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Summary Bulletin
Legalities of the Australian Standards and alternative access solutions to ramping

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Background

In the absence of design guidelines for modifying private housing for individuals, therapists and builders have come to rely on the dimensions and design requirements of the Australian Standards (AS), which are not mandatory for domestic housing. In fact, NSW Home Modification and Maintenance services (HMM) abide by AS to ensure they are legally covered should anyone be injured by structural building work, at times leaving little room for individual design/requirements. Some major modifications such as provision of ramps or home extensions are likely to require council approval. Structural recommendations, however, that deviate from the AS scope are often declined by council due to the unforeseeable implications that a modification may have upon the user, their visitors or carers, and the progressive nature of the user's condition. If recommendations are declined because there is some deviation from AS, developing an alternative solution may be the best way forward.

This bulletin was developed to address some contentious issues with regards to the legal requirements of the AS for home modifications. It discusses alternative solutions to ramping as examples of legal compliance whilst meeting individual needs.

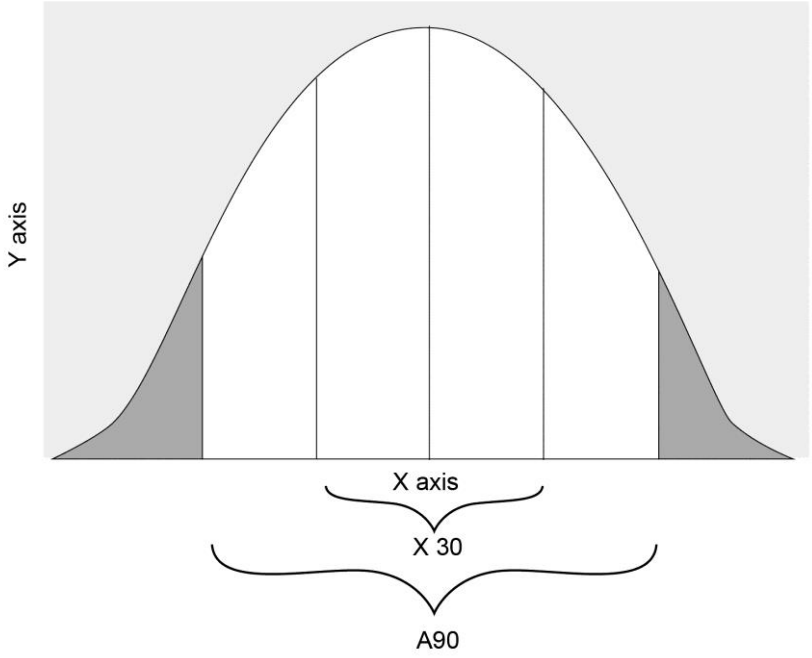

Figure 1. Scope of AS 1428 parts 1 and 2

It is wise to refer to the AS for minimum design guides, for example, while recent research indicates that the risks associated with the use of ramps is low, adhering to the minimum AS requirements for ramps should make ramps easier and safer for a wider range of persons - the basic recommendations given in AS cover the maximum safe gradient; handrail provisions; suitable slip resistant surfaces; landing widths; edge protection and signage. Yet, rather than rigidly using the AS design requirements for the private home of an individual, therapists, architects and builders/tradespeople

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should have an understanding of the research behind the AS and why certain dimensions are recommended. The commentaries on the AS may assist in this understanding, for example AS 1428.1 Supplement 1 – 1993 (Standards Australia, 1993), while unfortunately currently out of print, does make clear that the functional performance objective for grasping a handrail is for the fingers to "wrap around the rail and provide a better grip." Therefore, if a 'good grip' is one that enables the fingers to wrap around the rail, then users with no fingers, and users with smaller than or larger than average hands, may need a dimension different to the 30 mm handrail diameter AS recommends.

Nevertheless, AS structural design requirements, such as those for ramp slope, should not be readily negated within private dwellings, as AS field-testing has shown that people with disabilities tire easily when ascending or descending an inclined surface. Recommending a steeper ramp than the 1:14 gradient recommended within the AS will likely impact negatively upon the steering and control of powered wheelchairs, and the endurance of manual wheelchair users and ambulant people (Standards Australia, 1993). Hence it is more practicable and generally safer for all to abide by AS requirements especially when more people than the person whom the structure is being recommended for may be impacted. However, where the ramp is not part of the primary entrance and or where alternative or multiple accessible entrances are present, a steeper ramp may be feasible. Feasibility in this case should rest on independent testing which needs to confirm that the primary users can manage the proposed ramp gradient safely under all likely conditions (i.e. carrying loads, in bad weather, with ageing etc.). Whatever the outcome, where a ramp solution that does not comply with AS is recommended it is a good idea to sign the appropriate entry for visitors and carers as this relates to the home owners public liability.

The Building Code of Australia (BCA) does not contain any requirements for access for people with disabilities to private domestic dwellings, (class 1 and 2) but appropriate modifications to homes can suit individual requirements of the resident with a disability (CSIRO Division of Building Construction and Engineering, 1992; Rudnicka, 1993). Where there are common areas in medium – high density buildings, often planning directives are that AS requirements are maintained in those common areas. Therefore, any requirements of either the BCA or AS should be used as a guide only and are not enforceable for home modifications.

Implications for clients

Even though the AS are applicable to public buildings only and not class 1 and 2 domestic dwellings, generally local government authorities require any home modification and/or building and construction work to abide by the AS to ensure they are covered legally. Abiding by the AS for external modification work will ensure that the home is safe enough for most people visiting the property following, including the future residents of the property. For example, a ramp gradient built to AS requirements will ensure a safe slope for most users including the person with a disability. However,

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sometimes in making the home safe for others via sticking too rigidly to AS approved modifications, the individual needs of a person with a disability may not be fully met. This is especially so when needs exceed those recommended in the standards. It is always good to be aware that dimensions and criteria within the AS suite of standards are only minimum requirements.

Sometimes situations occur where a person with a disability may have a stable condition and use a mobility aid such as a powered wheelchair or scooter that could cope with a 1:10 ramp (i.e. considerably steeper than recommended within AS). A therapist may then apply for an exemption from the AS, but the concern here is that the future function of the person with a disability isn't fully predictable, and many visitors, carers or even future owners of the property may not be able to manage the steeper ramp. This is within a context where existing research indicates that some 25% of people can't manage a ramp with a of 1:12 gradient (Sanford, Story, & Jones, 1997). This same study found that issues with managing steeper gradients may be due to: interaction between ramp slope and manual wheelchair particularly in ascentand also suggested that people who use wheelchairs fear tipping over backwards. Women over the age of 65 find steep ramps particularly difficult and there are also those who struggle because of limited ankle movements or because their dynamic standing balance has decreased with age.

Structural change to a property can pose a safety risk for visitors or carers, but individual design for minor modifications, such as a lower toilet grabrail than AS recommends, suiting a relatively short stature client is unlikely to harm anyone. In this case, it is appropriate to recommend non AS approved modifications to suit the client's individual needs and ensure duty of care. When designing for individuals consider the individual's anthropometrics, current and future functional ability and the space within and surrounding the home.

Legal Implications

When recommending external home modifications there is a duty of care to all possible users of the structure, hence the importance of gaining approval from local council. A development or a building application needs to be signed off by council before any modifications commence. A development may be declined because it doesn't appear in keeping with the streetscape, for example, a modern carport in the front yard of a federation style street. It may also be declined if the development is classed as structurally unsound, for example, a request for a steeper gradient than AS approved. If a modification goes ahead without local council approval or private certification, the onus is on the property owner. The owner could be fined, asked to pull the structure down or restricted from using the structure. If a visitor was injured by the unapproved structure, the owner, therapist or builder could be legally liable.

If an essential recommendation is required such as a 1:10 ramp because the user mobilises in a powered wheelchair and the property itself doesn't allow the space for an

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AS recommended 1:14 ramp, the owner should take out public liability insurance because the ramp could potentially be unsafe for people other than the residents.

The therapist recommending the modifications must consider all possible users of the structure, including third parties such as carers who still require duty of care. For a professional to be held negligent, the case must meet the following criteria (Wright, 1985):

1. a duty of care or contract evident

2. breach of duty of care or contract

3. injury (financial loss, physical harm)

4. causation (it should have been foreseeable)

Responsibility of Home Modification Services & Therapists

Where a deviation from the AS is required by a therapist, approval from local council or an independent certifier must be gained to ensure the service providing the external/structural modification work is covered legally. When recommending any modification work, the process should be as follows:

1. Document all decision making and outline clinical reasoning.
2. Recommend modifications that are safe for all possible user groups.
3. If an essential recommendation is required for a client but may be potentially unsafe for others, ensure the property owner takes out public liability insurance. Provide an alternative such as a second entry with signage for a potentially unsafe structure.
4. Ensure external/structural recommendations that are not AS compliant are sent to council or an independent certifier for approval.
5. If access recommendations are declined by council or an independent certifier, consider alternative access solutions.

The obligations of any organisation, small or large, should be defined to ensure that the organisation is complying with the relevant laws. A compliance program may help to ensure that an organisation is meeting its obligations. Australian Standard 3806 – 2006: Compliance Programs describes the outcome of a compliance program: “an effective organisation-wide compliance program will result in an organisation being able to demonstrate its commitment to compliance with relevant laws, including legislative requirements, industry codes, organisational standards as well as standards of good corporate governance, ethics and community expectations” (Standards Australia, 2006). This AS (3806) also sets out the principles for designing, developing, implementing and maintaining an effective compliance program.

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Alternative Access solutions to Ramps

Where exemption from the AS isn't possible or local council/ independent certifier decline access recommendations, alternative access solutions may be an option whilst still adhering to the AS. Alternative solutions should follow a site visit. These alternatives are not common practice and are often more costly initially, but can be a better long term, legal solution.

To overcome steps at entrances (figure 2), alternative methods other than ramping can be undertaken to achieve accessibility, as ramps may not suit a client or property size. Ramping may be an unsafe solution for a client or might only be a short-term answer for someone who has a progressive condition. However, the property itself may lack the space that is required for a ramp with a safe gradient. Aesthetics and resale may be further factors because entrance ramps are very noticeable and often label a home as one for a resident with a disability, as they must have handrails (Standards Australia, 2001) and due to gradient requirements can often be many metres in length.

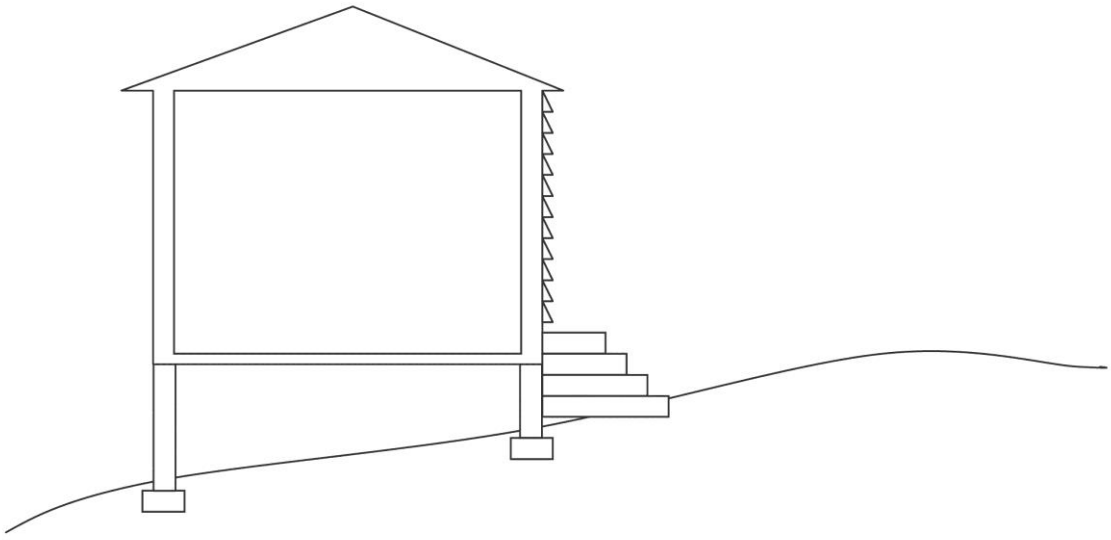

Figure 2. Adapted from the Accessible Housing Design File (Barrier Free Environments Inc., 1991)

Landfill and Landscape

When ramping is unsuitable, one alternative is filling or cutting the land to place the house entrance at ground level (figure 3). As filling or cutting eliminates the need for above ground structures and handrails, the external aesthetics are likely to be unaffected. Precautions for moisture must be taken when bringing landfill to house level, but wood and crawl spaces can be kept dry if impervious walls, waterproofing, exterior drains, and proper ventilation are provided (Barrier Free Environments Inc., 1991).

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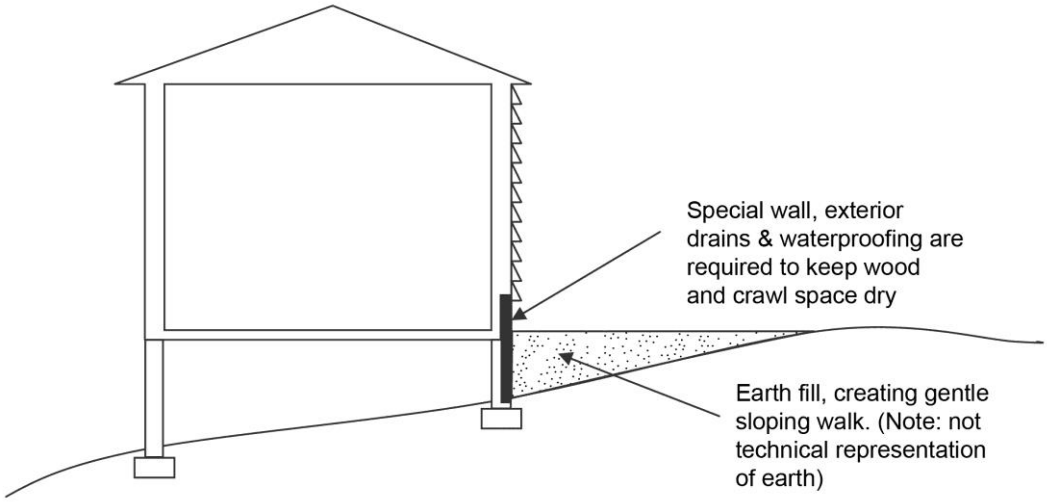

Figure 3. Adapted from the Accessible Housing Design File (Barrier Free Environments Inc., 1991)

Bridging

Bridging an entrance (figure 4) eliminates the need for specific drainage requirements, waterproofing and ventilation. Since the bridge is level, with a gentle slope of 1 in 20, it may not require a handrail either, maintaining the typical outdoor appearance. It may also appear as a verandah.

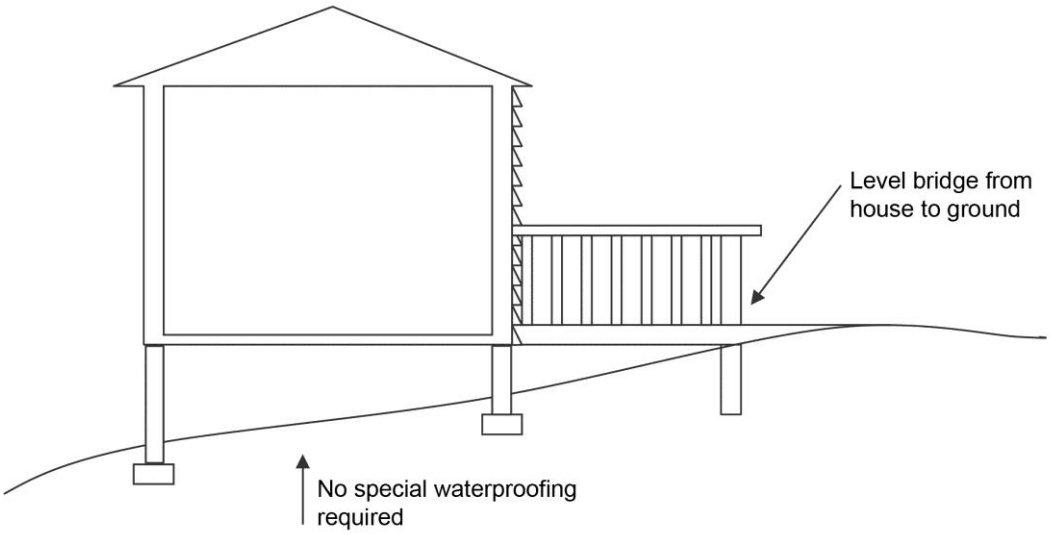

Figure 4. Adapted from the Accessible Housing Design File (Barrier Free Environments Inc., 1991)

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Residential Lifts

Where space for ramps is not available, residential lifts are a reliable option. There are many lift options on the market today; refer to the HMinfo summary bulletin 'Lifts' for further information (Home Modification Information Clearinghouse, 2005) www.homemods.info/publications

The 'Welcome: Design ideas for accessible homes' (Victoria. Building Commission, 2002) book and 'Entrance and site design' chapters from the 'Accessible Housing Design File' (Barrier Free Environments Inc., 1991) provide straightforward applications of alternatives to ramping for entrances, including: house placement, landfill and landscaping, bridge access and residential lifts.

Case Studies

Case 1

The following case study is an example demonstrating how the AS can be adhered to whilst incorporating individual requirements. Amy is a 5 year old girl with Down Syndrome. She lives in the family owned home with her middle age parents. She is overweight for her age, has low muscle tone and finds negotiating the front steps difficult. She walks well on flat surfaces. Amy is already too heavy for her parents to carry. Amy's current height is 88.5 cm and her elbow height from the floor is 59 cm. The therapist predicts Amy's anthropometrics at age fifteen using a Down Syndrome growth chart. According to the growth chart, Amy is predicted to be approximately 132 cm tall at 15 years of age with an elbow height of approximately 88 cm.

Amy's therapist prescribed a ramp with two handrail heights (figure 5 below) that should suit her for the next ten years. The lowest handrail height at 65 cm will suit Amy now and for a few years and the highest handrail height at 90 cm will suit Amy when she is older. According to AS 1428.3 (Standards Australia, 1992), a minimum handrail height of 82.5 cm is required for a child between three and six years of age, whereas the adult Standard, AS 1428.1 (Standards Australia, 2001) requires a handrail height of no less than 86.5 cm and no more than 100 cm. According to Amy's anthropometrics the AS 1428.3 minimum height of 82.5 cm would be inappropriate as her elbow height is only 59 cm. She requires a lower handrail height than AS recommends, but by incorporating the higher handrail at 90 cm, the therapist is still abiding by AS 1428 part 1 and 3 requirements and is therefore, covered legally. The therapist, however, will need to ensure there is no risk of head or neck entrapment between the two rail heights by using the test methods in the relevant AS for playground equipment AS 4685.1 (Standards Australia, 2004).

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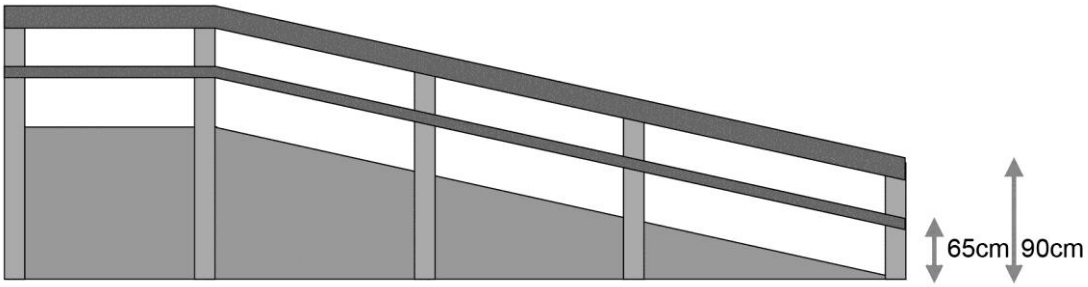

Figure 5. Case example of a prescribed ramp with two handrail heights

Case 2

The case study below is an example of professional negligence.

Mark sustained a thoracic lesion at the T4 level as the result of falling off a roof. Prior to discharge from the local hospital, Mark's therapist prescribed a powered wheelchair and a 1:10 ramp to enable him rear access to his privately owned townhouse. Even though there was only enough space for a 1:10 ramp, the local home modification service refused to install a ramp of that gradient so the therapist contracted a private builder to do the work. The front access to the townhouse had three steps and could still be used by his visitors.

Mark was loaned a manual wheelchair from the hospital equipment loan pool as it was a few weeks wait until his customised powered wheelchair would be available. Whilst Mark is being wheeled up the rear ramp by his full-time carer, the carer falls and sustains a permanent back injury.

This was a case for negligence as the therapist had a duty of care to Mark and his carers, which was breached, and an accident did occur. Furthermore, it was foreseeable that a non AS approved 1:10 ramp is potentially an unsafe gradient for most users and the therapist didn't consult a certifier or local council for approval. As the carer was under contract with Mark and was therefore entitled to expect that the premises were safe, the carer could have attempted to sue Mark. Mark could have then tried to sue the hospital that the therapist works for and the hospital most likely would have sued the therapist. Fortunately, the carer felt sorry for Mark and didn't proceed with any legal action.

The therapist should have considered an alternative access solution that was still within the boundaries of the AS.

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Checklist for therapists

- ☐ Do the AS requirements match the client's needs? If so, continue with access design consistent with AS 1428 requirements. If not, liaise with council or consider alternative access solutions.
- ☐ Local council/private certifier has been contacted and approved structural recommendations of any deviations from AS 1428.
- ☐ All care has been taken to ensure recommendations suit all possible users. Where an essential recommendation could potentially harm another person such as a visitor or carer, legal advice has been sought and signage has been provided.
- ☐ Alternative access solutions have been considered as a long term solution in preference to ramping.

Helpful contacts

Note: This is not an exhaustive list

Australian Building Codes Board	Phone: 1300 134 631 Email: abcb.office@abcb.gov.au Website: www.abcb.gov.au
Human Rights and Equal Opportunity Commission	Phone: 9284 9600 Email: paffairs@humanrights.gov.au Website: www.hreoc.gov.au
Independent Living Centre NSW	Advice from Access Consultants and Occupational Therapists Phone: 9890 0940 Email: accessteam@ilcnsw.asn.au Website: www.ilcnsw.asn.au
Law Access NSW	Attorney General's Department Phone: 1300 888 529 Website: www.lawaccess.nsw.gov.au/
Macquarie Legal Centre	Free legal advice Phone: 9760 0111 (advice line) Website: www.macquarielegal.org.au
Standards Australia	Phone: 02 8206 6000 Email: mail@standards.org.au Website: www.standards.org.au

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