

Universal Housing Design Guidelines

PART 4 GOOD PRACTICE EXTRAS



INTRODUCTORY NOTES TO EXPLAIN THIS SECTION

Australian Standards for access and mobility and for adaptable housing already exist. Indeed many of the local government areas that Landcom works in have policies that reference these Standards. Why does Landcom not just require compliance with the Standards, instead of preparing separate guidelines?

The answer is this. Our aim, over time, is to see a large scale shift in new housing design so that an increasing proportion will be suitable for older people. We believe the best way to achieve this is by focussing on the *critical* design features first – those things that cannot be changed later without major expense. These are indeed covered by the Australian Standard for Adaptable Housing (AS 4299), but the Standard also includes other features that could be fitted or modified later.

In preparing its policy and guidelines Landcom did not want to develop a 'different' approach that would complicate the existing landscape. So, the Landcom guidelines are actually derived from AS 4299. We reviewed the schedule of features for adaptable housing in the Standard (essential features for Class C compliance) and made an assessment of those that we believe are critical to get right up front. These are what we have called the 12 Key Design Features in the guidelines. We then identified secondary features that we refer to as Good Practice Extras. These are additional features that will make a home more flexible and practical to live in. It makes sense to include these up front but they can reasonably be fitted or modified later if required, without major expense.

The schedule below follows the structure of AS 4299 so it is easy to see the relationship between what is in the Standard, and what is in Landcom's guidelines. It lists all the essential features for Class C compliance from the Standard, in the same order. It identifies what Landcom has flagged as Key Design Features, what we recommend as good practice, and what we have left out from the Landcom guidelines and why.

We recognise that there is much debate among stakeholders about what minimum spatial requirements are appropriate, particularly as they affect people with disabilities. Because Landcom is looking for a simple approach that will be taken up by the industry, we have adopted the spatial minimums in the Australian Standard as they currently exist. If these are amended in time then we will look to update the Landcom guidelines as appropriate. We accept that housing designed in line with these guidelines will not meet the needs of everybody, but we trust the guidelines will help to influence the design of mainstream housing over time.

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GOOD PRACTICE FOR LANDCOM PROJECTS (Described under the same headings as in AS 4299 Class C)	DOES THE LANDCOM GOOD PRACTICE GUIDELINE VARY FROM THE REQUIREMENTS OF AS 4299?	OTHER FEATURES IN AS 4299 (Class C)	ADDITIONAL COMMENTS AND EXPLANATION
Drawings			
Written materials/drawings describing the universal design features of the home to the consumer.	The AS requires drawings specifically showing the dwelling in its pre- and post-adaptation modes.		The requirement has been modified to what is in the AS, because universal housing is not 'adaptable', as defined by the AS. It would be beneficial regardless, from a marketing view and for the benefit of the purchaser and future residents, to describe the special design features of the home. Drawings/documents should be produced/designed to belong with the house (i.e. so they are not lost with the first owner/occupier).
Siting			
A continuous accessible path of travel from the street frontage and vehicle parking to the entry (complying with AS 1428.1). (‘Direct and level access from the car parking space to the house’ is included in the Key Design Features list – KDF No. 1.)	As per the AS.		The requirements are specified in AS 1428.1: generally landings should be provided at doors/gates; paths should have no lip/step at joints; and landing requirements for different gradients are set out. Site gradients will determine if an accessible path from the street to the door is achievable, without overuse of 'institutional style' ramps.
Provision for a wide hard-surface path for bin (to get to it from house, get garbage in, and move it to the kerb). Min. 1,000mm wide.	Additional to the AS.		Recommended by Independent Living Centre (ILC). This will be most efficient if combined with other paving (e.g. the driveway).

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Security			
Lighting level min. 50 lux for external paths.	As per the AS, but this is not an essential Class C requirement.		Recommended by ILC – 50 lux measured at source, with min. 10 lux at ground level for external spaces.
Letterboxes			
Letterboxes to be on hard-standing area connected to accessible pathway.	As per the AS.		Recommended by ILC. Avoid unnecessary additional paving by incorporating this hard-stand area with other paving such as the driveway or path. Also consider the reach and angle for easy access to the letterbox.
Private Car Accommodation			
Car parking space or garage min. length 6.0m with potential for min 3.8m width. (Included in the Key Design Features list – KDF No. 2.)	AS specifically requires min. area 6.0 x 3.8m (not <i>potential for</i> as we are proposing).		May be difficult in terraces/ townhouses. Could be achieved by surrender of 'sacrificial' landscaping strip next to parking space, or removable storage within a garage.
Potential for cover.	Additional to AS (roof is a first priority desirable in Standard but not an essential Class C requirement).		Recommended by ILC. When carports are provided, consider placement of the posts so that they do not prevent vehicle doors from being opened fully.
2.3m entrance clearance with 2.5m internal clearance.	Additional to AS (2.5m min. internal clearance is desirable in standard but not essential Class C requirement).		Recommended by ILC to allow for wheelchair hoist. Landcom currently applies a min. 2.4m entrance clearance. Requires careful design to avoid garage dominant streetscape.

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Private Car Accommodation (cont.)			
Internal access or external if level and covered.	Additional to AS which requires covered access, but this is a first priority desirable, not an essential Class C requirement.		Recommended by ILC.
Lighting level min. 50 lux at car parking space.	As per AS but this is a first priority desirable, not an essential Class C requirement.		
Hard surface preferred, maximum grade 1:40.	Additional to AS.		Recommended by ILC. 1:40 may be difficult to achieve on many sites.
Accessible Entry			
Provision for accessible entry – 1310mm min. width of approach.	AS requires this up front (i.e. no 'provision for').		
Entry protected by porch or similar.	Desirable in AS but not essential Class C requirement.		Likely anyway. Recommended by ILC.
Accessible entry to be level (max. 1:40).	As per AS.		An area of 1550mm diameter generally satisfies this requirement.
Threshold to be low level.	As per AS.		Guidelines include details for waterproofing.
Accessible entry to have 850mm min. clearance. (‘Front entrance with a minimum internal clearance of 850mm’ included in Key Design Features list – KDF No. 3.)	As per AS.		
		Door lever handles and hardware to AS 1428.1	900 – 1,100mm above floor. Can be easily retrofitted.

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Accessible Entry (cont.)			
Illumination level min. 150 lux for entry.	Lower than AS which requires 300 lux, but this is a first priority desirable, not an essential Class C requirement.		Level recommended by ILC.
Landing to enable wheelchair maneuverability	As per AS.		Increased landing size (min. 1550mm diameter, max 1:40 gradient) would achieve this (see above note re level entry.)
Exterior: General			
For patio doors, tracks set into slab or ramped threshold over slab.	Additional to AS.		Recommended by ILC. Head height should be considered, to ensure alignment with other doors and windows.
Level, hard-surface access to at least one private outdoor area.	Additional to AS.		Recommended by ILC. This may be achieved using a timber deck suspended over a terrace.
Interior: General			
Internal doors to have 820mm min. clear internal openings. (Internal entry level doorways with a minimum internal clearance of 820mm included in Key Design Features list 0 KDF No. 4.)	As per AS.		Note that even wider openings recommended by ILC – 850mm meets 90 th percentile (but 800mm meets 80 th percentile).

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Interior: General (cont.)			
Internal corridors min. width 1200mm. (‘Internal entry level corridors with a minimum width of 1000mm’ included in Key Design Features list – KDF No. 5.)	Greater than AS, which requires 1000mm min. width.		1200mm corridors recommended by ILC to allow circulation space around doors. Alternative would be 1000mm min. width corridors with increased circulation at door approaches (which is the approach adopted in Key Design Requirements). Provision for compliance with AS 1428.1 door approaches is AS 4299 Class C essential requirement. Landcom guidelines include door circulation options.
Max window sill height 730mm (except in utility areas). (Included in Key Design Features list – KDF No. 12.)	Same as for AS (excluding utility areas note), but AS also requires max. sill height of 600mm in bedrooms. These are desirable features in the AS, not essential for Class C compliance.		730mm sill height allows seated person to see out but also maintains privacy.
At least one bathroom on ground/entry level with toilet and space for shower (shower min. dimension 1000 x 1160mm to allow for fixed seat/chair). Potential for one bedroom on ground/entry level. (‘Located on ground/entry level – a living/family room; a room/space capable of being used as a bedroom; and a bathroom’ included in Key Design Features list – KDF No. 6.)	Additional to AS.		Recommended by ILC.
Logical plan allowing easy movement between areas.	Additional to AS.		Recommended by ILC. Likely anyway.

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Living Room and Dining Room			
Provision for circulation space of min. 2250mm diameter. (Included in Key Design Features list – KDF No. 7.)	As per AS.		
Telephone adjacent to GPO.	As per AS.		Likely anyway.
		Potential illumination level min. 300 lux.	Can be modified later.
Kitchen			The overall philosophy of Occupational Therapists is that if people have special kitchen requirements then they will build to suit. This is why many of the AS 4299 Class C essential features are not included in the Landcom guidelines. As long as the space is available, the kitchen can be refitted later if required.
Min. width 2700mm between walls, capable of adaptation to enable 1550mm clearance between benches. (‘Min 2700mm between walls’ included in Key Design Features list – KDF No. 10.)	As per standard.		
		Provision for circulation at doors to comply with AS1428.1.	Wide internal corridors recommended as good practice (1200mm see above under Interior: General).
		Provision for benches planned to include at least one work surface of 800mm length, adjustable in height from 750 – 850mm or replaceable.	900mm bench height is standard but ILC suggests 850 – 900mm can be better used by people side-on.

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Kitchen (cont.)			
		Refrigerator adjacent to work surface.	
		Kitchen sink adjustable to heights from 750mm to 850mm or replaceable.	
		Kitchen sink bowl max. 150mm deep.	
		Tap set capstan or lever handles or lever mixer.	
		Tap set located within 300mm of front of sink.	
		Cooktops to include either front or side controls with raised cross bars.	
		Cooktops to include isolating switch.	
		Worksurface min. 800mm length adjacent to cooktop at same height.	
		Oven located adjacent to adjustable height or replaceable work surface.	
		GPOs to comply with AS1428.1. At least one double GPO within 300mm of front of worksurface.	
		GPO for refrigerator to be easily reachable when the refrigerator is in its operating position.	
		Slip-resistant floor surface.	

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Main Bedroom			
At least one bedroom of area sufficient to accommodate queen size bed and wardrobe and circulation space requirements of AS1428.2. (Bedroom space (on ground/entry level) large enough for a queen size bed, wardrobe and circulation space' included in the Key Design Features list – KDF No. 8.)	As per AS.		I.e. room 3.5 x 3.54m/3.0 x 4.04m.
Close proximity and easy access between ground/entry level bathroom and bedroom (or possible future bedroom).	Additional to AS.		Recommended by ILC.
Bathroom			Good practice guidelines apply to bathroom on ground/entry level.
Included in the Key Design Requirements list: Bathroom (on ground/entry level) minimum 2.4 x 2.4m, with hobless shower, full floor waterproofed and strengthened walls around the toilet and shower (at 700 – 1500mm and 700 – 1850 mm above floor level respectively). KDF No. 9			

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Bathroom (cont.)			
Bathroom area approx. 2.4 x 2.4m.			AS requires provision for bathroom to comply with AS 1428.1.
Shower recess - no hob. Min. size 1160 x 1100mm to comply with AS 1428.1.	As per AS.		Will require set down of shower base 20-25mm up front.
Full floor waterproofed and tiled with fall to waste.			AS requires shower area waterproofed to AS 3740 with floor fall to waste.
Shower taps positioned for easy reach from outside shower. Taps at 900 – 1100mm with space between for turning lever.	Tap height and spacing additional to AS.		
Strengthened walls 700 - 1850mm height from floor in shower.	AS requires provision for adjustable, detachable hand held shower rose mounted on a slider grabrail or fixed hook (plumbing and wall strengthening provision), and provision for grabrail in shower to comply with AS 1428.1.		Design feature will allow Standard to be met (vertical shower rail and grabrail). 1100 Newton force to be accommodated (110kg person) i.e. full sheet of ply in wall.
Washbasin located so that circulation spaces to adjacent doors, WC and other components, and knee clearances, are either in accordance with AS1428.1 or able to be adapted to comply.	AS requires provision for washbasin with clearances to comply with AS 1428.1.		To enable wheelchairs to pull up under basin.

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Bathroom (cont.)			
Slip-resistant floor surface.			Minimal cost to do up front.
		Recessed soap holder.	Not critical (ILC).
		Tap sets to be capstan or lever handles with single outlet.	Can be modified.
Double GPO beside mirror.	As per AS.		Likely anyway. Note limitations in AS 3000 for distance from electrical fittings to water receptacles.
Toilet			Good practice guidelines apply to visitable or accessible toilet.
Provision of either visitable or accessible toilet.	AS requires min. clearance between fixtures (e.g. basin and WC) of 1100mm in same room, and min. 1250mm in front of pan x 900mm clear of door swings.		Side clearance allows wheelchair to pull up to side of WC.
Strengthened walls 700 - 1500mm height from floor around toilet for future grabrails.	AS requires provision for grab rail zone.		1100 Newton force to be accommodated (110kg person). 450 - 460mm distance from side wall to centre of pan (AS 1428.1).
Provision to comply with AS 1428.1.	As per AS.		I.e. front of pan 800mm from back wall, distance from centre of pan to side wall 450 – 460mm.
Slip resistant floor surface (vitreous tiles of similar).			Easily done up front.

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Laundry			
Min. 1,550mm depth circulation space. (Included in Key Design Features list – KDF No. 11.)	As per AS.		
Provision for front-loading automatic washing machine.	As per AS (front-loading additional).		
Provision for appliances to be located within standing/sitting reach-range.	Additional to AS.		ILC advises the reach-range for people sitting and standing is 700 – 1200mm above floor (from AS 1428.1). Therefore any combination of washer/dryer arrangement that achieves this generally accessible. Front-loading washer would likely have to be placed on low platform.
Where clothes line is provided, provision for accessible hard-surface path of travel to this.	As per AS, with addition of hard-surface requirement and ‘provision for’.		I.e. complying with AS 1428.1 (dimensions/falls).
Double GPO.			Likely anyway.
		Circulation at doors to comply with AS 1428.1.	Guidelines include design options for circulation at doorways.
Slip-resistant floor surface.			CSIRO Guidelines (BH197) provide ratings for different materials, but they apply to public areas. ILC suggests not requiring rated tiles because can be difficult to clean. Instead suggest requiring smaller floor tiles (max. 100 x 100mm) – grout increases friction – and a ‘high level of slip-resistance’.

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Door Locks			
Door hardware located 900 – 1100mm above floor.		Door hardware operable with one hand.	Hardware can be refitted later if required.
Ancillary Items			
Switches located 900 - 1100mm above floor.	As per AS but this is a first priority desirable, not essential Class C requirement. AS also requires alignment of switches with door handles (first priority desirable).		Recommended by ILC.
Where GPOs located less than 600mm above floor, additional wiring provided to allow GPO to be moved up to at least 600mm above floor and out 500mm from corner. Also for telephone sockets.	As per AS, but this is a first priority desirable, not essential, and additional wiring is over and above AS requirement.		600mm height recommended by ILC.
Window controls at approx. 1200mm from floor level.	AS requires window controls in an 'accessible position', but this is a first priority desirable, not essential Class C requirement.		Recommended by ILC.