

**SPECIALISED DISABILITY ACCOMMODATION DESIGN AND CONSTRUCTION GUIDELINES**



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## 1. DOCUMENT OVERVIEW

This document has been created to assist the contractors, consultants, and partners of Homes of Choice (HoC) to better understand HoC's aspiration for the specialised disability accommodation that we are renovating, designing and building.

This document is not meant to supersede or restate any AS/ NZ Specialist Disability Accommodation Design Standard. Where there is a conflict between this document and the aforementioned codes, guides, and standards, the aforementioned documents will take precedence. This document, when applicable, will be annexed to a construction Contract to form part of the Contract document. This document will be known as the Principal's Project Requirements under the Contract.

## 2. INTELLECTUAL PROPERTY

This document may only be used as permitted by the terms of the Contract and for the purposes and stages of the Project for which it has been prepared and delivered by Homes of Choice; and by authorized persons who agree that this document and all intellectual property rights in it remain the property of Homes of Choice and may not be changed, used, reproduced, provided or disclosed by or to any person without the written consent of Homes of Choice, and only then with clear identification of Homes of Choice as author and owner and of all changes made.

## 3. DESIGN GUIDE

*This design guide breakdown disability housing into four different categories.*

1. **Improved Liveability** - Housing that has been designed to improve 'Liveability' by incorporating a reasonable level of physical access and enhanced provision for people with sensory, intellectual or cognitive impairment.
2. **Fully Accessible** - Housing that has been designed to incorporate a high level of physical access provision for people with significant physical impairment.
3. **Robust** – Housing that has been designed to incorporate a reasonable level of physical access provision and be very resilient, reducing the likelihood of reactive maintenance and reducing the risk to the participant and the community.
4. **High Physical Support** - Housing that has been designed to incorporate a high level of physical access provision for people with significant physical impairment and requiring very high levels of support.

## 4. GENERAL REQUIREMENTS

All dwelling shall have the following noted features on an entry level or a level serviced by a lift:

- One bedroom exclusively for use of a participant,
- One WC pan,
- One shower,
- One hand wash basin,
- One living area,
- One kitchen, and
- One laundry.

## 5. PEDESTRIAN ENTRY FROM THE SITE BOUNDARY

For fully accessible and high physical support units - a safe, continuous step-free access way shall be provided from the front boundary of the site to an entry doorway of the dwelling. Note: The access way may include a walkway, step ramp or ramp and shall include any additional enhanced requirements of the particular design category. However for Robust and Improved Liveability housing if a safe, continuous step-free access way from the front boundary of the site to an entry doorway of the dwelling cannot be provided, then step free access way shall be provided from a car parking space.

***For all the four categories, an access way shall have:***

- No steps,
- A level transition of surface materials,
- A maximum vertical tolerance of 3mm or 5mm between abutting surfaces is permitted, as long as the lip is rounded or bevelled,
- An even and firm surface, and
- A crossfall of not more than 1:40.

1:20 grade is permitted as a part of the access way and where development shall incorporate the following:

- 1200mm length mid-landings, in the direction of travel (of the same width as walkway width) provided every 15M.
- The floor surface abutting the sides of a 1:20 grade walkway is provided with a firm and level surface which can be a different material at the same level and grade of the walkway, and extend horizontally for an additional minimum of 600mm, from an access way unless one of the following is provided: kerb, kerb-rail and handrail or wall (min 450mm height).
- Slip resistance shall be a minimum of P4 or R11.

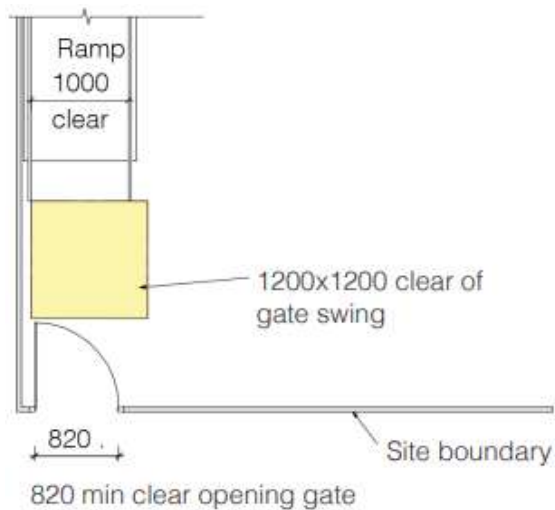
1:10 grade step ramp is permitted as a part of the access way and where provided shall incorporate the following:

- The maximum level change or transition which can be dealt with by a step ramp is 190mm and maximum length of ramp is 1900mm
- All features of 1:10 step ramp including landing sizes, handrails / kerb rails (if required).
- Slip resistance shall be a minimum of P5 or R12

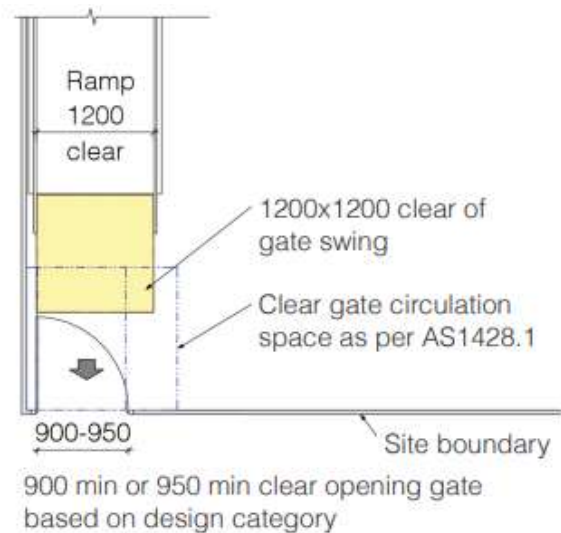
Where the level difference is over 190mm, a maximum grade of 1:14 ramp is permitted as a part of the access way and where provided shall incorporate the following:

- 1200mm length landings, in the direction of travel (of the same width as ramp width) provided at base and top of the ramp and at maximum intervals of 9M. Additional landing spaces shall be provided at turns and changes in direction as required under AS1428.1.
- All features of 1:14 ramps including handrail profile, handrail extensions and kerb rails shall comply with the design standards.
- Slip resistance shall be a minimum of P4 or R11

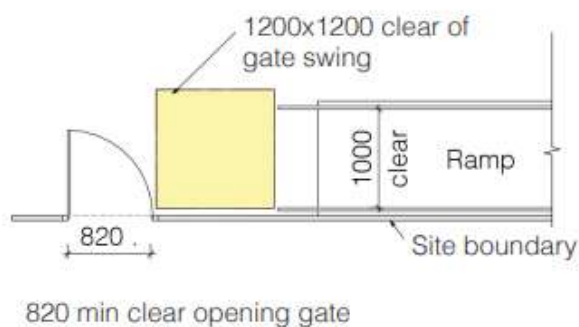
Where a ramp or walkway is part of the access way, level landings no less than 1200mm x 1200mm, exclusive of the swing of the door or gate that opens onto them, shall be provided. The landing size shall increase based on the required gate / door circulation spaces or change of direction requirements.



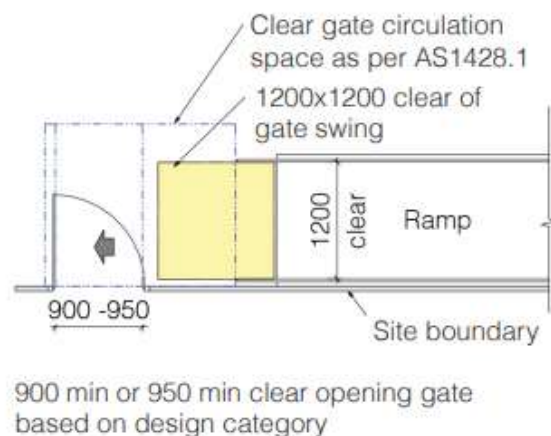
**Figure 1 (a) Improved Liveability and Robust design categories**



**Figure 1 (c) Fully Accessible and High Physical Support design categories**



**Figure 1 (b) Improved Liveability and Robust design categories**



**Figure 1 (d) Fully Accessible and High Physical Support design categories**

**Figure 1 - Demonstrating required circulation spaces around gates and ramps**

Unless a range of dimensions is specified, all dimensions noted in the figures are the minimum required and in millimetres.



## 6. EXTERNAL DESIGN SPACES

### Site

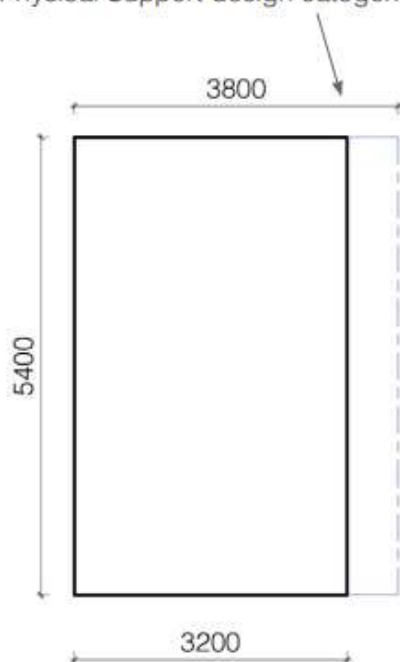
Ideally, this should be flat but can have a gradient as long as there is a level area outside the house.

### Car parking

A level space of 5000 x 3500mm for the car to be parked and to allow people to get out of the car and walk to and from the house easily.

The surface should be firm, slip resistant and flat to a slope not exceeding 1:20

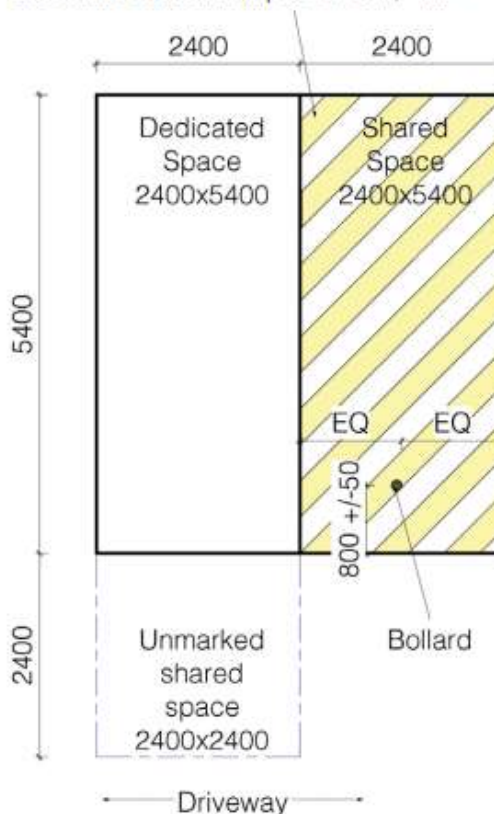
Parking space of 3800 x 5400 where allocated to Fully Accessible and High Physical Support design categories.



Parking space of 3200 x 5400 where allocated to Improved Liveability and Robust design categories.

**Figure 2 (a) Parking space requirements based on design categories**

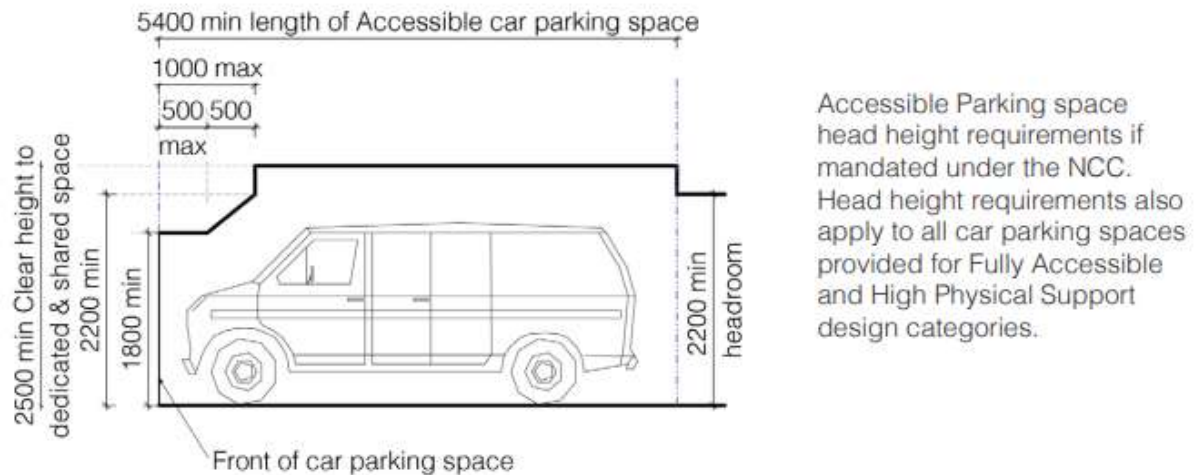
150-200 wide diagonal stripes with spaces 200-300 between stripes at 45+/- 10°



**Figure 2 (b) Accessible Parking space requirements as per AS2890.6 - if mandated under the NCC**

### Figure 2 - Car parking space requirements

Unless a range of dimensions is specified, all dimensions noted in the figures are the minimum required and in millimetres.



**Figure 2(b) shows clear head height requirements for car parking spaces and shared zones and also applicable to car parking spaces allocated to participants in the fully accessible and high physical support design categories.**

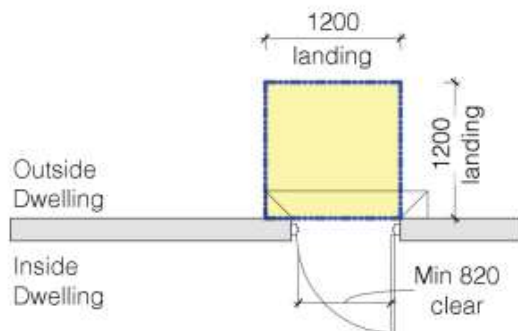
## 7. ENTRANCE, DOORWAYS AND DOOR HARDWARE

A level landing area of at least 1500mm x 1500mm with a maximum 1:40 gradient and cross fall shall be provided at the level (step-free) external entry doorway, on the arrival side of the door (i.e. the external side of the door).

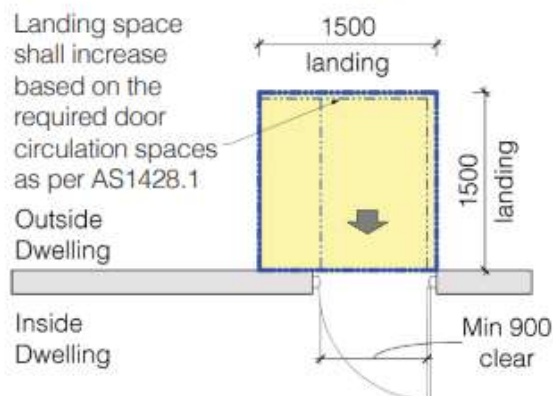
The level landing area shall be increased to accommodate door circulation spaces.

Doorway threshold ramp (if required) is permitted to be within the landing area.

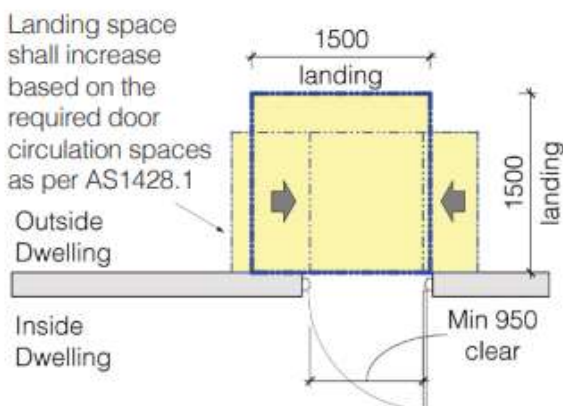




**Figure 3 (a) - Landing space for Improved Liveability and Robust design categories**



**Figure 3 (b) - Landing space for Fully Accessible design category**



**Figure 3 (c) - Landing space for High Physical Support design category**

**Figure 3 - Landing Area requirements for the external entry doorway based on the design category**

Unless a range of dimensions is specified, all dimensions noted in the figures are the minimum required and in millimetres.

**Figure 3 (a) - Landing space for Improved Liveability and Robust design categories**

- A level landing area of at least 1200mm x 1200mm with a maximum 1:40 gradient and crossfall shall be provided at the level (step-free) external entry doorway on the arrival side of the door (i.e. the external side of the door).
- Doorway threshold ramp (if required) is permitted to be within the landing area.
- A covered roof area shall be provided over the entire required landing area outside main external entry doorway (shown in yellow).

**Figure 3 (b) - Landing space for Fully Accessible design category**

**AND**

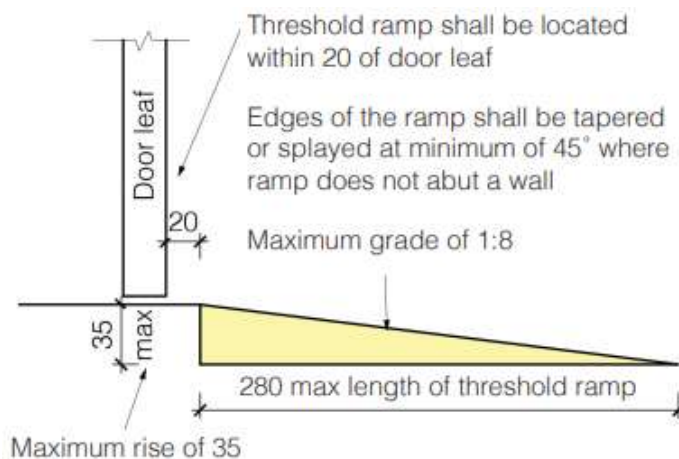
**Figure 3 (c) - Landing space for High Physical Support design category**

- A level landing area of at least 1500mm x 1500mm with a maximum 1:40 gradient and crossfall shall be provided at the level (step-free) external entry doorway on the arrival side of the door (i.e. the external side of the door).
- The level landing area shall increase to accommodate door circulation spaces as per AS1428.1. Figure 3 (b) demonstrates door circulation spaces based on front approach to door and Figure 3(c) demonstrates door circulation spaces based on side approach to door.
- Doorway threshold ramp (if required) is permitted to be within the landing area.
- A covered roof area shall be provided over the entire required landing area outside main external entry doorway (shown in yellow).

A covered roof shall be provided over the entire required landing area outside main external entry doorway.

A step-free doorway threshold shall be provided to an external entry doorway. Where the threshold at an external entry doorway exceeds 5mm and is less than 35mm, a doorway threshold ramp shall be provided with a maximum 1:8 grade as shown in Figure 4.





**Figure 4 - External door threshold design option**

All dimensions noted in the figures are the minimum required and in millimetres.



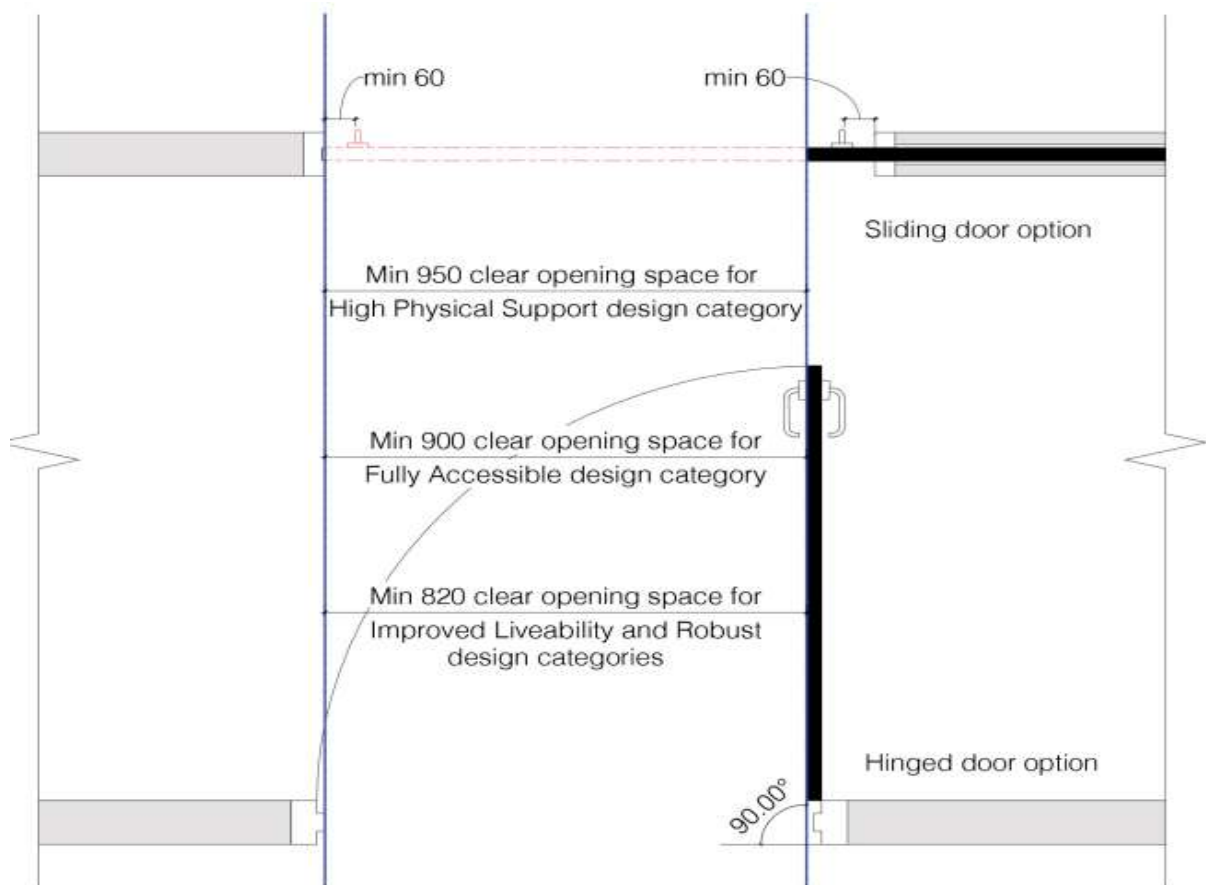
## 8. REQUIREMENTS FOR DOORWAYS AND DOOR HANDLES

For Robust and improved liveability, the dwelling shall provide all doors to and within all areas normally used by the participants, including all external doorways with a minimum clear opening width of 820mm.

For high physical support the dwelling shall provide all doors to and within all areas normally used by the participants), including all external doorways with a minimum clear opening width of 950mm.

All internal doorways shall have a level (step-free) transition and threshold (maximum vertical tolerance of 3mm vertical or 5mm between abutting surfaces is allowable provided the lip is rounded or bevelled).

Doorways shall have door handles installed at between 900mm to 1100mm above the FFL.



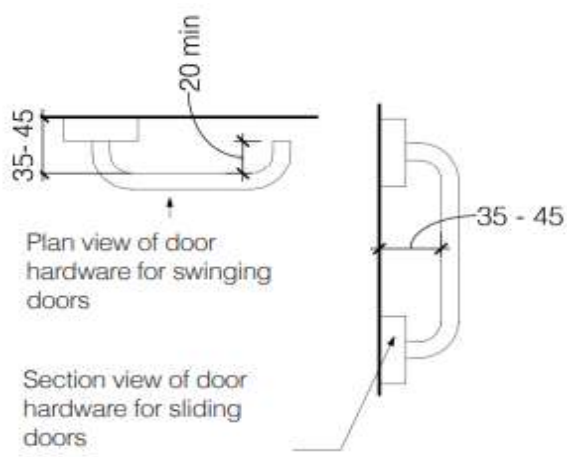
**Figure 5 - Clear door opening width requirements based on the design category**

All dimensions noted in the figures are the minimum required and in millimetres.

Note: The door handles are permitted to encroach within the clear opening space.

Doorway circulation spaces shall be provided to all doorways excluding exclusive staff use areas, non-accessible toilets and storage rooms.

Door automation can be provided in lieu door circulation spaces.



**Figure 6 - Door hardware requirements for Improved Liveability, Fully Accessible and High Physical Support design categories.**

Unless a range of dimensions are specified, all dimensions noted are minimum required and in millimetres.

## 9. CORRIDORS

For Robust and improved liveability, all internal corridors and passageways shall provide a minimum clear width of 1000mm when measured from skirting to skirting.

For fully accessible and high physical support, all internal corridors and passageways shall provide a minimum clear width of 1200mm when measured from skirting to skirting.

## 10. WINDOWS

For fully accessible and high physical support units - all windowsills in living areas and at least one windowsill in each participant's bedroom shall be positioned no higher than 1000mm above the FFL.

Note: Concession is reasonable in kitchen, bathroom and utility spaces.

Window controls shall be located within easy reach from either a seated or a standing position (between 600mm to 1100mm above FFL). Note: Concession is reasonable in kitchen, bathroom and utility spaces.

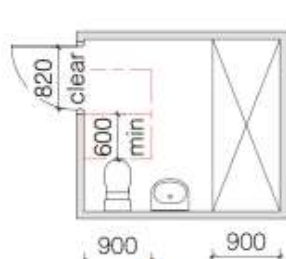
For high physical support - power and control cabling to windows of bedrooms and living areas shall be provided for future window blind automation.



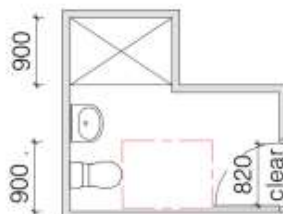
## 11. SANITARY FACILITIES

The entry level, or a level serviced by a lift, shall be provided with sanitary facilities that include a WC pan, a shower and a hand washbasin. However, for fully accessible and high physical support WC pan, shower and hand basin shall be provided within the same bathroom.

For improved liveability and robust dwellings at least one WC pan on the entry level, or a level serviced by a lift, shall provide for a minimum clear space of 900mm (width) x1200mm (length immediately forward of the toilet pan) clear of the swing of the door and any other fixtures such as the shower screens or shower screen fixtures or hand wash basin.



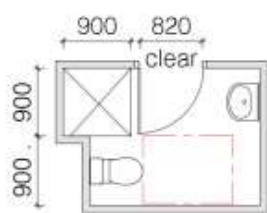
**Figure 7 (a) Bathroom Design Option 1**



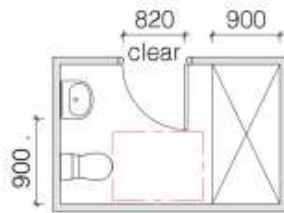
**Figure 7 (b) Bathroom Design Option 2**



**Figure 7 (c) Bathroom Design Option 3**



**Figure 7 (d) Bathroom Design Option 4**



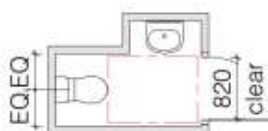
**Figure 7 (e) Bathroom Design Option 5**



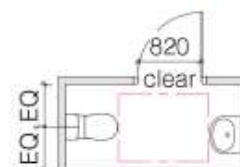
**Figure 7 (f) Bathroom Design Option 6**



**Figure 7 (g) Toilet Design Option 1**



**Figure 7 (h) Toilet Design Option 2**



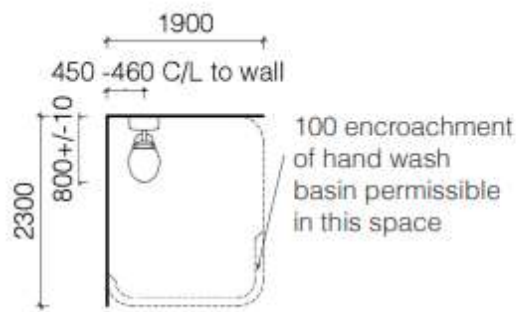
**Figure 7 (i) Toilet Design Option 3**

**Figure 7 - Sample toilet and shower designs for Improved Liveability and Robust design categories**

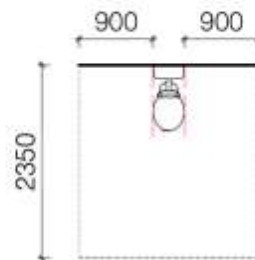
Notes:

- Unless a range of dimensions is specified, all dimensions noted in the figures are the minimum required and in millimetres.
- WC pan is not required to comply with AS1428.1. In designs where the nearside wall adjacent to the WC pan includes a doorway (and a wall is not available on the other side of the WC pan), for example Figure 7(a), then a 600mm minimum length reinforced wall shall be clear of the door frame.
- A shower is permitted to be in another room as long as it is on the entry level. Shower shall have an internal size of 900mm x 900mm, clear of any shower fittings or frames.
- Internal side of full sanitary facility shall have wall reinforcement which consists of minimum 12mm thick sheeting, from FFL and extending to a height of minimum 2100mm from FFL.

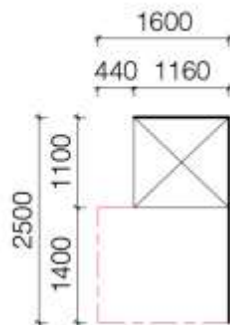
 Indicates a clear space of 900mm x 1200mm



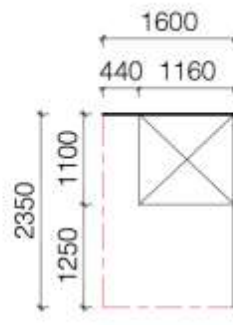
**Figure 8 (a) Circulation space for Accessible toilet in Fully Accessible and High Physical Support design categories**



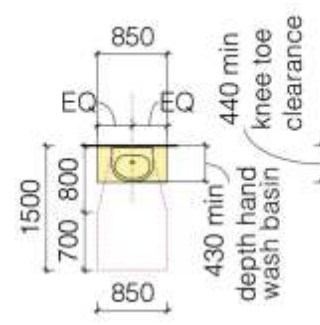
**Figure 8 (b) Optional Circulation space for Peninsular type toilet in High Physical Support design category**



**Figure 8 (c) Option 1 - Circulation space for Accessible shower**



**Figure 8 (d) Option 2 - Circulation space for Accessible shower**



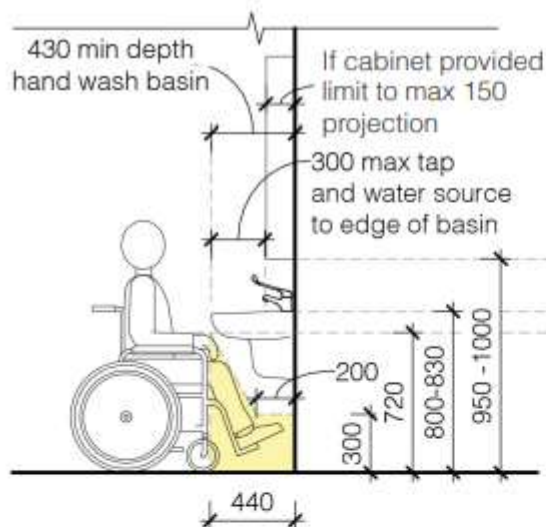
**Figure 8 (e) Circulation space for Accessible basin**

**Figure 8 - Circulation space requirements for Fully Accessible and High Physical Support design categories**

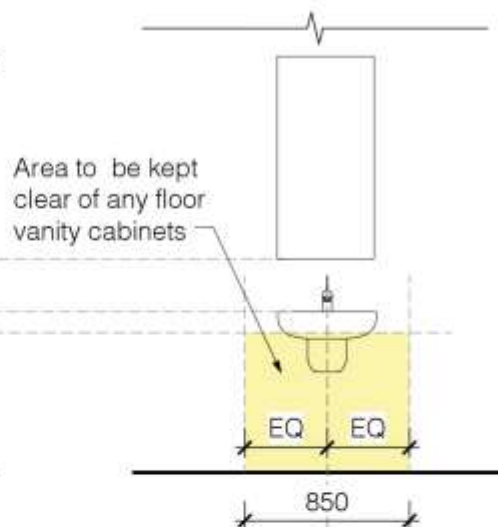
Notes:

- Unless a range of dimensions is specified, all dimensions noted in the figures are the minimum required and in millimetres.
- Circulation spaces for WC pan, shower and hand wash basin shall be as per AS1428.1.
- Yellow section in Figure 8 (e) indicates encroachment-free knee and toe clearance space as per AS1428.1 under the basin for a minimum width of 850mm, centred on the hand wash basin.





**Figure 9 (a) Fixtures associated with hand wash basin - Side elevation**



**Figure 9 (b) Fixtures associated with hand wash basin - Front elevation**

**Figure 9 - Fixture requirements for Fully Accessible and High Physical Support design categories**

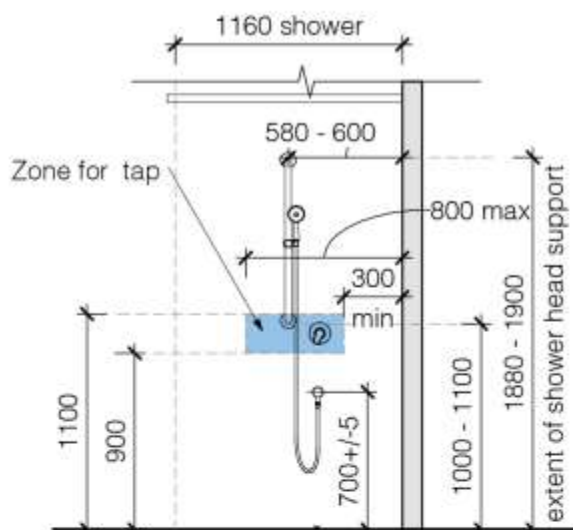
**General Notes:**

- Unless a range of dimensions is specified, all dimensions noted in the figures are the minimum required and in millimetres.

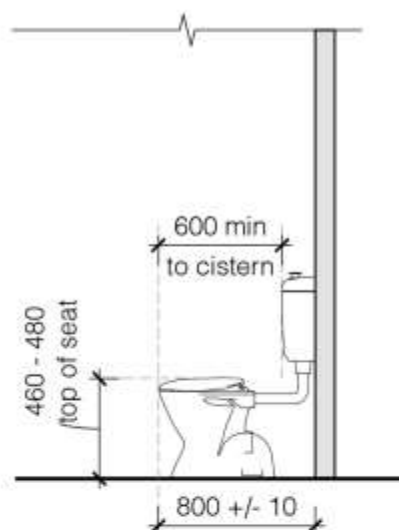
**Notes in relation to Figures 9 (a) and 9 (b) - Fixtures associated with hand wash basin:**

- Basin and lever mixer tap shall comply with requirements of AS1428.1.
- Wall cabinet, if provided above a hand wash basin, to have a maximum projection of 150mm and base wall cabinet to be between 950mm to 1000mm from FFL.
- Wall cabinet can be provided either above or beside the basin.
- Basin depth shall be minimum of 430mm.
- Yellow sections indicate encroachment-free knee and toe clearance space as per AS1428.1. under the basin for a minimum width of 850mm, centred on the hand wash basin.





**Figure 9 (c) Fixtures associated with shower**



**Figure 9 (d) Set out of Accessible WC pan**

**Figure 9 - Fixture requirements for Fully Accessible and High Physical Support design categories (continued)**

**General Notes:**

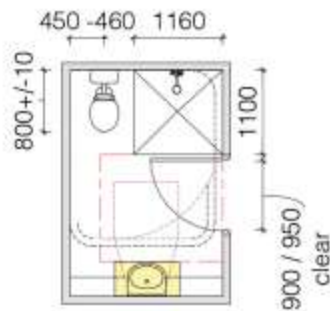
- Unless a range of dimensions is specified, all dimensions noted in the figures are the minimum required and in millimetres.

**Notes in relation to Figure 9 (c) - Fixtures associated with shower:**

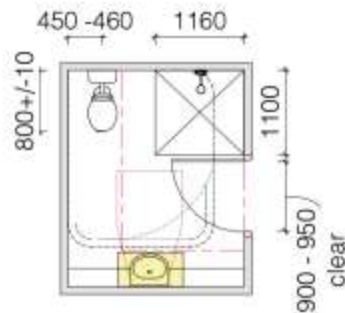
- Only vertical grabrail shall be provided with height adjustable shower head and hose as per AS1428.1.
- Taps shall be located in a zone between 900mm and 1100mm above FFL and at a minimum of 300mm and maximum of 800mm from internal corner.
- Any type of floor drain including strip drain is permitted to adequately drain the shower floor.
- Provide shower curtain rail.
- Shower seat and horizontal grabrail shall not be provided unless specifically required by the participant.

**Notes in relation to Figure 9 (d) - Fixtures associated with WC pan:**

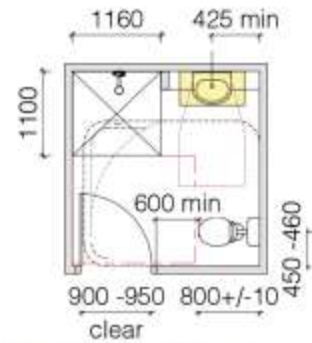
- WC pan shall be AS1428.1 compliant (as per requirements for accessible unisex toilet and not as per ambulant toilet).
- Backrests and grabrails shall not be provided, unless specifically required by the participant.



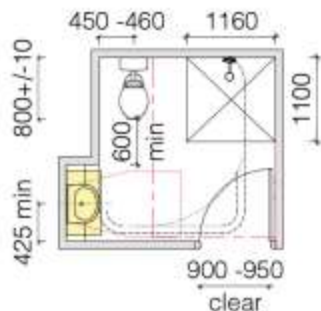
**Figure 10 (a) Bathroom Design Option 1**



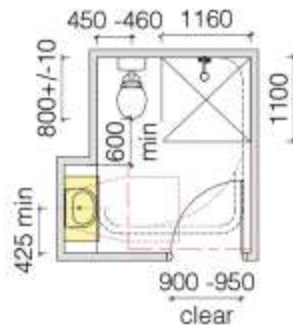
**Figure 10 (b) Bathroom Design Option 2**



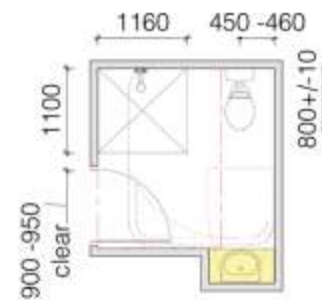
**Figure 10 (c) Bathroom Design Option 3**



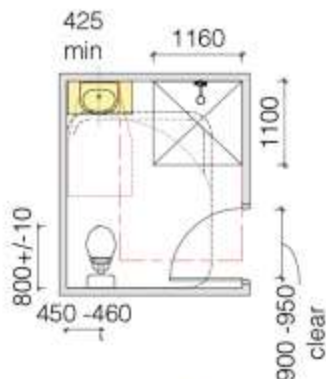
**Figure 10 (d) Bathroom Design Option 4**



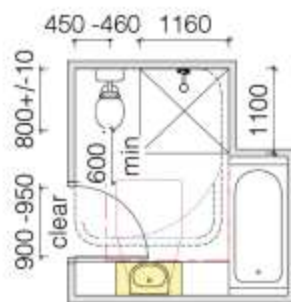
**Figure 10 (e) Bathroom Design Option 5**



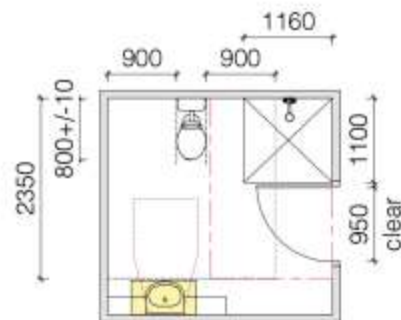
**Figure 10 (f) Bathroom Design Option 6**



**Figure 10 (g) Bathroom Design Option 7**



**Figure 10 (h) Bathroom Design Option 8**



**Figure 10 (i) Bathroom Design Option 9 (only for High Physical Support design category)**

**Figure 10 - Sample designs for Fully Accessible and High Physical Support design categories**

## 12. WALL REINFORCEMENTS TO SANITARY COMPARTMENTS

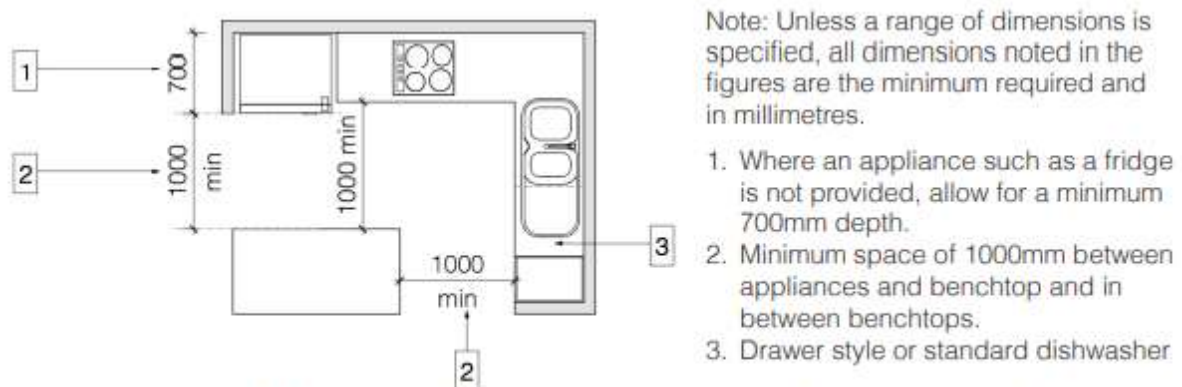
Except for walls constructed of masonry or concrete, the internal side of the full sanitary room with the required WC pan, shower, hand wash basin and fixed bathtub (if provided) shall have wall reinforcement of minimum 12mm thick sheeting, from FFL and extending to a height of minimum 2100mm from FFL.

The WC pan shall have an adjacent sidewall (on at least one side of the WC pan) with a 600mm minimum length of wall reinforcement, forward of the WC pan. In designs where the nearside wall adjacent to the WC pan includes a doorway (and the wall is not available on the other side of the WC pan), then a 600mm minimum length reinforced wall shall be clear of the door frame

### 13. KITCHEN

A kitchen shall be provided with the following minimum fixtures: a fixed cooktop (with a range hood), an in-built oven, a sink (with tap) and a dishwasher.

For improved liveability and robust at least 1000mm clearance shall be provided in front of fixed benches and appliances (being the leading edge of the outermost bench and not from the face of cupboards or the kick plate and excluding handles). Where the appliances are not installed, the recessed area provision for an appliance shall be a minimum of 700mm in depth.

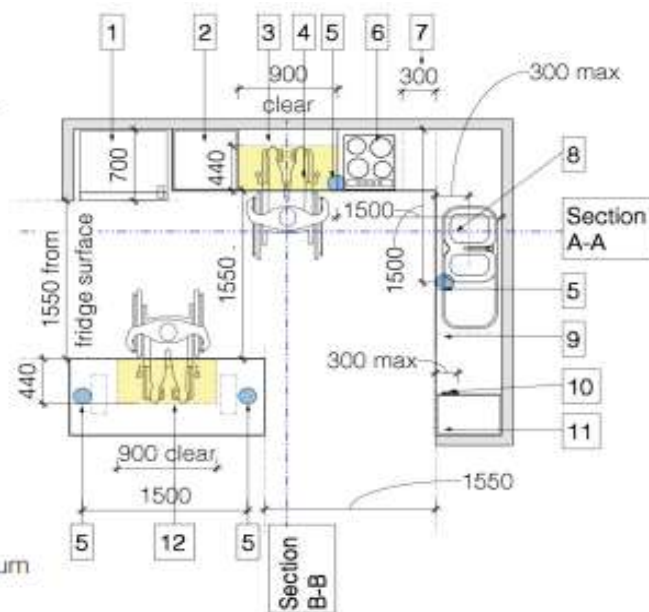


**Figure 11 - Sample Kitchen layout for Improved Liveability and Robust design categories.**

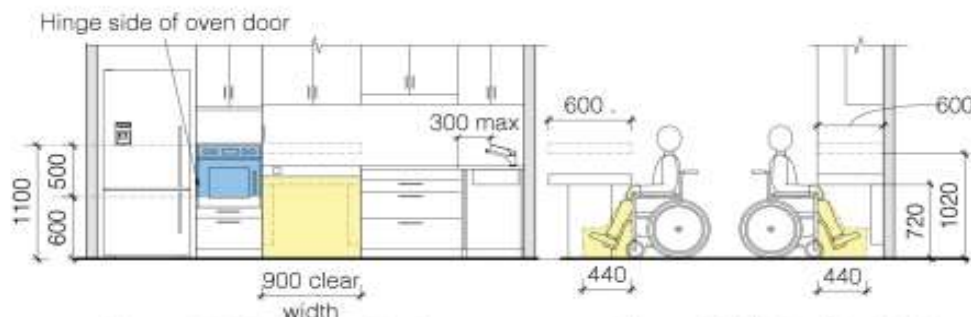
For fully accessible and high physical support, at least 1550mm clearance shall be provided in front of fixed benches and appliances (being the leading edge of the outermost bench and not from the face of cupboards or the kick plate and excluding handles). Where the appliances are not installed, the recessed area provision for an appliance shall be a minimum of 700mm in depth. A wall oven shall be provided with features as noted below:

- Side hinged door with latch side of door next to accessible benchtop.
- At least a part of the operable part of oven door handle shall be located between 600mm and 1100mm above the FFL.
- At least one shelf on telescopic rails within the oven.

1. Where an appliance such as a fridge is not provided, allow for a minimum 700mm depth.
2. Provide wall oven with side hinge door.
3. Location of accessible benchtop next to wall oven and next to cooktop with 900mm clear width under the benchtop with knee / toe clearances as per AS1428.1
4. Option 1 - Location of height adjustable benchtop.
5. Test locations for minimum 300lux lighting levels at maximum intervals of 1500mm measured directly over the benchtops.
6. Cooktop controls on side of accessible benchtop or at front edge of the benchtop.
7. Cooktop shall be either electric or induction and shall be located a minimum of 300mm from any internal corner.
8. Operable part of lever tap handle and water source shall be within 300mm from edge of benchtop.
9. Drawer style dishwasher.
10. Double GPO shall be within 300mm from the edge of the benchtop and maximum height of 1100mm from FFL.
11. Pantry with extendable basket shelves or full pullout style pantry.
12. Option 2 - Location of height adjustable benchtop. Note: Height adjustable benchtop to have height adjustment from 720mm clear space underneath height adjustable benchtop till 1020mm clear space underneath height adjustable benchtop and be provided with 900mm clear width under the benchtop with knee toe clearances as per AS1428.1 (as required for hand wash basins).



**Figure 12 Sample Plan of Kitchen layout for Fully Accessible and High Physical Support design categories**



**Figure 13 (a) Section A - A**

**Figure 13 (b) Section B - B**

**Figure 13 - Sample Sectional Elevations of Kitchen layout for Fully Accessible and High Physical Support design categories**

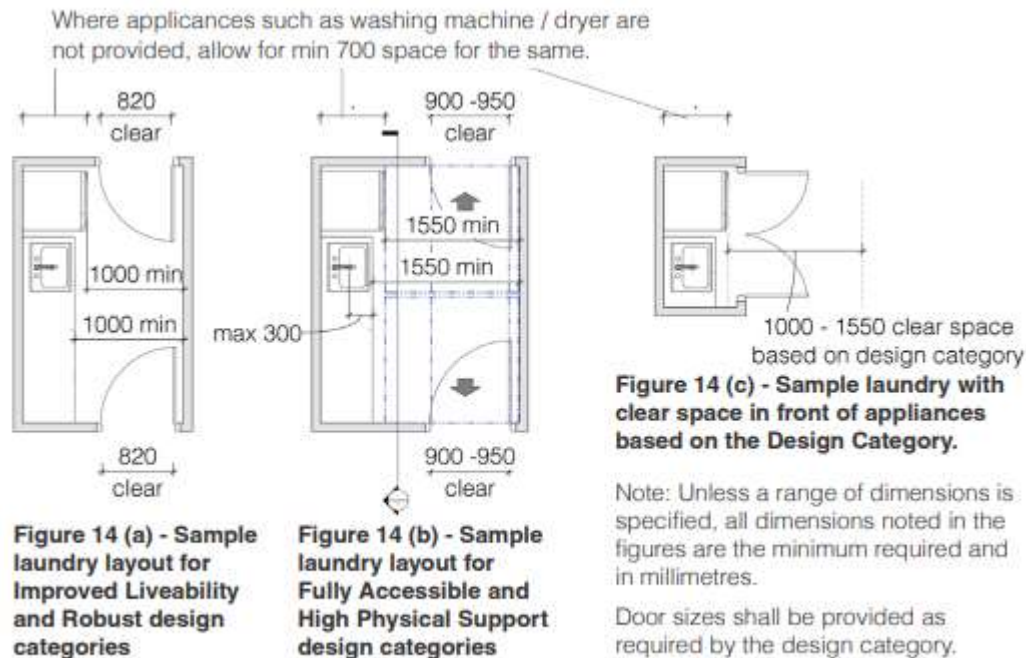
Note: Unless a range of dimensions is specified, all dimensions noted in the figures are the minimum required and in millimetres.

Slip resistance of all kitchen flooring shall be minimum of P3 or R10.



## 14. LAUNDRY

A laundry shall be provided with the following minimum fixtures: a sink or tub (with taps). Laundry could be a shared laundry and not necessarily located within the dwelling.  
Slip resistance of all laundry flooring shall be a minimum of P3 or R10.



**Figure 14 - Sample Laundry designs based on the Design category**

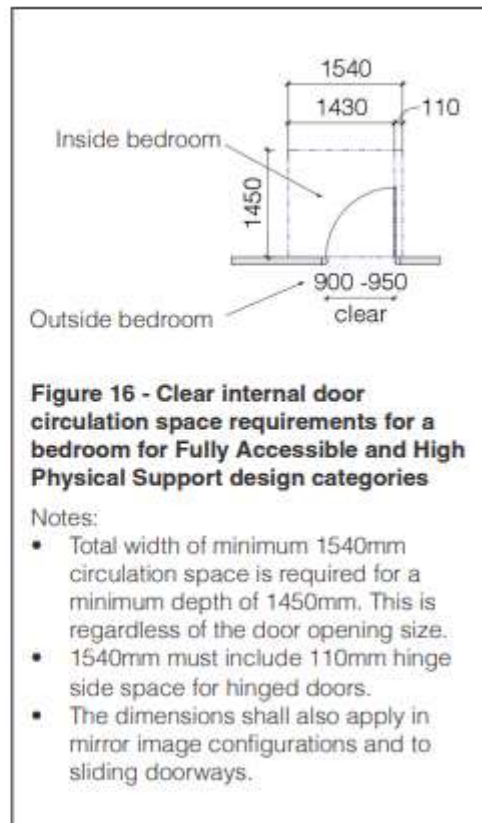
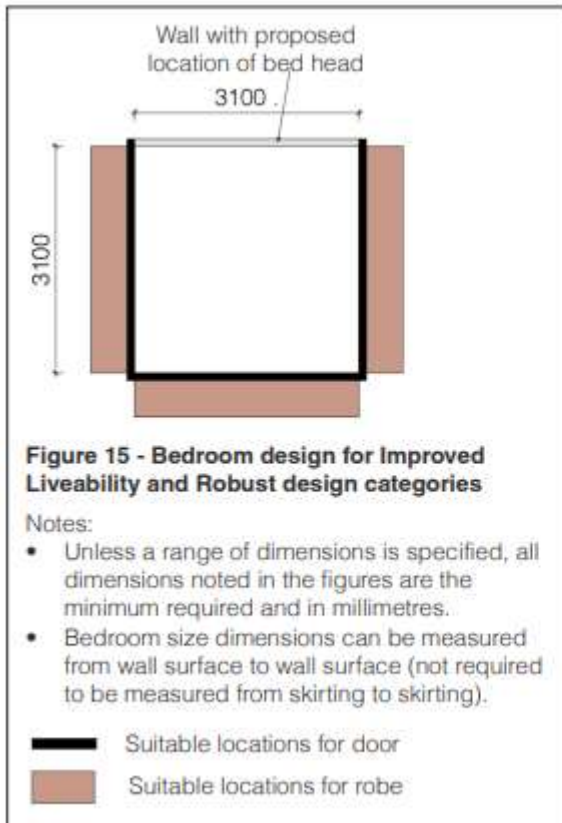
## 15. BEDROOM

For improved liveability and robust bedroom size shall be 3100mm x 3100mm when measured from wall surface to wall surface.

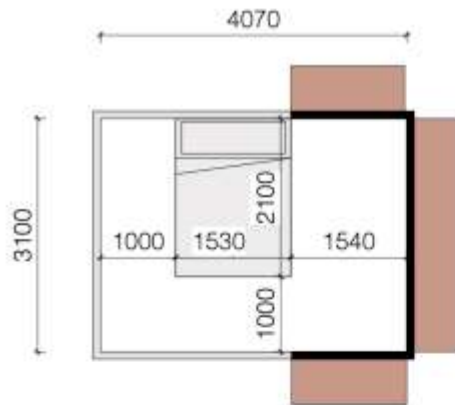
- A robe of minimum 1400mm width shall be provided within the bedroom, clear of the required bedroom size.

For fully accessible and high physical support, bedroom size shall allow for a minimum Queen bed of size 1530mm x 2100mm.

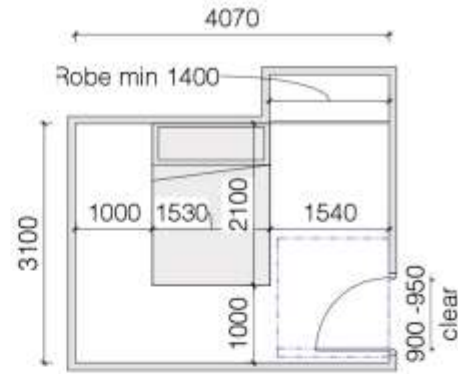
- Circulation spaces around the three sides of the bed (not including bed head side) shall include: - Space with minimum width of 1540mm on any one side on the bed; - Space with minimum width of 1000mm to the other two sides of the bed. The following door circulation spaces for bedroom shall be provided:
- Internal door circulation space of the door to bedroom shall be a minimum of 1540mm (width) and 1450mm (depth), as shown in Figure 16. This internal door circulation space shall be clear of the Queen bed of size 1530mm x 2100mm.
- External door circulation space shall be as per AS1428.1 based on the direction of approach or a minimum of 1200mm when measured from skirting to skirting (whichever is more). A robe of 1400mm width shall be provided within the bedroom, clear of the required bedroom size and with a minimum space of 1540mm in front of the robe. Following GPOs shall be provided:
- Three double GPO on the wall where the head of the bed is likely to be, and
- At least one double GPO on the wall opposite the wall where the head of the bed is likely to be.



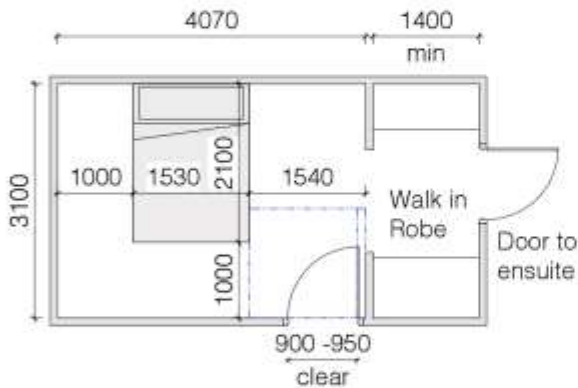




**Figure 17 (a) Option 1 - Transfer position on side of Queen bed (allow for 1530mm x 2100mm) with 1000mm space on other two sides of the bed. (Preferred option)**




**Figure 17 (b) - Sample layout based on Option 1**

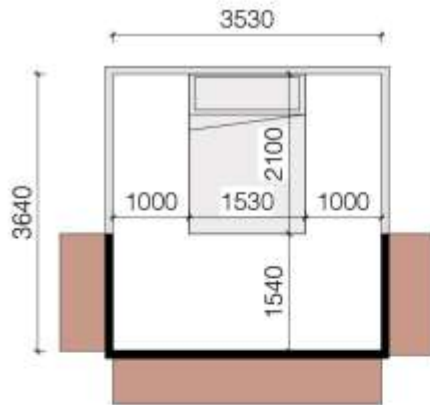


**Figure 17 (c) - Sample layout based on Option 1**

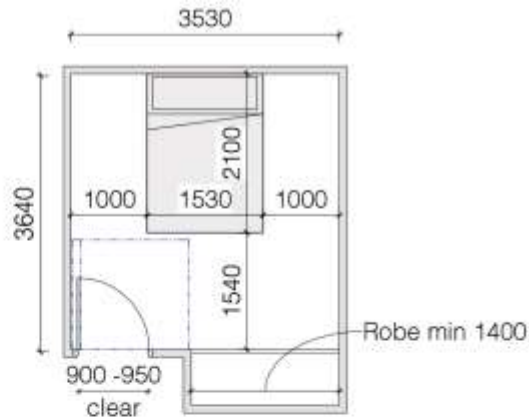
**Figure 17 - Bedroom design Option 1 for Fully Accessible and High Physical Support design categories**

-  Suitable locations for door
-  Suitable locations for robe

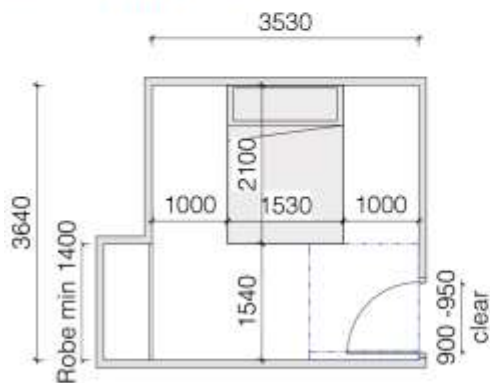
- Minimum internal door circulation space of door to bedroom shall be as per Figure 16. This space shall be clear of required Queen bed size of 1530mm x 2100mm and any internal robes.
- The external door circulation space of the bedroom door shall be as per AS1428.1 based on the direction of approach or a minimum of 1200mm when measured from skirting to skirting (whichever is more).
- Bedroom size dimensions can be measured from wall surface to wall surface (not required to be measured from skirting to skirting).



**Figure 18 (a) Option 2 - Transfer position on base of Queen bed (allow for 1530mm x 2100mm) with 1000mm space on other two sides of the bed.**



**Figure 18 (b) - Sample layout based on Option 2**



**Figure 18 (c) - Sample layout based on Option 2**

**Figure 18 - Bedroom design Option 2 for Fully Accessible and High Physical Support design categories**

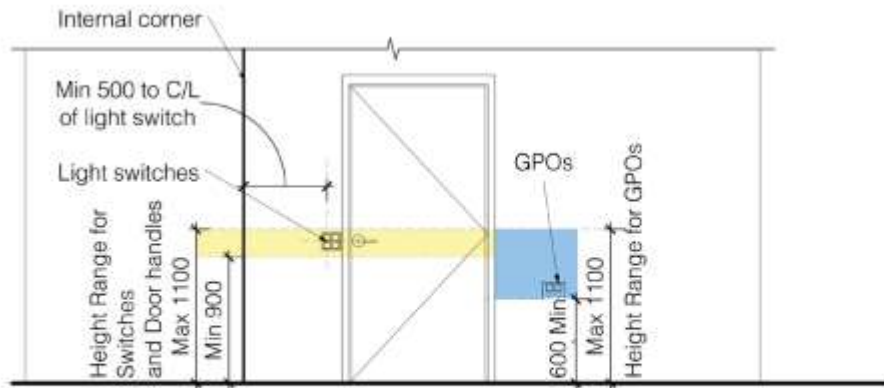
## 16. LIVING AREA

The family/living room shall accommodate a free space, minimum 2250mm in diameter, clear of furniture.

## 17. SWITCHES AND POWERPOINTS

Light switches shall be positioned in a consistent location:

- Between 900mm – 1000mm above the FFL, and
- Horizontally aligned with the door handle at the entrance to a room. However, for fully accessible and high physical support GPOs shall be installed between 600mm and 1100mm above the FFL. Light and GPO switches shall be rocker action, toggle or push pad in design with a minimum width of 35mm. Dimmable lighting switches shall be provided in living areas and bedrooms.



**Figure 19 - Location of light switches, GPOs and door handles**

Note: Unless a range of dimensions are specified, all dimensions noted in the figures are the minimum required and in millimetres.

## **18. FLOORING AND SLIP RESISTANCE**

All internal flooring (including wet areas) shall be firm, even and feature a level transition between abutting surfaces of a maximum vertical tolerance of 3mm or 5mm (provided the lip is rounded or bevelled).

All internal floor finishes shall have a minimum slip resistance of P3 or R10.

For fully accessible and high physical support bedroom carpets if provided within the dwelling, shall be provided with pile height or thickness not more than 11mm and carpet backing not more than 4mm bringing the total height to a maximum of 15mm.

## **19. INTERNAL STAIRWAYS**

It is assumed that access will be available to all internal areas of the Robust, Fully Accessible and High Physical support design category dwellings either by provision of all facilities on the entry level or by means of lifts. It is considered reasonable to provide bedrooms for Improved Liveability design category on a level that has access only via steps.

Stairways within dwellings shall feature a continuous handrail on both sides of the stairway. A minimum clear width of 1000mm shall be provided between the handrails and handrail profile and handrail extensions. Stairway shall have no winders on landings. Stairway shall have closed risers.

## **20. USE OF LIFTS**

Lift door to provide a minimum clear opening of 900mm and the lift car size shall be minimum 1100mm (width) x 1400mm (in direction of travel).

## **21. COMMON USE EXTERNAL AREAS, PRIVATE OPEN SPACE AND LANDSCAPING**

All ramps and access ways provided to all external common use and external private use areas shall comply with the requirements of ramps and access ways as noted in Clauses 2.4 to 2.12 as applicable to the various design categories.

For fully accessible and high physical support where individual letter boxes have been provided then, they shall be:

- Situated on a hard-standing area of 1540mm x 2070mm and have a gradient and cross fall directly in front which is less than 1:40 in any direction.
- Shall have wheelchair access by a continuous accessible path of travel from the dwelling to the letterbox,
- Shall be lockable,
- The height of the letterbox shall be between 600mm.

## **22. STORAGE**

A dwelling shall be provided with a storage cupboard with a minimum 600mm width and adjustable shelf heights.

## **23. BREAKOUT ROOM**

For robust dwelling if a breakout room is provided, it shall be a separate room designed to respond to the individual disability-related needs of the participant. It is not a study or living/ dining area but is intended to be dedicated and used to enhance learning, exploration or positively impact mood. This room would, therefore, be expected to make use of activities, equipment, sound and lighting in ways that are appropriate to the current residents.

Note: a breakout room is not a seclusion room.

## **24. LUMINANCE CONTRAST REQUIREMENTS**

For improved liveability dwellings, all doorways shall have a minimum luminance contrast of 30% provided between:

- Door leaf and doorjamb; OR
- Door leaf and adjacent wall; OR
- Architrave and wall; OR
- Door leaf and architrave; OR
- Doorjamb and adjacent wall. The minimum width of the area of luminance contrast shall be 50 mm. The formula used for assessment of luminance contrast shall be the Bowman-Sapolinski equation of;  $125(Y_2 - Y_1) / (Y_1 + Y_2 + 25)$  where  $Y_2$  is the LRV of the lighter area and  $Y_1$  is the LRV of the darker area.

Colour contrast shall be provided between floor surfaces and wall surfaces.

## **25. CEILING HOISTS**

For high physical support, bedrooms shall have a provision for power and inbuilt structure, capable of installation of a constant charge-ceiling hoist. The hoist shall be capable of going across the bed and down the bed. Min load capacity of the hoist shall be 250kg. Hoist is to be capable of being either ceiling mounted or wall mounted.

Evidence / Certification document shall be provided for the building structure to be able to provide for a ceiling hoist in the future:

- For design stage assessments, the notation of the requirements on the assessed drawings or specifications is adequate.
- For final-as-built stage, the structure shall be inspected and certified by a qualified structural engineer as being suitable for ceiling hoists with minimum load capacity of 250kg.

## **26. HEATING AND COOLING**

For fully accessible and high physical support dwelling reverse cycle air-conditioning shall be provided to living areas and bedrooms with control panels in an accessible location between 900mm and 1100mm from FFL and not closer than 500mm to any internal corner.

Where ducted air-conditioning is used, zoning of habitable rooms shall be provided.

## **27. EMERGENCY POWER SOLUTIONS**

For high physical support, emergency power solutions shall be provided to cater for a minimum 2-hour outage in no less than two double GPOs in participant bedrooms and any provided automated doors that are used for entry or egress.

## **28. ASSISTIVE TECHNOLOGY**

For fully accessible and high physical support, internet connection shall be provided with the ability for high internet speeds to be maintained and stable in nature with Wi-Fi coverage throughout all areas of the dwelling. High physical support a video, intercom or other communication system shall be provided to enable communication between the participant and their supports when not within line of sight.

## **29. FIRE SAFE DESIGN**

All houses needs to include the installation of domestic fire sprinkler system. Where specifically required, smoke alarms could be installed, however these needs to be in keeping with a home environment and shall be provided in bedrooms and living spaces. Emergency evacuation plan shall be provided to the occupier or their supports, which includes a path of travel to a safe place.

## **30. ROBUST DESIGN**

Resilient but inconspicuous materials shall be provided, that can withstand heavy use and minimises the risk of injury, including high impact wall lining. High impact/vandal proof fittings and fixtures shall be provided (for example, commercial vandal-proof door handles). Such fixtures and fittings shall be resilient yet inconspicuous so they uphold and do not undermine the character of the home. Participant's bedroom shall be sound insulated.

Recessed lighting fixtures shall be provided.

Design drawings shall be provided to show layout with areas of egress and retreat for staff and other residents to avoid harm.

## **31. HOMESTAR RATING**

Builders are responsible to design and certify homes that achieve a 6 star rating, this is the minimum standard that can be certified. A 6 Homestar rated home will be easier to keep warm and healthy, more cost effective to run, and more environmentally friendly than a home built to the current standards set by the New Zealand Building Code.

## **32. REFERENCES**

1. NDIS Specialist Disability Accommodation Design Standard Australia – 25<sup>th</sup> October 2019.
2. New Zealand Standard design for access and mobility- Building and associated facilities, NZS 4121:2001



### 33. SAMPLE FLOOR PLANS

