

Section 6

Access and Mobility.



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Revision History







Revision Number	Description	Section Owner	Date
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<i>Cameron Scott</i>	<i>Rob Oudshoorn</i>	<i>September 2019</i>

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6.1 Overview

6.1.1 Purpose

The University of Canterbury actively endorses the need to provide equal opportunities for staff, students and visitors that use university facilities. This in turn requires careful consideration of the challenges faced by individuals that have disabilities to ensure that every reasonable effort is made in the development of design solutions to support them in achieving their goals.

The aim of the University is to provide an accessible campus, considerate of all its users, in all its buildings and spaces.

The Building Code provides the minimum requirements in this regard with respect to the provision of appropriate access, disabled facilities and the provision of design elements that require specific treatment i.e. through the use of colour/texture. The key is that in some instances the minimum standards may be deemed unacceptably low by the University who will then specify higher standards as they see fit.

General guidance is offered in this section of the Design Standard Guidelines to cover these concerns – however all design consultants are required to raise the issue of access and mobility for each project to ensure that these considerations are properly addressed on a project by project basis.

This section of the Design Standard Guidelines is intended to be read and applied during design in conjunction with **Section 01 – General** and any project specific brief and agreements.

6.1.2 Key Design Considerations

Public spaces must be easily accessible through the use of ramps or lifts and must be provided with suitable public amenities (e.g. toilets) to ensure that people with disabilities are not unduly challenged through a lack of (appropriately designed) facilities that they can use. This also extends to the development of detailing that minimises the risk of injury to those that are less mobile or sight impaired.

A teaching facility raises the bar further through the need to ensure that spaces intended for general educational use are not only optimised for students with disabilities but for staff members as well.

The level of assistance included in the design must be discussed with the University for each project. Key considerations that should be on the agenda are:

- Accessibility – the use of ramps and lifts to address changes in level. Use of braille.
- Accessibility – designs that assist individuals in wheelchairs. i.e. Minimum door widths, joinery design etc.
- Wayfinding – assistance for the visually impaired
- Audible messaging - assistance for the visually impaired
- Hearing loops – assistance for the deaf and hard of hearing

Designers should also be mindful that disability can also be temporary - injuries, pregnancy, and illness can cause an individual to need to temporarily adapt within the built environment. The design of all spaces should be empathetic to this potential need.

6.1.2.1 Future Proofing

It is the desire of the University to future proof any design where it is practical and cost-effective to do so. This is particularly relevant for technology based support to disabled students.

6.1.3 Universal Design

Where specific instruction for design is not provided in these guidelines Universal Design Principles should be applied to guide and evaluate options from a usability perspective.

6.1.3.1 Overall Health and Wellness

Design for access and mobility should focus on a significantly wider range of issues than physical disability - there are many factors which can restrict an individual's use, enjoyment, or comfortability in the built environment.

Some further thoughts to consider:

- Beginning University is often a time of abrupt change in person's life, and can be a cause of depression and anxiety. Designers should consider how this could be alleviated through the use of smaller spaces or rooms, particularly in residential and recreational situations. Possible design options could include:
 - Buildings / rooms which promote more light, airflow, and ambience.
 - Quiet study spaces
 - More student hang out areas, e.g. student hubs with wifi that promote student connectedness. Bean bags, pool tables, couches.

6.1.4 NZ Standard 4121-2001

NZ Standard 4121-2001 Design for Access and Mobility - Buildings and Associated Facilities is a compliance document providing an acceptable solution to the functional requirements and performance criteria prescribed by the New Zealand Building Code (NZBC), Clause D1.

Some of the requirements in the standard exceed those currently given in the NZBC and Approved Documents - and it should be noted that compliance with the NZBC can be accomplished through alternative means.

However - all buildings, facilities, and external areas at University of Canterbury shall be designed in the first instance to meet or exceed the requirements outlined NZ Standard 4121-2001 as determined in consultation with the University. Any subsequent compromise of provisions of this standard during the evolving design requires prior approval from the University.

6.1.5 Barrier Free - New Zealand Trust

The Barrier Free New Zealand Trust comprises individuals with experience in the design and construction industry, local government, and the disability sector whose mission is to encourage, promote, and facilitate the creation of built environments that are accessible and usable by everyone in the community, including people with disabilities.

For all new projects and significant alterations the University requires the Barrier Free - New Zealand Trust to be consulted for their input and technical advice. In some instances a full audit of the design may also be warranted.

6.1.6 Front of House Vs. Back of House Areas

The University of Canterbury is an Equal Opportunity Employer and can expect to employ people with disabilities. Consequently the University wishes for there to be unnecessary compromise to the design of 'back of house' areas with respect to access and mobility.

Where pertinent, design consultants should propose additional measures which can be effectively and



6.1 Overview

efficiently integrated into these areas to improve the ability for disabled staff to function within them.

Furthermore, consultants are required to recognise that staff and students with disabilities must not only be able to use these areas, but also travel between them. Opportunities for improving flexibility in travel, and reducing constraints on accessible routes should be actively explored.

6.1.7 Alterations and Refurbishments

The University is an integrated campus comprising multiple interconnected areas of varying age, design and function - and is subject to an ongoing and cyclic process of capital works.

It is the desire of the University that during this process the quality of the campus building stock (with respect to all aspects of support to disabled staff and students) is consistently and deliberately improved.

As such, the aforementioned requirements for minimum design standards apply not only to the design of new buildings, facilities, and external areas - but also to the alteration or refurbishment of the same.

Where the ability of the design to meet the standards otherwise expected within a new building appears to be restricted by existing physical or site constraints - the consultants are to provide sufficient information on alternative options to the University Project Manager to enable an informed decision to be made.

Consideration of the consequences of any design upon the University Campus as a whole are particularly important when considering the physical travel between destinations. Here, compromises to optimum design for access and mobility could significantly constrain the travel path of an individual - restricting options, and adding to seclusion, delay and frustration.

A person's environment plays a crucial role in determining which barriers they will experience. Appropriate accommodations (or changes) in the environment can eliminate, or at least lessen the impact of, these barriers.

6.1.8 Disability Resource Service

A large number of students with disabilities study at the University - and the Disability Resource Service provide support, assistance, advocacy and advice to students and staff to ensure that these individuals can make the most of their time at the University and achieve their academic goals.

In addition to providing individual supports, the service also provides advice and general information on disability-related issues at the University to both students and staff.

The Disability Resource Service team can be consulted for University specific preferences with respect to access and mobility. Contact details are available from the University Project Manager.

6.2 Design Concepts

6.2 Design Concepts

6.2.1 Internal Areas - General Considerations

6.2.1.1 Access routes within buildings to useable areas

Accessible routes shall be provided between adjacent areas of any split level floors. This should not require an individual to leave the building via one entrance and re-enter through another.

6.2.1.2 Powered Wheelchairs

Powered wheelchairs are becoming an increasingly common alternative to the conventional wheelchair - and are often significantly larger.

Modern powered wheelchairs are commonly found with overall lengths in excess of 1200mm and overall widths greater than 700mm. Equipment of this size can often be overly restricted, even in an environment designed for accessibility.

6.2.1.3 Toilet and Shower Facilities

In no instance shall the distance of travel to disabled toilet facilities should not exceed 120m.

In high use areas and key locations these facilities shall have self-opening and self-locking door mechanisms.

One accessible toilet per building, located at the ground level, shall be provided with hoists and tables to facilitate the use of the space. The hoists and tables shall be housed in a conjoined cubical immediately adjacent the accessible toilet.

Where possible the design shall consider provision for separate spaces for staff and students.

The University promotes the appropriate use of Unisex toilets in main building projects to support the transgender and LGBT communities within the University.

6.2.2 External Areas - General Considerations

6.2.2.1 Parking spaces

2% of car park spaces to be designated disabled car parks min. of 3.2m wide. There should be a continuous path of travel to the closest public entrance

6.2.2.2 Rest & Recreation along Accessible Routes

Landscaping strategy should include things to do on the way and ensure that all individuals can make the way with dignity

Designers shall consider the use of seating for rest stops, which would assist people who have chronic fatigue and medical conditions which affect physical mobility - with things to do along the way. This is true of both internal and external travel paths.

6.2.3 Teaching spaces

Teaching areas should be designed for satisfactory access to whiteboards, podia (if these are necessary), lecterns, demonstration tables, electrical switches and points, overhead projectors, microphones and any other facilities or equipment provided for teaching staff.

In designing tier-floored lecture theatres, provision should be made for a proportion of the seating area to be accessible to disabled persons. Space should be provided so that wheelchair users can remain seated in their wheelchairs.

Changes in level (stages) and the design of furniture items must assume that at times they could be used by people in wheelchairs.

Lecture desks distributed around room so that the student has a choice as to where they want to sit

6.2.4 Residential & Accommodation Areas

There are many residential and accommodation areas which supplement the University's educational facilities. These spaces should be designed to be as encouraging and encompassing to all variety of students and staff. Some considerations are:

- Provision for dog kennels for blind students
- Fixtures and fittings to encourage independent living for individuals who would otherwise be reliant on external support
- Smaller, individual spaces for individuals dealing with anxiety or depression
- Ability for those with temporary injuries, i.e. a broken leg, to be accommodated without needing to change room etc.
- Accessible student common areas and TV areas
- Accessible bathroom on each floor in cases of multi-storey complexes
- Accessible outdoor areas.
- Design of areas to allow freedom and flexibility of movement
- Safe for everyone regardless of age, size or ability

6.2.4.1 Full Inclusion

All common areas, recreational spaces, and floors of buildings shall be fully accessible - without exception. As a resident of these accommodation or residential spaces, a disabled person should be able to be included in activities with their fellow staff or students in all areas of these build environments.

This consideration should be further extended to note that from time to time these individuals may also want to have friends and family visit, and spaces within the built environment need to accommodate this.



6.3 Building Elements

6.3 Building Elements

6.3.1 Lifts

6.3.1.1 Lift size and controls

All lifts at the University shall incorporate the following features:

- Audible and visual alarms
- Audible, visual, and tactile lift controls
- Tactile floor indicators
- Light paths using colour contrasted finishes

Lifts should be sized to not restrict their use by persons with powered wheel chairs etc.

6.3.2 Doors and Door Hardware

Automatic doors are required at all primary buildings entrances. Furthermore, the use of mechanically operated doors with simple push button controls should be considered for accessible toilets and doors on key accessible routes.

Door hardware has the following requirements:

- Door closers to conform to AS1428.1
- Door handles should be level type.
- Height should not exceed 1000mm above finished floor level.

6.3.3 Kitchenette Facilities

Kitchenette facilities shall be provided in buildings in accordance with the guidelines in **Section 02 - Architecture**.

The design of these spaces should also specifically consider use by young mothers and their children.

6.3.4 Thresholds

Thresholds to all areas shall be level without exception.



6.4 Fitout Requirements

6.4 Fitout Requirements

6.4.1 Bilateral provision

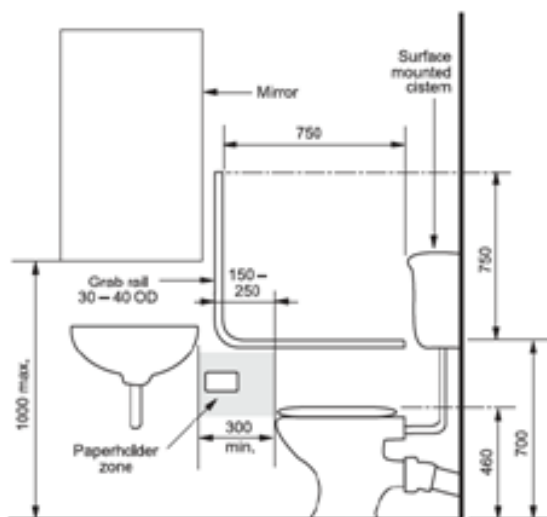
Whenever possible, when two or more facilities are to be provided, the designer shall provide right and left-handed arrangements of fixtures and fittings.

6.4.2 Reception Counters

Reception counters should be no higher than 1200mm from finished floor level

6.4.3 Toilet height and location, grab rails

The design of toilet areas shall be in general accordance with the schematics produced by Lifemark - replicated below. Further guidance is available from <http://lifemark.co.nz>.



6.4.4 Lighting Illumination levels

All illumination levels shall be not less than recommended in Appendix B of NZS 6703. Illumination provisions shall highlight doors, signs, counters, stairs (top, bottom and treads) and other artificially lit areas.

6.4.5 Listening systems

The performance requirements for hearing augmentation - listening systems are:

- Usable by people who do not have hearing aids
- Suitable for a range of severity of hearing impairment
- Safe and easy to use/control
- Suitable for intended use
- Able to be maintained regularly and easily

6.5 Signage & Wayfinding

6.5 Signage & Wayfinding

Note this section requires further development and is intended to be incorporated into **Section 19 - Signage and Wayfinding** when it is completed. Consultants are to consider design for access and mobility, and the general aims and purpose of this document when designing signage and wayfinding.

6.5.1 Use of Braille

The University encourages the widespread use of braille on signage and wayfinding. Particularly on signage identifying accessible toilets or similar facilities.

6.5.2 Quick Response (QR) Codes

The University encourages the use of QR codes and other wireless methods of information transfer to assist in wayfinding. Connection of personal devices can be used to assist those individuals with reading or eye-sight difficulties.



Compliance Checklist

Project Name:

Date:

Submitting Consultant:

Design Stage:

Section 06 – Design for Access & Mobility

Compliance Checklist

	Complies	Does Not Comply	Not Applicable	Comments:
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1.0 Section 01 – General

#	All Clauses	Complies	Does Not Comply	Not Applicable
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.1 Overview

6.1.1	Purpose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.1.2	Key Design Considerations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.1.3	Universal Design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.1.4	NZ Standard 4121-2001	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.1.5	Barrier Free - New Zealand Trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.1.6	Front of House Vs. Back of House Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.1.7	Alterations and Refurbishments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.1.8	Disability Resource Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.2 Design Concepts

6.2.1	Internal Areas - General Considerations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2.2	External Areas - General Considerations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2.3	Teaching spaces	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2.4	Residential & Accommodation Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.3 Building Elements

6.3.1	Lifts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3.2	Doors and Door Hardware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3.3	Kitchenette Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3.4	Thresholds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.4 Fitout Requirements

6.4.1	Bilateral provision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4.2	Reception Counters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4.3	Toilet height and location, grab rails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4.4	Lighting Illumination levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4.5	Listening systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Compliance Checklist

Project Name:

Date:

Submitting Consultant:

Design Stage:

Section 06 – Design for Access & Mobility

Compliance Checklist

Complies

Does Not Comply

Not Applicable

Comments:

6.5 Signage & Wayfinding

6.5.1 Use of Braille

6.5.2 Quick Response (QR) Codes

Date:

Acceptable

University Reviewer:

Acceptable subject to comments

Signed:

Resubmission required

