

**Checklist** (continued)*Kitchen*

- Counters should be continuous and 850mm high generally, part at 750mm; adjustable height counters are ideal.
- Provide 1500 x 1500mm turning circle.
- Units should have a toe recess 250 high x 150mm deep, with knee space in key areas.
- Carousel corner units under worktops provide the most accessible layout.
- Use contrasting colours to distinguish kitchen elements.
- Provide shallow sink, convenient to cooker, with swan-neck mixer lever tap.
- Split oven and ceramic hob is best.
- The zone 450–1300mm over finished floor level is the most accessible for everybody. Site all critical items in this zone.

*Bedrooms*

- 800mm clear zone around beds facilitates access.
- Plan bedrooms to allow both left- and right-hand transfer from wheelchair to bed.

*Services*

- Use rocker-type light switches in 20mm deep switch housings.
- Locate switches and socket outlets, TV and telephone points so they are accessible without undue stretching or stooping, 900–1200mm above floor level, and 500mm, minimum 300mm, from internal corners.



## Part four

### The building in use

# Day-to-day management of buildings

# 10

## 10.1 Management

Good management can improve the accessibility of even a badly-designed building. By contrast, poor management will compromise the most accessible venue. For example, a badly fitting door, which catches on the floor finish, presents an obstacle to many people with disabilities. Management must ensure that accessibility is not inhibited by poor maintenance or by the actions of employees, customers or visitors.

**In order to maximise accessibility for all**, management must ensure that:

- circulation routes and spaces are kept free of obstruction
- facilities are kept clean and function properly
- light levels are adequate
- spaces primarily intended for people with disabilities, including refuges and wheelchair accessible toilets, are properly maintained and not used as storage spaces
- equipment such as platform lifts and induction loops are maintained in good working order
- safety and orientation features to assist people with disabilities, eg. colour contrasting door furniture, tactiling on floors and colour contrasting strips, are present and renewed when necessary
- signage is clear and legible, is consistent throughout the building and is revised after any modification to building use or layout
- staff are aware of how best to facilitate disabled users of the building
- carpets and soft furnishings are kept free of dust
- filters are replaced in mechanical ventilation systems
- smoking restrictions are enforced.

An **access handbook** is a simple way of listing and explaining the features and facilities of a building which must be maintained in order to ensure proper access for everyone. It should include a set of plans of the building, indicating all the locations where clear dimensions must be maintained for access and safety. It should also include commentary on all the access features of the building in the form of a simple specification of how they should be. Details such as the types of lightbulb for a particular fitting, colour contrasting arrangements, size and colouring of lettering for signage etc, should all be clearly set out in the book. The access handbook should be kept in the safety file and also made available to all staff.

## Safety

Management must also consider **access and safety in emergency situations**. In an emergency, it cannot be assumed that the only people with disabilities are those who were identified before the emergency and that everyone else is physically fit and alert. Fatigue, medication or even alcohol can mean that some people will not respond at an optimum level. Others may have hidden disabilities such as epilepsy or being prone to panic attacks.

- Encourage people with disabilities to make themselves known, if their impairment is one which would compromise their response to a fire alarm.
- In a public building, an **emergency egress plan** should be drawn up for all people with disabilities, formed on the basis of the general need associated with a broad range of impairments. There should be a written and practised procedure on how to locate and assist people with disabilities. Appoint **fire wardens** to find people who may not be alerted by an alarm and to check out toilets, stores and other areas where there may not be any visual alarms.
- A **personal emergency egress plan** should be established for any members of staff with disabilities. This should be more specific than the general plan and can include the appointment of a specific staff member to ensure that people with disabilities are aware of the emergency and to assist them out of the building if necessary.
- Include all emergency egress plans in the general building **safety statement**.
- **Fire drills** should be practised regularly and should include people with disabilities.
- Ensure that fire alarms are **combined audio and visual two-stage systems**, and that visual alarms are free of obstruction.
- Staff must be trained in the safe transportation of people in wheelchairs in an emergency.
- Ask people with disabilities for their guidance on how best to assist them.

## Checklist

### *Management and safety*

- Management and maintenance manuals should be made available to all staff.
- There should be a systematic procedure for building maintenance.
- The emergency egress plan should include for both staff and visitors with disabilities.
- Personal emergency egress plans should be established for regular users of the building.
- All such procedures should be included in the general building safety statement.
- Safety procedures should be reviewed and revised regularly.
- Safety audits should take the needs of people with disabilities into consideration, ● section 10.4.
- Fire drills should be carried out regularly and include all people with disabilities.

## 10.2 Staff training and awareness

**Disability equality training** should be delivered to all staff, irrespective of sector or role, so that they gain a clear understanding of the issues which affect disabled users of buildings and environments. Staff need to be fully aware of all the access features of buildings and environments, and also of the manner in which people with disabilities are likely to use them. Without such awareness, proper service and maintenance is impossible.

Where particular facilities are installed, such as TDDs, platform lifts, stair lifts etc, staff must be fully trained in their use.

A short course delivered within the context of quality customer service to staff dealing with the public, either directly or by telephone, will increase their awareness of the needs of people with disabilities. Training packages for management are also available, ● section 9.4.

Training in **lifting and carrying techniques** is essential for staff members designated to help evacuate people in an emergency. Collapsible emergency type chairs should be used only by people who are properly trained. Most wheelchair users prefer to be carried in their own wheelchairs.

The building's access handbook should be available to all staff members, ● section 10.1.

### 10.3 Commissioning a premises

Every premises, whether a new development, an extension, a refurbishment or simply a fit-out, is handed over by the contractor to the client upon completion. The client body then undertakes the task of commissioning the building and making it ready for use.

Shortly **before hand over**, and as an integral part of the commissioning process, it is useful to examine the building so that any shortcomings can be identified and rectified. Emerging issues might include detail such as the re-direction of lighting or changes in light fittings to avoid glare, detailing to avoid hazards not visible on drawings or adjustments in positioning or sizing of fittings such as grab rails or handrails.

This examination should be separate from the normal 'snagging' of a building and should be in the form of a **live audit**, led by the people who will use the building, including people with disabilities. It should be comprehensive, including everything from the building approach, through the entrance areas, into all rooms, along all circulation areas, up and down the lifts and stairs, etc. It should also examine furniture, signage, fittings and the facilities of a building, including any fire safety equipment, ● section 11.2.

Such an audit, carried out by building users, rather than designers and builders, is likely to identify problems which will not have previously been considered. Such problems can be rectified prior to the actual hand over, thus minimising the potential disruption after occupancy.

### 10.4 Access and safety

If a building is fully accessible to disabled people, including wheelchair users, it is likely to be a safer building than one which is not. This will be true in day-to-day use of the building, as well as in an emergency. Many issues, such as ensuring the proper functioning of facilities and the vigilant maintenance of safety features of the building, have a direct bearing on the fulfilment of the Universal Right of Access.

The following list is a **maintenance audit** which identifies items which management must ensure are maintained. It is not an exhaustive list and will vary depending on the nature and size of the building.

#### Maintenance audit

##### *Externally*

Check that:

- designated parking bays are reserved for the use of disabled drivers
- ramps and circulation routes are free from parked bicycles and other obstructions
- circulation routes and escape routes from buildings to places of safety are on safe surfaces, free of obstruction and well lit
- areas being serviced or repaired are adequately protected and alternative routes are provided as necessary and clearly marked
- route surfaces are well maintained, clean, free of gravel, grit, mud, ice, snow and moss
- battery supplies to platform lifts are permanently charged
- aids to evacuation are in place.

##### *Entrances*

Check that:

- turning space at the top of ramps is kept free of obstruction
- approach to bells, letterboxes, door handles etc is free of obstruction
- doors are easy to open and closing devices are set at the minimum force needed to shut the door
- entrance lobbies are free of obstruction, both permanent and temporary, eg. delivered goods.

##### *Horizontal circulation within the building*

Check that:

- door mats are recessed and, along with rugs, are securely fixed so as not to cause tripping
- slip resistance of floor finishes is maintained, spillages cleaned up promptly and appropriate cleaning agents and polishes used
- worn floor finishes are replaced
- artificial lighting is at adequate levels
- doors are easy to open and door closers are set at the minimum force needed to shut the door
- doors are kept closed when not in use
- wheelchair spaces in waiting rooms and elsewhere are kept free of obstruction
- circulation routes are free of obstruction, both temporary and permanent, eg. toolboxes, boxes of files, vending machines, photocopiers
- refuges are kept free of obstructions
- adequate headroom is maintained throughout the building, with no trailing cables on floors or at heights below 2200mm
- approach to and egress from all lifts and stairs are kept free of obstruction

- high temperature surfaces (eg. open fires, radiators, portable heaters, hot plates, cookers etc) are protected
- both visual and audio fire alarms are operative and visual alarm indicators are unobstructed
- hazardous areas, such as plant and machine rooms, are kept locked.

#### *Vertical circulation*

Check that:

- stairs and ramps are free of obstruction, whether permanent or temporary, particularly on landings and at the tops and bottoms of ramps
- stairway finishes are maintained clean and slip-resistant and are replaced when frayed or worn
- stairway handrails are securely fixed
- visual strips on stairs nosings are clearly distinguishable from adjacent surfaces
- tactile areas at stairs and the colour contrasting strips of the first and last steps are maintained
- stairways are adequately lit, without confusing shadows adjacent to or on the stairs
- lifts are serviced and lift car floors align with finished floor levels
- lift controls are free of obstruction.

#### *Signage*

Check that:

- signage is clear and legible, and revised on foot of any alterations to building layout
- signs are replaced after redecoration
- bulbs in illuminated signs are replaced when performance is reduced, rather than when they fail
- access to tactile signs is maintained.

#### *Sanitary facilities*

Check that:

- toilet transfer areas are kept free of obstruction
- alarm facilities are maintained and any pull cords extend to within 100mm of the floor
- toilets used by people with disabilities are kept particularly clean, as these users depend on the WC surfaces for support
- sanitary disposal bins are provided, emptied regularly and positioned within reach of the toilet.

#### *Furniture*

Check that:

- loose furniture and fittings are placed so as not to obstruct circulation routes
- refuges and emergency escape routes are free of obstacles
- seats have good back and arm support
- storage units are accessible and securely fixed
- items in storage or on furniture are not at risk of being easily knocked over, and heavy items are stored at lower levels.

#### *Communication devices*

Check that:

- induction and counter loop systems are kept in good working order and their locations indicated
- communications systems (eg. queueing systems and alarms) are both audio and visual, and in full working order.

#### *Cleaning and maintenance work*

Check that:

- cleaning and maintenance work are carried out during off-peak periods or while the building is closed
- wet floors and similar hazards are cordoned off and/or indicated by warning signs
- equipment, trailing cables etc do not cause obstruction or hazard during cleaning operations
- polish applied to floor surfaces does not reduce slip resistance
- polishing of surfaces does not present glare and reduce contrast
- windows, lamps and lighting diffusers are cleaned regularly
- cleaning agents and applications are non-toxic and air fresheners are not of a type that aggravate respiratory difficulties
- mattresses and pillows are cleaned to inhibit dust mites and are replaced regularly.

#### *Staff training*

Check that:

- everyone understands their role in ensuring that the building operates efficiently, both on a day-to-day basis and in an emergency
- appropriate skills and disability equality training are included in staff induction training
- training is updated routinely
- contract workers are appraised of their safety duties and responsibilities in advance of commencing any work.



## Retro-fitting and refurbishment

### 11.1 General

The principle of the Universal Right of Access applies equally to existing buildings and environments as to new ones. Traditionally, legislation in Ireland has rarely acted to impose change to existing buildings. Current legislation, however, such as the Equal Status Act, 2000, the Employment Equality Act, 1998 and the Health and Safety Act, 1993 require duties of care from building owners and employers which may indirectly imply the necessity to effect change in buildings and environments. Such changes may not be spelt out in other legislation and regulations such as the Planning and Development Act, 2000 or the Building Regulations, 2000.

The term 'existing buildings' includes everything from a 1980s office block to a protected structure of international significance. While it may be true that existing buildings don't always apparently lend themselves to the incorporation of new technology or new features, it does not mean that the challenge should be ignored.

Many of the problems associated with existing buildings, such as steep steps, narrow doors, cramped lavatories and socket outlets located on skirting boards, can be overcome with relatively minor intervention. The physical difficulties of creating wheelchair accessibility, particularly in some protected structures, should not preclude improvements for people with other impairments such as impaired vision or hearing. Every improvement, no matter how small, is still an improvement and must be worthwhile if it facilitates even one extra person.

### 11.2 Access auditing

Prior to the commencement of any design work on the project, an **access audit** should be carried out on the existing building or environment.

An access audit rates an existing building against given criteria for usability and accessibility. It involves not only the issue of ready movement to and around the building but also the use by people with sensory or intellectual impairments of the services which the building provides.

How an audit is carried out is as important as what it is looking for. Any professional or design audit must involve people with disabilities examining the building or environment with the designer, manager etc, in order to identify problems and suggest solutions. Consultants experienced in adaptive work may be of assistance.

Many access audits concentrate only on facilities for wheelchair users and are therefore only of partial value. More than 10% of the Irish population has a long-term impairment of some kind. This figure does not include those who are temporarily disabled (eg. by a broken leg, pregnancy, medication etc). Building access and use for all such people should be within the terms of reference of an access audit.

An all-inclusive audit involves examining staff attitudes and training and printed and personal information services as well as the building itself. Many of the items listed in the maintenance audit, ● section 10.4, should also be considered and an appropriate combination of all issues compiled.

A measured survey identifies areas of inaccessibility from which recommendations for improvement can be made. A good audit will go on to prioritise the findings, make detailed recommendations and consider timescale and cost, so as to arrive at an overall plan for improvement.

The following suggested general access audit outlines some common issues. Audits should be customised for particular types of buildings or environments. Measure the results of an audit against the advice in this book to highlight any shortcomings.

The audit should:

- examine the access features and requirements for all users, including visitors
- identify existing physical and communication barriers to access
- develop appropriate solutions so as to reconcile access needs with any requirements for building and site conservation.

The solutions form the **access plan**. Once implemented they should be recorded in the access handbook, ● section 10.1.

### Access audit

#### *Exterior: routes, parking, building approach and entrances*

- parking facilities and signage
- vehicle access control measures
- route through the environs: pedestrian entrances, grounds, car parks, building entrance etc
- adequacy of main and secondary entrances
- entrance detailing: access control, thresholds, lighting, gradients, highlighting.

#### *Interior generally*

- doorways: control, dimensions, highlighting, door furniture, vision panels.

#### *Circulation spaces*

- corridors: dimensions, lighting, colours, floor finishes
- stairways: dimensions, handrails, tread and riser dimensions, finishes, tactiling at the top and bottom.

#### *Particular rooms*

- room-by-room evaluation, having regard to particular attributes detailed in this book.

#### *Toilets*

- locations on each floor, adequacy of provision
- dimensions, fittings (types, colour contrast, location and maintenance), taps, water temperature, lighting levels.

#### *Showers*

- dimensions, types, layout, controls, temperature, drainage.

#### *Building services and finishes*

- lifts: lobby size, dimensions, detailing, signs
- telephones: position, hard-of-hearing facility, provision of TDDs
- communications systems: induction loops
- fire detection and alarm systems: audio and visual alarm, alarm procedures
- security systems:
  - is their operation difficult for people with different impairments?
  - will building modifications require security system modifications?
- lighting adequacy: type of fittings to avoid glare etc, visibility of controls, accessibility of socket outlets
- colour contrasting finishes at doorways, skirtings, room entrances.

*Furniture and fittings*

- sign provision: quantity, location
- sign design: dimensions, colour contrast, typeface, positioning, lighting
- floor finishes: colour coding, slip resistance, ease of movement of wheelchairs and buggies
- loose furniture: avoiding obstruction; stiff, high-backed seating with arms.

*Printed publicity and other material*

- availability of information in alternative formats.

*Staff training and awareness*

- are staff who deal with the public trained in disability awareness?
- are individual staff members designated to help visitors with impairments?

*Management procedures*

- do emergency procedures incorporate planning for building users with impairments?

The **outcome** of the access audit should be in report form, including written text, drawings and commentary, photographs and a record of discussions. The audit should form the basis of an **access plan**, which should inform the design process for the retro-fitting or repair work under consideration. The audit should be kept in the safety file for the building, so that it can be referred to at a later date if further works are under consideration.

### 11.3 Refurbishment process

When contemplating improvements in access and use in refurbishment projects, the consultation and decision-making process should be similar to that for new buildings. It should start with an access audit and consultation with actual and potential users.

#### Audit for access and use

**Examine the building's current use** to see whether people have difficulty using it, by consulting present users and by inviting comment from local people with disabilities. Live auditing, ● section 10.3, and 11.2, along with a 'mystery shopping' exercise, will yield the most comprehensive results.

**Assess the building in terms of current levels of access and use** based on initial investigations. The access audit might use the form in ● section 11.2 as a starting point, with the addition of particular issues related to the building type.

**Identify possibilities for better access and use** through both building design and staff training measures by discussing these with actual and potential users.

**Prioritise improvement measures** on the basis of a cost-benefit analysis. **Consider** how the **various measures** might be implemented.

**Consider both piecemeal and radical approaches to change** before settling on a firm list of priorities. It might be that in the long term small-scale alterations would be less useful than more radical change to the way a building is organised.

**Prepare detailed drawings and specifications for building work and organise any staff training programmes** before proceeding to implement the changes.

The challenge of 'invisibility' referred to in chapter 1 may be greater in a refurbishment project than with a new building. The same universal access principles apply:

- gently sloping access to a generously sized front door
- few internal doors and lobbies
- well-sized, well-lit corridors without changes in level
- storeys connected by a well-sized lift
- well-sized internal doors with vision panels and lever handle locksets – or no locking devices where practicable
- all spaces roomy enough for everybody to use and move around in – particularly important in toilets, lobbies and other areas which are traditionally tight for space
- switches, taps and handles which can be readily distinguished against their background and which are easily grasped or used
- seats, desks and workstations which don't confine people unduly
- natural materials which create a pleasing atmosphere.

#### An integrated approach to refurbishment

Consideration of accessibility and usability should be integrated with all other considerations from the outset. This will ensure that they are dealt with in a holistic manner, not in an 'add-on' way.

#### Priorities and strategies for refurbishment and upgrading

A set of priorities when implementing improvements in any existing building is essential where planning or budgetary constraints exist. For a given project, develop the priorities through consultation with building users, local people with disabilities and other interested parties.

As a general rule, the most frequently used services, along with those parts of the building most often visited by the public, should have maximum accessibility, both by way of building layout and facilities.

The fundamental **order of priority** is:

- getting into the building from the outside, and out again
- access and use of principal services
- use of sanitary facilities
- use of other facilities.

#### The potential of an ongoing strategy

Opportunities to make improvements occur regularly during the life of any building. Building services are renewed regularly, on a 15–25 year cycle. Lighting, light switching, access to power outlets, sanitary ware, sanitary fittings etc, are all renewed within this timescale. Renovations offer an opportunity to make good many of the shortcomings of a building. Decoration work is carried out as often as every five years or less, and offers a similar opportunity. Re-painting and installing new floor finishes can result in improved colour contrast throughout the building, and is achievable at no extra cost, save that of some forethought. The installation of a new signage or new partitions offers the chance to improve legibility, accessibility and ease of manoeuvre in the overall building.

#### Historic buildings and universal access

The number of people visiting national monuments and other historic buildings has grown rapidly in recent years. Conflicts can arise between the need to conserve the building and the need to improve access. In the UK, various guidelines on improving access to historic buildings and monuments have been published, and relevant references are given in Appendix 2.

Proper conservation may not preclude the incorporation of a platform lift at a small flight of steps, especially if it can be done in such a manner as not to damage or remove any of the original building fabric. Other interventions such as lighting, communication systems, signage and information boards etc may be incorporated readily and will greatly improve accessibility. Where physical solutions are impossible, a greater effort will be needed to find management solutions, which may include staff training.

#### Financial incentives

Local Authority funding is available for most residential conversions to suit people with disabilities. Some State aid (hotel refurbishment, for example) is predicated on improvements in access and use for people with disabilities. FÁS provides financial assistance for some adaptations to benefit disabled employees. There is, however, no financial incentive to improve buildings on a broad scale.

## Appendix I Components

The following is a list of types and suppliers of equipment in the Republic of Ireland. It is not exhaustive and is for guidance only. Other makes and types of components are available from the UK and elsewhere.

#### Contents

<b>1</b>	<b>Alarms</b>
<b>2</b>	<b>Baths: adjustable height</b>
<b>3</b>	<b>Bath lifts: powered</b>
<b>4</b>	<b>Grab rails</b>
<b>5</b>	<b>Kitchen fittings</b>
<b>6</b>	<b>Lever taps</b>
<b>7</b>	<b>Locks</b>
<b>8</b>	<b>Lifts: short rise</b>
<b>9</b>	<b>Lifts: stairlifts</b>
<b>10</b>	<b>Lifts: through-floor</b>
<b>11</b>	<b>Play equipment</b>
<b>12</b>	<b>Play surfaces</b>
<b>13</b>	<b>Portable accessible public toilets</b>
<b>14</b>	<b>Shower stretchers</b>
<b>15</b>	<b>Showers</b>
<b>16</b>	<b>Shower accessories</b>
<b>17</b>	<b>Tables: adjustable</b>
<b>18</b>	<b>Tactile paving</b>
<b>19</b>	<b>Tactile signs</b>
<b>20</b>	<b>Temporary outdoor surfaces</b>