essential to demonstrate that it is possible for a wheelchair user to make a 180deg turn within this office. The Standard nominates that a zone of 1540 x 2070 is required to undertake this turn.



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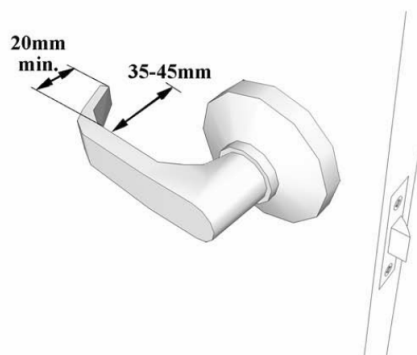


9. CIRCULATION AT DOORWAYS

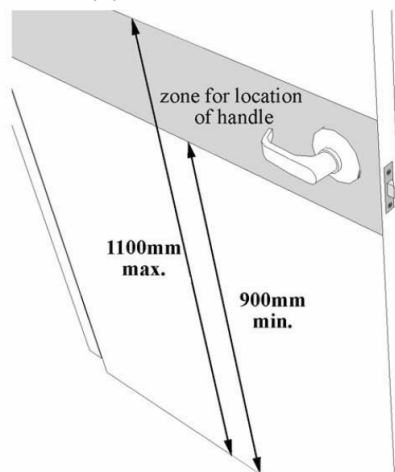
The plans as proposed have nominated the circulation at doorway zones.

The details associated with luminance contrast at doorways, door hardware selection and the force required to operate doors fitted with door closers have yet to be considered.

(A) Example of Lever Handle Design

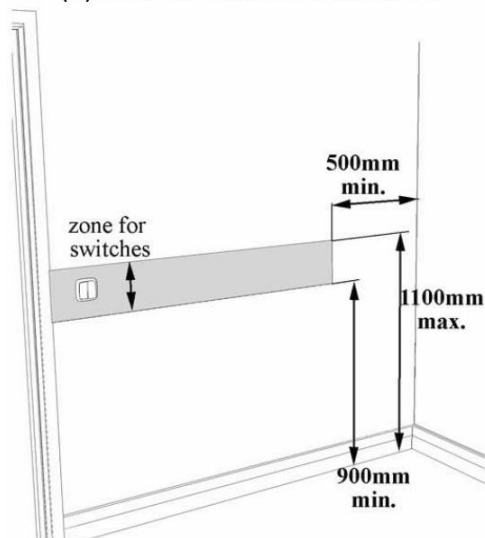


(B) Lever Handle Location



The positioning of access control devices will require careful consideration prior to installation.

(A) Zone for Location of Switches



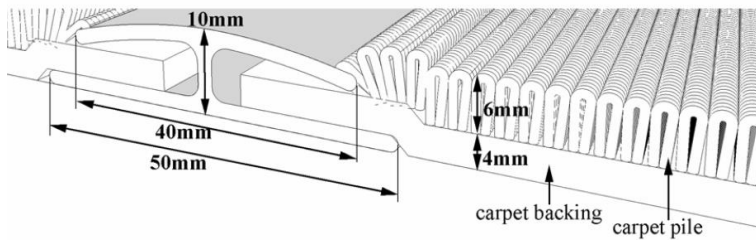
10. FLOOR FINISHES

The plans nominate that the floor finish within the office area is to be carpet.

The selection of the carpet will need to demonstrate compliance with Clause 7.1 – Fixed or recessed floor coverings of AS1428.1:2009.



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11. PARTITION - GLASS

The detail of the office partitions will included for full height glazing. Where full height glazing is installed the provisions of Clause 6.6 of AS1428.1:2009 will need to be satisfied.

The provisions of Clause 6.6 of AS1428.1:2009 Visual indicators on Glazing will need to be satisfied. (extract Follows)

6.6 Visual indicators on glazing

Where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, including any glazing capable of being mistaken for a doorway or opening, shall be clearly marked for their full width with a solid and non-transparent contrasting line. The contrasting line shall be not less than 75 mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level.

Any contrasting line on the glazing shall provide a minimum of 30% luminance contrast when viewed against the floor surface or surfaces within 2 m of the glazing on the opposite side.

12. ACCESS REPORT

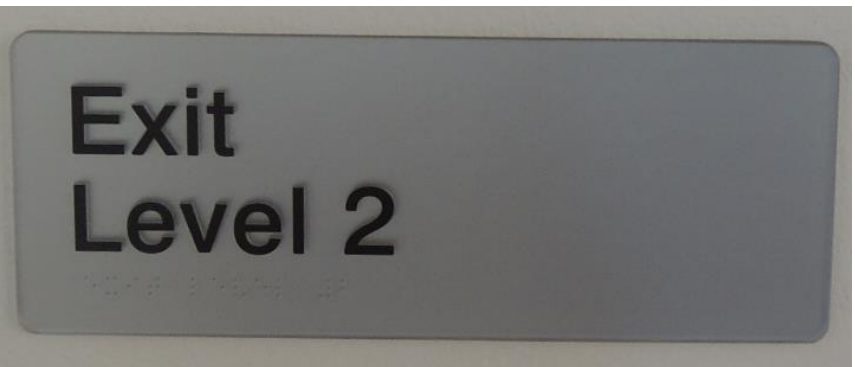
PART / CLAUSE	DISABILITY (ACCESS TO PREMISES) STANDARD 2010 CRITERIA TO BE SATISFIED	COMPLIANCE / ACTION / COMMENT
A4.1	Classifications Class 5 — an office building used for professional or commercial purposes, excluding buildings of Class 6, 7, 8 or 9.	Note
DP1	Performance requirement Access must be provided, to the degree necessary, to enable: a) people to: i. approach the building from the road boundary and from any <i>accessible</i> carparking spaces associated with the building; and	Satisfied
	ii. approach the building from any accessible associated building; and	Not Applicable
	iii. access work and public spaces, accommodation and facilities for personal hygiene; and	Satisfied
	b) Identification of accessways at appropriate locations which are easy to find.	Not Applicable
DP4	Performance requirement <i>Exits</i> must be provided from a building to allow occupants to evacuate safely, with their number, location and dimensions being appropriate to: a) the travel distance; and b) the number, mobility and other characteristics of occupants; and c) the function or use of the building; and d) the height of the building; and e) Whether the <i>exit</i> is from above or below ground level.	Satisfied

PART / CLAUSE	DISABILITY (ACCESS TO PREMISES) STANDARD 2010 CRITERIA TO BE SATISFIED	COMPLIANCE / ACTION / COMMENT
DP6	Performance requirement So that occupants can safely evacuate the building, <i>accessways to exits</i> must have dimensions appropriate to: a) the number, mobility and other characteristics of occupants; and b) the function or use of the building.	Satisfied
DP8	Performance requirement Carparking spaces for use by people with a disability must be: a) provided, to the degree necessary, to give equitable access for carparking; and b) designated and easy to find.	Not Applicable
DP9	Performance requirement An inbuilt communication system for entry, information, entertainment, or for the provision of a service, must be suitable for occupants who are deaf or hearing impaired.	Satisfied
D3.1	General Building Access Requirements Class 5	
Table D3.1	Offices To and within all areas normally used by the occupants	Satisfied
D3.2	Access to Buildings	
	(1) An <i>accessway</i> must be provided:	Satisfied
	(a) to a building <i>required to be accessible</i> ;	
	(b) from the main points of a pedestrian entry at the allotment boundary; and	Satisfied
	I. from another <i>accessible</i> building connected by a pedestrian link; and	Not Applicable
	II. from any required accessible carparking space on the allotment.	Not Applicable

PART / CLAUSE	DISABILITY (ACCESS TO PREMISES) STANDARD 2010 CRITERIA TO BE SATISFIED	COMPLIANCE / ACTION / COMMENT
	(2) In a building <i>required</i> to be <i>accessible</i>, an <i>accessway</i> must be provided through the principal pedestrian entrance, and: a. through not less than 50% of all pedestrian entrances including the principal pedestrian entrance; and b. in a building with a total <i>floor area</i> more than 500sqm, a pedestrian entrance which is not <i>accessible</i> must not be located more than 50 m from an <i>accessible</i> pedestrian entrance; Except for pedestrian entrances serving only areas exempted by clause D3.4.	Satisfied
D3.3	Parts of buildings to be accessible	
	In a building <i>required</i> to be <i>accessible</i>: a) every ramp and stairway, except for ramps and stairways in areas exempted by clause D3.4, must comply with:	
	i. for a ramp, except a fire-isolated ramp, clause 10 of AS 1428.1; and	Not Applicable
	ii. for a stairway, except a fire-isolated stairway, clause 11 of AS 1428.1;	Satisfied The design proposes an internal connecting stair (GS.108) between the office levels. The detailing of the stair will need to satisfy the requirements of Clause 11 & 12 of AS1428.1:2009 and TGSIs will need to be provided at the top and bottom of the stair flight as required by AS1428.4.1:2009
	iii. for a fire-isolated stairway, clause 11.1(f) and (g) of AS 1428.1;	Satisfied The existing stair GS.26 forms part of the circulation system. This is a fire stair. The nosing to these stairs will need to satisfy the requirements of Clause 11.1(f) & (g).

PART / CLAUSE	DISABILITY (ACCESS TO PREMISES) STANDARD 2010 CRITERIA TO BE SATISFIED	COMPLIANCE / ACTION / COMMENT
	b) every passenger lift must comply with clause E3.6;	Not Applicable The existing Lift 3 car remains unaltered by this application. A new lift stop is introduced at the Mezzanine Level.
	c) accessways must have: i. passing spaces complying with AS 1428.1 at maximum 20 m intervals on those parts of an accessway where a direct line of sight is not available; and ii. turning spaces complying with AS 1428.1: A. within 2m of the end of accessways where it is not possible to continue travelling along the accessway; and B. at maximum 20 m intervals along the accessway;	Not Applicable
	d) an intersection of accessways satisfies the spatial requirements for a passing and turning space;	Satisfied
	e) a passing space may serve as a turning space;	Satisfied
	f) a ramp complying with AS 1428.1 or a passenger lift need not be provided to serve a storey or level other than the entrance storey in a Class 5, 6, 7b or 8 building- (i) containing not more than 3 storeys; and (ii) with a floor area for each storey, excluding the entrance storey, of not more than 200sqm.	Not Applicable
D3.5	Carparking	Not Applicable

PART / CLAUSE	DISABILITY (ACCESS TO PREMISES) STANDARD 2010 CRITERIA TO BE SATISFIED	COMPLIANCE / ACTION / COMMENT										
D3.6	Signage	The signage documentation has yet to be prepared. The detail of the Braille Tactile signage to be installed will need to be documented as part of the detailed documentation associated with the Construction Documentation phase / stage. The signage detailing will need to comply with the provisions of Clause D3.6 and Specification D3.6 of the BCA as well as Clauses 16.3 and 17 of AS1428.2 which addresses the size of the pictogram as well as the height of lettering. 16.3 Size of international symbols for access and deafness access The size of the international symbols for access and deafness access shall be not less than that given in Table 1. TABLE 1 SIZE OF INTERNATIONAL SYMBOLS FOR ACCESS AND DEAFNESS FOR VARYING VIEWING DISTANCES <table><tr><th>Required viewing distance m</th><th>Minimum size of symbol mm</th></tr><tr><td>≤7</td><td>≥ (60 x 60)</td></tr><tr><td>>7 ≤18</td><td>≥ (110 x 110)</td></tr><tr><td>>18</td><td>≥ (200 x 200)</td></tr><tr><td></td><td>≥ (450 x 450)</td></tr></table>	Required viewing distance m	Minimum size of symbol mm	≤7	≥ (60 x 60)	>7 ≤18	≥ (110 x 110)	>18	≥ (200 x 200)		≥ (450 x 450)
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	≥ (450 x 450)											

PART / CLAUSE	DISABILITY (ACCESS TO PREMISES) STANDARD 2010 CRITERIA TO BE SATISFIED	COMPLIANCE / ACTION / COMMENT
D3.6	Signage	Specific attention is directed to the requirements of Clause D3.6(a)(ii) of the BCA (ii) identify each door <i>required</i> by E4.5 to be provided with an <i>exit</i> sign and state— (A) "Exit"; and (B) "Level" followed by the floor level number; and The image below is an example of the type of Braille Tactile signage to be installed. 
D3.7	Hearing Augmentation	The plans at present do not indicate the locations where inbuilt amplification systems are to be installed. The plans indicate meeting rooms where data projectors could possibly be installed. It is probable that a flexible portable hearing augmentation system will be most advantageous. It is recommended that a portable hearing augmentation policy be developed and that procedures be developed by the Opera House to address the management of this requirement.
D3.8	Tactile Indicators	TGSIs compliant to the provisions of AS1428.4.1:2009 will need to be provided to the internal circulation stairs GS.08 located within the tenancy.

PART / CLAUSE	DISABILITY (ACCESS TO PREMISES) STANDARD 2010 CRITERIA TO BE SATISFIED	COMPLIANCE / ACTION / COMMENT
D3.12	Glazing on an accessway On an <i>accessway</i> , 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 Clause 6.6 of AS 1428.1.	Glazing installed as part of the fitout works will need to comply with the provisions of Clause 6.6 of AS1428.1. 6.6 Visual indicators on glazing Where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, including any glazing capable of being mistaken for a doorway or opening, shall be clearly marked for their full width with a solid and non-transparent contrasting line. The contrasting line shall be not less than 75 mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level. Any contrasting line on the glazing shall provide a minimum of 30% luminance contrast when viewed against the floor surface or surfaces within 2 m of the glazing on the opposite side.
Part D4	Braille & Tactile Signs	The detail of the Braille Tactile signage to be installed will need to be documented as part of the detailed documentation associated with the Construction Documentation phase / stage. The signage detailing will need to comply with the provisions of Clause D3.6 and Specification D3.6 of the BCA as well as Clauses 16.3 and 17 of AS1428.2 which addresses the size of the pictogram as well as the height of lettering.
Part E3	Lift Installation	Not Applicable An additional lift stop is introduced at the Mezzanine level as part of these works.
Part F2	Sanitary and other facilities	The plan proposes new WC amenities to be provided on the Mezzanine Level (+21). The detailing of the ambulant facilities located within the male and female facilities will need to satisfy the requirements of Clause 16 of AS1428.1:2009. The detailing of the accessible WC facilities will need to satisfy the requirements of Clause 15 of AS1428.1:2009. (refer to attached checklist). Braille Tactile signage satisfying the provisions of NCC Clause D3.6 and NCC Specification D3.6 will need to be provided.