

# Appendices

1. Summer Housing	231
2. Further Resources	233
3. Assistive Products	235
4. Physical Experience	239
5. Wayfinding	243
6. SDA Housing – Further Consideration	245
7. SDA Minimum Design Summaries	249

This section includes supplementary information that supports the provisions suggested within this guide. It is intended this section will be added to over time, including topical information on specific design issues within accessible housing e.g. ceiling hoist selection, tempering hot water, etc. These questions are broadly covered within current appendices topics:

- Who has produced this guide and what is their vision?
- What design resources are available for more information?
- What additional information may help the new designer better understand the lived experience of disability?
- What additional information is available about SDA housing?





New projects: Grocon's Greenwich development, Fairfield (Artist's Impression)

## Summer Housing

Summer Housing was established in 2017 to replicate and scale the housing demonstration projects developed by the Summer Foundation, learning from and furthering the outcomes generated in these projects.

The organisation's vision is that all people with disability and complex care needs would have the opportunity to live in high quality housing that enables them to live as independently as possible, enhancing their health, wellbeing and social inclusion.

The organisation's mission is to increase the range and scale of diverse housing options particularly for younger people living in or at risk of admission to nursing homes.

### Housing Model

The housing model brings accessible and affordable housing and support together with smart home technology to give individuals greater choice and control over how they live. The right housing and support in the right location can increase a person's quality of life and independence, while reducing lifetime care costs.

Summer Housing projects deliver accessible apartments - peppered throughout larger mainstream residential developments. Typically an additional apartment on-site will accommodate staff employed by a shared support provider.

Tenancies and properties are managed by a community housing organisation so that people with disability have the same tenancy rights as the rest of the population. A disability service organisation is appointed to provide tenants with the support they need for an initial two-year period.

# Continuous Learning and Dissemination of Knowledge

Evaluation of Summer Housing projects is critical to the iterative process of learning and the continuous improvement of the design and efficacy of this model of housing and support. Summer Housing continues the ethos of Summer Foundation - to learn through doing, working to document and share the knowledge generated through these projects with others. Intellectual property generated through the projects is open source and others are actively encouraged to replicate this work.

Summer Housing is committed to:

- Partnering with government, private developers, community housing providers and other stakeholders to replicate similar housing models
- Sharing design and technology innovations with partners and other organisations
- Providing resources for dedicated housing providers to encourage the development of more housing options

This guide is an example of this commitment.

## Support and Tenancy Management Model

Summer Housing's approach to design and technology works in conjunction with the following Support and Tenancy Management Model:

### Principle

1. Individual living in one's own home
2. Support assists individuals to develop their ability to live as independently as possible, encouraging and facilitating in building a life that is personally meaningful, and allowing for engagement with others
3. Support encourages participants to make use of the opportunities presented through the design and technology in the home
4. Support staff have a developed role, of supporting individuals to build capacity, via use of the design features and technology where needed
5. Individuals receive individual supports funded in line with the goals of their individual plan; they are free to allocate financial supports wherever they like, depending on personal preferences and priorities
6. Secure housing (tenancy arrangement)
7. Individuals are aware of the rights, responsibilities and risks of living in their own home and take reasonable steps for their safety
8. Individuals are personally responsible for the cleaning and maintenance of the home and may choose to engage formal or informal supports to assist where needed
9. Individuals are responsible for their safety and security, including who they allow into their homes
10. Twenty four-hour assistance is available on-site (or possibly off-site in future) for emergencies and unplanned urgent assistance

### Design Impact

→ While in some contexts the preference may be for some tasks to be undertaken by a support person, consideration should be made to make all functions and controls within the home usable by the person with disability to support maximum opportunities for independence.



## Further Resources

### Accessible Housing Legislation

- Office of Legislative Drafting and Publishing, Disability (Access to Premises – Buildings) Standards 2010 <https://www.legislation.gov.au/Details/F2011C00214/Download>
- NDIS Price Guide, Specialist Disability Accommodation Valid from 1 April 2017 <https://www.ndis.gov.au/medias/documents/ha6/h19/8800438648862/SDA-Price-Guide.pdf>

### Accessible Housing Standards

- Standards Australia Australian Standard AS 1428 Design for Access and Mobility set, available for purchase: <https://infostore.saiglobal.com/>
- Standards Australia Australian Standard AS 4299 -1995 Adaptable Housing, available for purchase: <https://infostore.saiglobal.com/>

### Accessible Housing Guidelines

- NSW State Government State Environment Planning Policy (Housing for Seniors or People with a Disability) 2004 <https://www.legislation.nsw.gov.au/inforce/ce4f59d5-d4a2-c6bc-e311-ca9aba713cfa/2004-143.pdf>
- Queensland Government Economic Development Queensland Accessible Housing PDA Guideline No. 2 May 2015 <http://www.dilgp.qld.gov.au/resources/guideline/pda/guideline-02-accessible-housing-may2015.pdf>
- Government of South Australia, Design Guidelines for Sustainable Housing and Livable Neighbourhoods Sustainable Housing Principles, 2.3 SAHT Universal Housing Design Criteria <https://renewalsa.sa.gov.au/wp-content/uploads/2016/12/2.3-Design-Criteria-for-Adaptable-Housing.pdf>
- Victoria Building Commission, Welcome: design ideas for accessible homes (2002). Available at public libraries nation-wide: <http://trove.nla.gov.au/work/22545138?q&versionId=46572409+167753133>

- Landcom Universal Housing Design Guidelines  
<http://universaldesignaustralia.net.au/wp-content/uploads/2015/05/Landcom-Guidelines.pdf>
- Accessible Assistive Technology Australia Guide to Planning Bathrooms and Kitchens (2015), available for purchase: [https://at-aust.org/home/publications/publications#pub\\_bkGuide](https://at-aust.org/home/publications/publications#pub_bkGuide)

### **Accessible Housing Evaluations and Discussion Papers**

- TAC RIPL Project One Post-occupancy built and technology design evaluation  
[http://www.iscrr.com.au/\\_data/assets/pdf\\_file/0006/329208/RIPL-Project-One\\_POE\\_InteractiveF.pdf](http://www.iscrr.com.au/_data/assets/pdf_file/0006/329208/RIPL-Project-One_POE_InteractiveF.pdf)
- MADA Monash University Best Practice Discussion Paper – A comprehensive evidence-base for innovative design methods that can improve accommodation outcomes for TBI and SCI residents  
[http://www.iscrr.com.au/\\_data/assets/pdf\\_file/0004/359050/094-Best-Practice-Discussion-Paper.pdf](http://www.iscrr.com.au/_data/assets/pdf_file/0004/359050/094-Best-Practice-Discussion-Paper.pdf)
- Summer Foundation New Housing Options for People with Significant Disability – Design Insights (2015)  
[https://www.summerfoundation.org.au/wp-content/uploads/2015/nho\\_design\\_report.pdf](https://www.summerfoundation.org.au/wp-content/uploads/2015/nho_design_report.pdf)
- Collaboration between Summer Foundation, TAC Transport Accident Commission and MSM & Associates Pty Ltd, Accessible Housing for People with Significant Disabilities, The Need for a more Contemporary Design Framework, A Discussion Paper (2016)  
<https://www.summerfoundation.org.au/wp-content/uploads/2016/standards-report.pdf>

### **Accessible Products and Services**

- Independent Living Centres Australia <http://ilcaustralia.org.au/>

### **Accessible Housing Personal Experiences**

- Summer Foundation Digital Stories  
<https://www.summerfoundation.org.au/people-category/accessible-housing-stories/>

### **Fire Safety**

- ABCB Lifts Used During Evacuation Handbook 2013  
<http://www.abcb.gov.au/Resources/Publications/Education-Training/Lifts-Used-During-Evacuation>
- Lee Wilson, Evacuation of People with Disability & Emergency Limitations, Considerations for Safer Buildings & Efficient Evacuations, July 2016, Edition 2.  
<http://www.caloes.ca.gov/AccessFunctionalNeedsSite/Documents/evacuation-of-pwd-and-emergent-limitations-2nd-edn-by-lee-wilson.pdf#search=lee%20wilson%20evacuation>

### **Guidelines on Supporting Safety within Accessible Housing**

- A Guide to Designing Workplaces for Safer Handling of People for Health, Aged Care, Rehabilitation and Disability Facilities (Worksafe) [https://www.worksafe.vic.gov.au/\\_data/assets/pdf\\_file/0010/207928/ISBN-Designing-workplaces-for-safer-handling-of-people-guide-2007-09.pdf](https://www.worksafe.vic.gov.au/_data/assets/pdf_file/0010/207928/ISBN-Designing-workplaces-for-safer-handling-of-people-guide-2007-09.pdf)
- Australian Standards AS 4226 (2008) Guidelines for safe housing design, available for purchase: <https://infostore.saiglobal.com/>

### **Apartment Design Standards**

- Better Apartments Design Standards – New apartment design standards for Victoria (Victoria State Government) [https://www.planning.vic.gov.au/\\_data/assets/pdf\\_file/0024/9582/Better-Apartments-Design-Standards.pdf](https://www.planning.vic.gov.au/_data/assets/pdf_file/0024/9582/Better-Apartments-Design-Standards.pdf)

### **Accessible Ancillary Features**

- Good Play Space Guide – Community Sport and Recreation, Sport and Recreation Vic 2007.
- Enabling Play: Insider accounts of disabled children's playworlds in accessible playgrounds – Jene Burke, University of Ballarat, 2009.

# Assistive Products

Type and dimensions of Assistive Products below are provided as a guide, to demonstrate potential circulation and storage needs in an accessible dwelling. Each individual's needs will be different, requiring some / none or variants of the equipment listed in this section. Note: Some people will use a combination of equipment e.g. a manual and a motorised wheelchair as needed – depending on their state of health / strength / energy levels, which may vary from day to day.



## Mid wheel drive power wheelchair

- allows independent mobility
- requires power point for recharging
- turning circle 1500mm DIA. approx.

**Approx. 900mm (L) x 600mm (W)**



## Electric scooter

- supports people who have difficulty walking or walking long distances
- small and disassembling types available
- large models with suspension for long travel available
- power point needed for recharging

**Approx. 1300mm (L) x 600 (W) x 1220mm (H)**



## Commode (shower / toilet)

- For toileting (slides over pan) or showering - for people who need additional postural support
- Self-propelling or propelled (pushed) type
- Fixed or tilting models
- Self-propelling type requires larger turning circles

**Approx. 1100 mm (L) x 600mm (W) x 1100 (H)**



## Tilt and recline manual wheelchair

- Allows independent mobility
- Some models can be disassembled / folded
- Turning circle 1500mm DIA. approx.
- Reclining models allows for change in posture, for people who cannot independently shift their body weight. (Changes in sitting position are needed to prevent damage to skin.)

**Approx. 1100 mm (L) x 600mm (W)**



**Mobile ceiling hoist (not fixed to overhead tracking)**

- enables assisted transfer e.g. from bed to mobility equipment, for people with reduced strength or mobility
- ceiling mounted, hence takes up less floor space than a portable lifting hoist
- higher upfront cost than portable lifting hoist
- mobile type allows for use on separate ceiling tracks (e.g. in multiple rooms across multiple dwellings)
- stored and charged on a mobile trolley

**Approx. 600mm (L) x 300mm (W) x 450mm (H)**



**Floor trolley**

- storage for mobile hoist (between periods of use)
- enables hoist to be moved between rooms without the need for support persons to carry the hoist

**Approx. 450mm (W) x 600mm (L) x 800mm (H)**



**Fixed ceiling hoist (fixed to overhead tracking)**

- Fixed type allows use along one track only
- Able to be stored and charged within a wall storage unit (provide power at high-level, to minimise chord runs from the powerpoint to the hoist)

**Approx. 500mm (L) x 200mm (W) x 300mm (H)**



**Portable hoist (loose equipment)**

- Enables assisted transfer e.g. from bed to mobility equipment for people with reduced strength or mobility
- Lower upfront cost than ceiling hoist

**Approx. 1200 mm (L) x 650mm (W)**



#### **Walker/rollator**

- provides additional support when standing or walking
- possible accessories include seat, wheels, brakes

**Approx. 700mm (L) x 600mm (W) x 1100mm (H)**



#### **Mobile storage trolley**

- can be used for accessible kitchen storage, as an additional worksurface (especially for transferring food) and as a mobile walking aid
- ideally will have capacity to be rolled under a kitchen/laundry bench when not in use

**Approx. 450mm (W) x 800mm (H) x 500mm (D)**



#### **Bedside commode**

- provides alternative toilet option where a fixed toilet can't be used
- typically provided alongside bed

**Approx. 600mm (L) x 600mm (W) x 800mm (H)**



#### **Portable shower seat**

- supports people who have difficulty standing in the shower
- optional accessories include reclining backs, rolling wheels, support straps
- foldable types available

**Approx. 650mm (L) x 400mm (W) x 650mm (H)**



### Portable ramp

- allows for wheeled mobility devices to have easy access to a building or terrain
- ideally not needed in well-designed accessible dwelling with 0-thresholds
- may be needed when taking day trips to inaccessible areas

**Approx. 1200mm (L) x 240mm (W) – when folded**



### Portable arm/leg trainer

- people with reduced mobility may benefit from regular targeted exercises
- with appropriate equipment this can be done in the privacy of one's own home
- improves cardiovascular function and promotes blood circulation

**Approx. 600mm (L) x 450mm (W) x 550mm (H)**



### Portable therapy table

Therapeutic massage may be a very important daily routine for some people in maintaining physical and mental well-being. Massage can:

- support pain relief
- combat compensation patterns (altered postural influences) possibly experienced when adjusting to wheeled mobility devices
- promote circulation and removal of fluids, required to resist respiratory infections (important for people who cannot cough)
- improve range of motion and maintain flexibility, preventing possible stiffening, spasms and pain in muscles
- promote bowel function

<https://www.massagemag.com/a-firsthand-account-from-a-disabled-massage-client-24876/>

**Approx. 1500mm (L) x 800mm (W) - when folded**



### Sports wheelchair

- customisable to an individual's postural needs
- supports engagement in sport and recreation, supporting active lifestyle and social inclusion

**Approx. 900mm (L) x 1000mm (W) x 800mm (H)**

# Physical Experience

Table 1 below demonstrates a very broad range of experiences that a person living with some form of disability may experience. These experiences may be constant or re-occurring; and may possibly increase or decrease over time, depending on the nature of the disability, the individual and their personal circumstances, including their physical living environment.

Table 2 lists a number of physical conditions and the possible personal impact on an individual.

The tables are provided to support a practical design understanding of the issues, which may be pertinent when designing for a person with some form of disability. A universally designed dwelling will consider a wide range of these possible physical experiences, and provide enabling design features in response.

	<b>Possible Experience</b>	<b>Example Dwelling Response</b>
1.	<b>Reduced mobility e.g.</b> <ul style="list-style-type: none"> <li>• Difficulty to maintain posture, balance or mobility</li> <li>• Physical fatigue</li> <li>• Inflammation and stiffness</li> <li>• Pressure wounds or blood clotting</li> </ul>	<ul style="list-style-type: none"> <li>• Compatibility with assistive aids (e.g. grabrails, rest spaces or mobility aids)</li> <li>• Sufficient space for circulation, step-free surfaces for movement and storage to support mobility aids</li> </ul>
2.	<b>Cognitive and intellectual impairment e.g.</b> <ul style="list-style-type: none"> <li>• Increased mental fatigue</li> <li>• Difficulty processing information, problem-solving, or learning</li> </ul>	<ul style="list-style-type: none"> <li>• Simple navigation and use of dwelling e.g.</li> <li>• Clear viewlines for easy orientation</li> <li>• User-friendly appliances and technology</li> <li>• Simple signage</li> </ul>
3.	<b>Behavioural and personality changes</b>	<ul style="list-style-type: none"> <li>• Increased provisions for privacy (e.g. flexible zoning)</li> </ul>
4.	<b>Altered sensory abilities</b> <ul style="list-style-type: none"> <li>• Loss of senses</li> <li>• Oversensitivity (e.g. to light/loud noises)</li> </ul>	<ul style="list-style-type: none"> <li>• Suitable control of heat sources</li> <li>• Appliances or technology that can be understood via a range of senses</li> </ul>
5.	<b>Reduced dexterity (hand function)</b>	<ul style="list-style-type: none"> <li>• User-friendly controls e.g. To appliances, doors and technology</li> </ul>
6.	<b>Altered bowel, bladder and sexual function</b>	<ul style="list-style-type: none"> <li>• Ample space for personal sanitary products</li> <li>• Easy access to suitable toilet facilities</li> </ul>
7.	<b>Difficulty self-regulating temperature</b>	<ul style="list-style-type: none"> <li>• Enhanced options to heat and cool</li> </ul>
8.	<b>Irregular breathing and blood pressure</b>	<ul style="list-style-type: none"> <li>• Power provisions for addition of plug-in timers and alarm system (for turning in bed)</li> <li>• Space that supports regular therapeutic massage</li> </ul>
9.	<b>Altered communication and speech</b>	<ul style="list-style-type: none"> <li>• Alternative means to communicate than speech e.g. visual display on intercom</li> </ul>
10.	<b>Degenerative (increasing over time) pain</b>	<ul style="list-style-type: none"> <li>• Space that supports exercise and massage, with suitable space, power and storage</li> </ul>

Table 1

	Physical Condition	Example possible Impact
1.	<b>Spinal cord injury (SCI)</b>	<ul style="list-style-type: none"> <li>• Paralysis below area of injury (reduced ability to feel touch, temperature or pain)</li> <li>• Reduced ability to maintain posture, mobility, dexterity or hand control</li> <li>• Altered bowel, bladder and sexual function</li> <li>• Reduced ability to self-regulate temperature</li> <li>• Irregular breathing and blood pressure</li> </ul>
2.	<b>Acquired brain injury (ABI)</b>	<ul style="list-style-type: none"> <li>• Increased fatigue (mental and physical)</li> <li>• Reduced cognitive and intellectual function</li> <li>• Behavioural and personality changes</li> <li>• Reduced physical and sensory abilities</li> </ul>
3.	<b>Cerebral palsy</b>	<ul style="list-style-type: none"> <li>• Reduced ability to maintain posture, mobility, dexterity or hand control</li> <li>• Altered bowel, bladder, digestive and breathing function</li> <li>• Altered communication and speech</li> <li>• Intellectual impairment</li> <li>• Vision impairment</li> <li>• Pain</li> </ul>
4.	<b>Arthritis</b>	<ul style="list-style-type: none"> <li>• Degenerative pain, inflammation, stiffness, mobility</li> <li>• Postural decline</li> </ul>
5.	<b>Multiple sclerosis</b>	<ul style="list-style-type: none"> <li>• Reduced muscle co-ordination and mobility</li> <li>• Reduced vision and speech capacity</li> <li>• Altered bowel, bladder and sexual function</li> <li>• Behavioural and personality changes</li> </ul>

Table 2

## Brief Development

### Extended Routines

Various possible health conditions related to disability (some of which are outlined in this section) may impact a person's capacity to undertake a home task independently. Appropriate design and support may enable a person to develop skills to carry out new tasks.

Some health conditions will mean these tasks require more time than would be anticipated in non-accessible dwellings.

Hence spaces where key daily tasks are undertaken should be designed with the awareness that a person may need to spend an extended period of time in the space. Where possible, such spaces should provide the amenity of a 'habitable' room (such as a living area) where extended periods of time would typically be spent in mainstream residential dwellings.



Artist's impression of a kitchen interior, Greenwich Fairfield. Accessible apartments also feature open plan kitchen, living and dining spaces, well connected to the outdoors.

## Brief Development

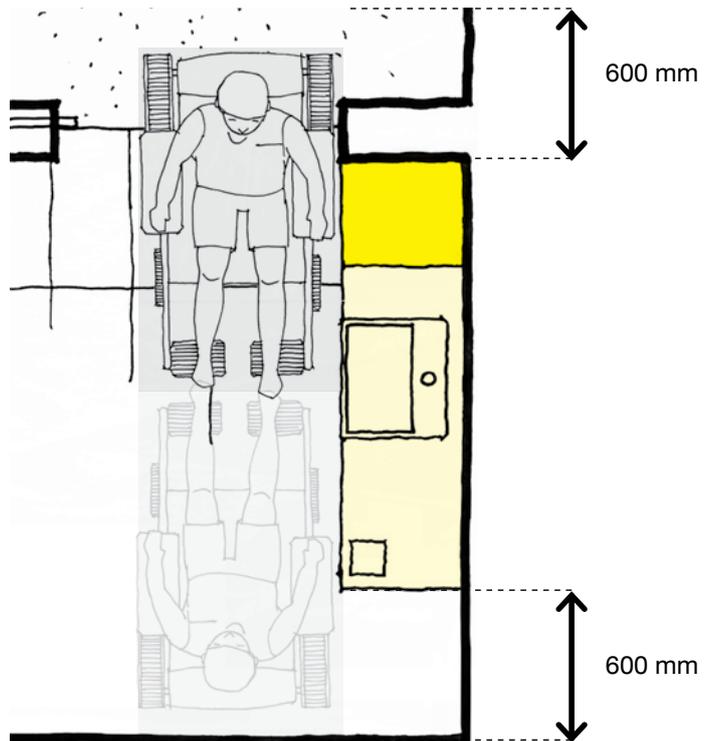
### Multi-sided Approach

Acquired neurological injury results in physical impairments, which may include paralysis of one side of the body – “hemiplegia”.

Ideally home features (such as the sink and cooktop) will allow a straight-facing approach. For occupants who are reclined in posture and cannot roll under the depth of a standard fixed benchtop, a side approach may be required.

To allow for the instance where an occupant may experience hemiplegia - allow sufficient space either side of a fixed home feature to allow a person to side-approach from either the left or right-hand side.

For a person that is able-bodied, providing space around each home feature will generally enhance ease of use.



## Brief Development

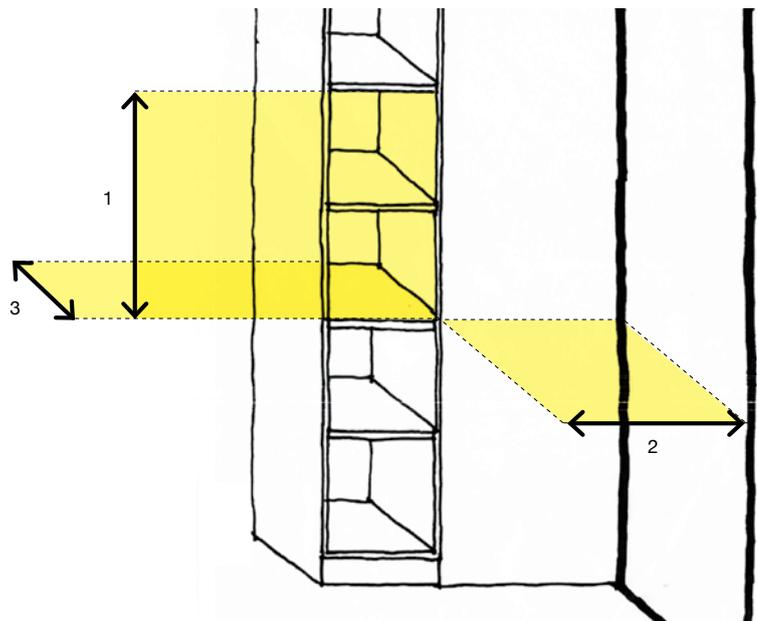
### Reach Range

Loss of mobility or strength in the upper body, or use of various mobility aids may result in a reduced reach range for an individual. Careful consideration of the location of fixtures and controls will better allow use by persons with limited reach.

An occupant's reach range will depend on posture (standing, seated or semi-reclined), stature (smaller or larger than average) as well as the dimensions of any mobility aids (e.g. small manual or large motorised wheelchairs).

To allow reach by as many individual's as possible, consider:

- height of controls (to suit a seated or standing user)
- positioning of controls in relation to side obstructions (to suit a seated or standing user)
- inset dimensions to controls (to suit a person with average or reduced reach range)



### Ideal Typical Reach Range Dimensions

Optimal positioning of home features and controls to support universal reach range (seated and standing person):

- |                                     |                   |
|-------------------------------------|-------------------|
| 1. Vertical offset from FFL         | 700 - 1200mm AFFL |
| 2. Offset from any side obstruction | 600mm             |
| 3. Maximum inset dimension          | 300mm             |



## Brief Development

### **Dexterity**

Some impairments result in the loss of hand function (strength and flexibility).

Consider:

- controls that do not require twisting (e.g. push-button)
- where dials must be used – returns that are more easily grasped
- returns on pulls that stop a hand sliding off



Household utensils to improve use for people with limited hand function. These two images show utensils that require low effort and offer easy grip.



# Wayfinding

## Sensory Cues

Effective wayfinding supports a person to orient themselves and to find their way to a destination safely and independently. This is made possible via sensory cues - sight, sound, touch, and smell (visual, audible, tactile and olfactory).

Utilising a wide variety of sensory cues will best communicate to people with wide ranging sensory abilities and understanding, including those with reduced memory, cognitive, intellectual impairment, older persons or people from culturally different backgrounds.

The most common wayfinding element is visual signage (visual cues), but designing for the other senses also will support a person with vision impairment with another means to understand their environment and to orient themselves.

Sensory cues are typically provided through building and landscape elements, signage and lighting.

The examples above demonstrate a variety of sensory cues identifying one key building feature (an external path) allowing identification by persons with varying sensory abilities and understanding.

CLOCKWISE FROM LEFT:

1. Simple graphics with colour (luminance contrast ) and tactile braille **Signage | visual**
2. Alteration of texture on ground surfaces **Landscape design | tactile**
3. Bubbling water fountain **Landscape design | audible**
4. Scented planting **Landscape design | olfactory**

## Brief Development

### **Shorelining**

Shorelining is a technique employed by persons with visual impairment to identify a specific feature, such as a sidewalk turn or a door in a hallway. A cane is used to tap a continuous border (wall, curb, etc.) repeatedly until the specific feature is identified.



Timber edging or a stone upstand can be used to 'shoreline' an external pathway.



# SDA Housing – Further Considerations

## New national stimulus – NDIS and SDA policy

The National Disability Insurance Agency (NDIA) rolled out the National Disability Insurance Scheme (NDIS) in July 2016, enabling people with a disability to apply for funding of supports as “NDIS participants”.

The Specialist Disability Accommodation (SDA) Policy since developed through the NDIS is a significant initiative to stimulate an increase in the construction of accessible housing in Australia.

The policy is based on the approach that approved “SDA providers” (building owners registered with the NDIS) develop and maintain dwellings for people with disability. The cost of constructing and maintaining these dwellings is remunerated to the SDA provider over time, in part through annual SDA payments, for the duration of the time that an approved SDA participant chooses to reside in the dwelling.

The expected 28,000 SDA participants (or 6% of all NDIS participants) – aged under 65 with very high levels of disability support needs – vary widely in their needs and preferences. The policy aims to cater for these through supporting a variety of housing typologies and varying levels of access provisions, set out across a number of ‘design categories’.

## **New accessible dwellings produced by the mainstream market**

Breaking with past practice - rather than government deciding what housing will be built and in which location, the SDA Policy now hands these decisions to the market, with structures in place to guide development towards individual choice and control by the SDA eligible participant.

Funding available to stimulate this construction will see thousands of new dwellings for people with significant levels of disability developed around Australia.

New stakeholders will need to become familiar with the construction and management of accessible housing, including an increased number of private developers entering the market. Understanding the needs and preferences of people with disability will be paramount for SDA providers in attracting and securing SDA participants in SDA-approved dwellings long-term.

## **Expanding Livable Housing Design Guidelines (LHDG)**

The SDA Policy mandates a set of minimum design requirements across four possible design categories for approved SDA dwellings. It has drawn on LHA design guidelines to form the base of these varying levels, with additional requirements particularly to support people with more significant levels of physical disability, including wider doorways, ceiling hoists, emergency power solutions, heating and cooling, communication and provisions for automation and assistive technology.

The varying application of LHDG within the four SDA design categories and additional requirements are summarised in the table below.<sup>1</sup>

Some SDA design requirements are open to interpretation. For example, a dwelling approved under the High Physical Support Design Category is required to be “assistive technology ready” - however no specific details are provided as to how or where these provisions can be made.

This guide includes SDA design requirements for each dwelling, building fabric and system ‘element’. Where SDA design requirements are open to interpretation, specific suggested provisions are included, which support the intent of the design requirement.

## **Attracting empowered consumers in a competitive housing market**

The SDA Policy has created a user-driven market by providing people with disability their own funding for housing - empowering SDA participants to decide where and with whom they live. This is especially the case when SDA participants can use their SDA payment to bypass the SDA provider market altogether and enter home ownership themselves.

Participants will expect properties to be homelike and desirable, incorporating features that allow them to live with maximum independence and social connectivity. Participants will be making choices between different housing options and will be looking for high quality SDA dwellings.

As such, SDA minimum design requirements are a minimum design benchmark. Additional design provisions are suggested in this guide, to assist in the development of widely appealing and desirable accessible dwellings that will attract and secure people living with disability long term.

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<sup>1</sup> This information is current as at November 2017. Full details of the SDA Design Requirements can be found in the NDIS Price Guide: Specialist Disability Accommodation published by the NDIA.

## Universal design and capacity for cost-effective customisation

Under the SDA Policy a SDA provider will design and construct a 'compliant' SDA dwelling, with the responsibility and cost of any individual occupant modifications to be borne by the SDA provider.

Hence new accessible housing developed within the SDA context will not only need to deliver universally-designed housing suitable for a wide number of people, but also provide capacity for cost-effective customisations necessary for individual needs. A dwelling with this type of inbuilt flexibility will attract a wide range of consumers and minimise future anticipated costs associated with customisations.

## SDA Design Nuances

If 'SDA compliant' accessible housing is the aim - that is housing that is capable of being enrolled as SDA with the NDIA - then designers, developers and builders should be aware of the nuances of complying with the SDA rules and associated compliance framework.

Specialist advice should be sought from consultants who are familiar with the SDA framework, particularly to mitigate design risk that a completed dwelling may not be 'SDA compliant'.

Some of the SDA compliance nuances to mindful of include –

- different SDA design categories
- Livable Housing Australia (Specific Edition) design compliance
- subjective nature of SDA 'Plus' requirements
- BCA/NCC Building Specification in relation to SDA building types
- number of bedrooms and relevance of bedroom sizes
- definition of 'resident'
- SDA density restrictions
- provision of On-site Overnight Assistance (OOA)
- quality safeguard requirements

SDA requirements are not simple and SDA rules and/or compliance not immune to future change. It is strongly recommended to seek specialist advice from consultants familiar with the SDA Policy when looking to undertake development in this niche area of accessible housing.

# SDA Design Requirements

The four design categories for SDA housing are shown below. The provisions included within this guide include minimum requirements under the High Physical Support category. This category encapsulates the most stringent requirements related to access, including those included within the Fully Accessible design category.

## Improved Liveability

### 'Silver' LHA Design Level

... for people with sensory, intellectual or cognitive impairment

#### Additional requirements to LHA:

... should include one or more additional design features such as luminance contrasts, improved wayfinding and/or lines of sight depending on the needs of the participants.

## Robust

### 'Silver' LHA Design Level

... very resilient (housing), reducing the likelihood of reactive maintenance and reducing the risk to the participant and the community

#### Additional requirements to LHA:

- Resilient but inconspicuous materials that can withstand heavy use and minimise the risk of injury and neighbourhood disturbance
- Layout with areas of egress and retreat for staff and other residents to avoid harm if required
- Consideration must be given to providing adequate space and safeguards throughout the property to accommodate the needs of residents with complex behaviours

## Fully Accessible

### 'Platinum' LHA Design Level

... for people with significant physical impairment and requiring very high levels of support

#### Additional requirements to LHA:

1. External doors and external outdoor private areas to be accessible by wheelchair
2. Bathroom vanity/hand basin to be accessible in seated or standing position
3. Power supply to doors and windows (blinds), for retrofit of automation as necessary
4. Consideration must be given to whether it is appropriate for the kitchen sink, cooktop, meal preparation bench area and key appliances (dishwasher, oven, microwave oven, laundry appliances) to be accessible in seated or standing position

## High Physical Support

### 'Platinum' LHA Design Level

... for people with significant physical impairment and requiring very high levels of support

#### Additional requirements to LHA:

1. External doors and external outdoor private areas to be accessible by wheelchair
2. Bathroom vanity/hand basin to be accessible in seated or standing position
3. Power supply to doors and windows (blinds), for retrofit of automation as necessary
4. Consideration must be given to whether it is appropriate for the kitchen sink, cooktop, meal preparation bench area and key appliances (dishwasher, oven, microwave oven, laundry appliances) to be accessible in seated or standing position
5. Structural provision for ceiling hoists
6. Assistive technology ready
7. Heating/cooling and household communication technology (e.g. video or intercom systems) appropriate for the needs of residents
8. Emergency power solutions to cater for a minimum two- hour outage where the welfare of participants is at risk
9. 950mm minimum clear opening width doors to all habitable rooms

# SDA Minimum Design Summaries

The following tables outline minimum provisions, as per SDA High Physical Support Design Requirements and LHA Platinum Level Design Requirements. Where these requirements are not specific, provisions are suggested which support the intention of the design requirement.

**Note: These requirements are in addition to any requirements under the NCC.**

## Part A - Spatial Planning – Typology

Common Areas

## Part B - Spatial Planning – Accessible Dwelling Elements

Carparking and Transfer Area

Dwelling Access, Entry, Letterboxes and waste disposal

Doors and Internal Corridors

Accessible Bedroom

Accessible Bathroom

Living and Dining

Kitchen

Laundry

## Part C - Construction and Detailing – Building Fabric Elements

Walls

Ceilings

Ground and Floor Surfaces

Doors and Gates

Windows and Window Furnishings

Fixtures, Fittings and Equipment

## Part D – Construction and Detailing – System Elements

Secure Access (incl. intercom)

Mechanical

Electrical

Lighting

Hot Water

Fire Safety

Automation and Assistive Technology

# Part A – Spatial Planning – Typology

## Common Areas

### Livable Housing Australia Platinum Level

None

See Carparking and Transfer Area

### SDA High Physical Support Requirements

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> No provision Note: SDA Minimum Requirements do not specifically address common areas. The issues raised in some SDA requirements will be pertinent to common areas. These requirements are included below.	SDA High Support
<input type="checkbox"/> Emergency power solutions to cater for a minimum two-hour outage where the welfare of participants is at risk	Supports SDA
<input type="checkbox"/> Assistive technology ready	Supports SDA
<input type="checkbox"/> 950mm minimum clear opening width doors to all habitable rooms	Supports SDA

# Part B – Spatial Planning – Accessible Dwelling Elements

## Carparking and Transfer Area

### Livable Housing Australia Platinum Level

Dwelling Access	
<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> a. Provide a safe, continuous step-free pathway from the front boundary of the property to an entry door to the dwelling ... the path of travel referred to in (a) may be provided via an associated car parking space for the dwelling	LHA Platinum
<input type="checkbox"/> Where a car parking space is relied on as the safe and continuous pathway to the dwelling entrance, the space should incorporate:	LHA Platinum
<input type="checkbox"/> Minimum dimensions of at least 3800mm (W) x 6000mm (L)	
<input type="checkbox"/> An even, firm and slip-resistant surface	
<input type="checkbox"/> A level surface (1:40 max. gradient, 1:33 max gradient for bitumen)	

## SDA High Physical Support Requirements

None

# Dwelling Access and Dwelling Entry Doors

## Livable Housing Australia Platinum Level

<b>Dwelling Access</b>	
<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> a. Provide a safe, continuous step-free pathway from the front boundary of the property to an entry door to the dwelling. This provision does not apply where the average ground slope of the ground where the path would feature is steeper than 1:14	LHA Platinum
<input type="checkbox"/> The path of travel referred to in (a) should have a min. clear width of 1200mm and have:	LHA Platinum
<input type="checkbox"/> No steps	
<input type="checkbox"/> An even, firm, slip-resistant surface	
<input type="checkbox"/> Maximum crossfall of 1:40	
<input type="checkbox"/> Maximum pathway slope of 1:14	
<input type="checkbox"/> Where ramps are required they should have landings providing maximum of 9m (1:14 ramp) and maximum 15m (ramps steeper than 1:20). Landings should be maximum 1200mm (L)	
<input type="checkbox"/> A step ramp may be incorporated at an entrance doorway where there is a change in height of 190mm or less. The step ramp should provide:	LHA Platinum
<input type="checkbox"/> Maximum gradient of 1:10	
<input type="checkbox"/> Minimum clear width of 1200mm (width should reflect the pathway width)	
<input type="checkbox"/> Maximum length of 1900mm	
<input type="checkbox"/> Where a ramp is part of the pathway, level landings of minimum 1200mm (L), exclusive of the door/gate swing that opens on to them, must be provided at the head and foot of the ramp	LHA Platinum
<b>Dwelling Entrance</b>	
<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> The dwelling should provide an entrance door with:	LHA Platinum
<input type="checkbox"/> Minimum clear opening width of 900mm	
<input type="checkbox"/> Level (step-free) transition and threshold (maximum vertical tolerance of 5mm between abutting surfaces is allowable provided the lip is rounded or bevelled)	
<input type="checkbox"/> Reasonable shelter from the weather	
<input type="checkbox"/> A level landing area of at least 1500mm x 1500mm should be provided at the level (step-free) entrance door. A level landing area at the entrance door should provide on the arrival side (i.e. the external side of the door) to allow a person to safely stand then open a door	LHA Platinum
<input type="checkbox"/> Where the threshold at the entrance exceeds 5mm and is less than 56mm, a ramped threshold may be provided	LHA Platinum
<input type="checkbox"/> The level (step-free) entrance should be connected to the safe and continuous pathway	LHA Platinum

See door handle requirements

## SDA High Physical Support Requirements

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> External doors and outdoor private areas to be accessible by wheelchair Note: NDIS Minimum Requirements do not specifically define how to achieve this requirement. The suggestions below support the intent of this requirement and may be incorporated to achieve it.	SDA High Support
<input type="checkbox"/> Level (step-free) transition and threshold (maximum vertical tolerance of 5mm between abutting surfaces is allowable provided the lip is rounded or bevelled)	■ Supports SDA
<input type="checkbox"/> Latchside clearance as per AS1428.1 (2009), Figure 31 – to support control of manual door/gate hardware, if seated	■ Supports SDA
<input type="checkbox"/> 950mm minimum clear opening width doors to all habitable rooms	SDA High Support

See also Internal Doors and Corridors and All doors and gates – assistive technology

## Doors and Internal Corridors

### Livable Housing Australia Platinum Level

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Doorways to rooms on the entry level used for living, dining, bedroom, bathroom, kitchen, laundry and sanitary compartment – min. clear opening width of 900mm Note: This requirement does not allow for rooms on levels other than the entry level, which may still be accessible i.e. via a residential lift or stairlift. To allow for these instances and to support the intent of this requirement, the below is offered as an additional requirement. ‘Sanitary compartment’ can generally be understood as referring to a powder room (stand-alone toilet)	LHA Platinum
<input type="checkbox"/> Rooms used for living, dining, bedroom, bathroom, kitchen, laundry and sanitary compartment – on levels other than the entry level, but which have capacity for access via a lift or stairlift – should also have a min. clear opening width of 900mm	■ Supports LHA
<input type="checkbox"/> Step-free transition with max. vertical tolerance of 5mm between surfaces, providing the lip is rounded or bevelled (to doors noted in previous requirement)	LHA Platinum
<input type="checkbox"/> Minimum clear internal width of 1.2m, measured between skirtings (to doors noted in previous requirement)	LHA Platinum

See also Fixtures, Fittings and Equipment and Door Hardware

## SDA High Physical Support Requirements

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Power supply to doors and windows (blinds), for retrofit of automation as necessary. See “Assistive technology ready”	SDA High Support
<input type="checkbox"/> Assistive technology ready Note: NDIS Minimum Requirements do not specify how to achieve this requirement. Suggested provisions below support the intent of this requirement and may be incorporated to achieve it.	SDA High Support

<input type="checkbox"/>	Provide electric strike to doors where these cannot be retrofitted (i.e. concrete construction), to enable door automation and integration into assistive technology system. Provide pre-wiring at the latch	■ Supports SDA
<input type="checkbox"/>	Provision of power and data, to enable addition of door automation hardware	■ Supports SDA
<input type="checkbox"/>	Allow sufficient space and structural support to door heads to allow for the addition of automation hardware in future	■ Supports SDA
<input type="checkbox"/>	Emergency power solutions to cater for a minimum two-hour outage where the welfare of participants is at risk  Note: NDIS Minimum Requirements do not specify which building features require emergency power solutions. The welfare of participants requires backup of automated secure-access doors (whether Wi-Fi or wired interfaces)	SDA High Support
<input type="checkbox"/>	950mm minimum clear opening width doors to all habitable rooms	SDA High Support

## Accessible Bedroom

### Livable Housing Australia Platinum Level

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Space (or room) located on the ground (or entry) level	LHA Platinum
<input type="checkbox"/> Min. 10m <sup>2</sup> clear area exclusive of wardrobes, skirtings and wall lining	LHA Platinum
<input type="checkbox"/> Provide for a min. path of travel of at least 1000mm on at least one side of the bed	LHA Platinum
<input type="checkbox"/> Provide a space of at least 1540mm (W) x 2070mm (in the direction of travel) on the side of the bed that is closest to the door approach	LHA Platinum
<input type="checkbox"/> Provide for a min. path of travel of 1000mm on the remaining side of the bed	LHA Platinum
<input type="checkbox"/> Where no bed the design should assume a queen size Note: This requirement applies to as-built inspections, where no bed has been provided. Desktop assessments, however, should allow for a queen-size bed. The below is suggested to meet the intent of this requirement.	LHA Platinum
<input type="checkbox"/> Allows for a queen-size bed, with dimensions of 1520mm (W) x 2030mm (L)	■ Supports LHA

### SDA High Physical Support Requirements

None

# Accessible Bathroom/Ensuite

## Livable Housing Australia Platinum Level

Toilet	
<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Min. one toilet on the entry floor level Note: This requirement does not specifically allow for a situation where residential lifts are provided, that would allow for wheelchair access between floor levels. However providing a toilet on the same floor level as key habitable spaces will allow maximum ease access/speed to the toilet (without navigating a lift). The below provision is suggested to allow for this possible situation. The requirement does not specify the accessible toilet be located within the accessible bathroom. To allow space for a support person to assist with toileting, for use of a variety of larger mobility aids and easy transfer to the accessible shower, the second provision is suggested.	LHA Platinum
<input type="checkbox"/> Min. one toilet on the same floor level as key accessible habitable spaces (accessible kitchen, living, bedroom).	■ Supports LHA
<input type="checkbox"/> The toilet is located within the accessible bathroom	■ Supports LHA
<input type="checkbox"/> Min. 1.2m between walls or other fixed amenities	LHA Platinum
<input type="checkbox"/> Min. 1.2m clear space in front of the toilet pan, exclusive of the door swing	LHA Platinum
<input type="checkbox"/> Pan positioned 450-460mm from the nearest wall, measured from the centreline of the toilet to the finished wall surface Note: Installing the pan in a corner allows capacity to install a side grabrail with vertical support (on at least one side) if needed. Locating a toilet in a corner however, will stop some people being able to side-transfer independently, if the transfer direction available does not match their preferred (stronger) side. Where an occupant's needs are not known, or may change over time, ideally, the installation will allow for relocation of the pan, to facilitate either a corner, or central position, within a 1.5m wide flexible space. The below suggestion is provided to allow for contexts where such an installation is provided. The second provision is suggested, to ensure sufficient wall space is available, should a wall-mounted grabrail be essential.	LHA Platinum
<input type="checkbox"/> Capacity for the pan to be positioned 450-460mm from the nearest wall, as measured from the centreline of the toilet.	■ Supports LHA
<input type="checkbox"/> Any door adjacent to the corner pan position sufficiently offset, to allow space for installation of a side grabrail if required	■ Supports LHA
<input type="checkbox"/> 600mm clearance in front of the cistern to the front of the toilet pan (800mm (+/-10mm) if cistern is recessed) Note: This requirement allows for a commode to be rolled over the top of a pan. Some people's physical impairments will not require a commode or may mean that they do not use the toilet at all. In these instances, the cost of installing the more cost-prohibitive DDA-compliant toilet pan can be saved. Where an occupant's needs are not known, or may change over time, ideally, the installation will allow for replacement of the pan type (i.e. from non-compliant pan to compliant pan) to achieve additional dimensions only if needed by the occupant. To allow for contexts where this flexibility is inbuilt, the below suggestion is provided.	LHA Platinum
<input type="checkbox"/> Capacity for 600mm clearance in front of the cistern to the front of the toilet pan (800mm (+/-10mm) if cistern is recessed)	■ Supports LHA
<input type="checkbox"/> Pan height between 460-480mm AFFL Note: This pan height may not suit all people with a range of various physical impairments, postures, statures, and using a variety of mobility aids. Where an occupant's needs are not known, or may change over time, ideally, the installation will allow for replacement of the pan type – to achieve dimensions that suit an individual. To allow for contexts where this flexibility is inbuilt, the below suggestion is provided.	LHA Platinum
<input type="checkbox"/> Capacity for pan height between 460-480mm AFFL	■ Supports LHA

## Shower

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> One bathroom should feature a hobless shower recess (any shower screens must be easily removable in future)	LHA Platinum
<input type="checkbox"/> A level transition and threshold (maximum vertical tolerance of 5mm between abutting surfaces is allowable provided the lip is rounded or bevelled)	LHA Platinum
<input type="checkbox"/> Shower recess located in a corner to enable installation of grabrails at a future date	LHA Platinum
<input type="checkbox"/> Located on the entry floor level	LHA Platinum
<input type="checkbox"/> Min. dimensions 1160mm x 1100mm	LHA Platinum
<input type="checkbox"/> Min. clear space 1.6mx 1.4m in front of the shower entry	LHA Platinum

See Part C: Construction and Detailing, Walls

See Fixtures, Fittings and Equipment and Accessible Bathroom

## SDA High Physical Support Requirements

### Basin/Vanity

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Bathroom vanity/basin to be accessible in seated or standing position  Note: NDIS Minimum Requirements do not specifically define how to achieve this requirement. The first suggestion below will support access to a range of people; seated or standing, using a range of mobility devices, of smaller or larger stature, and may be incorporated to meet this requirement.  Some people may need to adjust between using the basin in a seated or standing position on a daily or infrequent basis. [Physical experience] Hence to support the intent of the requirement, the second suggestion is provided.	SDA High Support
<input type="checkbox"/> Capacity for knee/foot clearance below basin and vanity, to AS 1428.1 (2009)	■ Supports SDA
<input type="checkbox"/> Capacity for frequent or infrequent height adjustments, between 700mm and 1000mm AFFL	■ Supports SDA
<input type="checkbox"/> Assistive technology ready  Note: NDIS Minimum Requirements do not specifically define how to meet this requirement. To support the addition of assistive technology to the basin, the below suggestions are provided.	SDA High Support
<input type="checkbox"/> Power to vanity/basin to allow for electronic height adjustments	■ Supports SDA
<input type="checkbox"/> Power to vanity/basin to allow for addition of sensor tapware	■ Supports SDA

# Living and Dining Area

## Livable Housing Australia Platinum Level

### Family/Living Room Space

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> The family/living room should accommodate a free space, minimum 2250mm in diameter, to enable ease of movement clear of furniture.	LHA Platinum

## SDA High Physical Support Requirements

None

# Kitchen

## Livable Housing Australia Platinum Level

### Kitchen

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> The kitchen space should be designed to support ease of movement and adaptation with at least 1550mm clearance in front of fixed benches and appliances (excluding handles)	LHA Platinum
<input type="checkbox"/> Slip resistant flooring	LHA Platinum
<input type="checkbox"/> Task lighting installed above workspaces	LHA Platinum
<input type="checkbox"/> Floor finishes should extend under kitchen cabinetry to enable cupboards to be removed without affecting flooring. Where fixtures cannot be easily removed (e.g. ovens which are built in) the floor finishes should not be continued	LHA Platinum

## SDA High Physical Support Requirements

### Kitchen appliances and workspaces

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Consideration must be given to whether it is appropriate for the kitchen sink, cooktop, meal preparation bench area and key appliances (dishwasher, oven, microwave oven, appliances) to be accessible in seated or standing position Note: This requirement does not specifically define when seated or standing access would be appropriate. Three provisions below suggest when seated and/or standing use is likely to be appropriate. The last suggestion is provided as a means to provide access in a seated or standing position, for people using a range of wheeled mobility devices, of varying posture and stature. <b>[Assistive products]</b>	SDA High Support
<input type="checkbox"/> An occupant at times or permanently uses a wheeled mobility device and desires to prepare meals independently – Seated access to kitchen appliances is appropriate	■ Supports SDA
<input type="checkbox"/> An occupant at times or permanently uses a wheeled mobility device and desires to clean and maintain their home independently – Seated access to kitchen cleaning appliances is appropriate	■ Supports SDA
<input type="checkbox"/> An occupant at times may require support by an able-bodied support person, friend or family member to carry out a task, or may live with an able-bodied family member or friend – Standing access to relevant home features is appropriate	■ Supports SDA

<input type="checkbox"/>	Capacity for knee/foot clearance below kitchen appliances (sink and cooktop), to AS 1428.1 (2009) free of any waste pipes	■ Supports SDA
<input type="checkbox"/>	Capacity for frequent or infrequent height adjustments for a benchtop between 700-1000mm AFFL	■ Supports SDA
<input type="checkbox"/>	Appliance controls located between 700-1200mm AFFL, to support use by a person in a seated position	■ Supports SDA

## Laundry

### Livable Housing Australia Platinum Level

#### Laundry space

<input checked="" type="checkbox"/>	Provision	Value
<input type="checkbox"/>	The laundry space should be designed to support ease of movement and adaptation with at least 1550mm clearance in front of fixed benches and appliances (excluding handles)	LHA Platinum
<input type="checkbox"/>	Where the appliances are not installed then the recessed area provision for an appliance shall be a minimum of 600mm in depth	LHA Platinum
<input type="checkbox"/>	Slip resistant flooring	LHA Platinum
<input type="checkbox"/>	Floor finishes should extend under laundry cabinetry to enable cupboards to be removed without affecting flooring. Where fixtures cannot be easily removed the floor finishes should not be continued	LHA Platinum

### SDA High Physical Support Requirements

#### Laundry appliances and workspaces

<input checked="" type="checkbox"/>	Provision	Value
<input type="checkbox"/>	<p>Consideration must be given to whether it is appropriate for the laundry appliances (washing machine and dryer) to be accessible in seated or standing position</p> <p>Note: This requirement does not specifically define when seated or standing access would be appropriate. Provisions below suggest when access from a seated and/or standing position is likely to be appropriate.</p> <p>Suggestions are also provided on how to achieve access from a seated or standing position, for people using a range of wheeled mobility devices, of varying posture and stature. <b>[Assistive products]</b></p>	SDA High Support
<input type="checkbox"/>	An occupant desires to launder their own clothing independently independently - seated access.	■ Supports SDA
<input type="checkbox"/>	An occupant at times may require support by an able-bodied support person, friend or family member to carry out a task, or may live with an able-bodied family member or friend independently - seated access.	■ Supports SDA
<input type="checkbox"/>	Appliances offset min. 600mm from internal corners, to allow a person using a wheelchair to approach each appliance from either side <b>[Multi-sided approach]</b>	■ Supports SDA
<input type="checkbox"/>	Capacity to adjust the height of appliances from floor height to 450mm AFFL, to suit a standing user or seated user, with reduced upper body mobility <b>[Reach]</b>	■ Supports SDA
<input type="checkbox"/>	Allow for front-loading machine, to suit a seated person	■ Supports SDA
<input type="checkbox"/>	Side-mount taps at 1050mm AFFL, within 300mm of washing machine front, to improve control for a seated person <b>[Reach]</b>	■ Supports SDA

# Part C – Construction and Detailing – Building Fabric Elements

## Walls

### Livable Housing Australia Platinum Level Requirements

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Unless solid masonry or concrete, reinforce walls around shower, toilet and any bath, to provide a fixing surface for safe installation of grabrails. See LHA Guidelines for installation details	LHA Platinum
<input type="checkbox"/> The walls around the hobless shower recess are to be reinforced by installing min. 25mm noggings or min. 12mm sheeting.	LHA Platinum

### SDA High Physical Support Requirements

None

## Ceilings

### Livable Housing Australia Platinum Level

None

### SDA High Physical Support Requirements

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Structural provision for ceiling hoists  Note: This requirement does not specify spaces where ceiling hoist structural provision may be needed. The suggestions below provide some guidance around where ceiling hoist transfer is most likely to be needed, along with structural loading and the hoisting zone, which will cover a broad number of individual needs.	SDA High Support
<input type="checkbox"/> "Structural provision for installation of a ceiling hoist" (See below) to the accessible bedroom and accessible bathroom/ensuite to enable transfer in and out of bed, and the option for hoist transfer into the bathroom.  Note: This assumes the accessible bathroom/ensuite is directly linked to the accessible bedroom.	■ Supports SDA
<input type="checkbox"/> Structural provision for ceiling hoist of max. 140kg loading, to cater for a wide variety of occupants	■ Supports SDA
<input type="checkbox"/> Structural provision to allow for full X-Y coverage in accessible bedroom	■ Supports SDA

# Ground and Floor Surfaces

## Livable Housing Australia Platinum Level

Floor Coverings	
Provision	Value
<input type="checkbox"/> All floor coverings should be firm and even	LHA Platinum
<input type="checkbox"/> All floor coverings should feature a level transition between abutting surfaces (a maximum vertical tolerance of 5mm between abutting surfaces is allowance provided the lip is rounded or bevelled)	LHA Platinum
<input type="checkbox"/> Note: LHA Design Requirements do not address common areas. The provisions below are suggested, to support the intent of LHA requirements within common areas also. Firm flooring lowers resistance for manual wheelchair users and minimises wear and tear/indentation, enhancing the longevity and visual appeal of flooring	
<input type="checkbox"/> Common areas: All floor coverings should be firm and even	■ Supports LHA
<input type="checkbox"/> All floor coverings should feature a level transition between abutting surfaces (a maximum vertical tolerance of 5mm between abutting surfaces is allowance provided the lip is rounded or bevelled)	■ Supports LHA
<input type="checkbox"/> Firm, slip resistant surface to any external CAPT	■ Supports LHA

Flooring- Internal Wet Areas	
Provision	Value
<input type="checkbox"/> Slip resistant flooring to laundry	LHA Platinum
<input type="checkbox"/> Slip resistant flooring to kitchen	LHA Platinum
<input type="checkbox"/> Slip resistant flooring to shower recess	LHA Platinum
<input type="checkbox"/> Slip resistant flooring to all bathrooms	■ Supports LHA

## SDA High Physical Support Requirements

None

# Doors and Gates

## Livable Housing Australia Platinum Level

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Doorways should feature door hardware installed at between 900mm and 1100mm above the finished floor	LHA Platinum
<input type="checkbox"/> For Gold and Platinum level, the handle clearances for D-pull style door hardware should be the same as AS 1428.1 2009. AS 1428.1 2009 is the most relevant set of specifications aimed at providing the greatest access to the greatest number of people and as such is an appropriate standard to reference for this Element	LHA Platinum

See Fixtures, Fittings and Equipment and Door Hardware

See Automation and Assistive Technology

## SDA High Physical Support Requirements

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Assistive technology ready  Note: NDIS Minimum Requirements do not specifically define how to achieve this requirement. The suggestions below support the intent of this requirement and may be incorporated to achieve it.	SDA High Support
<input type="checkbox"/> Provide electric strikes to secure-entry doors where these could not be retrofitted (e.g. concrete construction) to enable future door automation and integration with assistive technology if needed	■ Supports SDA
<input type="checkbox"/> Structural support to door heads, and openings offset from internal corners, to provide wall space and strength for addition of automation hardware in future	■ Supports SDA

See also Emergency Power backup and Assistive Technology for door requirements.

# Windows and Window Furnishings

## Livable Housing Australia Platinum Level

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Window sills on the ground (or entry) level in living areas and bedroom spaces should be positioned no higher than 1000mm above the finished floor level to enable enjoyment of the outlook. Note: A concession from this requirement is reasonable in kitchen, bathroom and utility spaces	LHA Platinum
<input type="checkbox"/> Window controls should be easy to operate with one hand and located within easy reach from either a seated or standing position	LHA Platinum

## SDA High Physical Support Requirements

See Automation and Assistive Technology for blind prewiring provisions.

# Fixtures, Fittings and Equipment

See Lighting or Electrical for switchplates.

## Livable housing Australia Design Guidelines

Door and Tap Hardware		Value
<input checked="" type="checkbox"/> Provision		
<input type="checkbox"/>	Doorways should feature lever or D-pull style door hardware	LHA Platinum
<input type="checkbox"/>	Basins, sinks and tubs should feature lever or capstan style tap hardware with a central spout. Note: this requirement does not extend to washing machine tapsets. To support a person in independently controlling their home, the provision is suggested below.	LHA Platinum
<input type="checkbox"/>	Lever-style or capstan handles to washing machine tapset	■ Supports LHA

# Part D – Construction and Detailing – System Elements

## Secure Access

### Livable Housing Australia Platinum Level

None

### SDA High Physical Support Requirements

Video or Intercom Systems		Value
<input checked="" type="checkbox"/> Provision		
<input type="checkbox"/>	... Household communication technology (e.g. video or intercom systems) appropriate for the needs of residents Note: This requirement does not specifically detail possible needs of residents or what video/intercom systems may be appropriate in response. Provisions are suggested below to provide guidance in meeting this requirement.	SDA High Support
<input type="checkbox"/>	Intercom (two-way voice communication) and secure access control in one integrated unit (internally and externally) – streamlines quantity of fixtures and reduces effort (supports residents with cognitive or memory impairment, or reduced mobility)	■ Supports SDA
<input type="checkbox"/>	IP-type – able to be integrated into assistive technology – allows use by person who cannot access or use standard controls (such as a wall-mounted fixture, or push buttons)	■ Supports SDA
<input type="checkbox"/>	Visual display – aids identification of visitors for a person with hearing impairment and who cannot rely fully on voice communication	■ Supports SDA
<input type="checkbox"/>	Handsfree audio and access control (push-button to speak) – eliminates the need to lift a handset, which better enables use by a person with reduced strength or dexterity	■ Supports SDA
<input type="checkbox"/>	Minimal number of steps to operate intercom required – supports use by a person with cognitive or memory impairment	■ Supports SDA
<input type="checkbox"/>	Wall-mount at 1250mm AFFL and offset 600mm from any internal corner – allows ease of access for either a person who is seated (approaching from either side) or is standing	■ Supports SDA
<input type="checkbox"/>	Provide level landing of 1.5m x 1.5m to the external unit – supports ease of access for a seated user using a range of mobility aids	■ Supports SDA

# Mechanical

## Livable Housing Australia Platinum Level

None

### SDA High Physical Support Requirements

Heating and Cooling		
<input checked="" type="checkbox"/> Provision		Value
<input type="checkbox"/> Heating/cooling ... appropriate for the needs of residents.		SDA High Support
Note: This requirement does not detail possible needs of residents or what heating/cooling may be appropriate to provide in response. Provisions are suggested below to provide guidance in meeting this requirement.		
<input type="checkbox"/> Heating/cooling system that ensures quick response and accurate temperature control e.g. refrigerated reverse cycle heating and cooling system (split system, single or multi-zoned) – needed by occupants with reduced capacity to naturally regulate their internal body temperature		■ Supports SDA
<input type="checkbox"/> In two-plus bedroom dwellings allow for separate temperature control in the accessible bedroom – to allow occupants to share with others. Where multi-zoning through one heating system is not possible – provide capacity in the accessible bedroom for a separate additional heating/cooling source, with quick and accurate temperature control		■ Supports SDA
<input type="checkbox"/> Acoustic separation between rooms in two-plus bedroom dwellings – to support occupants with increased sensitivity to noise, and to provide acoustic privacy during personal routines <b>[Physical experience]</b>		■ Supports SDA
<input type="checkbox"/> Locate or detail heating units to allow for faults or leakage, without causing harm to occupants who may be in bed (e.g. wall-units ideally not directly above a bedhead for this reason)		■ Supports SDA
<input type="checkbox"/> System that requires user control (rather than auto-controlled) to control heating/cooling, to support independence (through autonomous control over the internal environment)		■ Supports SDA
<input type="checkbox"/> Simple and intuitive standard method of control e.g. wall panel or remote – to support use by a person with cognitive or memory impairment		■ Supports SDA
<input type="checkbox"/> Capacity to link in with assistive technology – needed by occupants who cannot use standard manual control buttons		■ Supports SDA
<input type="checkbox"/> Mount any wall control panel 900– 100mm AFFL and offset min. 600mm from an internal corner – to allow use by an occupant who must side approach from either the left or right-hand side <b>[Multi-sided approach]</b>		■ Supports SDA

# Electrical

## Livable Housing Australia Platinum Level

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Switches and Power Points	
Provision	Value
<input type="checkbox"/> Light and power points switches should be rocker action, toggle or push pad in design with a recommended width of 35mm	LHA Platinum

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## SDA High Physical Support Requirements

None.

# Lighting

## Livable Housing Australia Platinum Level

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Kitchens	
Provision	Value
<input type="checkbox"/> Task lighting installed above workspaces	LHA Platinum

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Switches and Power Points	
Provision	Value
<input type="checkbox"/> Light switches should be positioned in a consistent location: between 900-1100mm above the finished floor level	LHA Platinum
<input type="checkbox"/> Light switches should be positioned in a consistent location: horizontally aligned with the door handle at the entrance to a room	LHA Platinum
<input type="checkbox"/> Light and powerpoints switches should be rocker action, toggle or push pad in design with a recommended width of 35mm.	LHA Platinum

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## SDA High Physical Support Requirements

See Automation and Assistive Technology

## Hot Water

### Livable Housing Australia Platinum Level

None

### SDA High Physical Support Requirements

None

## Fire Safety

### Livable Housing Australia Platinum Level

None

### SDA High Physical Support Requirements

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<b>Emergency Power Back-up</b>	
<input checked="" type="checkbox"/> <b>Provision</b>	<b>Value</b>
<input type="checkbox"/> Emergency power solutions to cater for a minimum two-hour outage where the welfare of participants is at risk  Note: NDIS Minimum Requirements do not specifically identify areas where the welfare of occupants may be at risk. Fire Safety Systems impact the welfare of occupants. Suggested provisions to support safety are provided below to support the intent of this requirement.	SDA High Support
<input type="checkbox"/> Power back-up of detectors by central fire system (i.e. rather than batteries, which an occupant may be required to physically access and replace periodically themselves)	■ Supports SDA
<input type="checkbox"/> Continuous power back-up (no warm-up or lag-time) - ensures there are no times where essential services are unavailable	■ Supports SDA

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## Automation and Assistive Technology

### Livable Housing Australia Platinum Level

None

## SDA High Physical Support Requirements

### Power pre-wiring for automation of key dwelling features

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Power supply to doors and windows (blinds), for retrofit of automation as necessary  Note: NDIS Minimum Requirements do not specifically define "automation" – or how this might differ from "assistive technology". Within this document, "automation" refers to automated or motorised control of a key dwelling feature, which may be standalone or integrated into a dwelling's "smart hub".	SDA High Support
<input type="checkbox"/> Power pre-wiring to the future motor location, latch location and future wall switch location.	■ Supports SDA

### Data pre-wiring for assistive technology

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Assistive technology ready  Note: NDIS Minimum Requirements do not specifically define "assistive technology ready", or outline which dwelling features might require this provision. Within this document, "assistive technology" refers to an automated or motorised control, which is integrated into a dwelling's smart hub. Through integration into a smart hub, such a feature may in addition be operated via a Wi-Fi device (such as tablet or smartphone). This will have capacity to be an essential service and have emergency power back-up.	SDA High Support
<input type="checkbox"/> Power & data pre-wiring to all key home features	■ Supports SDA

### Emergency Power Back-up

<input checked="" type="checkbox"/> Provision	Value
<input type="checkbox"/> Emergency power solutions to cater for a minimum two-hour outage where the welfare of participants is at risk  Note: NDIS Minimum Requirements do not specifically identify areas where the welfare of occupants may be at risk. Key services that are likely to highly impact the welfare of occupants are suggested below.	SDA High Support
<input type="checkbox"/> Emergency communication system – ensures communication is available in the event of an emergency	■ Supports SDA
<input type="checkbox"/> Safety sensoring - ensures unsafe conditions for a particular individual are identified	■ Supports SDA
<input type="checkbox"/> Fire safety systems - ensure fire hazards are identified	■ Supports SDA
<input type="checkbox"/> Unlocking and opening of automated doors/gates (both Wi-Fi and wired controls) - ensures egress is available at all times, including for the person who relies on Wi-Fi or wired interfaces to control doors	■ Supports SDA
<input type="checkbox"/> Continuous power back-up (no warm-up or lag-time) - ensures there are no times where essential services are unavailable	■ Supports SDA

