



0001c Design Checklist - Accessibility

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00 Design principles

0.01 Main Considerations

It is a requirement to undertake the [00 PLANNING AND DESIGN/ 0001R - DESIGN REFERENCE](#) and [GLOSSARY OF TERMS](#) information into all aspects of design, detailing and delivery when developing the content here within. Clear demonstration of adherence to these requirements is part of the services and will be called upon at key points in the project and during at the discretion of the Department of Education (DoE).

0.02 Access for people with disabilities

GUIDE NOTE: Refer to [DESIGN FRAMEWORK](#) documents for further references to inclusive design.

All new facilities must meet current Deemed-to-Satisfy provisions of the National Construction Code (NCC) and referenced standards.

Upgrades of existing facilities are required to comply with the Disability (Access to Premises – Buildings) Standards 2010.

In addition to the above minimum requirements, it is DoE's policy that any enhanced and additional requirements from AS 1428.2-1992 be incorporated in any new design.

Where a requirement of AS 1428.2 is superseded by the BCA or a referenced standard, NCC compliance is to take precedence.

0.03 Site and paths of travel

GUIDE NOTE: Refer to [DESIGN FRAMEWORK](#) documents for further references to inclusive design.

In addition to the requirements of BCA clause D3.2(a), accessible paths of travel are to be provided within the site boundary from transportation stops and accessible passenger loading zones.

The accessible elements of buildings and facilities shall be arranged so as to minimize distances to be travelled between them. Where there are unavoidable distances between

facilities, frequent resting points with seats, handrails, and drinking water fountains or similar outlets must be provided.

0.04 Circulation

Refer to [00 PLANNING AND DESIGN/ 0001c DESIGN CHECKLIST – CIRCULATION](#) and [00 PLANNING AND DESIGN/ 0001c DESIGN CHECKLIST – LANDSCAPE AND OPEN SPACE](#)

Unobstructed widths

The unobstructed width of a walkway, corridors and ramps must not be less than **1350mm**, except a ramp providing access to the raised platform or stage within a hall to which is required an unobstructed clear width of **1000mm** in accordance with AS 1428.1-2009.

NOTE: Essential fixtures and fittings, such as fire hose reels, fire extinguishers and telephones shall not protrude into these circulation space requirements.

Walkways, Corridors and Ramps

Passing spaces at intervals of not more than **6m** shall be provided as follows:

- One side of the path of travel - the path of travel shall not be less than **1600mm** long and **1800mm** wide.
- With the space distributed equally on both sides of the path of travel - the path of travel shall not be less than **2000mm** long and **1800mm** wide.

1800 x 1300mm circulation space for a stationary wheelchair to be provided for forward or parallel approaches to objects.

2270 x 1740mm circulation space to be provided for a wheelchair user to make a **90-180** degree turn.

Ramp landings

All ramps are to provide landings at intervals as follows:

Table 01: Ramp landing intervals

Ramp Gradient	Landing Interval
1:14	6m

Ramp Gradient	Landing Interval
1:15	7.6m
1:16	9.m as per AS 1428.1
1:17	9.m as per AS 1428.1
1:18	9.m as per AS 1428.1
1:19	9.m as per AS 1428.1

Podiums and stages

Podiums and stage areas shall comply with the following:

- Ramped access in accordance with AS 1428.2 shall be provided to form a continuous accessible path of travel to the podium or stage, except that the width may be in accordance with AS 1428.1 (**1000mm**)
- The stage area shall allow for wheelchair turning circulation of **2250 x 2250mm**.
- All facilities on the podium shall be usable by a seated person.
- The boundaries of a podium or stage area are required to be defined by barriers or contrast in floor surface and texture.

0.05 Ground floor surfaces

Refer to [00 PLANNING AND DESIGN/ 0001c DESIGN CHECKLIST – CIRCULATION](#) and [06 FINISH/ 065 – FLOOR SURFACING](#) worksection documents.

If gratings are located in a walking surface, they shall have spaces not more than **13mm** wide and not more than **150mm** long.

Where carpet is used on a ground or floor surface the following requirements apply:

- The carpet shall be securely attached
- Any pad, backing or cushioning shall provide a firm surface
- The carpet shall have a level loop, a textured loop, a level cut pile or a level cut or uncut pile texture
- The pile height shall be not more than **6mm**
- Exposed edges of carpet shall be fastened to the floor surface and shall have a trim along the entire length of any carpet edge

Carpet edge trim shall create no ridge on the floor surface higher than **3mm**.

The boundaries of a podium or stage area are required to be defined by barriers or contrast in floor surface and texture.

0.06 Handrails

Refer to [00 PLANNING AND DESIGN/ 0001c DESIGN CHECKLIST – CIRCULATION](#)

Wherever practicable the outside handrail at stairways must be continuous throughout the stair flights and around landings.

At ramps and stairways a second handrail must be provided at a height between **665-700mm**.

Where there is a background wall, stairway handrails must have a luminance contrast factor with the wall of not less than **30%**.

0.07 Doorways and Doors

Refer to [00 PLANNING AND DESIGN/ 0001c DESIGN CHECKLIST – CIRCULATION](#) and [04 ENCLOSURE/ 045 DOORS AND WINDOWS](#)

If an entrance is located in an external wall, consideration must be given to protecting it from wind forces (e.g. by a lobby, screen wall or sliding door).

Glazing in doors is useful to people with disabilities as it provides a view of a user approaching the door from the other side. The lower perimeters of glazing are set to avoid the footrest of a wheelchair contacting the glass. Glazing in joinery or flush doors shall be as follows:

- the lower edge of the glazing shall be not less than **300mm** on not more than **1000mm** above the bottom edge of the door.
- The upper edge of the glazing shall be not less than **1600mm** above the bottom edge of the door.
- In width, the glazing shall extend not more than **200mm** from the latch edge of the door and shall be not less than **150mm** wide.

Door handles shall be clearly identified by colour with luminance contrast to their background of not less than **30%**.

0.08 Sanitary Facilities

Refer to [08 HYDRAULICS/ 0811 SANITARY FIXTURES](#)

At least one emergency call button which complies with AS 2999 must be installed in accordance with AS 1428.2 Clause 23 in each accessible sanitary facility. Separate call buttons must be placed near the WC pan and shower recess.

Sensor-operated air hand dryers shall be provided.

Provide mechanical ventilation to all accessible sanitary facilities.

Doors to ambulant water closets shall comply with the following:

- Outward opening doors shall have a hinge mechanism that holds the door in a closed position without the use of a latch
- Inward-opening doors must be fitted with a retractable stop or similar device to allow, in an emergency, the latch to be released and the door to swing outward, or the door to be removed.

Urinals

Urinals must be constructed without a step or hob.

At urinals A serrated, slip-resistant, hinged grate with apertures not more than **25mm** wide shall be provided.

At urinals a clear circulation space not less than **1540mm** wide shall be provided for the full length of the urinal

At urinals a sensor flush is preferred.

0.09 Emergency warning systems

Refer to **INCLUSIVE DESIGN FRAMEWORK (currently under development)** and [00 PLANNING AND DESIGN/ 0001c DESIGN CHECKLIST – FIRE PROTECTION](#)

0.10 Lighting

Refer to [09 ELECTRICAL/ 0951 LIGHTING](#)

Illumination levels must be uniform and comply with the requirements for maintenance illumination set out in AS 1680.2.

The following minimum levels of maintenance illumination are recommended:

Table 02: Minimum illumination levels for accessibility

Area	Lux Level (lx)
Entrances	150
Passageways and walkway	150
Stairs	150
Ramps	150
Lifts	see AS 1735.12
Toilets and Change Rooms	200
Counter tops	250
General Displays	200-300
Telephones	200

Lighting of the podium or stage must be at least the recommended service illuminance for assembly and concert hall platforms in AS 1680.1.

0.11 Electrical

Refer to [09 ELECTRICAL/ 0902 ELECTRICAL DESIGN AND INSTALL](#)

General use socket, positioned on the wall generally 300mm above floor level for general use of the occupants. At least 20% of these sockets and at least one per classroom, are to be positioned to enable access for disabled persons in accordance with the requirements of AS1428. This will require sockets to be positioned at least 500mm from internal corners and between 600mm and 1100mm above the floor.

0.12 Furniture and fittings

Refer to **INCLUSIVE DESIGN FRAMEWORK (currently under development)** and [05 INTERIOR/ 057 FURNITURE AND FURNISHINGS](#) worksection documents.

If the clear floor space allows only for a forward approach to an object by a person in a wheelchair, objects shall be in the reach range shown in AS 1428.2 Figure 20(a). If the high forward reach is over an obstruction, objects shall be within the reach range shown in AS 1428.2 Figure 20(b).

If the clear floor space allows parallel approach to an object by a person in a wheelchair, objects shall be in the reach range shown in AS 1428.2 Figure 21(a). If the side reach is over an obstruction, objects shall be within the reach range shown in AS 1428.2 Figure 21(b).

The points at which comfortable reach is achieved by most ambulant people with disabilities are shown in AS 1428.2 Figure 22.

The intention is that all critical controls, areas of operation and storage of equipment commonly used by most members of the community and people in a household will be placed within this zone of common reach.

The zone for reach to objects which will be suitable for both ambulant people with disabilities and wheelchair users is shown in Figure 23.

All water taps shall:

have levers, capstan handles or sensor plate controls or the like. Where hot water is provided the water shall be delivered through a mixing spout;

- Where separate taps are provided for hot and cold water, the hot tap shall be placed to the left of the cold water tap;
- Taps with capstan handles shall be not less than 50mm from an adjacent surface that could restrict hand movement.
- Although sensor taps can cost significantly more than other types of tap, their use is recommended where possible

No individual counter or worktop height and clearance beneath will suit all users with disabilities. A bench with easily adjustable height within the range of **700-850mm** from FFL is preferred.

Height of unit where a single table, counter or worktop only can be provided shall be as follows:

- Height from FFL to top of unit - **850mm +/- 20mm**
- Height clearance beneath the unit from FFL **820mm +/- 20mm**

Height of unit where two tables, counters or worktops can be provided shall be as follows:

- Height from FFL to the top of unit
 - 1st unit **750mm +/- 20mm**
 - 2nd unit **850mm +/- 20mm**
- Height of clearance beneath unit from FFL:
 - 1st unit **730mm +/- 20mm**
 - 2nd unit **820mm +/- 20mm**

In order to provide a wheelchair seating space, the minimum clearance width between the legs or other fixtures beneath a table, counter or worktop on at least one accessible face of the unit shall be **800mm**.

A minimum clearance beneath the table, counter or worktop at wheelchair seating spaces shall be maintained as shown in AS 1428.2 Figure 25.

Pedestal tables and tables with splayed legs are not recommended. Tables with corner legs are preferred.

Where a counter is provided for general use, a length of the counter of not less than **900mm** shall be provided. A clear floor space of **2250 x 2250mm** shall be provided in front of the counter.

Dimensions for length and depth of worktops shall be calculated on the maximum horizontal reach shown in AS 1428.2, Figure 26.

The distance between tables shall be as shown in AS 1428.2, Figure 27.

Accessible storage facilities such as cabinets, shelves, cupboards and drawers shall comply with the following:

- Clear floor space - A clear floor space of not less than **800 x 1300mm** that allows either a forward or parallel approach by a person using a wheelchair shall be provided at accessible storage facilities.
- Height - accessible storage spaces shall be within one of the reach ranges specified by clause 22. Clothes-hanging rods or hooks shall be a maximum **1350mm** AFFL

- Hardware - Hardware for accessible storage facilities shall comply with clause 23. Tough latches and D-shaped pulls are acceptable.
- Sliding doors on cupboards are preferred. These allow manoeuvring space for wheelchairs and reduce the risk of injury to visually impaired people.
- Lightweight gliders should be installed for drawers.

Beds shall comply with the following:

- The height of the space between the base of a bed and the FFL shall be not less than **150mm**. This clearance is necessary for the use of a hoisting device.
- The height of the mattress top shall be not less than **480mm** and not more than **500mm** AFFL when compressed by a weight of **90kg**.
- Where appropriate, a telephone, and controls for operating radio, TV, air-conditioning, lights and signals shall be accessible from the bed.
- The clear circulation space around beds shall be not less than shown in AS 1428.2 Figure 29.

The height zone for comfortable viewing is shown in AS 1428.2 Figure 30.

External furniture

Refer to [02 SITE, URBAN AND OPEN SPACES/ 0261 LANDSCAPE – FURNITURE AND FIXTURES](#) and [08 HYDRAULICS/ 0815 DRINKING WATER DISPENSERS](#).

Street furniture, which includes objects such as seats, tables, drinking fountains, planter boxes, rubbish bins and the like shall comply with the following:

- Seats shall be a minimum of **500mm** away from the path of travel.
- Objects shall be of a colour which provides contrast with their background and have a luminance factor of not less than **30%**.

Where possible, all street furniture should be positioned on one side only of the accessible path of travel.

The design and installation of any external seating is required to be as follows:

- The front of the seat must have a clear space between any legs at ground level to within **150mm** of the front edge of the seat, and to within **100mm** of the seat height to allow for rearward adjustment of feet when rising (see Figure 32(b)).
- Where armrests are provided, the top surface of the armrests must be at a height of **260 +/-40mm** above the seat.

- The front edge of the seat shall have a minimum radius of **30mm**.
- No edge or projection shall have a radius of less than **5mm** unless protected from contact with the user.
- The seat must be drain free of water.

Seats should generally be **450mm** high. Children and smaller people may prefer seats as low as **350mm** high. Where possible, a range of seat heights should be provided.

At each location where drinking fountains and water coolers are provided, at least one shall be in accordance with AS 1428.2 Figure 33.

Drinking fountain outlets shall be as close as possible to the front of the unit. It shall direct water flow to a height of **80-100mm** in a trajectory that is parallel to the front of the unit (see AS 1428.2 Figure 33).

Drinking fountain controls shall either be centrally positioned at the front of the unit or if positioned at the side, be on both sides and not more than **180mm** from the front of the unit. Controls operable by one hand shall require an operating force of not more than **19.5N**.

A foot-operated control is acceptable if installed in addition to, but not instead of hand operated controls.

Where a drinking fountain is recessed, in addition to complying with the clearance requirements of AS 1428.2 Figure 33, a clear width of space underneath the unit of not less than **800mm** shall be provided.

The height of the operative components of water cooler cup dispensers shall not be more than **1100mm** above the trafficable surface.

0.13 Kitchens and laundries

Refer to **INCLUSIVE DESIGN FRAMEWORK (currently under development)**, **0001c DESIGN CHECKLIST – CIRCULATION** and **0572 MISCELLANEOUS FURNITURE**.

Shelves and Cupboards must be designed in accordance with the following:

- Clear floor space - A clear floor space of not less than **800 x 1300mm** that allows either a forward or parallel approach by a person using a wheelchair shall be provided at accessible storage facilities.
- Height - accessible storage spaces shall be within one of the reach ranges specified by clause 22. Clothes-hanging rods or hooks shall be a maximum **1350mm** AFFL

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- Hardware for accessible storage facilities shall comply with the following. Tough latches and D-shaped pulls are acceptable:
 - The shape of the door handle shall be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch. D-shaped handles will meet this requirement. Knobs on bolts and snibs shall be designed so that they provide an easy grip.
 - Handles shall be clearly identified by colour with luminance contrast to their background of not less than **30%**.

Design requirements

Kitchen and Laundry to be detailed as follows:

- Drawers or slide-out baskets are preferred, rather than large open cupboards.
- Rotating shelves, which have a lip of not less than **50mm** are preferred for corners
- Corners of benches should be rounded to reduce the risk of injury
- Toe recesses should be provided along the front of benches
- The height and shape of cupboard and drawer handles should comply with reach ranges as specified in AS 1428.2
- Sliding doors should be fitted with stops so that the doors stop a minimum of **50mm** from the door handle.
- At least one work surface should provide a clear width opening beneath the surface of not less than **820mm** to allow for a front approach by a wheelchair.
- A clear 'set down' space next to oven cooktop, refrigerator and dishwasher should be provided on the bench top
- Where it is necessary to slide hot utensils along work surfaces, the surface material should be heat-resistant
- Bench surfaces should be smooth for easy cleaning and of a non-glare finish
- For vision-impaired users, horizontal surfaces should be a lighter colour than that of the vertical surfaces. The luminance factor of the vertical surface should not be less than **30%** different from surrounding horizontal surface
- The height of work surfaces should be in accordance with AS 1428.2
- Some ambulant people with disabilities prefer to work while seated on a stool. Consideration should therefore be given to this when determining bench height
- Where pull-out surfaces are provided e.g. as a set down beside a stove, they should be fitted with handles and heat-resistant surfaces. A stop should be incorporated to ensure that shelves cannot be accidentally pulled right out.

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- For users in wheelchairs a shallow sink is essential, hence the preferred maximum bowl depth is **150mm**. The clearance underneath should comply with the requirements for washbasins in AS 1428.1.
 - The underside of the sink bowl, exposed pipes, taps and fittings should be installed to avoid burns
 - For people with limited hand movement, lever action fittings should be used. Taps should comply with AS 1428.2
 - Wherever practicable, tap washers operating on the principle of a ball valve in synthetic rubber washers, or ceramic or hydraseal types should be used because of the ease of turning on and off and their maintenance-free life and ease of replacement
 - Wall ovens should be installed so that the bottom shelf is on approximately the same level as the adjacent work surface
 - The drop-down type of oven door which does not slide away is not recommended as it limits reach for wheelchair users
 - Where a pull-out work surface is not provided, there should be a clear worktop at one side of the oven to allow for set down. If a side-hinged oven door is used, the clear worktop should be on the opposite side.
 - Controls should be within the zone of common reach shown in AS 1428.2. They should be easy to operate by the intended user and clearly marked. For people with vision impairment, tactile indicators should be provided on all controls.
 - Ovens with a light and timer are preferred.
 - Cooktops should be flush or as close to flush as possible with the adjacent benchtops and they should have adequate heat-resistant work surfaces.
 - Cooktops should have countertop controls. For people with vision impairment, tactile markings should be provided on all controls.
 - For people with vision impairment, gas stoves are preferred as they provide an instant heat that gives immediate indicator that a burner is operational.
 - Gas burners should have automatic ignition.
 - If an electric hot plate is used, coil elements are preferred as they do not transmit as much heat as solid elements to the surrounding areas.
 - Hotplates and burners should be positioned away from trafficable areas within the kitchen.
 - For general use by people with disabilities and older people an electric cooking unit is preferred for reasons of safety, especially when there is a loss of sense of smell.
 - A refrigerator installed within the zone of common reach as specified in AS 1428.2.

- A clear worktop space alongside a refrigerator is recommended for set-down. This should be on the side opposite to the hinge of the door.
- The dishwasher will be best located close to the sink and crockery and cutlery storage areas.
- Worktop surface should be provided on each side of the dishwasher unit to allow for ease of loading and unloading.
- A range hood with an external exhaust is preferred to a recirculating type which requires regular filter changes.
- Floor surfaces should be easy to maintain and slip-resistant when wet or dry.
- Floor coverings with coved skirtings are preferred.
- Switches and general-purpose outlets should comply with the AS 1428.2 zone of reach.

0.14 Hearing Augmentation

It is necessary to provide hearing augmentation systems to assist building occupants who have mild, moderate and severe hearing loss to hear music and speech within the hall, library, movement studios, public reception, one interview room in Administration and areas that have a sound amplification system.

Students and adults use hearing devices which utilise different technology and are supported by different hearing augmentation systems. These are:

- **An induction loop system** to support devices used by adults including teachers, other staff, parents, family and other adult community user groups, and
- **A bluetooth frequency modulated soundfield system** that has optimum compatibility with the Roger Phonak hearing devices issued to students.

System requirements

The **induction loop** system shall:

- Consist of a suitable cable, amplifiers and any necessary transducers.
- Be interfaced to the main sound reinforcing system.
- The cable is to be laid in conduit, either in the ground floor slab if the reinforcing permits, or else saddled on top of the slab.
- Provide labels warning against nailing, drilling, etc.
- Do not install cable below the reinforcing.

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- Is to be equitably distributed to ensure uniform reception and to not less than 80% of the floor area.

The **wireless soundfield** system shall:

- Consist of soundfield speakers, wall pilot, and the range of portable devices including touch screen microphone, multimedia hub, charging rack and portable speaker
- Provide wall mounted soundfield speakers and supporting system devices in the Hall, Library and other large rooms. This system can be interfaced to the main sound amplification system.
- In General Learning Spaces (GLS) provide additional power outlets (min 2 additional double GPO's per GLS) to enable the range of portable soundfield devices to be located in that GLS when occupied by a student who is deaf or hard of hearing.
- Provide minimum one (1) set of soundfield portable devices to support a student who is deaf or hard of hearing. Advice should be sought from the school to confirm need for additional sets of soundfield portable devices.

Refer BCA Part D, Clause D3.7

Signage

Signage is to comply with BCA clause D3.6

Hearing augmentation signage must be located at the main entrance doors or doors of the enclosed space that offers the facility.