

Spaces for Living

03



 UD Home Guidance

 Houses

 UD Home Plus Guidance

 Apartments

Living areas should be large enough for furniture to be arranged in different ways, and with enough clear, unobstructed space for movement and activities. Thoughtful design decisions can ensure that spaces are easier for everyone to use, and provide flexibility for future adaptations.

3.1 Living Spaces



An open-plan living and dining area.

Photo Design Features

- ➔ Potential for a large clear turning space in the living area.
- ➔ Central pendant light provided as well as other lighting such as uplighters and lamps.
- ➔ Full height windows for good sun and daylight penetration.
- ➔ One continuous floor finish throughout for ease of access.
- ➔ Natural light from two directions.

Photo Design Tip

- ⬆ Window transoms could be lowered to avoid blocking sight level when seated and the window handle should be lowered.
 - ⬆ Deep pile carpet is not easy for everyone to walk on.
-

Living Room

Design Considerations and Awareness








The living room is ideally located at entrance level. An open plan arrangement often works very well, but many larger families prefer to have two separate living space so that different activities can happen at the same time.

The living room should allow ease of movement for everyone, whether they are sitting down, accessing shelves, switching on the TV, or opening windows and doors.

It is important that a household can welcome and entertain all visitors easily, so a living space should be provided at the same level as the front entrance door.

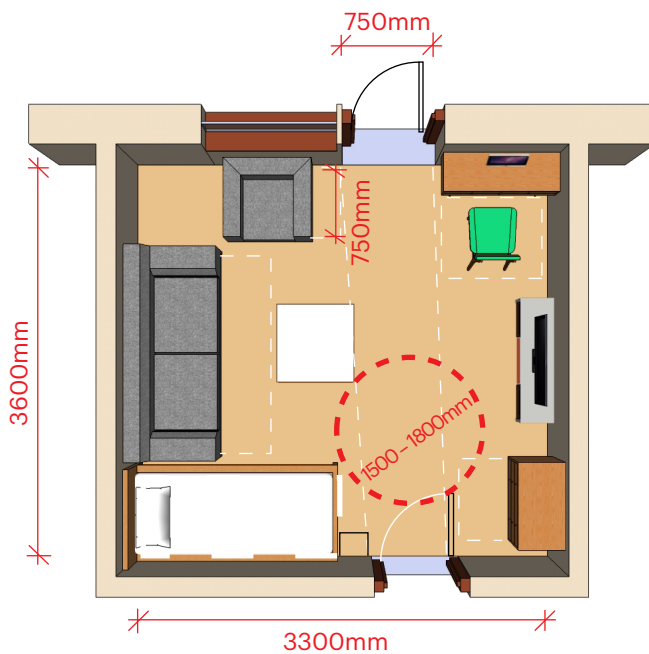
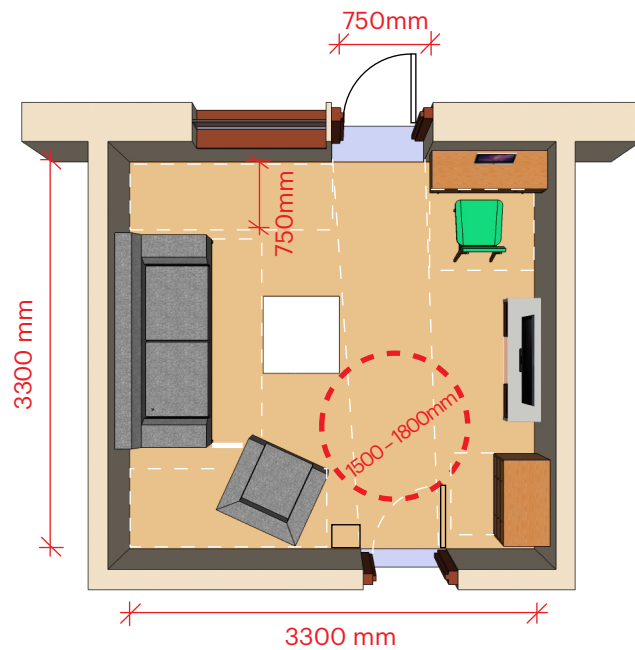
However, a living space does not necessarily have to be a living room; it can, for example, be a large kitchen-dining room with space to eat and socialise. This living space should be large enough to accommodate a temporary sleeping area if there is no bedroom at entrance level of the home. There should be enough space for a full-size bed and chest of drawers or small cupboard. The living space should still be capable of functioning normally even with the bed space in use. Where possible an additional room at ground floor should be provided for various uses such as ground floor bedroom or study. Please refer to section 3.5 for bedrooms and guidance.

UD Home and UD Home Guidance

-  Ensure there is a living space at the same level as the entrance to the home.
.....
-  The recommended minimum unobstructed living room widths are 3.3 metres for one bedroom, 3.6 metres for two bedroom and 3.8 metres for three bedroom dwellings.
.....
-  Identify a location for a bed space at entrance level.
.....
-  Provide a clear space for 1500–1800mm turning circle or 1700×1400mm ellipse.
.....
-  Provide a clear space for an 1800–2400mm turning circle.
.....
-  Provide 750mm wide clear route between items and in front of windows and routes between doors.
.....
-  Provide 800mm wide clear route between items and in front of windows and routes between doors.
.....

Indicative Room Plan:

Living Room.



UD Home ++ Guidance

Consider providing:

- a 900-1200mm wide clear route between items, in front of windows, and on routes between doors.
- a clear space for a 2400mm minimum turning circle in all habitable rooms.

3.2 Dining Rooms



02

An open-plan kitchen and dining area.

Photo Design Features

- ➔ Generous space provided all around the dining table.
- ➔ No obstructions from supports beneath table.
- ➔ Directly adjacent to kitchen beyond.

Photo Design Tip

- ⬆ Colour contrast between the floor and walls could be stronger and the loose rug may be a trip hazard.
 - ⬆ Open-plan arrangements can work well for people with hearing difficulties as they allow clear visual communication.
 - ⬆ Very reflective surfaces can be disorienting for some people with cognitive and visual difficulties.
-





Design Considerations and Awareness

Eating, sharing meals and providing hospitality is an important aspect of daily life in every home. In the UD Home, the dining area should be arranged so that the household and their guests can lay the table easily, have enough room to pass behind chairs, and sit down with enough room for everyone.

The dining area may be in a room of its own, or part of the living room or kitchen. Most larger families benefit from having a separate living space and kitchen / dining space, because this provides two activity spaces.

Everyone will benefit from having a dining area in or near the kitchen to avoid the difficulty of negotiating doors with trays of food and drinks. If the dining table is in the living room, it is helpful to have a small table in the kitchen for occasional meals or snacks. Breakfast bars may be used as long as there is an alternative place for occasional meals in the kitchen, such as a small table. A breakfast bar is not accessible to someone in a wheelchair or of smaller stature.

UD Home and UD Home Guidance

-  Provide 1200mm clear space on at least two consecutive sides of a table.
.....
-  Provide 1200mm clear space on all sides of a table.
.....
-  If the dining table is in the living room, provide a table for occasional eating in the kitchen.
.....
-  Locate the dining area within or immediately adjacent to the kitchen.
.....



3.3 Kitchens



A 'L' shaped plan kitchen and dining area.

Photo Design Features

- ➔ Large clear turning space in the kitchen area.
- ➔ Dining table located within the kitchen.
- ➔ Single run of worktop has sink and hob in it, and can move up and down to suit user.
- ➔ Clear space below worktop for persons seated.
- ➔ Ovens located higher than standard for ease of access.
- ➔ Cupboard handles arranged according to type of drawer or shelving behind.
- ➔ Good tonal contrast between floor and cupboards.
- ➔ Deep plinth and toe space provided below all base units.

Photo Design Tip

- ⬆ A different layout could have provided natural light and views to dining area.
-



A 'U' shaped plan is easy for everyone to use. An accessible kitchen can look very stylish and should not look like an adapted kitchen. All it takes is some imagination, and careful design.





Kitchen General Layout

Design Considerations and Awareness

The kitchen is usually a busy place with many activities taking place at any one time. Health and safety, and flexibility in use are key to this area of the home being used and enjoyed by everyone in the household.

It is important that the kitchen is not part of the circulation route through the home to avoid accidents. Kitchen units and worktops need to be arranged to limit the number of activities which involve crossing the space, particularly to avoid someone having to carry hot food or liquids from one worktop to another. This can be achieved by locating the hob and sink in the same run of worktop, or by having an 'L' or 'U'-shaped layout, where pans and containers can slide from hob to sink.

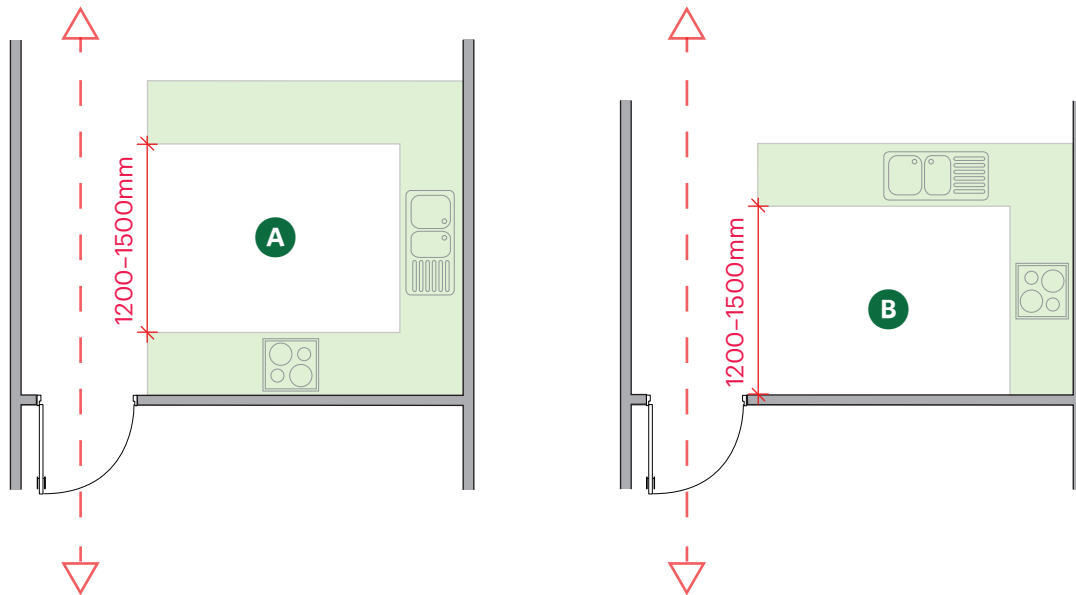
UD Home and UD Home Guidance

-  Design the home so that the kitchen is not the main thoroughfare through the home.
-  Design the layout in a 'U' or 'L'-shape.
-  Ensure that the cooker/hob and sink are in the same run of worktop.
-  The kitchen space should be located next to the dining area to ease access for carrying food and crockery.

- UD Provide an occasional eating space in the kitchen if the dining area is not in the same room.
- UD Ensure all doors to the kitchen are outside the main workspace.
- UD Provide between 1200–1500mm between opposing work surfaces.
- + Provide between 1500–1800mm between opposing work surfaces.

Technical Sketch:

Kitchen configuration plans.



- A U-shaped layout with route through the room avoiding the working space.
- B L-shaped layout with route through the room avoiding the working space.





At least 1200–1500mm between counters will make it easier for everyone to use the kitchen safely.













Kitchen Safety and Ease of Use

Design Considerations and Awareness

The kitchen needs to be easy to use for everyone and a good design requires a high level of attention to detail. For example, handles need to be easy to grasp and use, and appropriate to the size of the task they perform. Specification should bear in mind the needs of small hands or hand weakness. The use of colour or tonal contrast between elements, and the avoidance of highly reflective surfaces, in the kitchen is important for people with visual or cognitive difficulties.

To help make the kitchen easier to use for someone who is seated most of the time, shallow sinks can be installed, and a fascia on the worktop which is deeper than the sink avoids scalding by hot water in the basin. Angled sockets within a worktop or to the side of a cupboard are ideal as they are easily seen and accessed. A sound insulation pad installed underneath the sink will minimise noise from washing cutlery and pans.

UD Home and UD Home Guidance



-  Provide contrast colour D-handles to drawers and cupboards, which are easy to grip and a minimum of 100mm long.
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-  Position handles vertically on side-hung doors and horizontally on drawers.
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-  Fit hinged cupboard doors which can be opened at least 135 degrees.
.....
-  Install glare-free task lighting above workspaces.
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-  Ensure switches and sockets are clearly visible and within reach.
.....
-  Ensure that the hot water supply to sink does not exceed 40°C.
.....
-  Adjust water pressure in the sink so that the water does not spray or splash.
.....
-  Provide a level surface for ease of moving cooking pots on and off the hob.
.....
-  Provide colour or tonal contrast on worktop counter edges, for handles and controls, between floor finish and walls, switches and sockets and their backgrounds.
.....
-  Position switches and sockets near the front of the worktop.
.....
-  Provide a separate oven and hob to provide further flexibility in the kitchen design.
.....
-  Install lighting inside deep drawers to assist access to the contents.
.....

UD Home Guidance

Consider providing:

- sinks of minimum depth 130-150mm, with a sound insulation pad underneath.
- a fascia (elevation to worktop) which is deeper than the sink.
- angled sockets within a worktop or to the side of a cupboard.
- plumbing connections which are flexible for ease of adaptation.

Design Tip

-  Open plan kitchens are easy to use but can create acoustic and odour problems. It may help to have sliding doors to provide separation between living room and kitchen/dining.
.....
-  Many people can find blank elevations to cupboards confusing, whereas a mix of open shelving and glass fronted units can remind people what is inside and allow easy checking of contents.
.....



06
Good design uses space efficiently and makes it easy for everyone to access stored items.



07
Pull down racks from wall cupboards bring the shelves close enough to the seated person to make access easy.

Kitchen Units and Worktops

Design Considerations and Awareness

There should be plenty of space between facing cupboards, so that more than one person can be working in the kitchen at a time. The minimum distance is 1200mm, as this will generally allow one person to open a cupboard door or drawer, or 1500mm for two people to work back to back amicably.

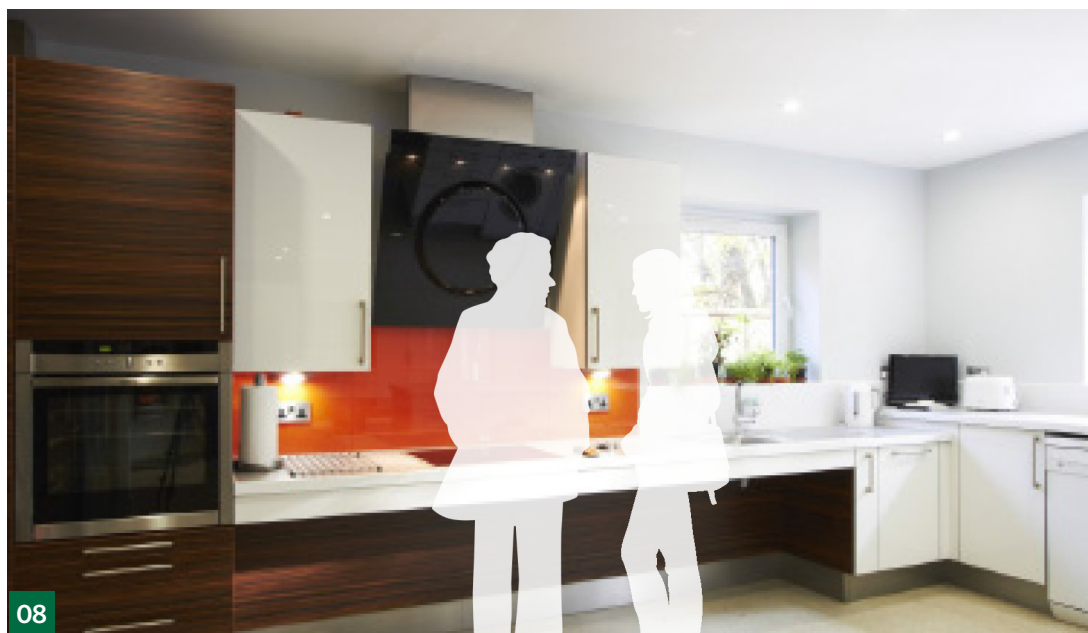
Narrow base units, of 300–400mm deep are easiest for everyone to use, as there is less stooping and bending to get items out of the cupboards. However, most worktops need to be 500–600mm wide to provide enough space for preparing and cooking meals. Therefore, pull out drawers are preferable to shelving in 500–600mm deep base units for most people.

Providing clear knee-space beneath the sink, hob and other areas of the kitchen worktop will allow the full use of the kitchen by someone seated. In addition, a setback for the plinth should be deep enough for toe space for someone standing or foot space for a wheelchair footrest.

Wheelchair-users will benefit from the oven and fridge being located in a housing to bring them up to accessible height. Locating the fridge and oven within a housing unit next to a worktop will avoid problems of moving hot, heavy or liquid food around. Alternatively, a pull-out shelf placed next to or beneath the oven and/or fridge is useful as a transfer space.









The edge of the worktop should be detailed to reduce risk of run-off if there is a spillage, for example by using a slightly raised trim or 'waterfall lip'. The height of worktops should respond to the needs of everyone in the household, and this may mean accommodating both standing and seated positions.

Wall cupboard units can be difficult to reach and use for many people including children and people who are short of stature, or anyone with upper arm weakness. Therefore these units should be shallow and supplied with pull-down shelving to make the contents more accessible. These cupboards should generally provide supplemental storage such as surplus crockery and provisions, rather than day-to-day requirements.



An open space below the counter makes the kitchen easy to use. The counter is lower than standard to suit particular needs.

UD Home **and UD Home** **Guidance**

-  Ensure a distance of 1200–1500mm between facing work surfaces and base units.
-  Ensure a distance of 1500–1800mm between facing work surfaces and base units.
-  Fit corner cupboards with rotating carousel units or similar.
-  Fit the sink with centreline more than 460mm in distance from any return in the work surface.
-  Avoid locating wall cupboards above a sink or hob.
-  Provide a continuous worktop between sink and hob.
-  Provide space of at least 300mm on either side of the hob, and to one side of the oven.
-  Provide pull-out drawers with 600mm deep units, instead of internal shelves.

- ✚ Install base units with a minimum plinth of 250mm above floor level for a depth of 150mm.
- UD Provide a pull-out shelf below the oven or fridge/freezer for moving things from one place to another if there is no counter beside the oven.
- UD In general provide worktops which are 900mm high.
- UD Provide the option of having sections of height adjustable or fixed height worktops between the heights of 760mm and 900mm high.
- UD Install wall units at a maximum height of 450mm above worktop level.
- UD Install a pull-down mechanism for bringing shelf contents within reach.

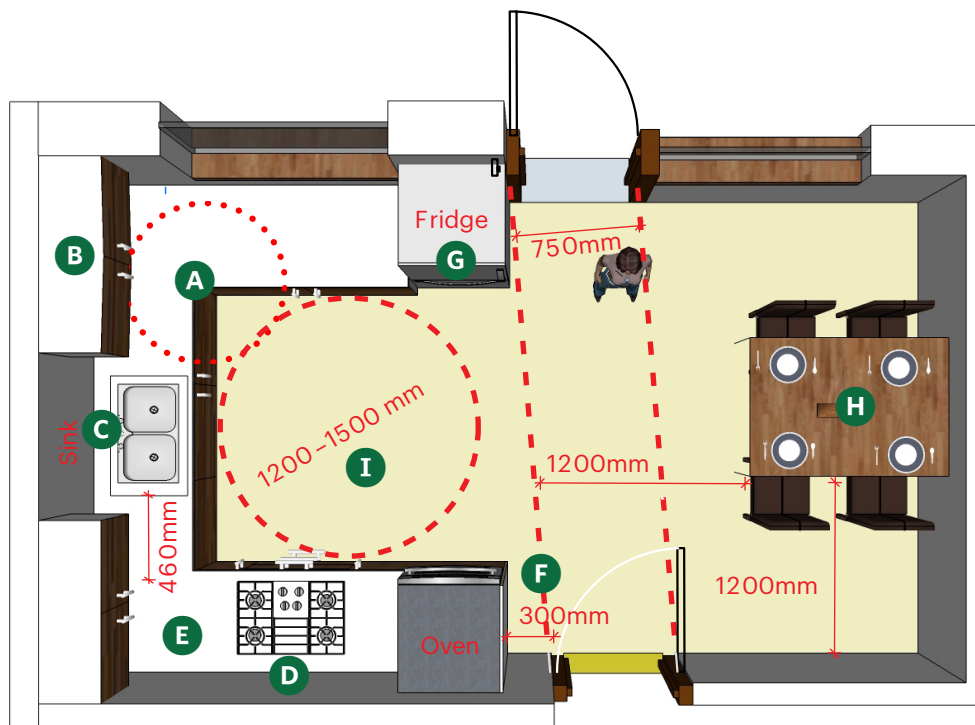
Indicative Room Plan:

Kitchen and dining area.



Note:

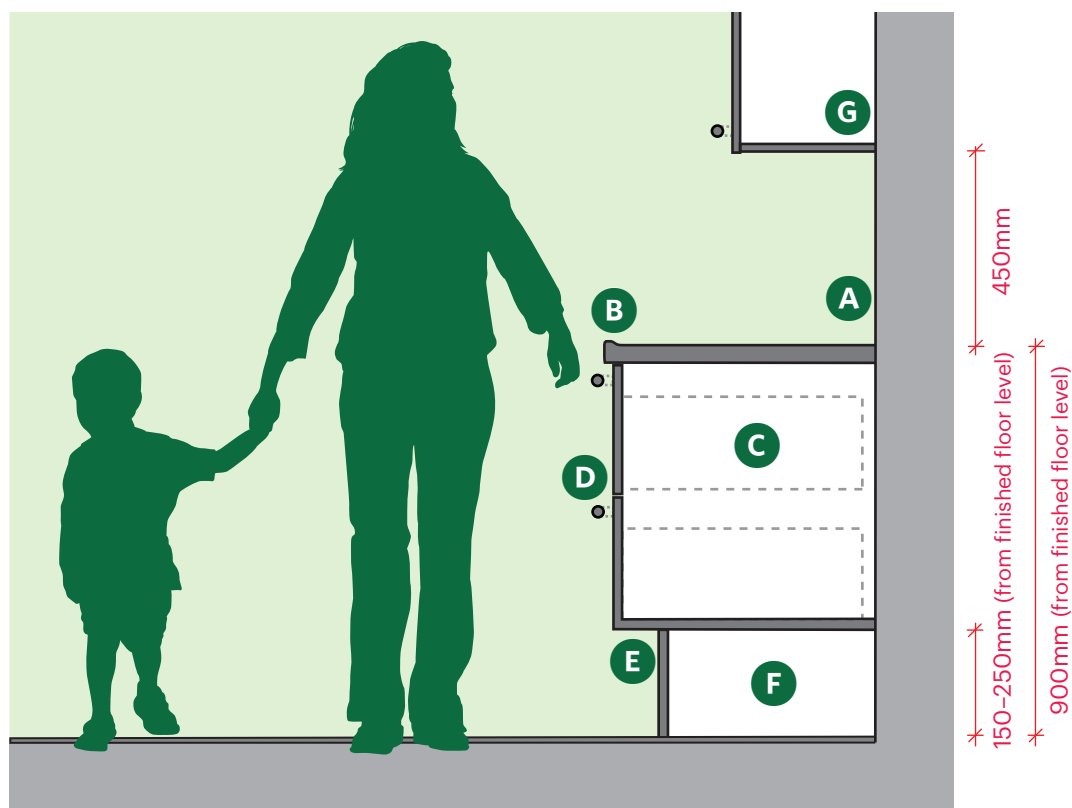
- ↑ A level threshold is required to the back garden, and at every entrance door. (highlighted in red above).



- A** A carousel unit in a corner cupboard makes contents easy to access by everyone.
- B** Wall cupboards should be low enough for most people to reach easily.
- C** Locating the sink away from a corner means that one person can wash up while another dries up.
- D** Wall cupboards should not be located above the sink and cooker for safety. This will also prevent tall people hitting their head when cooking or washing up.
- E** There is a continuous worktop between the sink and hob, to avoid having to carry heavy or hot dishes across the kitchen.
- F** Clear space of at least 300mm is provided either side of the cooker and to one side of the oven for ease of moving hot pans and dishes.
- G** Tall units, like the oven and fridge freezer housings are located at the end of a run of worktop to avoid interrupting the work space.
- H** The table is best located in the kitchen to minimise the distance for carrying food and drinks. There should be 1200mm clear space minimum on at least two sides of the table.
- I** A clear turning circle of 1500–1800mm should be provided.

Technical Sketch:

Cupboard units in kitchen.



- A** Tiled splashback protects wall.
- B** Trim or waterfall lip to protect users from spills.
- C** Pull out shelving or deep drawers.
- D** Easy to use D-handles.
- E** Plinth shown 250mm high to suit wheelchair users.
- F** Flooring material continued under base unit.
- G** Shallow wall mounted cupboard 450mm above work surface.

Design Tip;

- ↑** Pull-down shelving relies on someone having good upper body strength. Electrically operated units are available but these can be shallow and therefore not as useful.

UD Home ++ Guidance

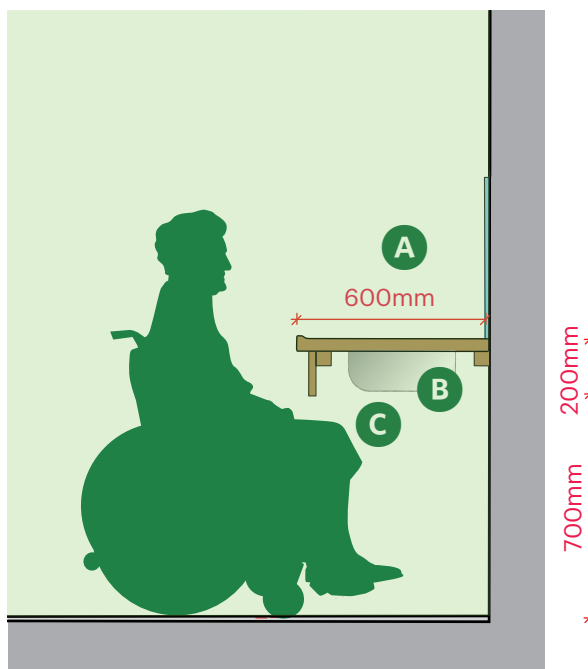
Consider providing:

- A working counter height of 900mm with the potential to raise or lower the counters.
- A distance of 1800 – 2400mm between facing work surfaces.
- A waterfall lip to the edges of all worktops to prevent spills.
- A clear knee-space (free of brackets, pipes and cables) 700mm high, 600mm deep and 800mm wide below hobs, sinks and task areas.
- A clear knee space, 700mm high, 600mm deep and 800mm wide, beside ovens, washing machines, dishwashers, fridges and freezers.
- A worktop height between 900 and 1100mm above finished floor level for very tall people.

Technical Sketch:

Clear knee-space for person seated.

- A** Tiled splashback protects wall.
- B** Kitchen sink.
- C** Clear knee-space below worktop for minimum width of 800mm at key task areas and beside appliances.





09

A small shallow accessible dishwasher unit located under the worktop, with space for dishwasher supplies in a drawer beneath.

Photo Design Tip

- ↑ In order to optimise the efficiency of potential future rearrangements or adaptations of the kitchen it is useful to continue flooring material to the full area of the room, including under units.

Kitchen Fixtures and Fittings

Design Considerations and Awareness

New kitchens may not be fully fitted out at handover or sale. The following guidance is provided for good practice in choice, location and fittings of household appliances like cookers, fridges, freezers, dishwashers, etc.

UD Home and UD Home Guidance

-  Ensure that the controls for all fittings are clearly visible, simple and easy to operate with one hand.
-  Provide a wall mounted fire blanket and multi-purpose hand-held fire extinguisher at 450–1300mm above floor level within the kitchen.
-  Position ovens so that the controls are 750–1050mm above floor level.
-  Ensure oven displays are no higher than 1200mm.
-  Ensure that cooker hood controls are positioned within reach of everyone expected to use the kitchen. If necessary locate remote from hood.
-  Provide a heat-resistant pull-out shelf below the oven, as wide as the oven and at least 250mm deep. It should be suitable for taking heavy dishes.
-  Electric hobs to provide a visual and audible warning that rings are hot when switched off.
-  Gas burners on a hob should be self-igniting, and operable by one hand.
-  Mount microwave ovens on a surface or built into a unit so that the base is not more than 900mm above floor level.
-  Ensure that microwave controls are no more than 1150mm above floor level.
-  Install the flooring material so that it is continued under the units.
-  Specify a floor covering which is slip-resistant and easy to clean.
-  Ensure that oven doors open sideways to more than 100°.

UD Home Guidance

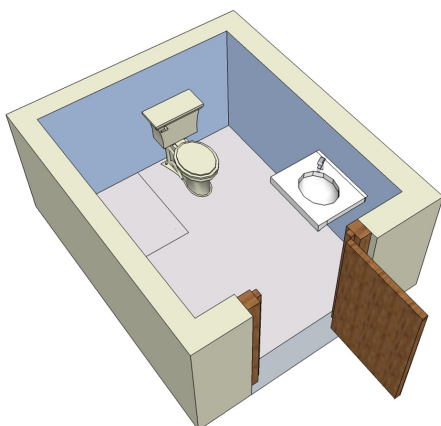
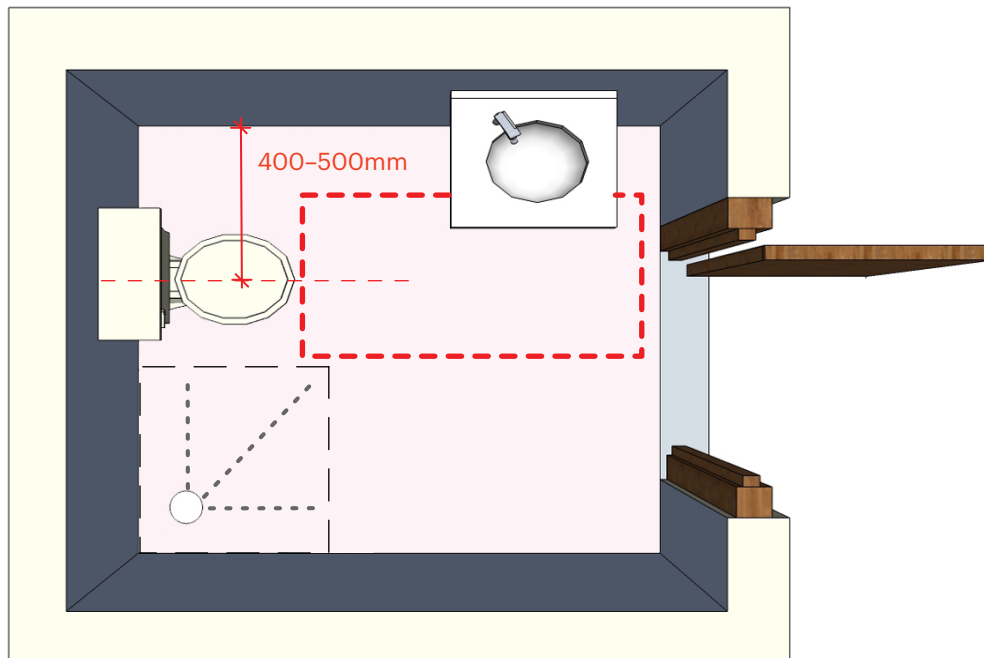
Consider providing:

- Hobs with knee space beneath them, insulated on the underside.
- Installing a fridge, freezer and dishwasher on a 200mm plinth with adequate toe space can make the appliances easier to use for many people.

3.4 Entry-level toilet

Indicative Room Plan:

UD Home Entry Level Toilet.













Design Considerations and Awareness

There should be a toilet on the entrance level of every home. It is also useful if this room is large enough to be adapted into a shower room should this be desired at some stage in the future, for example if someone needs to sleep at entrance level for a period and there are no bedrooms on that level.

The toilet should be designed for flexibility in terms of providing any grab rails or other assistance. There should also be space to one side, sufficient for someone transferring from a wheelchair, or relying on crutches or a walking frame. It is helpful if the transfer space is on a different side to that in the main bathroom, to provide flexibility of approach.

An outward opening door ensures that all the space inside the toilet is useable, the space is not compromised by the door swing, and that the door can be opened from outside in the case of an emergency. The door lock should therefore also be operable from the outside. However, care must be taken not to cause an obstruction or collision when opening the door from the inside. The outward opening door must not obstruct a corridor and cause collisions. The door should open against a wall.

UD Home and UD Home Guidance

-  Provide a WC compartment of at least 1500 x 1800mm at entry level. In order to ensure adequate wheelchair access when using a shower, then WC must be 1800mm x 2000mm.
.....
-  Provide a WC compartment of at least 1800mm x 2000mm.
.....
-  Ensure that the hand basin in the secondary toilet is large enough for everyone to use. Where space is restricted the wash hand basin can overlap the toilet access zone by 200mm.
.....
-  Ensure that the bathroom door opens outwards, and against a wall.
.....
-  Ensure the bathroom door lock is operable from outside in case of emergencies.
.....
-  Ensure all walls are constructed to be strong enough to take fittings and rails (see Section 04).
.....
-  Provide below floor drainage and a drainage point. Provide level access for a future shower installation, with only very slight falls to the drain position.
.....
-  Tank floor and walls up to a height of 2000mm. Ensure ceiling plasterboard and light fittings are moisture resistant.
.....
-  Good plastering or waterproof plasterboard will obviate the need for tanking.
.....
-  Install a shower in the entrance level toilet compartment to act as a second bathroom.
.....

3.5 Bedrooms



A double bedroom in an apartment.

Photo Design Features

- Large windows with easy to reach opening sections.
- At least 800mm clear space either side of bed and more at the end of the bed.
- Sockets and switches installed at between 400mm and 1000mm above floor level.
- Good colour contrast between walls, floor, skirting, window frames.

Photo Design Tip

- ↑ Windows should be operable with one hand, with lever fixings between 800mm and 1200mm only.
- ↑ Windows should have one section without a transom between 800 and 1500mm.

Design Considerations and Awareness

Bedrooms have multiple functions such as a place for sleeping, for children at play, and sometimes the room is a study space.












The room needs to be large enough for the furniture usually required in bedrooms (for one or two people).

It should be comfortable to move around with easy access to the bed as well as unobstructed access for opening doors and windows.

A UD home will have the main bedroom adjacent to a bathroom, for ease of access. A 'soft spot' in the wall between the bedroom and bathroom can allow easy installation of a door to convert to an ensuite. This requires careful planning at the design stage of wall studs, bathroom fittings and bedroom furniture configurations to suit adaption.

In addition "hard-spots" can provide the infrastructure for future installation of a short hoist for it to be used to transfer someone from the bed to a wheelchair, and from a wheelchair to a WC or bath, or vice versa. This will require reinforcement to ceiling joists, and powerpoints to the appropriate locations in the ceiling.

UD Home and UD Home Guidance

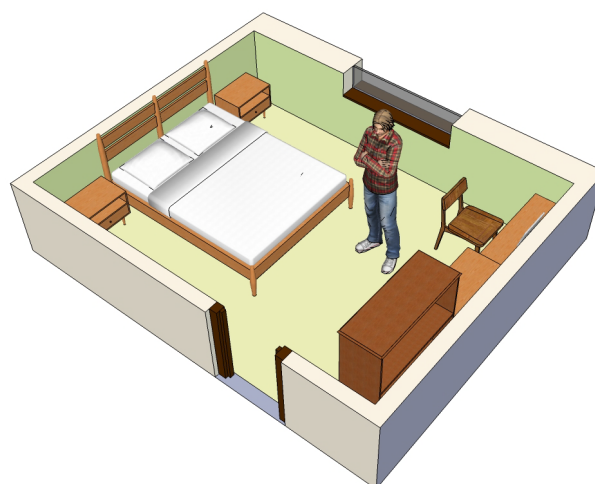
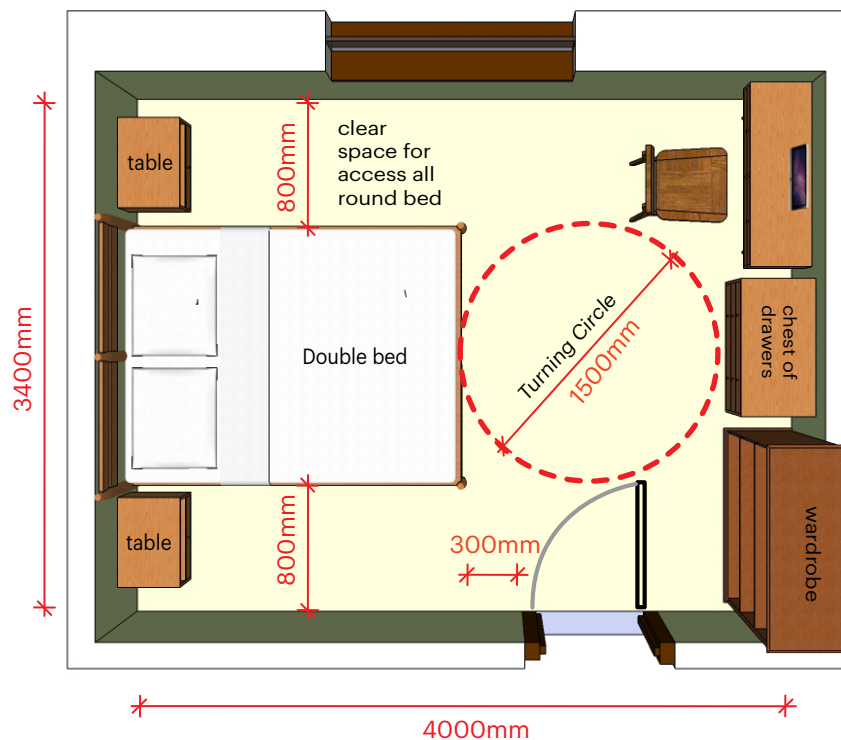
-  Ensure that double and twin bedrooms are at least 13 meters squared in area.
-  Ensure that a single bedroom is at least 8m².
-  Provide clear access space of 800mm on both sides and at the end of the double bed.
-  Provide a clear space for a turning circle of 1500mm in the double bedroom.
-  Provide a clear space for a turning circle of between 1500 and 1800mm within the room.
-  Provide clear space adjacent to the single bed of 800mm.
-  Provide a clear space adjacent to the single bed of 1200mm.
-  Locate the bathroom immediately adjacent to the main bedroom, with a full height door or 'soft spot' between them, for future installation of a door.
-  Provide 'hard spots' in the ceiling at the main bedroom and at the main or adjacent bathroom, or continuous between the main bathroom and an adjacent bathroom to allow a hoist-track to be installed supported by the ceiling construction.
-  Provide light switches at the entry door and on both sides of the double bed.
-  Provide bedroom at entry level.

UD Home ++ Guidance

- Wardrobes are easier to use for everyone when provided with adjustable shelving and hanging rails at varied heights.
- A clear turning circle of 1800–2400mm within the room will allow full accessibility, for example by motorised wheelchairs and stretcher chairs.

Indicative Room Plan:

Double bedroom.



3.6 Bathrooms



Level access shower.

Design Features:

- ➔ Level access to shower area.
- ➔ Handrail provided for those who need support.
- ➔ Storage provided for toiletries.
- ➔ Good visual contrast between walls, floor and fittings.

Photo Design Tip

- ⬆ Underfloor heating helps dry the floor faster.
 - ⬆ Use safety glass for shower screen and apply frosted manifestations.
 - ⬆ A drop down seat at 400–800mm in height can be useful for many people.
-



The level access shower has a recessed drainage area and the basin can be used by someone seated. Ideally there should be better colour contrasts.

Bathroom General layout

Design Considerations and Awareness

The bathroom should have a logical, clear layout, and be accessible by all, regardless of whether it is on the entrance level of the home, or on an upper floor.

The bathroom should provide space for a number of different activities: for example, washing small children, assisting an older person, enabling independent access by a wheelchair user, cleaning pets. The bathroom should also provide space for storage, such a wall cabinet, laundry bin, and towel rack.

An outward opening door to the bathroom from the hallway or landing ensures that the door can be opened from outside in the case of an emergency. The door lock should therefore also be operable from the outside. The outward opening door should not open at the head of the stair or obstruct a corridor and cause collisions. The door should open against a wall.

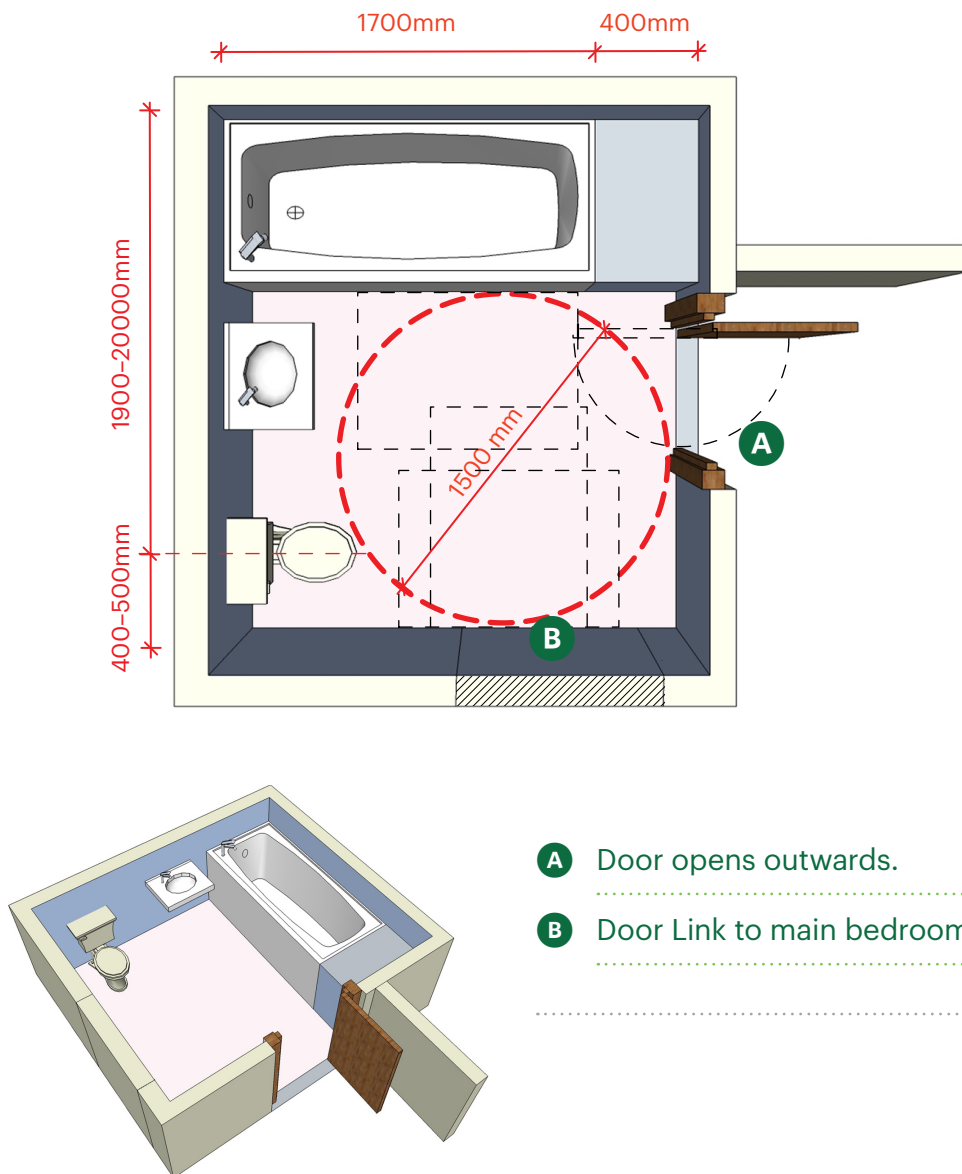
To optimise flexibility the bathroom walls should have “hard-spots” to be able to support fittings and rails, such as grab bars, shower seat, shelving and cupboards. This is best addressed by lining all the walls with plywood unless the walls are blockwork.

Ideally the ceiling should be able to support installation of a short hoist in the appropriate location to allow someone get into and out of a bath, or transfer from a wheelchair. This requires reinforcement to ceiling joists, and powerpoints to the appropriate location in the ceiling, at the outset of design stage.

To optimise adaptability a UD Home bathroom should be provided with a floor drain to allow the room to operate as a wet room. It is also useful to have the bathroom immediately adjacent to the main bedroom to allow for future or present provision of a connecting door for an ensuite, as previously noted.

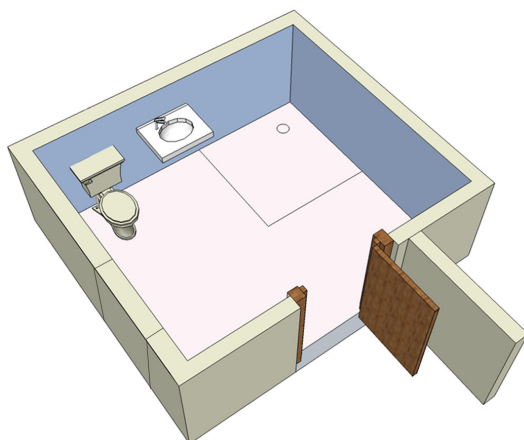
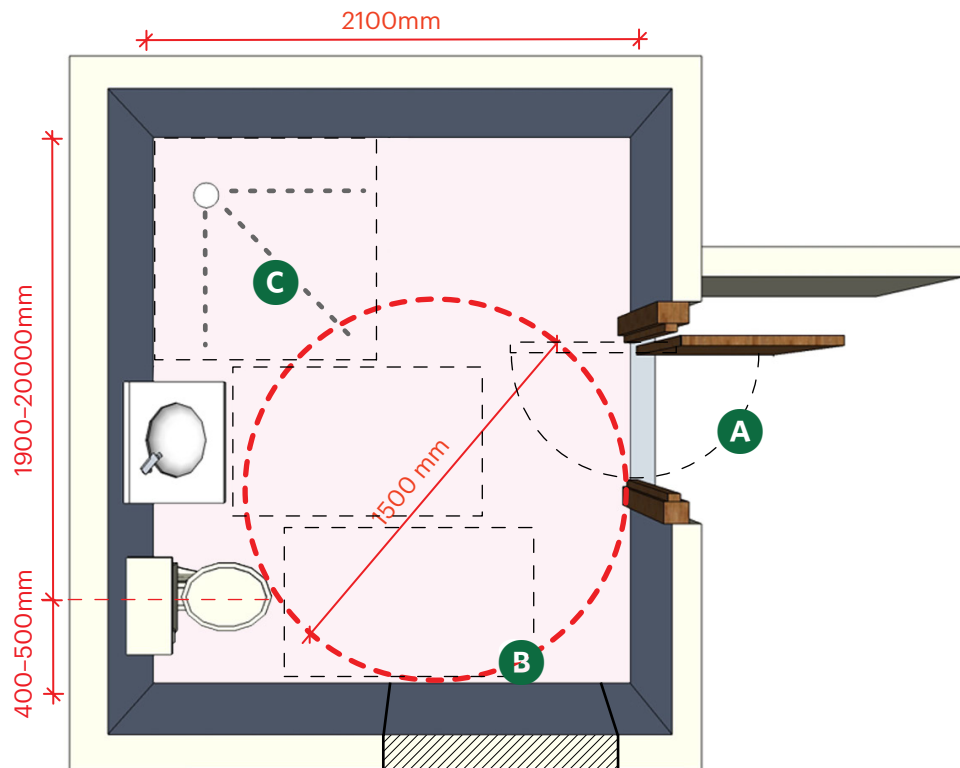
Indicative Room Plan:

UD Home bathroom.



Indicative Room Plan:

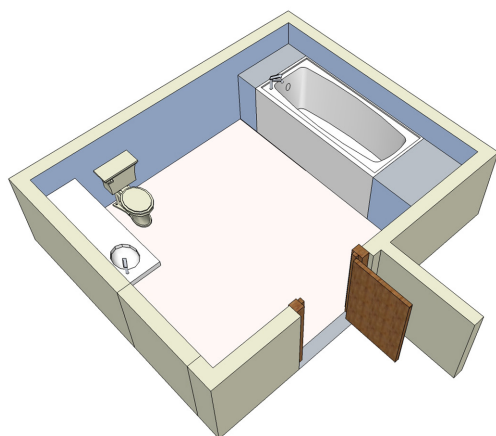
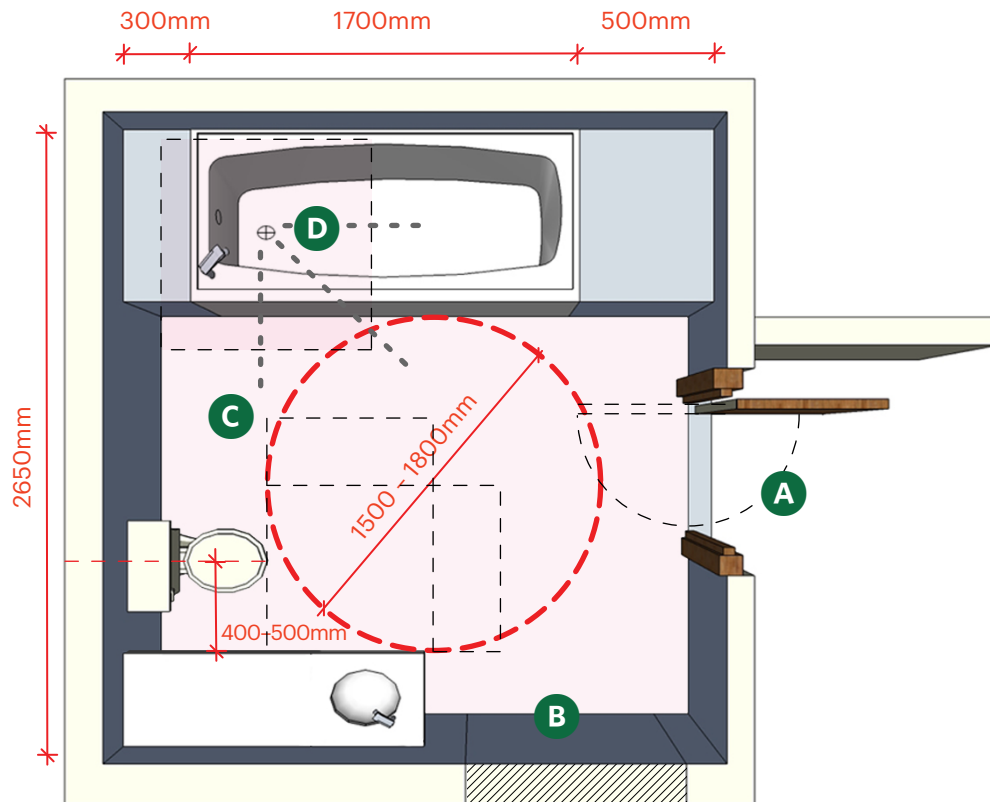
UD Home Shower.



- A** Door opens outwards.
- B** Door Link to main bedroom.
- C** Shower location.

Indicative Room Plan:

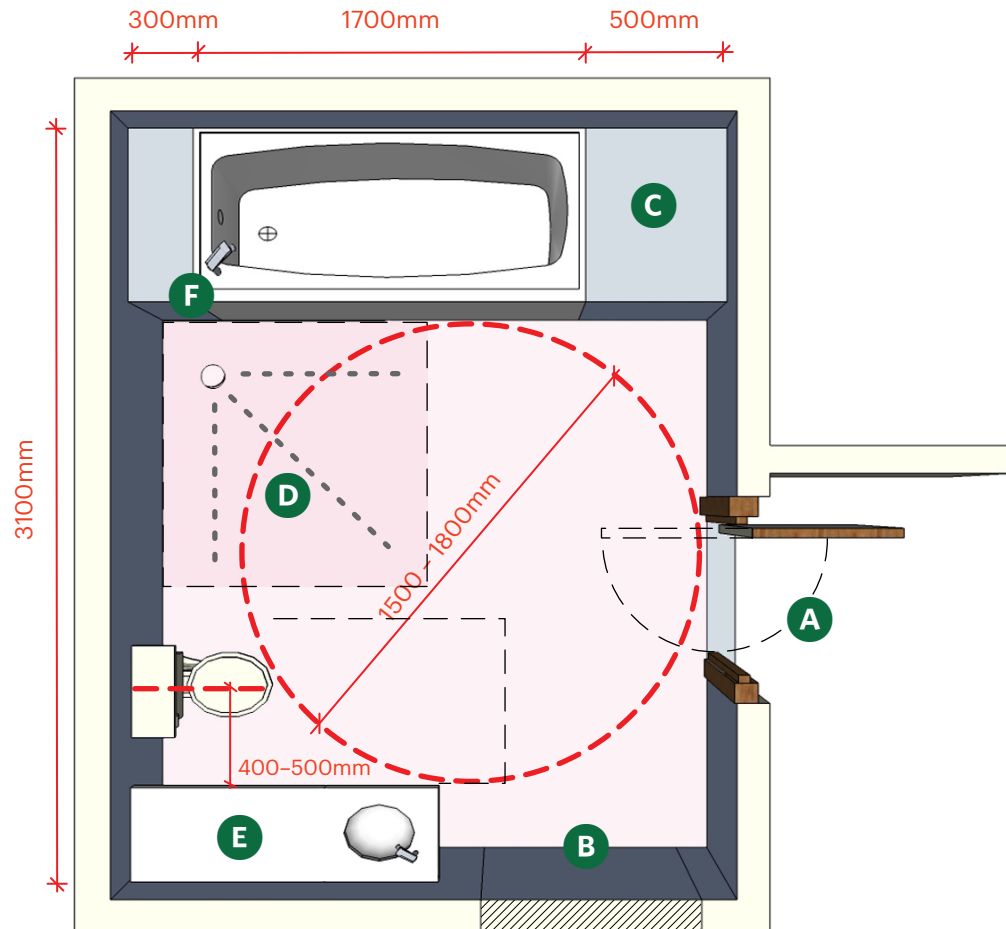
UD Home Plus bathroom.



- A** Door opens outwards.
- B** Door link to main bedroom.
- C** Side transfer space for WC and bath.
- D** Provision of drainage point below for shower.











Indicative Room Plan:

UD Home ++ Guidance bathroom with shower.



- A** Door opens outwards.
- B** Door link to main bedroom.
- C** Side transfer space for bath.
- D** Shower location.
- E** Worktop support: a load-bearing worktop next to the toilet can help many people.
- F** Tap offset on corner of bath.

UD Home and UD Home Guidance

-  Minimum internal dimensions of 2100 x 2400mm.
.....
-  Minimum internal dimensions of 2500 x 2650mm.
.....
-  Provide a turning circle of minimum 1500mm, with a 200mm overlap of the basin allowed.
.....
-  Provide a turning circle of minimum 1500–1800mm, with a 200mm overlap of the basin allowed. Where possible, in a larger bathroom space provide a turning circle of 2400mm x 2400mm.
.....
-  Ensure that the bathroom door opens outwards, and against a wall.
.....
-  Ensure the bathroom door lock is operable from outside.
.....
-  All walls are constructed to be strong enough to take fittings and rails.
.....
-  Provide the potential for a hoist-track to be installed, supported by the ceiling construction.
.....
-  Ensure that provision is made for future adaptation to a shower room for example by providing a capped outlet for future installation of a floor drain and tanking of walls and floors.
.....
-  Locate the bathroom immediately adjacent to the main bedroom, with a full height door or 'soft spot' between them.
.....

UD Home Guidance

- The minimum internal dimensions for a UD bathroom with separate bath and shower together should be 2500 x 3100mm.
- If a family bathroom is located next to an en suite shower room they can be combined at a later date into one large fully accessible bathroom.





There is some provision for someone to sit beside the bath to supervise children or aid entry. However ideally greater space would be provided for seated entry to the end of the bath.

Baths

Design Considerations and Awareness

While a wet room approach with a shower rather than a bath is the most versatile, families with small children benefit from having a bath.

Provision of sufficient space alongside the bath will make it easier for everyone to get in and out of the bath, or wash small children. A platform space, or transfer space, at the end of the bath can facilitate different means of access. Integral handles and a non-slip base are also helpful. Provision of 'toe space' at the base of the bath will make it easier for everyone to get access to the bath.

Taps can be easier to use when placed at the nearest corner. When supplying baths for a UD Home, consideration should be made for possible offsetting of taps in the future. Baths supplied for a UD Home should be able to have new tap holes drilled and taps fitted in the event of retro-fitting. Additionally the water supply for the taps would need to be flexible.

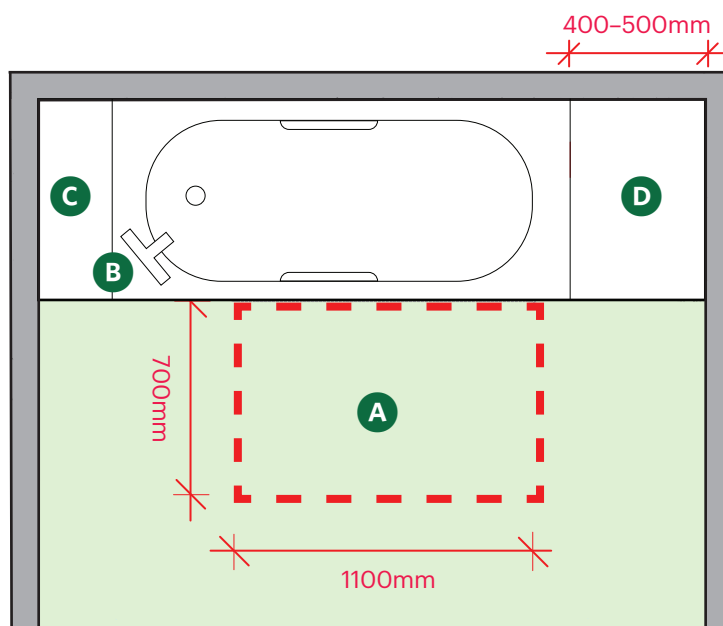
Taps should always operate in the same way, with the hot and cold supplies in the same location – hot on the left and cold on the right.

UD Home ^{UD} and UD Home ⁺ Guidance

- ^{UD} Ensure there is a clear activity space beside the bath 1100mm×700mm.
- ^{UD} Fit a bath with hand grips and a non-slip surface to bottom of bath.
- ^{UD} Provide a 400–500mm transfer space at end of the bath.
- ^{UD} Ensure the hot water supply is located on the left and cold water on the right.
- ^{UD} Ensure it is possible to offset the taps in the future, should this be required
- ^{UD} Ensure all taps operate in the same way.
- ^{UD} Offset bath taps to the nearside corner of the bath or locate adjacent to the bath in a convenient and easy to use location.

Technical Sketch:

Activity space for baths.



- A** Clear activity space required of 700 x 1100mm.
- B** Taps located on the corner of the bath, or on an adjacent wall, for ease of access.
- C** Space behind taps for ease of access.
- D** Seated transfer space ideally 500mm wide.



Level access showers can be fitted with doors or curtains to control the spray of water.



Showers

Design Considerations and Awareness

A level access shower in the bathroom can help people live independently. Therefore, the bathroom should either provide a level access shower from the outset, or the potential to remove the bath and replace with a level access shower in the future and all drainage requirements are fitted as part of initial design and first fix. A level access shower is best provided by a wet room approach (a dished floor which slopes gently down to a drainage point) or a proprietary level deck shower tray. In either case, provision must be made for a drainage point and floor and walls tanked from the outset to ensure ease of adaptability.

The construction of a wet room should ensure good falls for the drainage below floor level, a water-tight construction, a robust drainage gulley and a well-sealed floor finish. In addition, the falls within the bathroom need to be as slight as possible. In dished floors ensure the slope is restricted to the shower area. Flexibility in height and an accessible location for the shower controls will make it easy for everyone to use the shower. As with baths, it should also be possible to check the water temperature before getting into the shower.

UD Home and UD Home Guidance

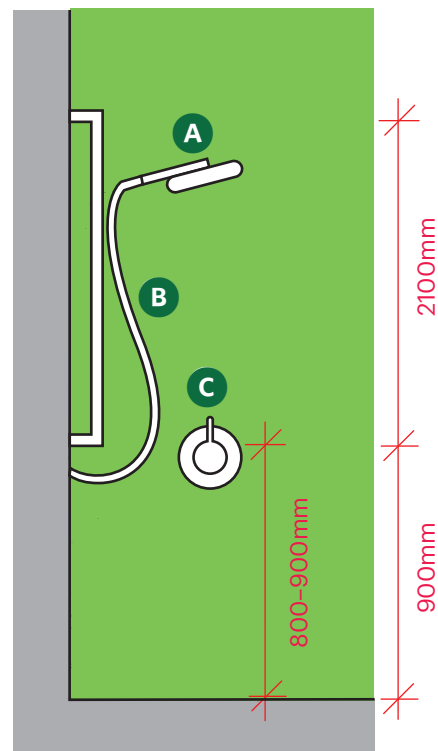
-  Provide below floor drainage and a drainage point.
-  Provide level access for a future shower installation, with only very slight falls to the drain position.

- UD Tank walls and floor throughout bathroom to a height of 2m on walls.
- UD Good plastering or waterproof plasterboard will obviate the need for tanking.
- UD Cap the shower outlet if not required immediately.
- UD Locate the shower curtain or screen to enclose all of the shower area in smaller rooms where the spread of water needs to be controlled.
- UD Locate thermostatic shower controls 800–900mm above floor level.
- + Provide a level access shower area of minimum dimensions 1100×1100mm.
- UD Provide a detachable handheld additional shower head with a 1500mm flexible hose, on a vertical slider bar, height adjustable between 900mm and 2100mm above floor level.
- UD Ensure the shower head projects far enough into the shower area to easily reach a seated user.
- + Supply a drop-down seat fitted at height of 450 to 480mm height for showering.
- UD Provide a location for toiletries that can be accessed while using the shower.

Technical Sketch:

Activity space in bathrooms.

- A Shower head should be adjustable between 900 and 2100mm above floor level.
- B Provide a 1500mm flexible hose to the shower head, on a vertical slider bar.
- C Locate the thermostatic shower controls 800–900mm above the floor level.





Large basin unit with work surface and space for storage of toiletries. There is space below the sink so that it can be used by a person seated.





Basins

Design Considerations and Awareness

The basin needs to be accessible by everyone, seated or standing. It is therefore important that it is at a suitable height, and if required in the future, could be adjusted. The waste pipes should not be encased in a cupboard or duct, to allow people to get close enough to use the basin fully. For example, wall-hung units, or units inserted into a worktop, can be easy to use for everyone.

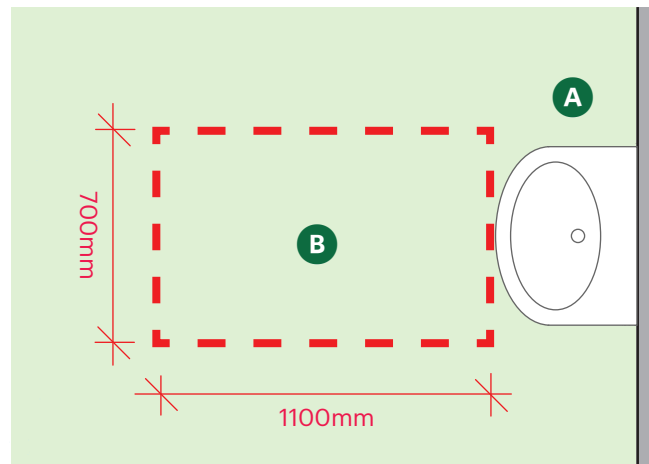
The basin needs to be large enough for a range of activities. For example, allowing someone to wash their hair, or assist someone else in doing it. Space around the basin for convenient storage of toiletries will be beneficial for everyone.

UD Home and UD Home Guidance

-  Provide a basin at a height 750-800mm above floor level, with flexible water supply pipes and easily adjustable waste connections.
-  Provide a clear access zone of 1100mm × 700mm minimum from the front of the basin from any obstruction under the basin bowl.
-  Provide a large basin that is not a pedestal or semi-pedestal basin and provides knee space of at least 600mm below the sink bowl.
-  Provide a height adjustable basin.

Technical Drawing:

Activity space in front of basins.



- A** Basin supported off the wall with no pedestal beneath for ease of access.
 - B** Clear activity space required of 700 x 1100mm, from any obstruction under the basin bowl.
-

Design Tip

- ↑** A load-bearing worktop that includes the basin, running alongside the toilet, will provide support.
-





Good large clear space in front and to the side of WC. Storage provided within bathroom. Colour contrast between the WC and wall should be greater to make it easy to find for everyone.

Photo Design Tip

- ↑ Lever handles are easier for most people to use. Push button mechanisms have the advantage of providing an option for a water saving flush. However this can also be achieved by simply displacing water in the cistern with a device such as a 'water hippo', which can be used with lever handle mechanisms. Dual flush levers with water saving option are also available.

Toilet

Design Considerations and Awareness

A toilet should be located to optimise future flexibility in terms of providing grab rails or other assistance. If there is a second toilet in the home, it is helpful to ensure access space on a different side of each toilet to provide flexibility.

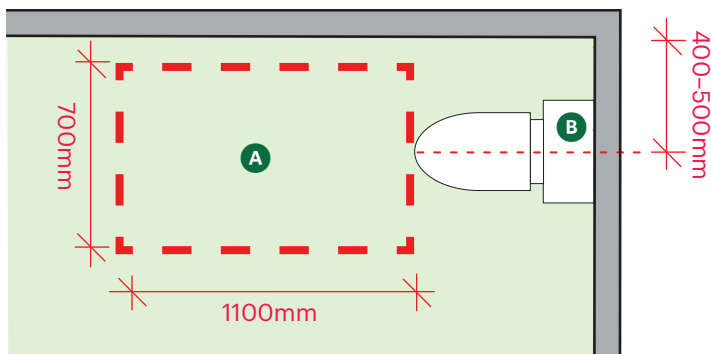
Level handles for flushing mechanisms are generally easier to use, particularly for older people and children, than push button devices.

UD Home ^{UD} and UD Home ⁺ Guidance

- ^{UD} Centre the toilet at 400–500mm from a wall.
- ^{UD} Provide a clear access zone of 1100mm×700mm minimum from the front of the toilet.
- ^{UD} Provide a lever handle to the cistern, rather than a push-button mechanism.
- ^{UD} Locate the lever handle on the side away from the wall.

Technical Drawing:

Activity space in front of toilets and position from wall.



- A** Clear activity space required of 700 x 1100mm.
- B** Toilet located 400-500mm from wall to allow for ease of use and later installation of grab rails.



Bathroom tap mixer with lever handle. Levers make it easier for everyone to use the tap.



Storage for toiletries is conveniently located for use in the shower, avoiding the need to bend down or stretch across to pick up an item.

Bathroom Fixtures and Fittings

Design Considerations and Awareness

Fixtures and fittings should be accessible and easy to use for people of different heights, seated or standing. Taps need to be easy to operate and understand.












Wall hung sanitary fittings make it easier to clean and maintain floor surfaces. Wall hung basins can be used by people seated.

Everyone will benefit from the installation of well-placed handrails and grab rails, for getting into the shower or bath, or getting up from the toilet. Reinforced wall construction or “hard spots”, as previously described, will make it possible to locate hand and grab rails in any convenient locations in future adaptations.


Colour contrast between fittings and surfaces can make a bathroom easier to understand for everyone. This can involve coloured tiles to define the edge of the bath and basin, coloured seat to the toilet, and/or contrast bath panels. The floor finish should contrast with the wall colour, to facilitate a clear reading of the amount of floorspace.

It is useful to install longer mirrors to suit everyone, including people of small and tall stature, and people seated. Heated mirrors, for example where an electric heated pad is fitted to the rear of the glass, are useful as they allow the mirror to be used even when the bathroom is full of condensation. Bathrooms can get very cluttered with toiletries, so it is important to provide accessible storage space for them. This will ensure that surfaces are less cluttered and the bathroom easier to manage. The bathroom will be easier to use if accessible storage for temporary items such as clothes or towels is provided.

UD Home and UD Home Guidance

-  Construct the walls to be able to take loads such as hand rails and grab rails which may be required now or in the future.
.....
-  Install lever mixer /taps which can be used single handed and with a closed fist.
.....
-  Ensure mixer taps have a clear indication of the difference between water volume and temperature control.
.....
-  Provide mirrors at a height between 800mm and 2100mm from the floor with a spur for future installation of electric heating pad.
.....
-  Provide heated mirrors at a height between 800mm and 2100mm from the floor.
.....
-  Provide specific fittings for items such as soap, shampoos, toothpaste and brushes in accessible locations for everyone to use.
.....
-  Install shelving and cupboards for storage within the bathroom.
.....
-  Provide colour contrasting fixtures and fittings and ensure all fittings contrast visually with their background.
.....
-  Provide clothes hooks at two heights: 1100mm and 1700mm from floor level.
.....
-  Install handrails and grab rails where useful.
.....
-  Provide anti-scald settings to the shower.
.....

Design Tip

-  If anti-scald settings are installed these must be regularly tested to avoid Legionella and ensure correct functioning as part of a managed maintenance regime.
.....

Lighting, Heating and Ventilation

Design Considerations and Awareness







Lighting, heating and ventilation are covered in more detail in Section 4. However, some particular aspects are relevant to bathrooms.

In terms of lighting it is necessary to avoid glare and shadows, which can be a problem where there are shiny surfaces and numerous objects, such as in a bathroom. Bathroom light fittings should conform to an Ingress Protection (IP) rating of not less than 44.

Design Tip

- ⬆ A light fitting rated IP44 indicates that the fitting can be installed within 1m of splashed water from any direction.
- ⬆ Under floor heating can be installed in the bathroom where it has the advantage of helping to dry wet surfaces after a shower. However, underfloor heating is slow to react, and a faster boost of heat may be preferable for many people. A booster heat source is therefore of assistance in this case.
- ⬆ A heated towel rail (which is part of a wet central heating system) can warm the room and ensure that towels get dry after use. However, this won't work in the summer when the heating may be switched off unless it is connected to the hot water circuit.
- ⬆ Flexible back-up heating is useful especially when the central heating is not in use, as people can take a long time in the bathroom and get chilled.

UD Home and UD Home Guidance

-  Provide low-glare task lighting of 300 lux.
-  Install moisture resistant low glare task lighting above basin and shower.
-  Provide underfloor heating with easy-to-use controls to all wet rooms on a separately controlled and zoned circuit.
-  Provide a heated towel rail to all bathrooms.
-  Provide additional, booster or secondary heating, for when central heating is off.
-  Provide an extractor fan or passive moisture extraction system.

- UD Locate radiators where people are unlikely to come into contact with them, or with a low-surface temperature cover.
- UD Conceal or protect all pipework including heating and hot water supply pipes, and drainage, allowing for easy access in case of repairs/ maintenance that will not damage the finish of the bathroom.

UD Home ++ Guidance

Low-surface temperature (LST) radiators should be installed where relevant to the occupants' safety, for example for older people who may be particularly sensitive to heat and/or unsteady on their feet.



3.7 Multi-Purpose Rooms



20

Study space off corridor with a good level of natural light.




Study

Design Considerations and Awareness

A flexible study space should be provided for home working. This space might be in a bedroom, or in an alcove on a circulation route. As some people may find noise intrusive, it may be preferable to locate the desk away from noisy areas.

Ample sockets should be provided for all the technology likely to be used, such as computer, scanner and printer, provision for a modem, desk light, speakers etc. It is important that the study space has good natural light and easily controlled ventilation, avoiding glare and reflection on the computer screen which can make using the computer difficult and uncomfortable for everyone.

UD Home and UD Home Guidance

-  Provide space in the home for a desk, chair, filing cabinet and filing storage of at least 1800mm in length and 1500mm in depth (including chair space).
-  Provide at least 3 double sockets and a data socket.
-  Provide at least 5 double sockets and a data socket.
-  Provide direct natural light and adequate artificial light to the study area.
-  Ensure that direct light does not fall on the computer screen.



20

Open shelving can make accessing and finding items easy for everyone.



21

Shallow cupboard shelving can make accessing and finding items easy for everyone.

Storage and Utility Spaces

Design Considerations and Awareness

Plenty of storage space is essential for modern life, for example for out-of-season clothes, bags and cases, bulk purchase food stuffs and toiletries, sports equipment, books and files. Therefore, storage needs to be provided in a number of ways and it should be easily accessible.

A variety of storage solutions should be provided in the UD home. For instance, shallow cupboards are generally more accessible, and their contents more visible than a deep cupboard. However, deep cupboards will still be required for larger objects, such as suitcases, winter clothes, vacuum cleaner, etc.

In family homes of 3-bedrooms or more, a separate utility space is ideal to keep certain activities, such as washing and drying of clothes, out of habitable spaces and for general convenience. It needs to be easily accessible, and proximity to the kitchen is generally desirable.

A utility space should accommodate washing and drying machines, with sockets and controls that are easy for everyone to use and understand.

As accidents can happen with water, and washing machines are likely to break down at some point in their lifespan, it is recommended that a floor drain be provided in the washing machine area. This allows the householder to deal with excess water with a minimum of trouble and permits someone servicing the machine to drain it easily.



22

Separate room adjacent to kitchen for general convenience. Large cupboards for washer and dryer provided.









23

Washing machines and dryers on a plinth in a laundry room.

Photos Design Tips:

- ↑ 'D' handles are easier to use for everyone.
- ↑ A toe space and better colour contrast between floor and plinth should be provided in order to make it easier for everyone to use the appliances.

UD Home and UD Home Guidance

-  Ensure all store rooms are fully accessible with an outward opening door and internal lighting.
-  Provide cupboards which are not deeper than 600mm.
-  Provide wide and shallow cupboards, 300–400mm deep, with shelving.
-  Provide visual contrast at the front of shelves to make it easy to distinguish between contents and shelf position.
-  Provide adjustable height hanging rods for clothes and shelves suitable for different ages and heights.
-  Consider a pull-out larder-type shelving system in deep cupboards, suitable for small items which can be accessed from both sides.

- UD Provide all plumbing supplies, ventilation, drainage and electrical connections required for laundry machines in a separate utility space in homes of 3-bedrooms or more.

.....
- UD Provide a minimum 800mm square cupboard or space in the utility room to fit a washer-dryer with drainage connection and power points.

.....
- ++ Provide a cupboard or space in the utility room 800mm deep and 1500mm wide to fit a tumble dryer and washing machine side by side with drainage connection and power points.

.....
- UD Ensure that controls and displays are easy to use for everyone.

.....
- UD Provide a clear space in front of laundry machines of at least 1200mm.

.....
- UD Ensure that slip-resistant flooring is continuous under laundry machines and base units.

.....
- UD Provide a floor drain in utility room in case of flooding and for cleaning.

.....
- UD Provide a plinth for front-loading machines, so that the door is accessible without stooping.

.....
- UD Provide a plinth toe-space 150mm deep and 250mm high below the machines to allow everyone to get close to the laundry machines.

.....
- UD Provide task lighting above the work surface.

.....
- ++ Provide internal lighting to each shelf to make retrieval from storage easier for all.

.....

UD Home ++ Guidance

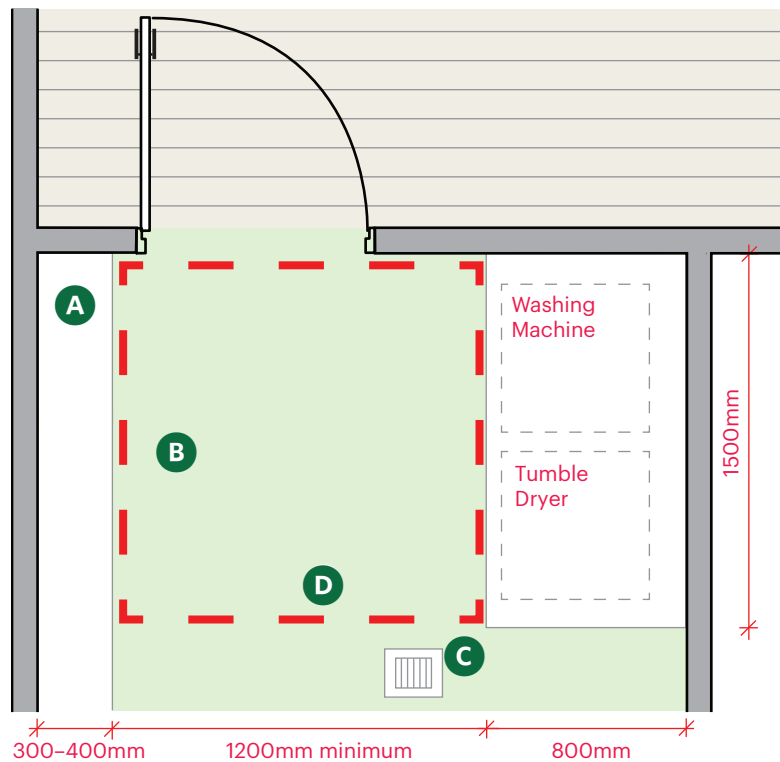
To optimise accessibility of storage for people of different sizes, seated or standing, provide at least half of all storage space below 1200mm above floor level. Fit pull-down shelves and clothes rails in wardrobes also.

In order to optimise ease of use in a utility space it may be useful to provide:

- a clear space in front of laundry machines between 1500 and 1800mm.
- an open knee-space beneath the worktop and sink for seated persons.
- switches that are accessible remotely and placed between 700 and 900mm above floor level.

Technical Sketch:

Dimensions for storage and utility spaces in plan.



- A** Shelving 300-400mm deep.
- B** Slip resistant flooring continuous under machines and cupboards.
- C** Floor drain with cover flush with the floor.
- D** Clear space of 1200mm in front of laundry machines.



3.8 Private Outdoor Space:



External private spaces to apartment development.

Photo Design Features

- ➔ Each of these apartments is provided with a balcony or a terrace.
- ➔ Level access is provided to balconies and terraces.
- ➔ Balconies and terraces are screened from neighbours.
- ➔ Full height windows provide good natural light to the apartments.

Photo Design Tip

- ⬆ The balconies and terraces would ideally be larger for a greater number of activities.
-



All homes look out onto a shared and well maintained garden area with spaces for every one to enjoy and use.

Private Gardens

Design Considerations and Awareness













Outdoor private space is important for health and well-being and needs to be designed to be accessible to all occupants and their visitors. Accessible gardens should be provided to all ground level entrance homes, whether houses, maisonettes or apartments, wherever possible. Access to the garden from the home should be level and wide enough for everyone to use easily.

There should be sufficient space for a range of activities for all ages and sizes, for recreation and more functional needs such as drying clothes and/or growing food.

Raised flower and vegetable beds make gardening easier for everyone, as they help avoid stretching and bending. It is helpful if the walls of the raised beds are robust enough to form a seat for the gardener to rest on, or for someone to sit and admire the plants. If raised beds are not possible, large plants pots and hanging baskets can be set at accessible heights to provide everyone with the opportunity to do some active gardening and enjoy plants.

When designing a garden consider adopting the approach of a sensory garden for everyone's enjoyment. For instance, those with visual or cognitive difficulties can benefit from planting which makes different sounds in a slight breeze, highly scented plants, flowers which attract birds and buzzing insects, a small water feature or a hanging wind chime. People with hearing difficulties are also likely to enjoy highly scented plants as well as the varied colour, movement and texture of plants, reflections in mirrors and water. It is helpful if some shade can be provided in the garden, such as a tree or temporary canopy or pergola, for protection from strong sunlight.

UD Home and UD Home Guidance


-  Provide an access door to the outside space of between 800mm and 850mm clear width with level access.
.....
-  Provide an access door to the outside space of at least 850mm clear width with level access.
.....
-  Consider the benefits of a sensory garden approach when choosing plants for the garden.
.....
-  Provide a pathway which is 900–1200mm wide, level and slip resistant to the clothes line, and to any shed or storage provided in the garden. The pathway should be level and close-laid, suitable for wheeled vehicles.
.....
-  Provide a pathway at a width of 1200–1500mm.
.....
-  Provide a paved area against the house of at least 1800mm in depth for the full width of the home.
.....
-  Provide a paved area against the house of at least 2400mm in depth for the full width of the home.
.....
-  Provide a pergola, canopy or other shading device.
.....
-  Provide raised planting beds 300–750mm high that are narrow enough to reach across, ideally with access from both sides with a surround to the raised bed that forms a useful seat.
.....
-  Avoid ramps and steps in the garden.
.....
-  Ensure planting is low-maintenance if the householder is not interested in or able to do any gardening.
.....
-  Provide a variable height rotary clothes line for drying laundry outside.
.....

UD Home Guidance

Consider:

- Providing tall plant pots that can be accessible from a seated position.
- Installing a laid-down hose with a timed irrigation system in the garden.
- Consider installing a pathway which is 1500–1800mm wide.

Design Tip

-  Gardens provide a good connection to nature and are seen as an investment in the future—there is an expectation of progression and seasonal patterns which contributes to the well-being of everyone.
.....



26

Large outdoor living spaces that are easy for everyone to use.



Balconies and Terraces:

Design Considerations and Awareness




All apartments, except those at ground level which have a garden, should have a balcony or terrace providing sufficient space for the whole household to sit and relax around a table, enjoy fine weather, and grow plants.

The balcony or terrace should always have level access from inside, so that it is easy for everyone to go out and enjoy the space. This will mean taking into consideration the need for deeper insulation in a terrace above a habitable room.

The balcony or terrace needs to be drained to avoid staining of the adjacent walls, and spills from one balcony falling onto the balcony below (for instance, when watering plants). It should be lit so that it can be used after dark, but the lighting should not cause a nuisance to neighbours.

A benefit of a balcony is that it can be enclosed by glazed panels as a winter garden to provide a thermal buffer for the home, and to extend its use in all seasons.

UD Home and UD Home Guidance

-  Provide balconies and/or terraces to all apartments which do not have a private external space at ground level.
-  Provide level access to all balconies and terraces, bearing in mind the need for deeper insulation over any internal rooms below.
-  Provide balconies and terraces that are a minimum 1500mm in depth.

- ⊕ Provide balconies and terraces that are a minimum 1800mm in depth.
- UD Design balconies or terraces as a minimum of 5m² for a 1-bed home with 2m² added for each additional bedroom (2 bed is 7m², 3-bed is 9m², etc) or as per statutory requirements.
- UD Provide a light to the balcony or terrace switched on from the inside.
- UD Provide visual separation between adjacent properties for privacy.
- UD Provide slip resistant floor surfaces.
- UD Provide easily maintained and effective drainage to all balconies and terraces, ensuring water cannot pool and create a hazard.
- UD Provide secure railings and balustrade at 1100mm in line with Buildings Regulations, with a continuous top rail that is supported centrally and intermittently on the underside, creating a 75mm gap below the handrail.
- ⊕ Provide a handrail made from a warm material such as timber or coated metal.
- ⊕ Provide a clear turning space of 1500mm diameter outside of all furniture.
- ⊕ Provide balcony doors that open back against the adjacent wall for full unimpeded access to the balcony space.



Communal garden living space that is easy for everyone to use.

UD Home ⊕ ⊕ Guidance

Consider providing:

- balconies and/or terraces that are at least 2400mm deep.
- designing the balcony or terrace so that it may be enclosed by glazed panels as a winter garden in future.



Private patio garden space with level access from the house, making it easy for everyone to use.