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Disable Access - Conformance Assessment

Maitland Township Infrastructure

For

Disable Access

Conformance Report

Prepared for Maitland & District Progress Association Inc.

Report No: PB-004

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1. Executive Summary

This report documents the findings of an inspection carried out to assess the conformance of the main access to the recently modernised Maitland Council offices on Elizabeth Street, at the request of the Maitland & District Progress Association (M&DPA) at the meeting of the 16th March 2017.

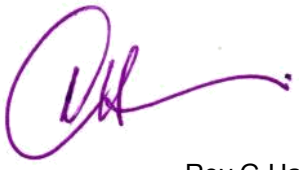
The inspection identifies problems associated with the configuration of the public accessway and notes that there is a compliant disabled accessway provided for staff.

Current thinking in relation to National and State policies on the treatment of pedestrian facilities and the various user groups has been included in the report.

The following modifications are urged in order to secure the safety of vulnerable members of our community when visiting these offices:

- Clearly delineated ramps and walkways to be provided not less than 1000mm wide, with crossfall not greater than 1:40 and incorporating landings on ramps or walkways at distances no greater than specified along a line of travel.
- Ramped sections to have handrails and kerbs in accordance with the standard as necessary.
- The footpath between the dedicated accessway and the kerb may be battered to satisfy the difference in levels and enable stormwater drainage to the street water-table. Refer Sketch 2 indicating Good Design
- A level circulation space to be provided in front of the outward opening swing doors to be provided in accordance with Figure C1(d).

A number of photos are appended to record the recent problems and to clarify the proposed modifications.



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2. Introduction

An inspection of the public footpath in front of the main doors to the Maitland Council offices, Elizabeth Street was conducted at the request of the Maitland & District Progress Association (M&DPA) at the meeting of the 16th March 2017, in response to concerns raised by a number of residents.

The residents have expressed alarm at the degree of difficulty experienced when entering or leaving the office by the designated public entrance. The combined camber and street gradient of the footpath are such that wheeled mobility aides veer towards the road.

3. Site Inspection Report

The recently modernised offices on Elizabeth Street, uphill from Walter Street, include two bitumen car-parks located at the rear and the side of the building. The area at the rear has been allocated for staff parking whilst the one on the eastern side is for public use. Two disabled parking bays adjacent to Elizabeth Street afford access to the main entrance by using the public footpath that has been re-graded but has created the above impediment to access.

3.1 Inspection (1st April 2017)

The public footpath allocated for access (accessway) has been reviewed against the requirements of the *Australian Building Codes Board – National Construction Code 2016 – Volume 1 : Building Code of Australia* (**ABCB – NCC 2016 Vol1**). Section D3 of this code titled "Access for People with a Disability" provides some guidance, but in general refers to AS 1428.1. the Australian Standard for "Design for Access and Mobility" to buildings.

This standard identifies the minimum space surrounding built elements, landscape elements and fixtures that is required for non-ambulatory people to move along an uninterrupted path of travel ***into*** *and* ***within*** buildings.

External

The inspection revealed:

a) There are manually operated doors to the main entrance opening outwards onto the footpath, that are robust double-leaf units in glazed metal frames.

b) There is no external circulation space adjacent to the door where the pavement slopes from the door threshold at a grade of 1:16. (App A: Plates 8 & 9)

c) The area ramping up to the threshold does not include an area for a wheelchair user to change direction with ease. (App A: Plate 8)

d) There is no signage to indicate or direct people to the disabled access. (App A: Plates 1, 8, 16)

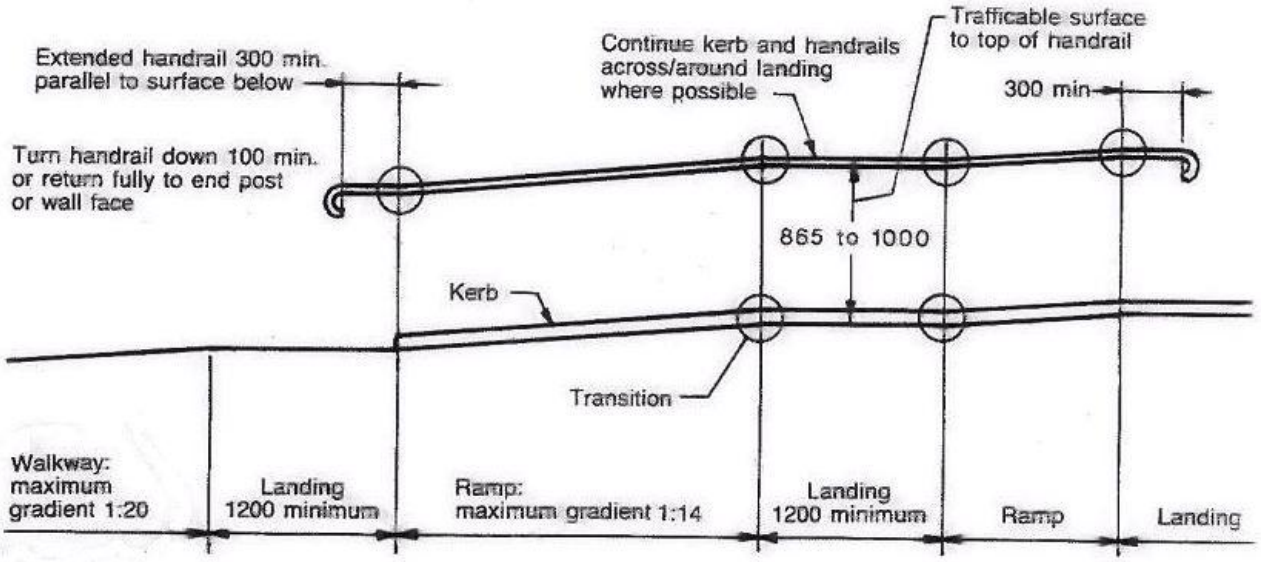
e) The oblique grade of the pavement (combined longitudinal and cross-fall) causes wheeled aids to veer towards the kerb and into the road. (App A: Plates 3, 4, 5 & 6)

4. Assessment

As noted the Regulations controlling the design of accessways (disabled and other) are provided in **NCC 2016 Vol1** - Section D3.

Whilst AS 1428.1 prescribes the minimum design requirements for elements of buildings and related facilities to permit access by people with disabilities; particularly with reference to accessways, circulation spaces and fitments.

Typical components of an accessway are indicated in Figure 1 below.



NOTE: The 300 mm extension is not required where the handrail is continuous, e.g. on the inside of an intermediate landing.

DIMENSIONS IN MILLIMETRES

FIGURE 1 RAMP HANDRAILS

4.1 Applicable Sections of the NCC are:

4.1.1 NCC: D2.10 Pedestrian ramps

(b) A ramp serving as a required exit must—

(i) Where the ramp is also serving as an accessible ramp under Part D3, be in accordance with AS 1428.1; or

(ii) in any other case, have a gradient not steeper than 1:8 [12.5%].

(c) The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586.

The circulation space at the entrance does not comply with §D2.10(b)(i)

4.1.2 NCC: Table D3.1 Requirements for Access for People with a Disability

For a Class 5 building the access requirements shall be **to** and **within** all areas normally used by the occupants.

The Elizabeth Street footpath from the car-park **to** the building entrance is the disabled accessway that does not meet these requirements

4.1.3 NCC: Table D3.2 Access to Buildings

(a) An accessway must be provided to a building required to be accessible—

(i) from the main points of a pedestrian entry at the allotment boundary; and

(ii) from another accessible building connected by a pedestrian link; and

(iii) from any required accessible carparking space on the allotment.

Here accessway includes any external approach to the building entrance.

(b) In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance, and …

… Except for pedestrian entrances serving only areas exempted by D3.4.

(c) Where a pedestrian entrance required to be accessible has multiple doorways …

(d) For the purposes of (c) …

(e) Where a doorway on an accessway has multiple leaves, (except an automatic opening door) one of those leaves must have a clear opening width of not less than 850mm in accordance with AS 1428.1.

The main entrance is the principal pedestrian entrance therefore accessway.

4.1.4 NCC: D3.3 Parts of buildings to be accessible

In a building required to be accessible—

(a) every ramp and stairway, except for ramps and stairways in areas exempted by D3.4,must comply with—

(i) for a ramp, except a fire-isolated ramp, clause 10 of AS 1428.1; and

(ii) for a stairway, except a fire-isolated stairway, clause 11 of AS 1428.1; and

(iii) for a fire-isolated stairway, clause 11.1(f) and (g) of AS 1428.1; and

(b) every passenger lift …; and

(c) accessways must have—

(i) passing spaces complying with AS 1428.1 at maximum 20m intervals on those parts of an accessway where a direct line of sight is not available; and

(ii) turning spaces complying with AS 1428.1—

(A) within 2m of the end of accessways where it is not possible to continue travelling along the accessway, and

(B) at maximum 20m intervals along the accessway; and

(d) an intersection of accessways satisfies the spatial requirements for a passing and turning space; and

(e) a passing space may serve as a turning space; and …

The accessway does not have appropriate landings, turning spaces, circulation spaces and crossing places.

4.2 Applicable Sections of AS1428.1 are:

4.2.1 AS1428: 5 Walkways, Ramps and Landings:

4.2.2 AS1428: 5.1 General

Walkways, ramps and landings shall have—

(a) an unobstructed width of not less than 1000mm; and …

Walkways, ramps and landings shall be constructed with smooth transitions between sections of different gradients, materials and the like. At these points, the maximum construction tolerance between abutting surfaces shall be 5 mm, with the protruding surface having a rounded edge.

NOTE: Tooled finishes to construction joints can be dangerous to some users (see Clause 12).

4.2.3 AS1428: 5.2 Walkways

The design and construction of walkways shall comply with the following:

(a) **Walkways shall be provided with landings** as specified in Clause 5.7 at intervals not exceeding the following:

(I) For walkway gradients of 1 in 33 [3%], 25m.

(ii) For walkway gradients of 1 in 20 [5%], 14m.

(iii) For walkway gradients between 1 in 33 and 1 in 20 [3% & 5%]: at intervals which shall be obtained by linear interpolation.

NOTE: Landings are not required where walkway gradients are flatter than I in 33.[3%]

(b) The gradient of walkways between landings shall be Constant.

(c) The intervals in Item (a) may be increased by 30% where at least one side of a walkway is bounded by—

(i) a kerb as specified in Clause 5.3(f) with a handrail as specified in Clause 5.3(e); or

(ii) a wall with a handrail as specified in Clause 5.3(e),

(d) If no kerb and handrail or wall and handrail are provided, the ground abutting the side of the walkway shall follow the grade of the walkway and extend horizontally for 600 mm.

4.2.4 AS1428: 5.3 Ramps

The design and construction of ramps shall comply with the following:

(a) The maximum gradient of a ramp exceeding 1520mm in length shall be I in 14 [7.1%].

(b) **Ramps shall be provided with landings** as specified in Clause 5.7 at the bottom and at the top of the ramp and at intervals not exceeding the following:

(j) For ramp gradients of I in 14 [7.1%],: 9 m;

(ii) For ramp gradients of 1 in 19 [5.25%],: 14 m; and

(iii) For ramp gradients between 1 in 19 and 1 in 14 [5.25% & 7.1%]: at intervals which shall be obtained by linear interpolation.

(c) If ramps are constructed with changes of direction—

(j) the angle of approach shall comply with Clause 5.4; and

(ii) in addition to the requirements of Item (b), landings shall be provided at changes of direction.

(d) The gradient of ramps between landings shall be constant.

(e) Ramps shall be provided with handrails as specified in Clause 6.1 on both sides of the ramp, as shown in Figure 1.

(f) Ramps and landings at intermediate levels …

4.2.5 AS1428: 5.4 Angles of approach for walkways, ramps and landings:

It is preferable for the angle of approach from one surface to another of a different gradient to be zero degrees.

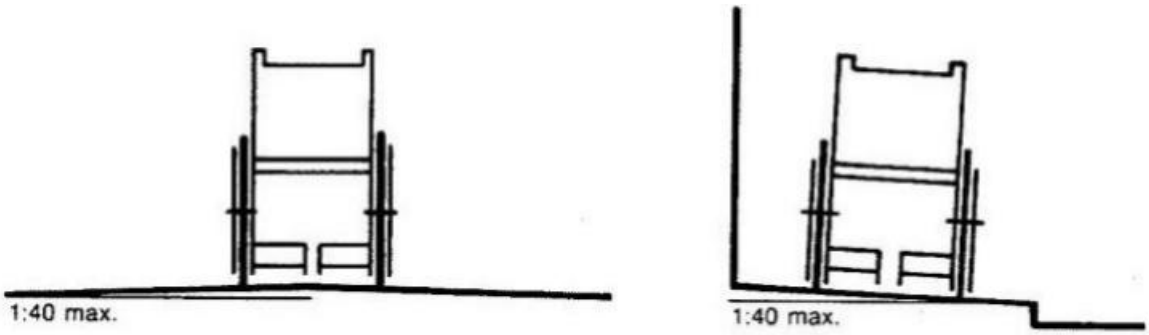
Where this is not possible, gradients and approach angles shall comply with Appendix B.

4.2.6 AS1428: 5.5 Curved ramps and walkways:

The design and construction of curved ramps and walkways …

4.2.7 AS1428: 5.6 Camber and crossfall in ramps and walkways:

The camber and crossfall of ramps and walkways shall **not exceed 1 in 40 [2.5%]** (see Figure 5).



(a) Cambered walkway or ramp (b) Crossfall to walkway or ramp

FIGURE 5 MAXIMUM ALLOWABLE CAMBER AND CROSSFALL FOR RAMPS AND WALKWAYS

4.2.8 AS1428: 5.7 Landings:

Landings shall comply with the following:

(a) The length of landings at walkways and ramps shall be not less than 1200mm and at kerb ramps and step ramps, not less than 1330mm.

(b) Where doorways are at landings, the dimensions of the landings shall be in accordance with the requirements for circulation spaces at doorways in Clause 7.3 (see Figure 6).

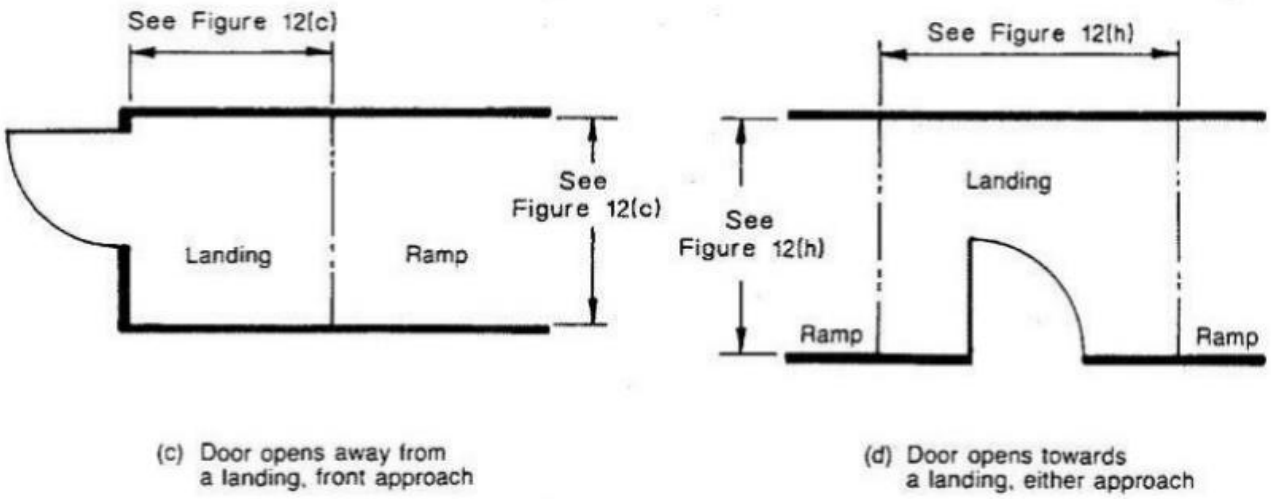


FIGURE 6 EXAMPLES OF DOORWAYS AT LANDINGS

In relation to the foregoing regulations the de facto accessway to the building, for the public, is the footpath on Elizabeth Street which does not provide a continuous accessible path of travel in accordance with AS1428 §5. The grade of the street between Kilkerran Terrace and Walter Street necessitates the use of ramps but the arrangement does not comply (see Figure 1) because:

i. The gradient along the direction of travel is not constant §5.2(b) and §5.3(d) and where greater than 1:20 (5%) landings have not been provided in accordance with §5.7 at intervals not exceeding 14m §5.3(b).

ii. In particular the crossfall of the walkway, 1:16 [6.25%] (Plate1) does not comply with §5.6 being greater than 1:40 [2.5%] (Figure 5).

iii. Landings with grades not exceeding 1:40 [2.5%] in both directions are required in accordance with Figure 1 to assist a change of direction.

4.2.9 AS1428: 7.1 Provision of entrances

The provision of entrances to a building shall be as follows:

(a) At least one entrance, which shall be an entrance intended for use by the general public, shall be incorporated in a continuous accessible path of travel.

i. The accessway shall be a continuous accessible path of travel.

ii. The angle of approach at the main doorway does not comply with §5.4. The angle of approach from one surface to another of different gradient shall be zero degrees else shall comply with Appendix B. The code requires a landing or circulation space in front of an entrance/exit to allow manoeuvrability whilst negotiating the door.

(b) A sign directing people with disabilities to accessible entrances shall be installed at all other entrances intended for use by the general public (see Clause 14).

NOTE: Because entrances also serve as exits, some of them being particularly important in an emergency, it is important that all or most entrances (exits) should be accessible to, and usable by, people with disabilities.

Accessible paths and entrances are not identified clearly with signs.

(c) Where revolving doors …

(d) **If a threshold is required at a door which would normally be closed**, a ramp with a length of not more than 450mm shall be provided (see Figure 10).

NOTE: Where a door closer is required, it should have a delayed action.

The door is normally closed and therefore the ramp up to it is serving as a threshold ramp but is longer than the deemed to comply 450mm. This means if the maximum 1:8 [12.5%] gradient is adopted a rise not more than 56mm can be attained.

4.2.10 AS1428: 7.2 Clear opening of doorways

The minimum clear opening of a doorway shall be 760mm (see Figure 11).

NOTE: A doorway opening of 850mm is desirable (see AS 1428.2).

4.2.11 AS1428: 7.3 Circulation spaces at doorways

7.3.1 Swinging doors

The clear circulation space at doorways with swinging doors is based on the clear opening width of the doorway (D). The clear circulation space shall be not less than the dimensions specified in the tables in Figure 12 for the appropriate clear opening width.

Figure 12 provides dimensions for the minimum size door (760 mm) and for the recommended size door (850 mm). Dimensions for other sizes are provided in Appendix C.

NOTES:

1 Intermediate sizes should be interpolated.

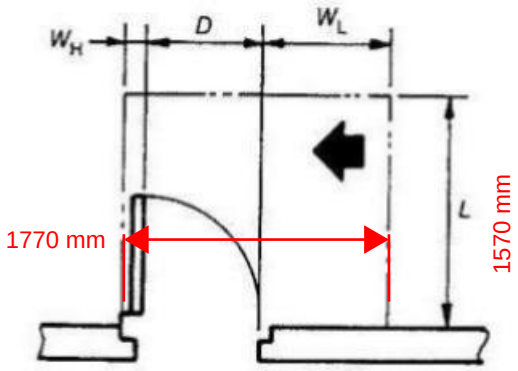
2 Users are alerted to the fact that doors which open towards a user require a significantly greater circulation space than those which open away from a user.

The circulation space in front of the outward swinging door does not comply with Figure C1(d), if a threshold ramp is needed then a landing with a gradient not greater than 1:40 [2.5%] (Figure 5b) shall be provided.

APPENDIX C
CIRCULATION SPACES AT DOORWAYS
(Normative)

Where the clear opening width (D) of the doorway is other than that specified in Figure 12 and 13, the clear circulation space shall be not less than the dimensions specified in the Tables in Figures C1 and C2 for the appropriate clear opening width.

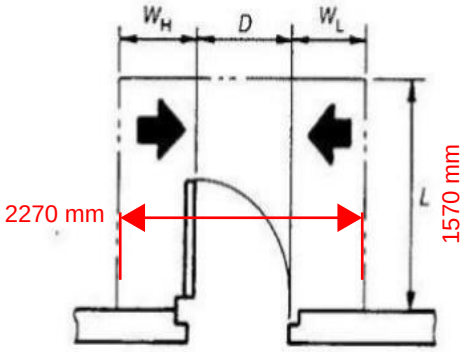
NOTE: Intermediate dimensions should be interpolated.



Dimension D	Dimension L	Dimension W_H	Dimension W_L
760	1 485	110	850
800	1 510	110	840
850	1 570	110	810
900	1 665	110	780
950	1 725	110	725
1 000	1 815	110	625

1770mm

(b) Latch-side approach—door opens towards a user



Dimension D	Dimension L	Dimension W_H	Dimension W_L
760	1 485	610	850
800	1 510	610	840
850	1 570	610	810
900	1 665	610	780
950	1 725	610	725
1 000	1 815	610	625

2270mm

(d) Either approach—door opens towards a user

LEGEND:
D = clear opening of doorway
L = length
W_H = width — hinge side
W_L = width — latch side
➡ Direction of approach
– – – – Circulation space

NOTES:

1 These dimensions also apply in mirror image configurations.

2 Door circulation spaces must be used in combination to allow access through doorways in both directions.

DIMENSIONS IN MILLIMETRES

FIGURE C1 (in part) CIRCULATION SPACES AT DOORWAYS WITH SWINGING DOORS

5. A Review of Published Guidelines on Public Footpaths

5.1 South Australian Government

In the current "Guidelines for Disability Access In the Pedestrian Environment - 2009", the South Australian Government; gave the following Policy Statement addressing the 'information gap' that exists between the knowledge to legally accommodate those with disabilities, when constructing transport infrastructure, and the information contained in Australian Standards, Guidelines, Codes etc.

…Promoting Independence is the State Government's strategy to progressively improve disability access and inclusion across all funded services and to comply with the Disability Discrimination and Equal Opportunity Acts.

The aim of the strategy is to ensure that the services and products provided by all South Australian Government departments and their agencies are inclusive and accessible to people with a disability and to eliminate, as far as possible disability discrimination.

Followed by …DTEI promotes its commitment of ensuring the services and products it delivers appropriately accommodate people with disabilities via 'Removing the Barriers' Our Commitment to People with Disabilities. These guidelines are an example of how DTEI is delivering on its 'Removing the Barriers' commitment to people with disabilities…

5.2 The Disability Discrimination Act 1992

The Disability Discrimination Act 1992 (DDA) is part of the package of federal anti-discrimination laws, which also includes the Racial Discrimination Act 1975, Sex Discrimination Act 1984, Human Rights and Equal Opportunity Commission Act 1986 and Age Discrimination Act 2004.

The DDA provides protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people. Disability discrimination happens when people with a disability are treated less fairly than people without a disability. ***Disability discrimination also occurs when people are treated less fairly because they are relatives, friends, carers, co-workers or associates of a person with a disability.***

A person with a disability has a right to access public places in the same way as a person without a disability. ***Denying or limiting access to public places by people with disabilities is against the law****.*

5.3 User Groups

5.3.1 Wheelchair Users

Being able to achieve goals is essential to an individual's quality of life. Reaching a goal requires completion of one or more activities, involving a number of tasks. Each task must be possible to achieve in order for the goal, to be accessible. Many activities are away from a person's current location and thus a journey has to be made to undertake such an activity.

To live a full and active life it is essential to participate in activities of daily living both in and outside of the home; for a wheelchair user this can present a major challenge. The ability to leave home to access services and participate in society greatly impacts on the quality of life. In Australia, wheelchairs are often funded by the authorities, who will also facilitate the adaptation of the user's home to accommodate their needs and increase their ability to function within the home.

However, the outside environment is less adaptable to the individual as it must be accessible to the majority of people. A basic skill of any wheelchair user, be they **the attendant or occupant**, is to be able to push a wheelchair along a footway. More often than not in developed countries such as Australia, footways will have a lateral slope (crossfall) to aid surface water drainage; of (it is recommended) not more than 2.5%.

People who are unable to push themselves in a wheelchair are frequently elderly requiring an attendant to push them. These attendants (their carers) pushing the wheelchairs are likely to be a spouse, a child or a close friend and of a similar age to the occupant. The children of elderly people are commonly over the age of 60 with their own health issues which can affect their ability to push the wheelchair, which in turn affects the mobility of the wheelchair user (McIntyre & Atwal 2005).

5.3.2 Pedestrians

In general the disabled are part of a larger group, classed as pedestrians, who are among the most vulnerable group of road users. Not only do they have the least physical protection, pedestrian fatalities overly include the very young and the elderly. While some of these fatalities may be due to a number of factors, pedestrians are unprotected if involved in a crash. It is, therefore, essential to provide facilities that are well designed and appropriate to the particular situation to enhance pedestrian safety.

Currently one in five people in Australia have a disability. Two out of three people over 75 have a disability and the prevalence of disability will increase further with the ageing of the Australian population. It is estimated that the total number of people who identify themselves as having a disability will increase by about 38 per cent to around 632,600 by 2023.[1]

Planning and designing good pedestrian infrastructure with well-connected and amenable facilities benefits the whole community. Encouraging people to choose walking as a mode of transport fosters more sustainable, healthier and safer communities. Independent travel becomes possible for more people including the elderly, children, families and people with disability.

In order to access any part of a town or city in the developed world, it is necessary to traverse a footpath. This is made clear by the European Conference of Ministers of Transport: "*Almost all journeys start and finish by walking or wheeling. No matter how accessible transport itself may be, if the walking [or wheeling] environment contains barriers to movement then the usability of transport services is largely negated*" (European Conference of Ministers of Transport 1999).

Footways form an integral part of the built environment worldwide. Many countries have introduced standards to ensure pavements do their job; to provide a safe and effective surface for people to use in order to access the buildings and services. Initially footways would have been used simply to walk along and to ensure they remained free from surface water, which causes problems regarding safety (people can

slip in wet or icy conditions). However, in more recent times the needs of those who have some kind of mobility impairment need to be considered. This group consists of those who would have traditionally been thought of as being 'disabled' and as such need a form of assistive technology to aid them in traversing the pavements (such as wheelchair users and those who require a walking stick or crutches to keep their balance), to those who are impaired through their choice of shoes or amount of luggage they have decided to carry, or the child they need to push.

5.4 The Impact of Grades

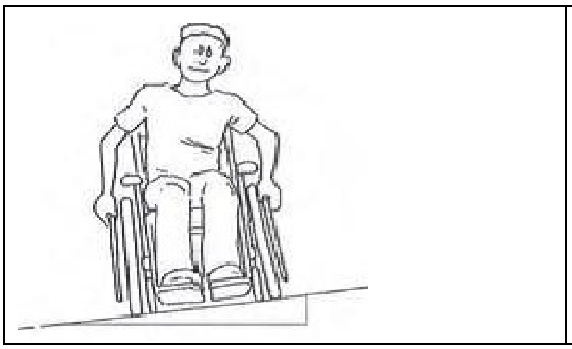
Steep grades and cross slopes should be avoided where possible or integrated with level rest areas. Both powered and manual *wheelchairs can become very unstable and/or difficult to control on sloped surfaces*. When areas with steep sidewalks and ramps are wet, icy, or covered with snow, they have little or no slip resistance and a slide will usually end in the road.

5.4.1 *Longitudinal grades*

Longitudinal grades are often difficult to control in the sidewalk environment because sidewalks follow the path of the street. The sidewalk grade ideally should not exceed 5 percent. Design parameters developed for ramps on buildings and sites, permit a maximum grade of 7% for a distance of 9m before a level landing must be installed. *Where the sidewalk grade approaches or exceeds that of the maximum permitted for a ramp, it is good practice to provide a level rest area*. The slope of the level landing should not exceed 2.5%.

5.4.2 *Cross Slopes*

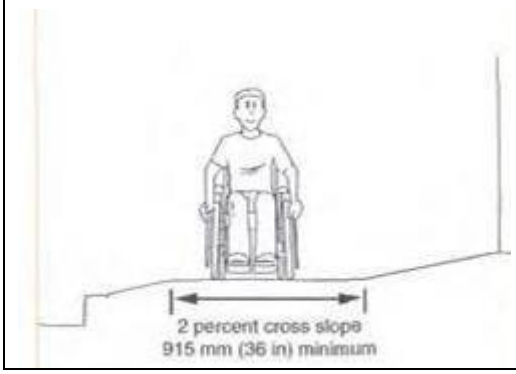
The maximum cross slope permitted by AS1428.1 is 2.5%. Severe cross slopes require wheelchair users and other pedestrians to work against the effects of gravity to maintain their lateral balance. Pedestrians using crutches or canes may be forced to turn sideways in order to keep their base of support at a manageable angle. Severe cross slopes can cause wheelchair users to veer towards the kerb and into the street (See Sketch 01). ***The impact of cross slopes is compounded when combined with steep grades and uneven surfaces***. *Designers and those constructing facilities need to understand the impact of grades and cross slopes and take particular care to stay within construction tolerances as well as within design standards*. For sidewalks with steep cross slopes the designer can create a level area of at least 915mm within the pedestrian zone (See Sketch 02) or increase the height of the kerb (See Sketch 03) The latter case can create problems for kerb ramp design and on-street parking (car doors may not be able to swing over the kerb).



PROBLEM

Wheelchair users traveling on a sidewalk with a cross slope greater than 2% use more energy to offset the force of gravity that directs them towards the kerb and into the street

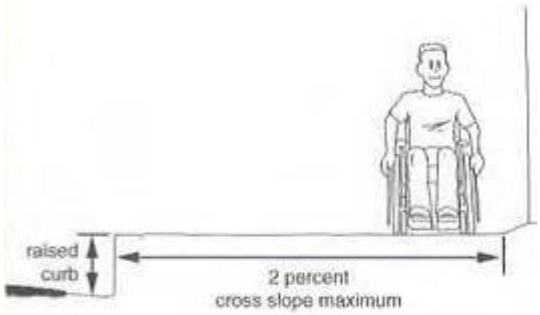
Sketch 1 Poor Design - Problem crossfall



GOOD DESIGN

A level area at least 915mm wide improves access when the street elevation is lower than the building elevation

Sketch 2 Good Design – Crossfall kept within walkability grades



ACCEPTABLE DESIGN

Increasing the height of the kerb provides a level pathway when the street elevation is lower than the building elevation. This solution may not be ideal if sidewalks are not wide enough to install well designed kerb ramps

Sketch 3 Acceptable Design – Crossfall managed but problem at the kerb.

5.4.3 *Austroads : Longitudinal Gradient Design Criteria for Pedestrians*

The Austroads publication "*Guide to Traffic Engineering Practice, Part 13, Pedestrians*" states that AS 1428.1 specifies the minimum requirements for steps, stairs and ramps. Ramps are defined as a convenient means of changes in level for people in wheelchairs or with prams.

A critical requirement to be resolved is the situation when AS 1428.1 is applicable. Although the context of AS 1428.1 is written for buildings, its scope states the standard is applicable to design requirements for building work to provide access for people with disability; ***with particular attention to be given to accessways, circulation spaces and consistent linkages for use by people in wheelchairs***. Whilst the 1993 edition notes *…although this Standard is intended to be used for the provision of access to buildings, in the absence of specific information, appropriate Clauses could well be applied to external locations such as walkways and landscaped areas…*

- To arrive at a reasonable interpretation of AS 1428.1 the **NCC 2016 Vol1** - Section D3.11 (a) states …a series of connected ramps must not have a combined vertical rise of more than 3.6m.

Interpretation:

Therefore, a long distance pedestrian facility should be considered a walkway in accordance with AS 1428.1, having a grade between 1:20 to 1:33. Walkways without landings shall have a maximum grade of 1:20.

6. Recommendation

To comply with the requirements of the ABCB – National Construction Code 2016 – Volume 1 : Building Code of Australia; the State's 'Removing the Barriers' Our Commitment to People with Disabilities; and the National Austroads interpretation for long distance pedestrian facilities to be considered walkways; the following modifications need to be carried out to secure the safety of vulnerable members of our community when having to visit the Council Office.

- Clearly delineated ramps and walkways to be provided not less than 1000mm wide, with crossfall less than 1:40, incorporating landings at distances no greater than regulated on ramps and walkways along a consistent line of travel to the main entrance.
- The footpath between the dedicated accessway and the kerb may be battered to satisfy the difference in levels and enable stormwater drainage to the street water-table. Refer Sketch 2 indicating Good Design.
- The swing door to the main entrance is manually operated and kept closed therefore a level circulation space in accordance with Figure C1(d) is required.

This inspection was to assess whether the pavement grades and crossfall, on the approach to the Council Office denies or limits access to this public building by disabled members of the community.

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Appendix A

Plate 1 Disabled parking eastern side of building no signage for accessway

Plate 2 Egress from disabled parking (No landing for the change of direction)

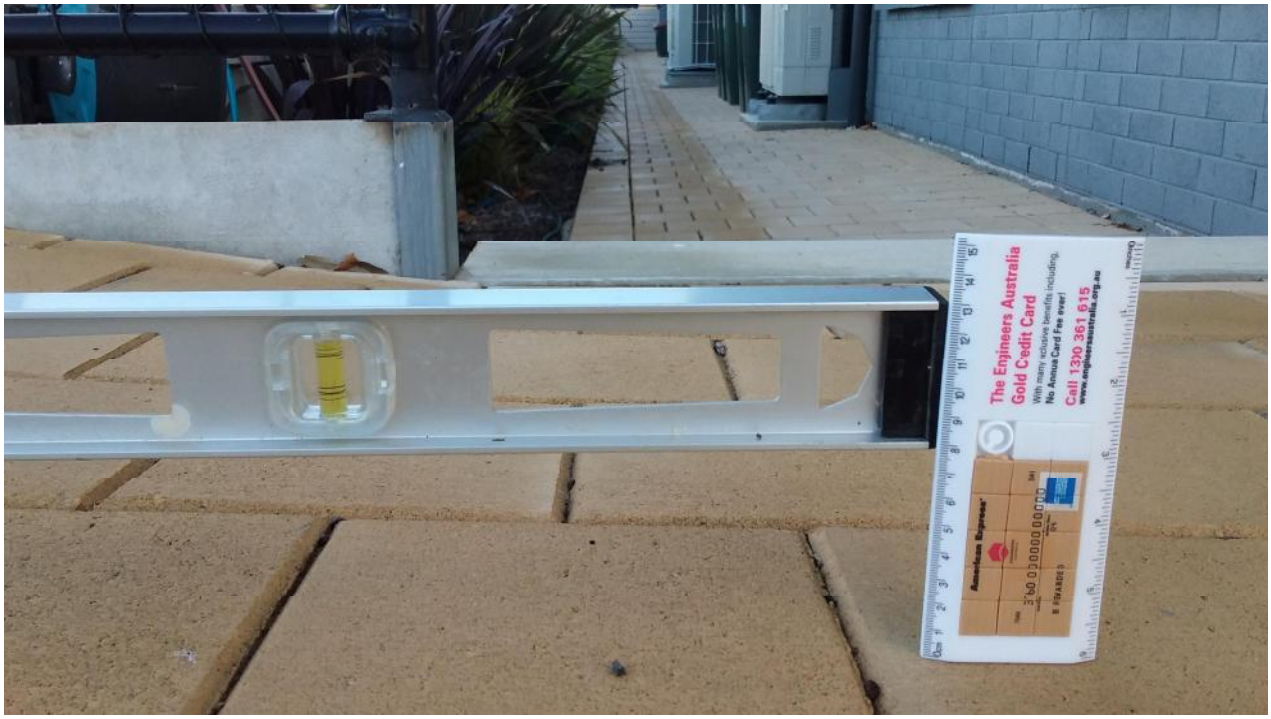

Plate 3 Longitudinal fall 80mm in 1220mm downhill from disabled parking. (1:15, 6.6%)

Plate 4 Longitudinal fall downhill from the disabled parking. (1:15, 6.6%)

Plate 5 Crossfall downhill from the corner of building (1:16, 6.25%);

Plate 6 **Lo**ngitudinal fall downhill from the corner of building (1:21, 4.8%);

Plate 7 **C**rossfall 52mm in 1220mm uphill from the main door.(1:23, 4.3%)

Plate 8 Measuring the crossfall in front of main entrance (1:23, 4.3%)

Plate 9 **C**rossfall 78mm in 1220mm; at the main door threshold. (1:16, 6.4%)

Plate 10 Crossfall at the main entrance 52mm in 1220mm. (1:23, 4.3%)

Plate 11 Longitudinal fall 78mm in 1220 downhill from the main door (1:16, 6.3%)

Plate 12 Crossfall downhill from the main door (1:16, 6.3%)

Plate 13 Crossfall 76mm in 1220mm down from the main door. (1:16, 6.3%)

Plate 14 Confirmation of length of level used to measure grad

Plate 15 Compliant Accessway Dedicated to Staff at the Rear

Plate 16 Front of building with no signage for disabled access