# Bracknell Forest Borough Local Development Framework: Designing for Accessibility in Bracknell Forest

PLANNING PEOPLE PLACES


**Supplementary Planning Document**
**June 2006**

BRACKNELL FOREST BOROUGH COUNCIL

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## Introduction

It is estimated that there are 11.7 million[1] disabled people in the UK. Disabled people have often been denied access to facilities and services that able-bodied people have taken for granted. The difficulties that disabled people have experienced when accessing these facilities and services often relates, not to an individual's disability, but to the lack of thought and lack of awareness of society when designing the built environment around us and when establishing how services are provided.

The way that buildings are designed has an impact on disabled people, older people and parents with children. Their access requirements should be incorporated into how we shape our environment. We can all benefit from a more easily accessible built environment, accessible design is invariably good design for all.

Society's awareness of access issues is being raised and a number of pieces of legislation have been introduced in recent years to tackle the issue. The Chronically Sick and Disabled Persons Act 1970, the Town and Country Planning Act 1990, Planning and Compulsory Planning Act 2004, Part M of the Building Regulations 2004 and the Disability Discrimination Act 1995 are all relevant pieces of legislation that should be examined when designing buildings or assessing service provision.

Bracknell Forest Borough Council is working to ensure that development within the Borough is accessible to all members of our community. "Designing for Accessibility in Bracknell Forest" has been produced to give guidance to those who are planning, designing and implementing the built environment and details the standards of accessibility that the authority is looking to be achieved in all development.

Bracknell Forest Borough Council will be looking to ensure that development goes beyond minimum standards of accessibility detailed in documents such as Part M of the Building Regulations 2004 (Approved Document M 'Access to and use of buildings'). Planning applications will be assessed against compliance with planning policy and not compliance with Part M.

Accessibility issues should be considered from the outset in the initial design concept stages. Access statements should be developed to set out the standards to which design teams will work to. The achievement of ease of movement for all, without the need for special arrangements and provision, should be an aim of any project. A key design rationale should be to follow best practice when looking at accessibility matters. The Borough Council will be looking to applicants to demonstrate this approach.

[1]Office of the Deputy Prime Minister

# Contents

# 1. Legislation and Development Policy

## Chronically Sick and Disabled Persons Act 1970

This was the first piece of legislation to refer to access to the built environment for disabled people. The Act clearly states that premises open to the public, whether on payment or otherwise, should make provision for disabled visitors. Educational buildings and local authorities, with reference to publicly owned housing, are also to make provision.

## Planning and Compulsory Purchase Act 2004

Section 76 of the Town and Country Planning Act 1990, required that local planning authorities draw to the attention of developers, when granting planning permission, the relevant sections of the Chronically Sick and Disabled Persons Act 1970 and design guidance published by the British Standards Institute (BSI). The Town and Country Planning Act 1990 is now superseded in part, and amended in part, by the Planning and Compulsory Purchase Act 2004. Reference should be made to this Act when assessing duties under current Planning legislation.

## Planning Policy Statement 1 (PPS1)

PPS 1 states that sustainable development is now the core principle underpinning the planning system. A key issue within sustainable development is that it provides a better quality of life for everyone, now and for future generations. To facilitate social progress, it is recognised that the needs of everyone should be planned for.

PPS 1 states that:-

> "Planning should facilitate and promote sustainable and inclusive patterns of urban and rural development by"
>
> • making suitable land available for development in line with economic, social and environmental objectives to improve people's quality of life;
> • contributing to sustainable economic development;
> • protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities;
> • ensuring high quality development through good and inclusive design, and the efficient use of resources; and,
> • ensuring that development supports existing communities and contributes to the creation of safe, sustainable, liveable and mixed communities with good access to jobs and key services for all members of the community."

Under the heading of design, PPS1 states that,

"Good design ensures attractive usable, durable and adaptable places and is a key element in achieving sustainable development. Good design is indivisible from good planning."

Planning authorities should plan positively for the achievement of high quality and inclusive design for all development, including individual buildings, public and private spaces and wider area development schemes. Good design should contribute positively to making places better for people. Design which is inappropriate in its context, or which fails to take the opportunities available for improving the character and quality of an area and the way it functions, should not be accepted.

High quality and inclusive design should be the aim of all those involved in the development process. High quality and inclusive design should create well-mixed and integrated developments which avoid segregation and have well-planned public spaces that bring people together and provide opportunities for physical activity and recreation. It means ensuring a place will function well and add to the overall character and quality of the area, not just for the short term but over the lifetime of the development. This requires carefully planned, high quality buildings and spaces that support the efficient use of resources. Although visual appearance and the architecture of individual buildings are clearly factors in achieving these objectives, securing high quality and inclusive design goes far beyond aesthetic considerations. Good design should:

- address the connections between people and places by considering the needs of people to access jobs and key services;
- be integrated into the existing urban form and the natural and built environments;
- be an integral part of the processes for ensuring successful, safe and inclusive villages, towns and cities;
- create an environment where everyone can access and benefit from the full range of opportunities available to members of society; and,
- consider the direct and indirect impacts on the natural environment.

Planning authorities should prepare robust policies on design and access. Such policies should be based on stated objectives for the future of the area and an understanding and evaluation of its present defining characteristics. Key objectives should include ensuring that developments:

- are sustainable, durable and adaptable (including taking account of natural hazards such as flooding) and make efficient and prudent use of resources;
- optimise the potential of the site to accommodate development, create and sustain an appropriate mix of uses (including incorporation of green and other public space as part of developments) and support local facilities and transport networks;

- respond to their local context and create or reinforce local distinctiveness;
- create safe and accessible environments where crime and disorder or fear of crime does not undermine quality of life or community cohesion;
- address the needs of all in society and are accessible, usable and easy to understand by them; and
- are visually attractive as a result of good architecture and appropriate landscaping.

In planning for the achievement of high quality and inclusive design, planning authorities should have regard to good practice set out in By Design - Urban design in the planning system: towards better practice; By Design - better places to live; Safer Places - the Planning System and Crime Prevention; and Planning and Access for Disabled People: A Good Practice Guide.

"Development plans should also contain clear and comprehensive inclusive access policies. Such policies should consider people's diverse needs and aim to break down the unnecessary barriers and exclusions in a manner that benefits the entire community. Although society and individuals have invested heavily in enabling people to manage their personal circumstances, many people are unnecessarily affected by ill-conceived design, with the mobility needs of, for example, disabled people, elderly people and others considered separately from others and only once designs are completed."

Developers, architects, designers, highway engineers etc. need to consider how their schemes can deliver and respond to creating an accessible environment.

## Local Development Framework

Bracknell Forest Borough Local Plan was adopted in 2002 and contains detailed policies and proposals that guide development in the Borough. The adopted Local Plan, which covers the period up until 2006, includes three policies relating to creating accessible environments for all the community (see below).

The Local Plan needs to be reviewed to ensure that policies remain effective in delivering development appropriate to national policy and the local environment. However, the Government has changed the way that the planning policy system operates. The Borough Council is now required to prepare a number of individual documents that together guide development at a local level. These documents will be known as the Bracknell Forest Borough Local Development Framework. The Local Development Framework (LDF) will be made up of documents that will contain the statutory policies and proposals; these documents will be known as Development Plan Documents (DPDs). The first phase of DPDs includes a Core Strategy document and Site Allocations document.

In addition, the LDF includes Supplementary Planning Documents (SPDs) to support and guide local planning policies. SPDs will cover a range of issues covering wider themes or relating to site specific guidance. They will include design guides, area development briefs or master-plans.

This document therefore will have the status of a SPD once adopted and will relate to the existing accessibility policies in the Bracknell Forest Borough Local Plan, until otherwise superceded by policies in the Core Strategy and/or Development Management Development Plan Documents.

## Bracknell Forest Borough Local Plan

The Bracknell Forest Borough Local Plan currently incorporates 3 policies on issues of access and inclusive design:-

### Chapter 2 – Built and Natural Environment

Policy EN22 Designing for accessibility
A MATERIAL CONSIDERATION IN THE DETERMINATION OF A PLANNING APPLICATION WILL BE T HE PROVISION OF CONVENIENT ACCESS, PARKING SPACES AND FACILITIES FOR PEOPLE WITH DISABILITIES. IN ASSESSING THE TYPE AND AMOUNT OF PROVISION, THE BOROUGH COUNCIL WILL HAVE REGARD TO THEIR ADOPTED "DESIGN STANDARDS ON ACCESSIBILITY".

Convenient access for all members of the population should be provided in all development schemes. This will benefit people with disabilities, the elderly, the infirm and those with young children. Alterations to shop fronts should, where practicable, provide access for people with disabilities.

Legislation requires that buildings which are to be used by the public should make appropriate provisio n for the needs of the people with disabilities. The Borough Council approved standards for convenient access, parking and other facilities are published separately as supplementary planning guidance.

Where the development involves works to a building of historic interest, the Borough Council will consider the adoption of a flexible approach to facilitate access.

### Chapter 5 - Housing

Policy H14 Accessible housing
THE BOROUGH COUNCIL WILL REQUIRE BY CONDITIONS, OR SEEK TO ENTER INTO AGREEMENTS, THAT NEW DWELLINGS ARE ACCESSIBLE TO ALL. A MATERIAL CONSIDERATION WILL BE THE EVEN DISTRIBUTION THROUGHOUT A DEVELOPMENT OF DWELLINGS DESIGNED, OR CAPABLE OF EASY ADAPTATION, FOR ACCESS AND OCCUPATION BY WHEELCHAIR USERS.

The Borough Council will seek to ensure that new development eliminates some of the difficulties experienced by the elderly, people with small children and, in particular, people with disabilities. Such difficulties can be encountered, for example when seeking accommodation or when visiting other dwellings. Therefore, all dwellings should be designed such that:

(i) the approaches and entrances are accessible to people with disabilities, including wheelchair users;
(ii) areas normally used by visitors (such as halls, WCs, living rooms) are accessible to people with disabilities, including wheelchair users;
(iii) where they comprise more than one storey or level, they are designed internally for easy movement and are amenable to modification, if necessary, for persons of limited mobility.

The Housing Needs Study indicates that some 800 households in the Borough will require specially adapted accommodation in the next three years. The Study also notes that the main housing need of those who were requiring other accommodation was for homes designed for people with mobility problems. The Borough Council will expect developers to take account of Part M of the Building Regulations and to have regard to the best practice in designing accessible housing, (such as "Accessible General Housing"- Access Committee for England – 1992 and "Accessible thresholds in new housing" – DETR -1999) when preparing residential proposals.

There is a local shortfall in dwellings suitable for wheelchair users in the Borough. Therefore, on large housing sites, the Borough Council will seek the provision of a proportion of new dwellings, designed for wheelchair users.

**Chapter 6 - Movement**

Policy M7 Access for people with disabilities
THE BOROUGH COUNCIL WILL PROMOTE AND NEGOTIATE ACCESS FOR ALL TO, AND THE USE OF, HIGHWAY AND FOOTWAY NETWORKS, PARKING FACILITIES, AND PUBLIC TRANSPORT NETWORKS AND FACILITIES.

The Borough Council believes that the Borough should be accessible to all. To achieve this, the access requirements of people with disabilities will be taken into account. The design of the built environment can be improved by, for example, the installation of dropped kerbs and tactile paving, the provision of obstacle free footways and appropriate numbers of wider car parking bays. Public transport networks and facilities remain inaccessible to many people with disabilities, and measures to remedy this will be sought. In new development, facilities to meet the access requirements of people with disabilities should be included from the outset.

Any planning application should demonstrate compliance with these policies and national guidance on accessibility issues. This document has been put together to guide applicants on the standards of accessibility expected within development in Bracknell Forest. The document is the Borough Council's adopted standards of accessibility. Therefore, design should reach and exceed the standards and dimensions detailed within this document to ensure ease of access for all and the achievement of best practice wherever possible.
These policies can be viewed in the Bracknell Forest Borough Local Plan which is available on the Borough Councils web site www.bracknell-forest.gov.uk

## Education Accessibility Strategy

When looking at provision within educational buildings, consideration should be given to national standards relating to accessibility and the design of educational buildings. Reference should also be made to the Borough Council's Education Accessibility Strategy which provides a framework for the provision of accessible education within the borough. Guidance documents specific to educational buildings are detailed in chapter 20, Useful Publications.

## The Building Regulations 2004

Part M of the Building Regulations requires that provision is made for all building users, including disabled people, to access and use buildings. Compliance with Part M of the Building Regulations does not equate to compliance with the Borough Council's planning policies on accessibility. The Building Regulations are a useful tool to ensure a minimum standard of provision in construction where accessibility has not been fully considered at the design and planning stage. However, applicants should not look to the Building Regulations as a standard of best practice; the Approved Document M (AD M) is a minimum standard of provision acceptable in the final stages of a development.

The 2004 edition of Approved Document M (AD M) 'Access to and use of buildings' contained a number of key changes in focus that applicant should be aware of. These included:-

The requirements of the Building Regulations must be met in any development

- The requirement no longer makes reference to 'disabled people'. The aim of the new Part M and AD M is to promote a more inclusive approach to design to accommodate the needs of all people.

- Part M now applies generally to material alterations of, and extensions to, existing non-domestic buildings and material changes of use to some non-domestic uses.

- The guidance contained within the new Part M and AD M draws on the recommendations of British Standard BS 8300:2001 'Design of buildings and their approaches to meet the needs of disabled people - Code of Practice'. There are some instances where the guidance in this Approved Document differs from the recommendations in the edition of BS 8300. It is the intention of the British Standards Institution to review such anomalies as may exist and where practicable to take them into account in future editions of the BS.

- Access Statements are introduced. It is recommended that an Access Statement is provided with all Building Regulation application to identify the philosophy and approach to inclusive design adopted, particularly when the approach taken to satisfying the Requirements differs from that represented by the guidance in the Approved Document. Further guidance on Access Statements is provided in chapter 2 of this document.

within the Borough. However, the standards of accessibility detailed within the guidance supporting Part M should be exceeded wherever possible and should be viewed as minimum standards acceptable. The Borough Council will assess any planning application against adopted planning policies relating to access and inclusive design and the standards contained within this document.

## Disability Discrimination Act 1995

The Disability Discrimination Act 1995 (DDA) places duties on all service providers and employers to meet the needs of disabled people where considered reasonable. As such, building design should consider fully the needs of people with disabilities to aid service providers and employers to meet their duties under the DDA. Any organisation, large or small, whether providing a service by payment, or free to the public, has duties under the Act. Therefore, any restaurant, library, school, office, hotel, local authority, court, church or bank for example will need to meet the needs of all disabled people within their premises.

As of October 2004, any service provider or employer is at risk of potential court action if they fail to make reasonable adjustments to the physical features of service premises or to overcome physical barriers to access. Examples of structural or physical changes that may be seen as a reasonable alterations include widening a doorway, providing a permanent ramp, relocating a shelf or door handle or providing sufficient contrast in the colours of décor of a room to assist blind and partially sighted people.

The duty is an anticipatory one and therefore provision in advance of need is recommended. Disabled people are a diverse group and consideration should be given to the needs of all disabled people, including those with sensory impairments, learning disabilities and people with mental health issues.

The Disability Rights Commission can provide further advice and has published Codes of Practice to guide employers and service providers through the legislation.

## BS 8300 2001: Design of buildings and their approaches to meet the needs of disabled people – Code of practice

The BSI has published a new code of practice on accessible design to explain how the built environment can be designed to anticipate, and overcome, restrictions relating to access that many disabled people encounter. The document covers a wide range of disabilities and different types of buildings including homes, retail, employment, sports venues and theatres.

The British Standard is a source of best practice for architects, builders, and facilities managers and encourages innovative design solutions. Reference should be made to this comprehensive BS in addition to this publication.

BSI guidelines published in 1978 titled "Code of practice for the design of housing for the convenience of disabled people," BS 5619, and BS 5810 published the following year, have all been superseded by BS 8300.

## Historic buildings and areas

Bracknell Forest has a number of Listed Buildings and two Conservation Areas which provide a rich heritage which is important to protect and enhance. However, this should not be seen as an obstacle to providing a more accessible environment, though more innovative solutions invariably will be required to ensure that the character of such buildings and areas is respected. Difficulties can invariably be overcome with thought, quality materials and informed design advice. Anyone interested in improving access within a conservation area or in a listed building should consult the planning department.

Further advice can also be found in English Heritage's guidance document entitled "Easy Access to Historic Buildings (2004)". This helpful document details good practice when considering improving access on historic sites – see appendix [15] for contact details.

# 2. Access Statements

It makes good economic sense to create buildings and places that everyone can use with ease, confidence, safety and dignity. Early consultation with all those involved including designers, developers, planners, building control, and all potential users, is key to any successful inclusive development. The production of an Access Statement is seen as an important means of achieving this goal.

An Access Statement should clearly identify:

- the philosophy and approach to inclusive design being adopted;
- key issues of the particular scheme including any environmental constraints;
- the source of advice and guidance used and specialist consultations;
- how the principles of inclusive design have been implemented into the scheme; and
- how inclusion will be maintained and managed once the building is in use.

The size and level of detail in the statement is likely to reflect the size and complexity of the proposed development and may therefore vary considerably.

The compilation of an Access Statement should begin at the pre-planning stage. It is intended to be a 'living document' that grows in detail as the project proceeds. In this way it will help to provide an audit trail to demonstrate whether particular matters have been considered adequately and with the benefit of current and authoritative guidance. This will be to the benefit of the client and any future occupiers where such matters are material to the Disability Discrimination Act 1995.

Bracknell Forest Borough Council will require the inclusion of an Access Statement when a planning application is submitted (see the Planning and Compulsory Purchase Act 2004, Part 4, section 42, paragraph 62). An Access Statement will encourage designers and developers to consider access issues at the earliest possible stage of the development process. It is also a useful tool to encourage innovation and flexibility in design approach. The Access Statement should further be developed in detail for any Building Regulations application.

By considering access issues for all members of society at the earliest opportunity steps can be taken to ensure facilities are suitable for use, and accessible by everyone. The process will also help inclusive design proposals to be fully integrated into the design from the beginning rather than considered towards the end of the process when only ineffective, compromise solutions can be achieved.

# 3. Arrival

Many disabled people will arrive by car but do not assume that this will always be the case. Consideration should be given to providing facilities for people arriving by public transport, community transport, taxi or as a pedestrian.

## Car Parking

Disabled persons' car parking bays should be provided as near to a main entrance as possible, preferably within 50m of the main entrance. Access should be level from the designated disabled persons car parking to the principal entrance. The bays should be designed as detailed in diagram 1 below. Wider and longer bays will allow for car doors to be opened to their fullest extent providing people with more manoeuvring space in-between and to the rear of cars, particularly important when trying to transfer into or out of a wheelchair or exiting from the rear of a vehicle.

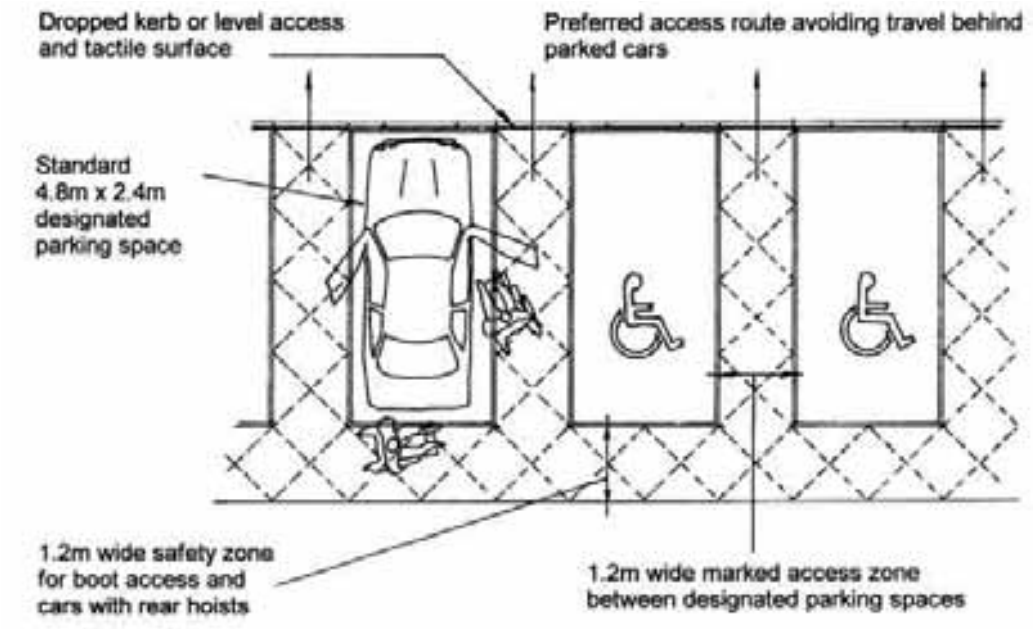



**Diagram 1 – Access around designated off-street parking spaces**

Many super-markets have used the concept of extra space around parking bays to assist parents with pushchairs. The installation of parent with pushchair parking facilities is welcomed and encouraged. However, remember that travelling distances are crucial for many disabled people, so it is these bays that should be closest to the entrance.

Consideration should also be given to ensuring that parking facilities for disabled people are provided on level, firm ground. The gentlest of slopes can create difficulties for many people transferring into wheelchairs, or for those unsteady on their feet. Additionally, soft and loose surfaces can make wheeling or pushing a wheelchair difficult and many people with ambulant disabilities find such surfaces difficult to walk on. Such surfaces should be avoided.

The number of disabled persons' parking bays that should be provided will depend on the type of building.

| Type | Provision for Employee's | Provision for Visitors |
|---|---|---|
| Workplaces | One bay for each known employee who is a disabled motorist | 1 space or 2% of total capacity (whichever is the greater) |
| (car parking for existing premises) | | |
| Workplaces (new employment premises) | 1 space or 5% of total capacity (whichever is the greater). Adjustments to provision might be required once the building is occupied, depending on need | |
| Shopping, recreation and leisure | One bay for each employee who is a disabled motorist | 6% of total capacity |
| Railway car parks | One bay for each employee who is a disabled motorist | 5% of total capacity |
| Places of worship | One bay for each employee who is a disabled motorist | At least 2 spaces |

The above guidance is considered best practice and is taken from BS 8300. However, the Borough Council's parking standards are currently under review. Please contact Planning and Transport Policy for further guidance.

## Parking facilities for disabled members of staff

Disabled persons parking bays should also be provided for staff and be located nearest to the staff entrance (if different from the main entrance). If you have an employee with a disability who uses a car, discuss where the most appropriate location for a bay would be for them.

## Enforcement and signage to parking facilities

Signs play an important part in trying stop the misuse of disabled persons parking bays. Signs on the highway come under Department for Transport regulations. However, private car parks are not covered by these regulations. It is suggested that most disabled people who have access to a car will participate in the national Blue Badge Parking Scheme, formerly Orange Badge scheme.

The Blue Badge Parking Scheme is a national scheme for people with limited mobility. The badge is allocated to individuals and not to vehicles. Signage should refer to Blue Badge holders, ensuring that the parking bays nearest the entrance are clearly designated for people with limited mobility. Signs in larger car parks may be necessary to direct drivers to the disabled persons' parking bays.

Disabled persons parking bays are prone to misuse by some inconsiderate drivers. This will continue if disabled persons parking bays are not monitored and enforced by car park management. Building managers should consider effective ways to stop misuse. If a disabled person cannot park near to a facility then there is often little option but to turn round and go somewhere else where they can park with ease. You may be losing customers and employees by failing to enforce your disabled persons' parking bays. There may also be implications for your organisation under the Disability Discrimination Act (1995).

## Car park entry systems and payment machines

Many car parks have automated entry systems and payment machines. Such equipment maybe difficult for some disabled people to use unless thought is given to the design and installation.

Pedestrian payment machines should be installed so that touch buttons, ticket and coin slots and intercom panels are located between 750mm and 1200mm high. Many payment machines are located on plinths, giving little thought to access for wheelchair users, people of small stature or those with limited arm reach. Therefore, any plinth should not project in front of the face of the machine in a way that prevents its convenient use. Payment machines should be installed at accessible, easy to reach heights for all users. An unobstructed area of 1850mm by 2100mm should be provided immediately in front of the payment machine with adequate dropped kerbs provided on approach routes. Entrance and exit ticket systems should be able to accommodate the larger adapted vehicles often used by disabled people and community transport operators. Car park height restrictions can additionally affect access to parking areas for such users – alternative parking for these vehicles should be provided if this is unavoidable.

Consideration should also be given to the design of intercom systems, which some deaf people can find difficult to use. Therefore, their installation should be avoided unless accompanied by visual text displays or visual indications that the request for assistance has been acknowledged and that the nature of the callers business is now being asked.

## Setting down points

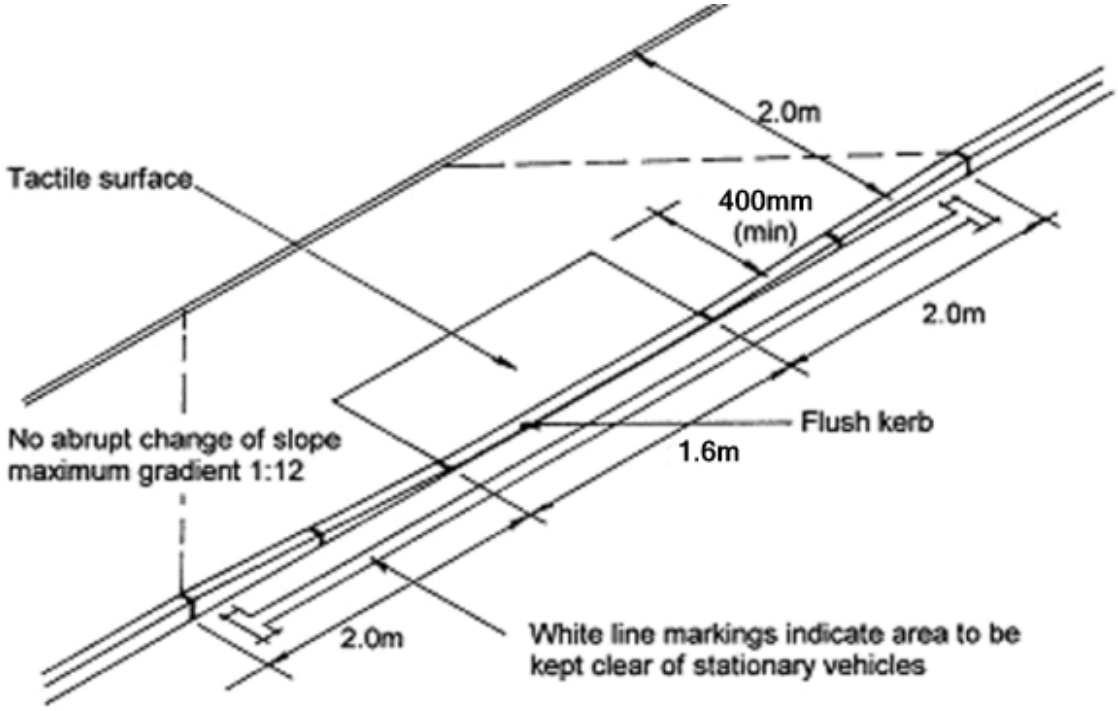
A clearly signed set down point is required as close as is practicable to the main entrance. Drop-off points are useful for people arriving by taxi or minibus. A properly designed lay-by allow a person to take their time when getting out of a vehicle, vehicles blocking routes can put pressure on disabled people to be as quick as possible which can be stressful.

## Dropped kerbs

Many disabled people as well as older people and parents with pushchairs benefit from the installation of flush dropped kerbs. Flush dropped kerbs should be provided on all approach routes to a building whether from parking bays, drop-off points, bus stops, or from the perimeter of the site.

For a visually impaired person a kerb upstand is an essential indicator of the edge of the footway. However, in recognition of the needs of other pedestrians it is accepted that it is necessary to provide a flush dropped kerb crossing point. Where a flush dropped kerb is used it may become difficult or impossible for a visually impaired person to discriminate between pavement and highway. In such cases tactile paving is used to compensate for the absence of a kerb.

Dropped kerbs should be flush and maintained as flush; the smallest upstand can create a potential tripping hazard or jolt a person in a wheelchair.




## Diagram 2 – Flush dropped kerb

Further guidance is given in the document Inclusive Mobility, published by the Department for Transport. Where a flush dropped kerb is used in the direct line of pedestrian flow the amount and depth of tactile paving is much higher. Using an inset flush dropped kerb crossing can dramatically reduce the amount of tactile paving which can reduce conflict with other pedestrian users that have painful conditions such as arthritis.

If the flush dropped kerb is not in the direct line of travel, visually impaired pedestrians will not generally encounter it, preferring instead to cross on the first straight section of kerb. Even if they do encounter it they are likely to do so at an acute angle. In these circumstances a 400mm depth of tactile surface is all that is required.

The location of any flush dropped kerb should undergo standard health and safety assessment prior to installation. Particular consideration should be given to traffic speed and visibility both for vehicle drivers and for pedestrians who may have restricted mobility.

There are a number of different types of tactile paving, and a number of different layouts all of which have a very specific meaning when used in a certain situations. Tactile paving surfaces are used to convey important information to visually impaired pedestrians and therefore using the right type of paving in the right layout is essential in order to provide accurate and consistent information. For advice on the correct use of tactile surfaces information is available in the Department for Transport (DfT) publication Guidance on the use of Tactile Paving Surfaces.

## Footways and footpaths

Footways and footpaths should be well lit, and be a firm, even surface. Excessive cross-falls should be avoided wherever possible and surfaces should be non-slip in both dry and wet weather conditions. Footways and footpaths should ideally be 2000mm wide; this allows two wheelchair users to pass. However, narrower sections of path can be reduced in width to 1500mm if the route is less busy and passing places are provided with 1000mm being the absolute minimum unobstructed width at pinch points for not more than 6m in length.

## Street Furniture

Consideration should be given to the access requirements of disabled people when installing street furniture. Street furniture should not clutter footways creating obstacles for disabled people. Careful consideration to the location of street furniture should ensure that the above footway widths are maintained. Seating is an invaluable form of street furniture for disabled people allowing people to stop and rest.

Seating should be located clear of main circulation routes and be of a suitable design. Bench seating is recommended with a back rest and arm rests to assist people when lowering to, and rising from a seat. The height of the seat should be between 400-500mm. Obstacles such as bollards, bicycle parking facilities and guard railings should be a minimum of 1000mm high.

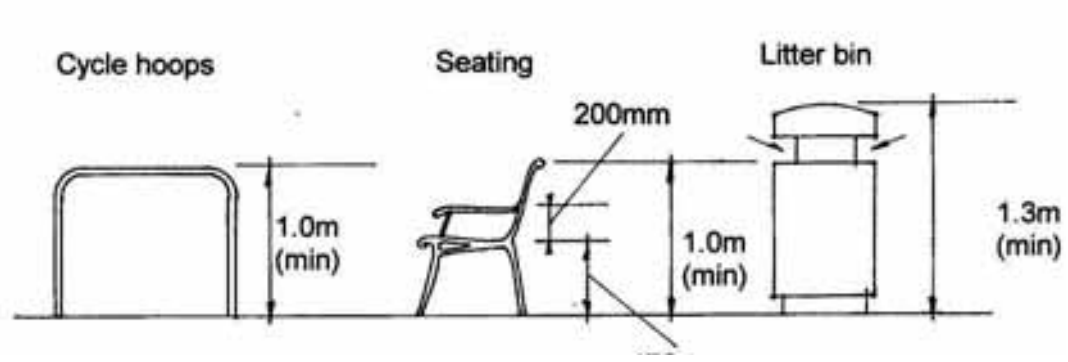
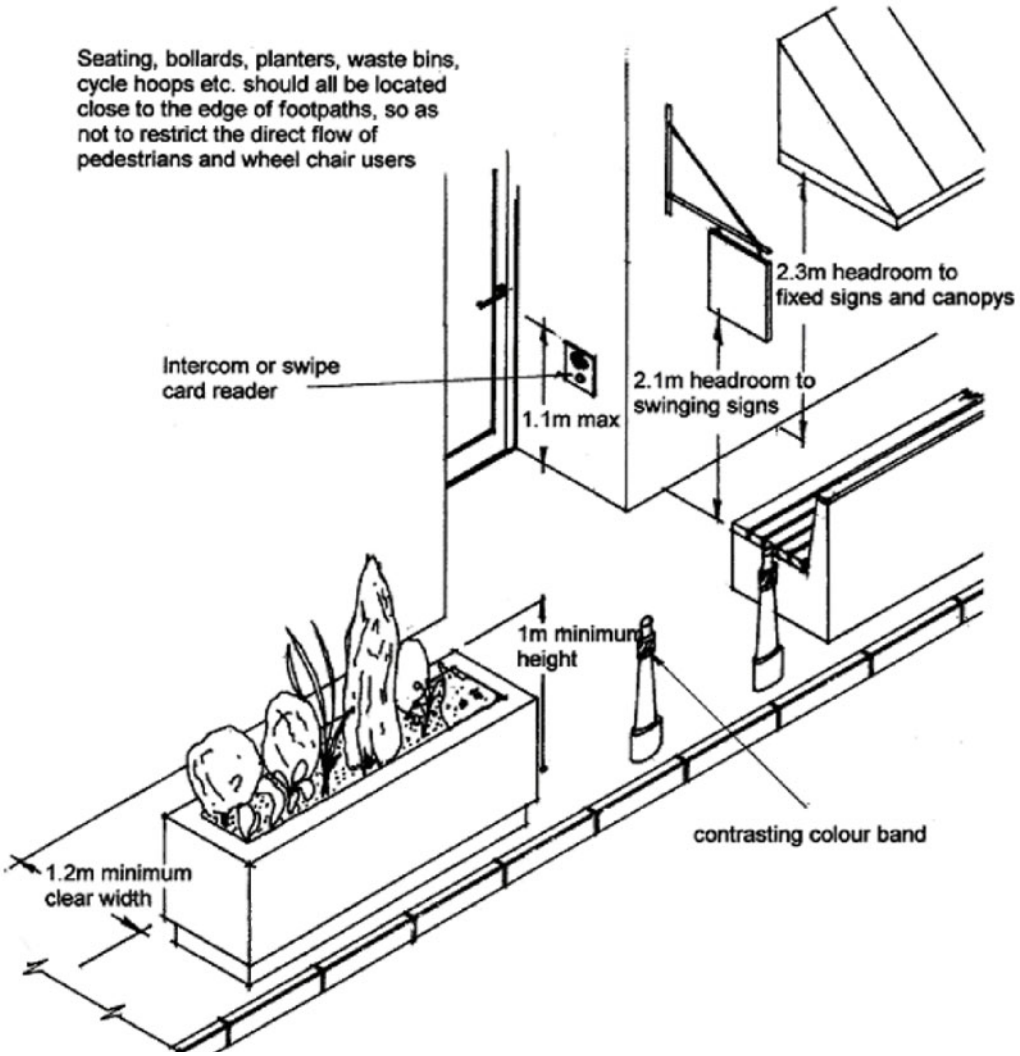



**Diagram 3 - Obstacles**




## Diagram 4 – Street furniture

As with all street furniture, the colouring should be carefully chosen to contrast with the surrounding environment, this is to assist blind and partially sighted people. Banding in a contrasting colour on an obstacle can also assist with highlighting a structure. Each free standing post and column within an access route should incorporate a 150mm band whose bottom edge is 1500mm above ground level. Design and location of street furniture should be agreed in consultation with the appropriate unitary authority.

A change of surface can also assist blind and partially sighted people with identifying obstacles such as trees or planters. Rough granite setts are a suitable way of highlighting under foot to proceed with care.

## Barriers

Barriers on the footway can prevent access for disabled people and should therefore be avoided. However, it is accepted that in some circumstances there maybe a need to install barriers to reduce conflict with other forms of traffic on the footway and highway. If this is the case, care is needed to ensure that the design and location of barriers does not restrict access for disabled people and wheelchair and scooter users in particular.

Wheelchairs and scooters come in various sizes and have varying capabilities in terms of manoeuvrability. For example, the average four wheeled scooter has less of a turning circle than most three wheeled scooters and so, whilst providing more stability for the user, it is less able to manoeuvre through narrow spaces. In the Bracknell Forest district, the Borough Council has found that current national design standards for the installation of barriers on the footway and highway can still, in practice, create access difficulties for disabled users. In liaison with local residents, alternative design standards have been developed and are recommended for use in the Bracknell Forest area to ensure access, for scooter users in particular, is maintained on the highway. These standards are detailed below.

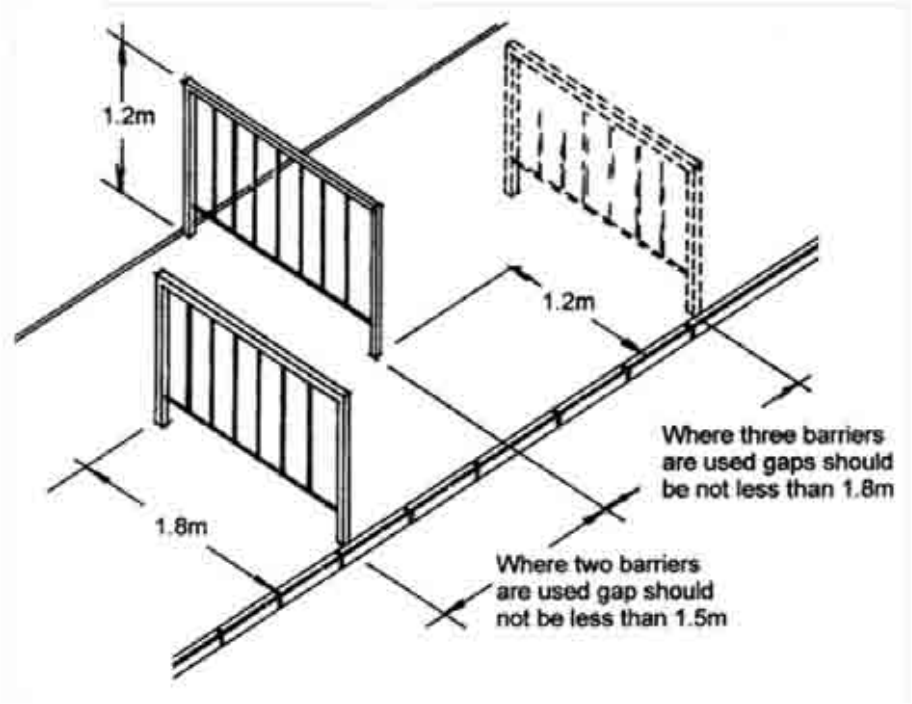



**Diagram 5 – Barriers and obstacles**

# 4. Approaches

## Entrances

Consideration should be given to access arrangements on a proposed site before firm plans for a building are in place. Thought at an early stage could negate the need to have lengthy and demanding ramped and stepped access points which will be inappropriate for many building users, as well as having a visual impact on the design of the building. Providing level or gently graded approaches through the site to building entrances is now a requirement under Part M of the Building Regulations 2004 edition.

The routes from the boundary of the site, and from any disabled persons parking provision, to the principal entrance or staff entrance should be level. Where a change of level is unavoidable due to site constraints, the approaches should be gently graded or incorporate a number of shorter gradients with level landings.

Make sure that entrances are easily identifiable. The use of colour and signage assists people with locating entrances. Large areas of glazing should be avoided as this can be potentially hazardous for some blind and partially sighted people. Areas where this occurs will require colour contrasting manifestations to highlight glazing; these should be located within the ranges of 1400 – 1600mm and 850 – 1000 mm

## Ramps

If a change of level near the entrance is required then both ramped and stepped access should be provided. Accessible design is about providing users with choices and it must not be forgotten that some people prefer to use steps to ramps and vice versa.

Changes of levels can be demanding for disabled people so try to keep ramps as gentle as possible with level resting landings. Gradients gentler than 1 in 20 are considered level approaches, however, gradients of 1:20 and steeper should be designed as formal ramps.

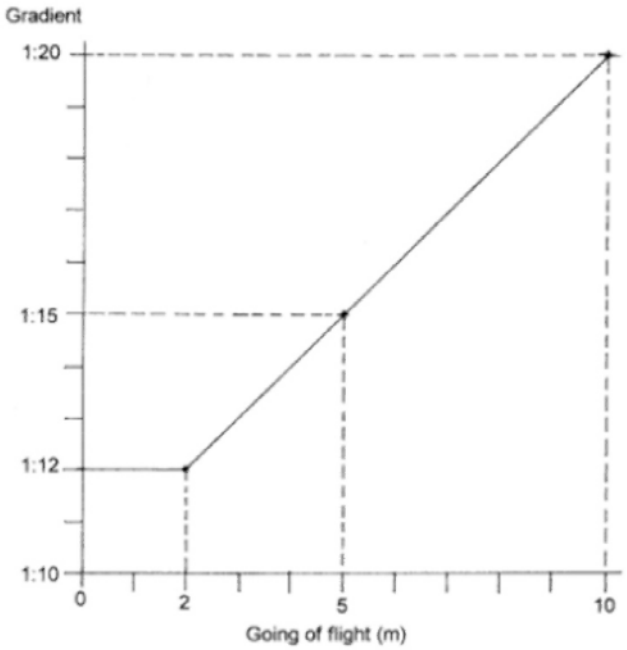
| **Going of a flight** | **Maximum gradient** |
|---|---|
| 10 m | 1:20 |
| 5 m | 1:15 |
| Not exceeding 2m | 1:12 |
| Note: For goings between 2m-10m, it is acceptable to interpolate between the maximum gradients i.e. 1:14 for a 4m going or 1:19 for a 9m going | |

Remember a 1:12 ramp is steep and is a maximum gradient, not the ideal gradient. If a series of ramp flights rise more than 2m, an alternative means of access such as a lift should be provided.

Level landings should be provided every 5 metres for ramps that are 1 in 15, and every 10 metres for ramps between 1 in 15 and 1 in 20. Level landings at the top and bottom of ramps should be a minimum of 1200mm clear of any door swing, intermediate level landings should be a minimum of 1500mm in length.
The minimum surface width of a ramp should be 1200mm.

Handrails should be provided on both sides of a ramp at a height of at least 900mm and no more than 1000mm. The handrails should not protrude more than 100mm into the surface width of the access as this would reduce the width of the ramp to an unacceptable level and each handrail should extend 300mm past the top and bottom landings to assist users. Handrails that are too large or small in diameter will be difficult to grip and it is therefore recommended that the diameter of a handrail be between 40mm and 45mm and there is a clearance of at least 50mm between a cranked support and the underside of the handrail. Handrails should contrast in colour to their surroundings to assist partially sighted people to locate the handrail.

Ramps are often designed to these minimum standards and yet a ramped approach should be equal in status to a stepped approach. Experience has shown that able-bodied people as well as disabled people will take the most direct route from A to B, if the most direct route is the ramped access then the ramp will be heavily used and 1200mm will be not be sufficient width. Therefore minimum standards should be exceeded wherever possible.




## Diagram 6 – Ramp gradients

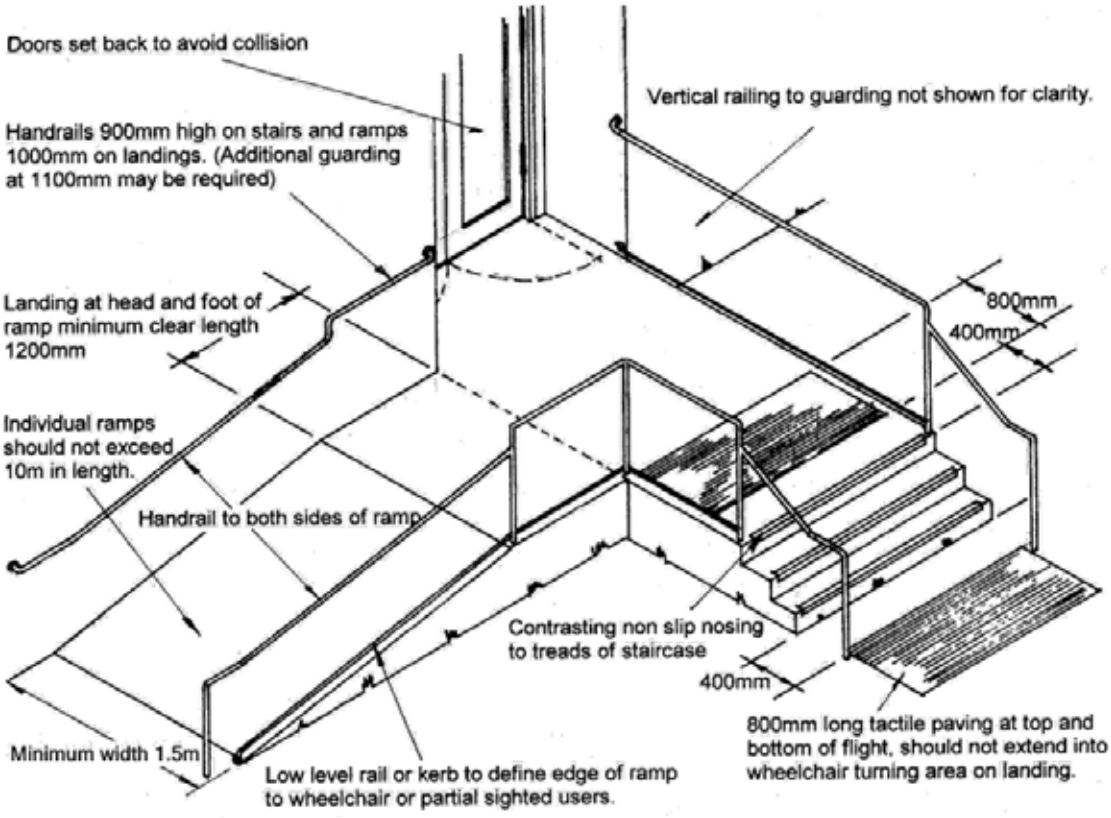



**Diagram 7 – combined ramped and stepped approach**

Surfaces should be slip resistant. Ramps with turns can create cambers that are difficult to negotiate; therefore, ramps should be straight with changes in direction negotiated on level landings.

## Steps

Steps can be negotiated quite easily by many disabled people if designed with their users in mind.

Handrails should be provided on both sides of the steps, 900mm high from the pitch line and extending a minimum of 300mm past the top and bottom steps. The minimum unobstructed width of each flight should be 1000mm. To assist partially sighted people, each step edge should be easily distinguishable by permanently highlighting step nosings in a contrasting colour.

A corduroy tactile surface should be incorporated into the top and bottom landings to give advance warning of a level change, to extend by 400mm at each side of steps, at a minimum depth of 800mm and to stop 400mm from nosing.

The going, or tread, of each step should be uniform and between 250mm to 300mm with a preference for 300mm, the riser of each step should be uniform and preferred range between 150mm to 170mm (these measurements alter if the stairs are within a building see page 3).

Risers should not be open and the provision of isolated steps should be avoided.

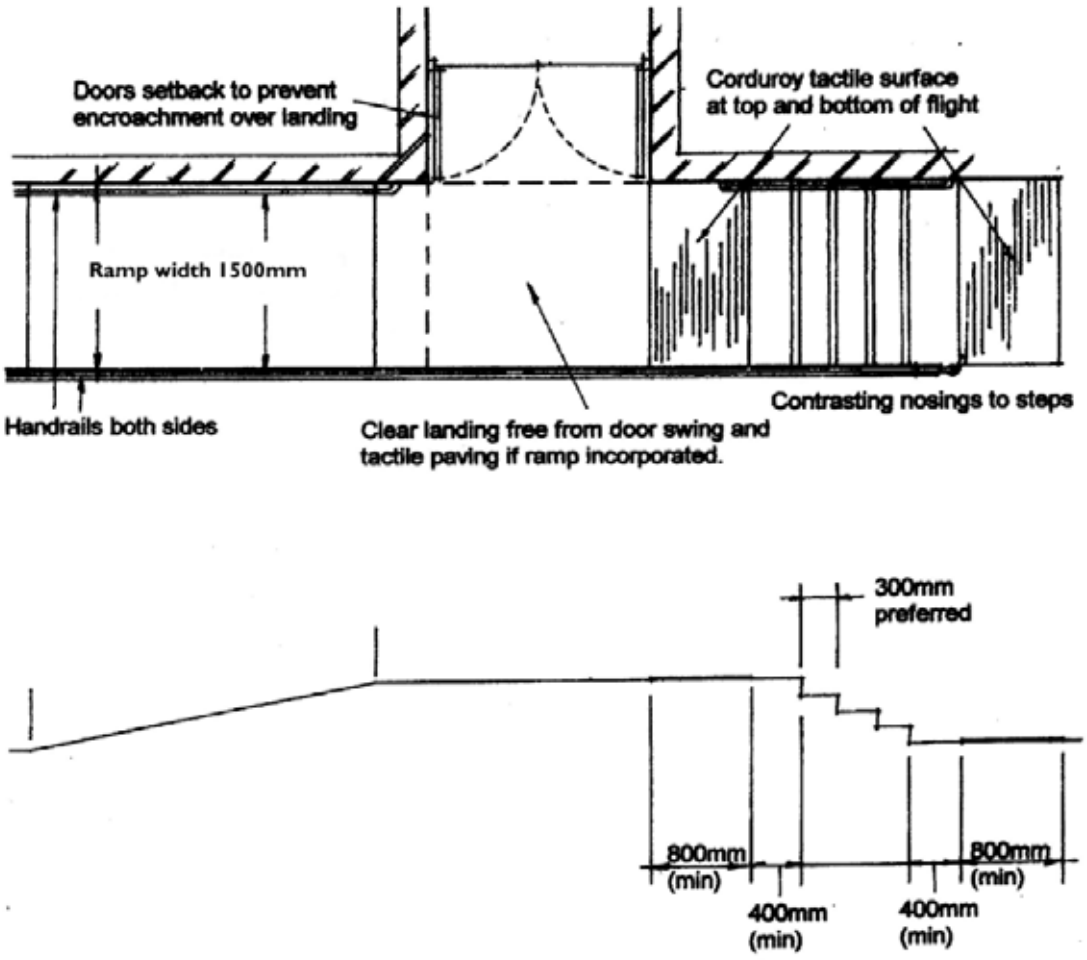



**Diagram 8 – Ramp with stepped approach (plan and section)**

## Thresholds

Entrances should be flush with the external surface, the slightest lip can create a potential tripping hazard for disabled people and jolt a wheelchair user.

## Doors

One of the most common barriers to entry into and within buildings are doors. Whilst the width of doors is an obvious consideration, doors are often heavy to push or pull open. The most accessible types of door for people to negotiate are automatic doors. Sliding automatic doors are preferable although other designs are also acceptable depending on the location.

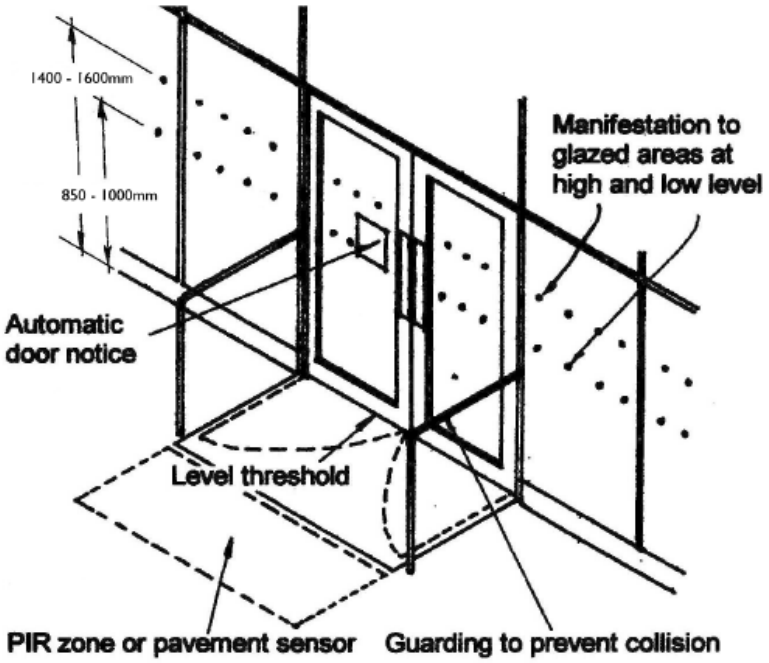
If side hinged automatic doors are to be used then care should be given to the activation of the door, people should not be able to get too close to doors before they open. Protection at the sides of the doors to guide people around the doors should be installed, this is particularly important for a blind or partially sighted person. Automatic doors should have a sign on the door stating that they are automatic. When installing automatic doors, reference should be made to BS 7036-2, BS 7036-3 and BS 7036-4.

An individual should not be required to use a force in excess of 30 newtons for 0-30° and 22.5 newtons for 30-60°, to open a door. See BS 8300: 2001, amendment 15617 June 2005. This can be achieved in a number of ways dependent on the individual site and circumstances.

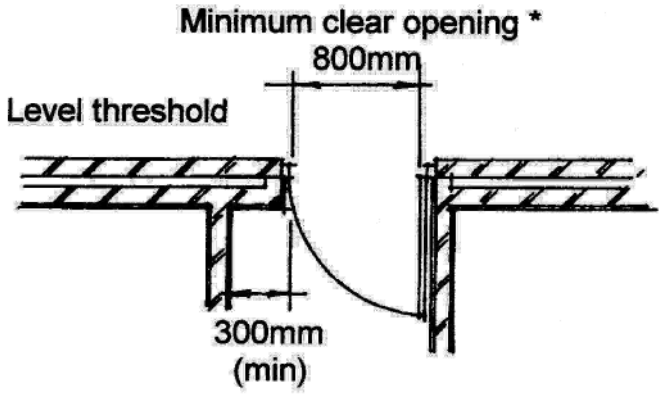
Entrance doors may be manually operated without power assistance, or power operated under manual or automatic control. A non powered manually operated entrance door, fitted with a self closing device is unlikely to be openable by many people, particularly those who are wheelchair users or have limited strength.

Entrance doors to be used by the public should provide a minimum clear opening width of 1000mm. Remaining doors should provide a minimum clear opening width of 800mm if approached straight on or approached from 90° where the corridor width is at least 1500mm wide, Where the approach is less than 1500mm, the clear opening width should have a clear opening width of 825mm.

To ensure that people can be seen approaching entrance doors, a minimum area of visibility should be provided between 500mm and 1500mm. Where a single leaf entrance door is proposed an unobstructed space of 300mm should be provided at the leading edge. This ensures that a wheelchair user can get reasonably close to door handles to pull the door open. Where this can not be achieved the door should be automated to facilitate ease of access. All door furniture should be operable with one hand using a closed fist where fitted with a latch.




## Diagram 9 – Entrance door




* A single door or at least one leaf of a pair should provide a minimum opening width of 800mm (1000mm if open to the public)

## Diagram 10 – Entrance door with 300mm leading edge

Consider the weight of the door. Large, visually impressive doors are often heavy to push or pull open. Door closers and floor springs can also make a door more difficult to open than it need be. Where a self-closing device is fitted to a manual door, the closing force at the leading edge of the door should not exceed 20Newtons. The use of delay action closers can alleviate some difficulties if adjusted correctly when installed. Glazed panels in entrance doors ensure that people can see and be seen when approaching a building. Fully glazed doors and reception areas will require some form of colour contrasting manifestations, see above.

## Revolving doors

Revolving doors are inaccessible to many disabled people as people experience difficulties with the timing of entry and exit, limited space and assessing the speed of movement of the door. The design of larger revolving doors may be suitable for some people if the diameter is large enough to accommodate several people at the same time, however, a separate door is still required for those still unable to negotiate the doors, such as a person with an assistance dog. Revolving doors do not provide an inclusive approach to the design of any building, as where they occur an additional and separate entrance is required to enable access for disabled people. The use of revolving doors should therefore be avoided. Where security and environmental control is an issue it is our view that installation of a lobby would be a more inclusive solution.

The principle should be that everyone should be able to enter a building through the same door. Architects, designers, clients and building managers are asked to accept the spirit of one accessible door for all and design an inclusive entrance that meets everyone's needs.

## Lobbies

Lobbies should be designed with suitable distances between doors. This is so that a disabled person can negotiate one door, allowing it to close behind them, before negotiating the second. The following lobby standards are suggestions for achieving this principle (see diagram 10 below). Vision panels in doors will assist building users to see people approaching in lobbies and are particularly important on circulation routes.

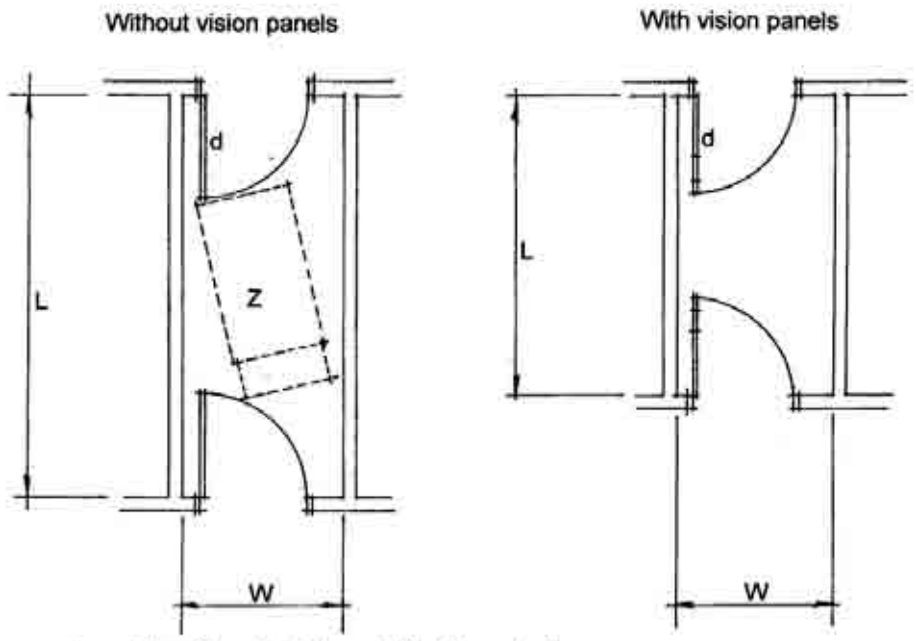



**Diagram 11 – Entrance lobbies**

## Reception areas

Reception areas are the first point of contact for visitors and can be busy and noisy areas. This can be problematic for people with hearing impairments who can find it hard to communicate in areas with significant background noise. Therefore, reception desks or sales counters should be located away from the principal entrance but still be easily identifiable from the building entrance. The approach to the desk or sales counter should be direct and unobstructed.

Reception desks or sales counters should be designed to accommodate both standing and seated visitors or customers and have a hearing enhancement system such as an induction loop. To facilitate lip reading lighting design should ensure that receptionists faces are evenly lit and does not create glare. Providing an appropriate plain and tonal contrasting wall behind the receptionist may also aid lip reading recognition. Movement and activity behind a reception area can be distracting.

A minimum clear manoeuvring space of 1400mm deep and 2200mm wide (dependent on the design of the desk or sales counter) should be provided in front of all reception or sales desks. All desks and counters should have one section that is:-

- At least 1500mm wide,
- No higher than 760mm
- With a knee recess not less than 700mm

To accommodate standing people the height of the desk should be between 950mm and 1100mm. Consideration should be given to the design of counters and desks designed to be staffed by wheelchair users. In some cases it may be desirable for the floor on the receptionist's side to be higher than the visitors side. Where a ramp is used a gradient no steeper than 1:12 should be used.

A number of low level cashiers desks should be provided in banks, building societies etc. Serving counters can also be high in restaurants, bars and retail units. Consideration should be given to providing a low level section to all desks and counters.

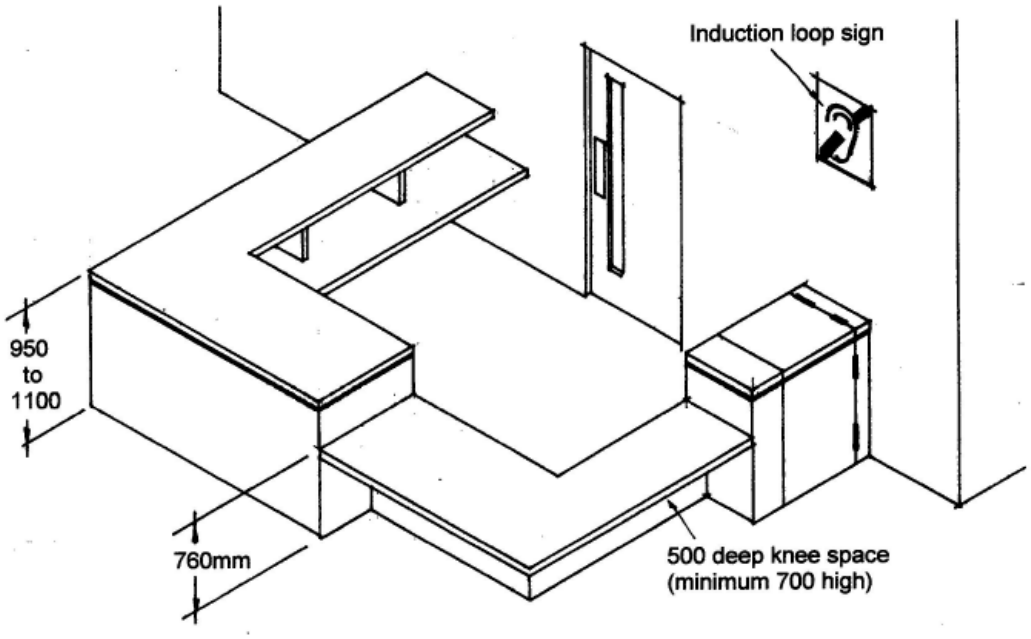
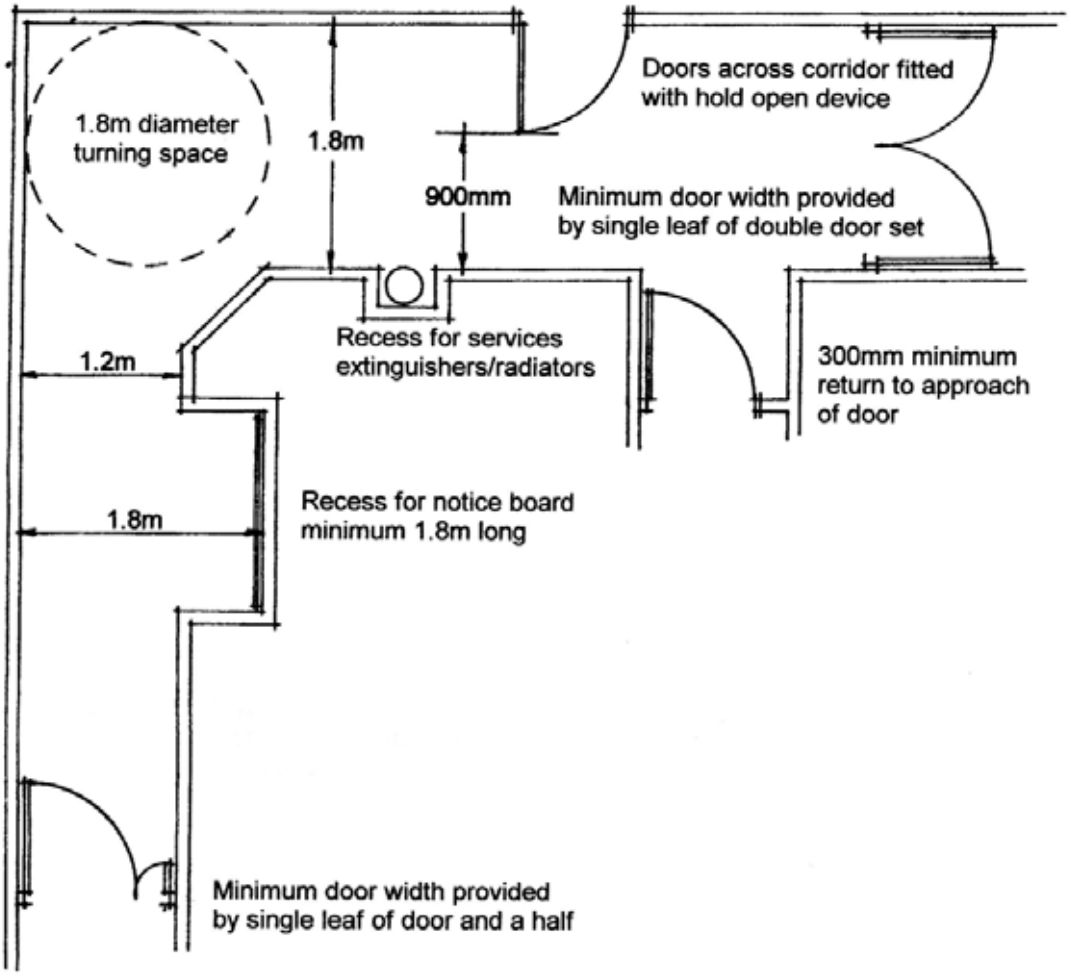



**Diagram 12 – Reception desk**

# 5. Horizontal Circulation

## Corridors

Corridors should be 1800mm wide and should be clear of obstructions. Ideally, radiators and equipment such as fire extinguishers should be recessed to maintain an unobstructed width of 1200mm and reduce the potential hazard that they can present for many disabled people but particularly blind and partially sighted people. A visual colour contrast should be provided between the floor and the walls and the walls and the ceiling. This will assist blind and partially sighted people to assess the size and shape of a room or corridor.




## Diagram 13 – Corridor width and layouts

Doors opening outwards into corridors can obviously be potentially hazardous. Consideration should be given to designing corridors with splayed and rounded angles to assist circulation for wheelchair users.

## Internal Doors

Internal doors should provide a minimum clear opening width of 800mm. Where the approach is from a corridor of less than 1500mm wide and is approached at an angle of 90°, the clear opening width of the door should increase to 825mm. This is a minimum standard, doors that provide increased clear opening widths will be more accessible, 900mm is recommended. The minimum clear opening width should be achieved by one leaf where double leaf doors are to be installed. Disabled people should not have to negotiate two narrow double doors.

Where a single leaf door is proposed an unobstructed space of 300mm should be provided at the leading edge unless the door is opened by remote automatic control. This ensures that a wheelchair user can get reasonably close to door handles to pull the door open.

As a general principle, the more space that can be provided will assist all future building occupiers and may also reduce the cost of potential building damage, repair and need for alteration once the building is occupied.

Door closers should be avoided wherever possible. Care should be taken to ensure that an individual should not be required to use a force in excess of 30 newtons for 0-30° and 22.5 newtons for 30-60°, to open a door. See BS 8300: 2001, amendment 15617 June 2005. This can be achieved in a number of ways dependent on the individual site and circumstances.

Door furniture should contrast in colour from doors to assist partially sighted people. Door furniture should be operable with one hand using a closed fist where fitted with a latch. Lever and pull handles should ideally be designed as shown below. Door frames should contrast in colour with the surrounding wall.

Vision panels, as detailed below, should be provided in all circulation doors.

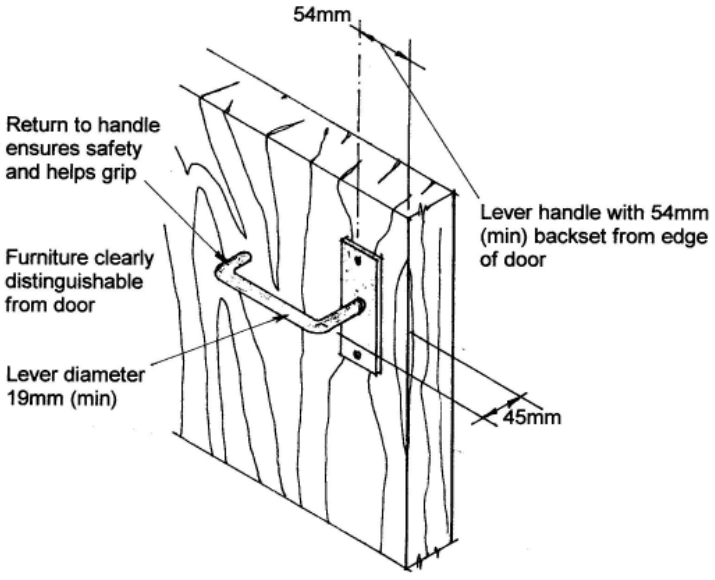



**Diagram 14 – Door furniture**

Vision panels should also be incorporated into all doors, except in obvious locations such as WC facilities, to assist people to see others approaching and are an important feature for ensuring disabled people avoid collisions. Side panels of 450mm or wider should also incorporate vision panels as detailed below.

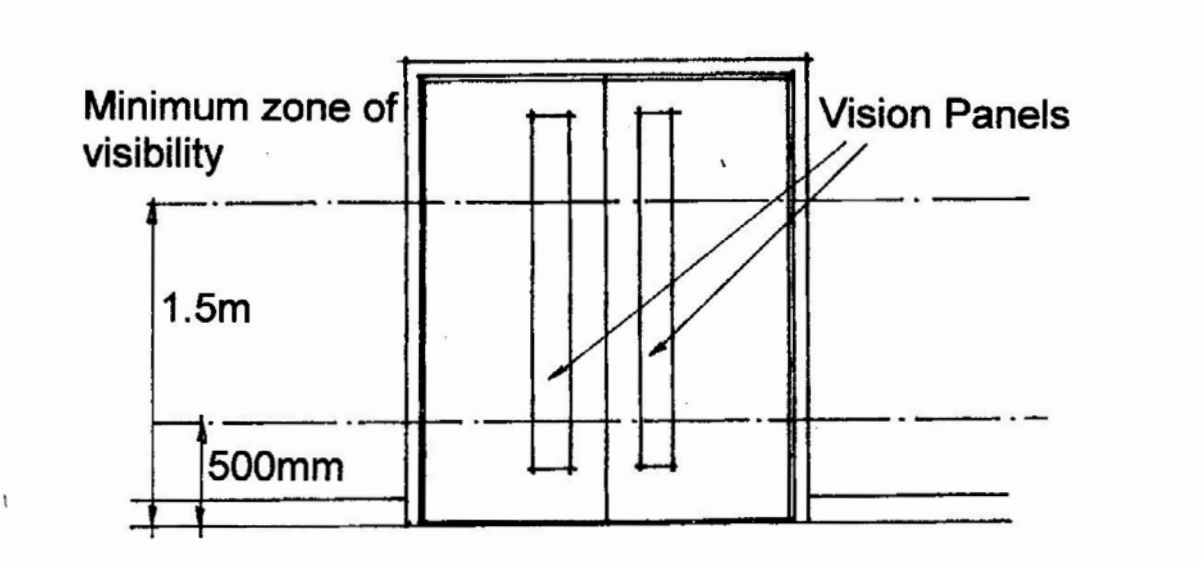


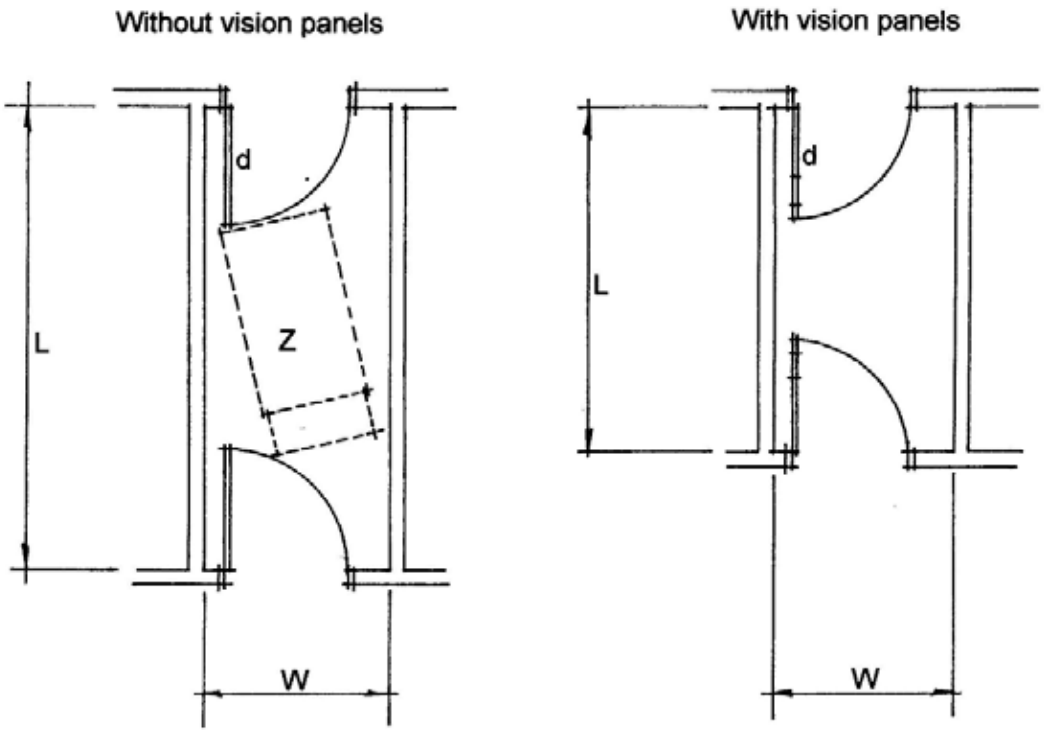

**Diagram 15 – Vision panels**

Wall and floor surfaces should be chosen to minimise light reflection and sound reverberation which can be confusing for people with sensory impairments.

Visual clues can be given to assist partially sighted people, for example, door frames being painted in contrasting colours to their surroundings. Changes in colour and texture of floor surfaces can also assist visually impaired people to orientate themselves within a building.

## Internal lobbies

The same principle applies to internal lobbies as with entrance lobbies in that a disabled person should be able to negotiate one door, letting it close behind them, before negotiating the second door. The following are examples of accessible lobbies and show the minimum space requirements to ensure accessibility. The more space that can be provided between doors, the more accessible the lobby becomes.




## Diagram 16 – Internal lobby arrangements

## Internal Ramps

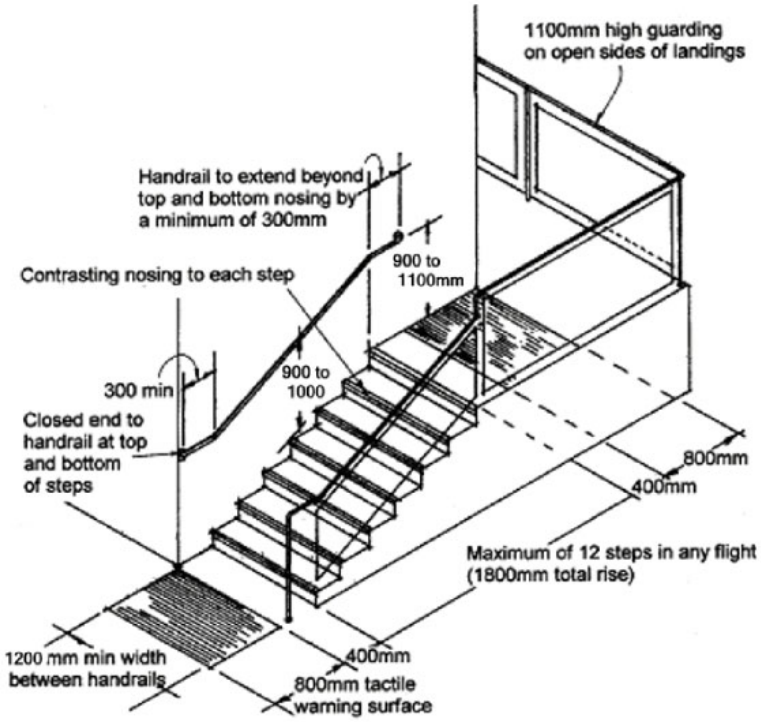
Internal ramps should be designed as external ramps as detailed on page 21 & 22.

## Internal Steps

For internal steps the unobstructed stair width should be a minimum of 1000mm. Handrails should be provided on both sides of the steps extending a minimum of 300mm past the top and bottom steps and be finished appropriately to reduce any potential hazard. Handrails will give people support when negotiating stairs and will assist in guiding blind and partially sighted people on stairs. The rise of flight between landings should not exceed 12 risers, and top, bottom and intermediate landings should be a minimum of 1200mm in length clear of any door swings.

The rise of each step should be within the preferred range of 150mm to 170mm and should be uniform. The tread or going of each step should be in the range of 250mm to 300mm. Open risers should not be used as they are particularly difficult for people with ambulant disabilities and a step should not overlap the one below. Additionally, where the area beneath the stair is less than 2100mm, it should be protected by low level guarding or a permanent fitting so to be picked up by a blind or partially sighted person using a long cane.

Spiral staircases are difficult for many users of buildings and should be avoided. However, if used, their design should conform to BS 5395-1. Treads should be easily distinguishable by highlighting each nosing in a contrasting colour.




## Diagram 17 – Internal stairs

# 6. Vertical Circulation

## Lift Design

Appropriately designed lifts are the most accessible way for many people to travel between floors within buildings. Lifts are a necessity to provide access for wheelchair users to upper floors within buildings, but can also be of benefit to people with ambulant disabilities, blind and partially sighted people, older people and parents with young children.

A conventional passenger lift is the preferred option to provide comprehensive access for all users. In an existing building where it can be demonstrated that a passenger lift can not be installed a platform lift should be provided as an alternative option.

The cost (financial and space requirements) of including a lift into a design is significantly reduced when considered at the outset. Architects and developers should consider the benefits lift provision will have to improving access to all areas for all future building users. New non-domestic buildings with two or more storeys will satisfy the Building regulations if there is lift provision serving all storeys, where due to the constraints of the site or building (existing) a passenger lift can not be provided a lifting platform should be considered. . Developments in legislation may reduce the appeal of building space which can not be accessed by all staff or visitors.

## Passenger Lifts

A passenger lift should be designed in accordance with the specifications detailed in BS 8300 & BS EN 81-70 series [6].

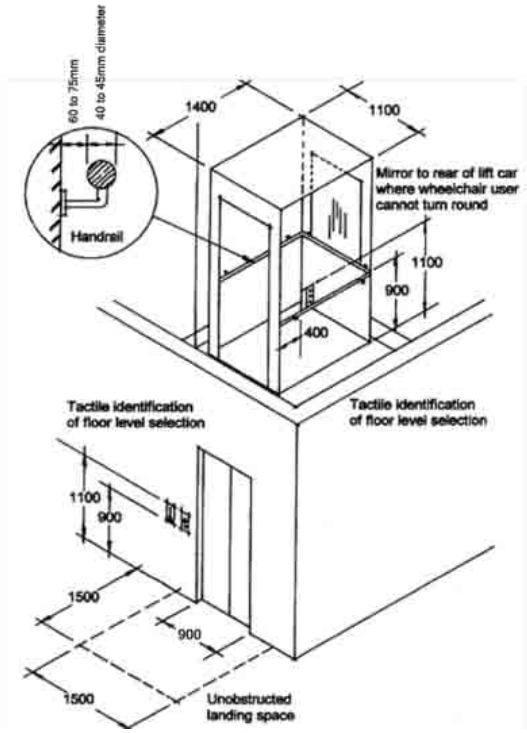



**Diagram 18 – lift dimensions**

The size of the lift car should reflect the anticipated density of use of the building and the potential needs of all building users. The recommended car dimensions of a lift to accommodate any type of wheelchair and a number of passengers should be 2000mm wide x 1400mm deep. The minimum recommended car dimensions to accommodate one manual wheelchair and an accompanying adult are 1100mm wide x 1400mm deep.

Where a lift provides access between two floors only a lift with opposite door openings should be used. The lift doors should provide a minimum clear opening width of 800mm. Landing and car lift controls should be between 900mm and 1100mm above floor level.

Visual and audible announcements of lift arrival and direction of travel should be provided outside the lift and similar audible and visual announcement of level reached provided within lift car. A sign indicating floor level should be provided on each lift landing on wall opposite lift. In a lift with only one exit a mirror should be provided on rear wall which should not extend below 900mm.

The lift should also incorporate emergency communications which should include an inductive coupler, visual indication that emergency call is being dealt with and all emergency controls should be within reach of a person who has fallen to the floor. The floor of the lift should not be of a dark colour and have frictional qualities similar to, or higher than, the floor of the landing.

Where the lift is to be used to evacuate disabled people in an emergency, it conforms to the relevant recommendations of BS 5588-8

## Lifting Platforms

A lifting platform may be installed to transfer people vertically between levels or storeys. The vertical travel distance should not be more than 2 metres where there is no liftway enclosure and floor penetration and when there is more than 2 metres of travel a liftway enclosure is provided.

Clear instructions on use should be provided and an alarm fitted in case users get into difficulties. An audible and visual announcement of platform arrival and level reached is provided. Any areas of glass should be identifiable by people with visual impairments.

Platforms lifts should conform to BS 6440.The minimum clear dimensions of the platform should be:

- 800mm wide x 1250mm long where lifting platform is not enclosed and where provision is being made for an unaccompanied wheelchair user
- 900mm wide x 1400mm long where lifting platform is enclosed and where provision is being made for an unaccompanied wheelchair user
- 1100mm wide x 1400mm long where two doors are located at 90∞ relative to each other and the platform is enclosed

## Stairlifts

### Platform Stairlifts

Platform stairlifts should be used only where it is not practical to install a passenger lift or lifting platforms. These stairlifts will be able to take some wheelchair users but due to the limited size of the platform these lifts are unlikely to be able to cater for all powered wheelchair /scooter users. Should conform to BS 6440. When parked should not obstruct required clear width of staircase and rails should not reduce stairway width for means of escape. Controls should be designed to prevent unauthorized use.

### Chair stairlifts

These are primarily for domestic use and likely to prove suitable for use by only a minority of disabled visitors in a public building. Therefore, they should only be installed where no other solution, such as a wheelchair stairlift, is feasible. Any installation should conform to BS 5776, when parked should not obstruct required clear width of staircase and rails should not reduce stairway width for means of escape. Controls should be designed to prevent unauthorized use.

**Note:** Care should be taken where access via a lift provides the principal means of entering part or all of the building. Traditional methods of providing a means of escape assumes that building users are able-bodied. In the event of a fire (or similar emergency) a lift which formed the principal entrance route will become inaccessible and an alternative means of escape will be required. Organisations should take steps to ensure that an appropriate means of escape is available for ALL building users and that such escapes comply with the recommendations of BS 5588 – Part 8 (1999) – See Appendix [5].

| Lift type | General access rating | Wheel-chair use | Impact on stair width | Description |
|---|---|---|---|---|
| Passenger Lift (BS8300 standard) | High | ü | x | A purpose built means of travelling between floors in a building. Provides comprehensive access for all users to all levels. Generally integrated into the design of the original building or as part of an extension (internal or external) to an existing building. The preferred means of access between floors wherever possible. |
| Vertical Platform lift | Med | ü | x | A vertical travel lift, designed for slow speed light duty operations. Structure supported i.e. does not rely on load bearing walls. Does not require pit. May be used in internal and external environments. A suitable compromise where a passenger lift is not feasible. |
| Stair lift (platform) | Med/ Low | ü | ü | A platform lift fitted to existing staircase. Structure supported i.e. does not rely on load bearing wall. May incorporate seat so can be suitable for wheelchair and ambulant disabled use. May severely restrict access to stairs while in use and care should be taken to ensure rails do not restrict access on an escape route. An alternative to vertical platform lift where space is severely restricted. |
| Stair lift (Chair) | Low | x | ü | A "seat" based lift designed for use by ambulant disabled only. Not suitable for wheelchair users and likely to have only limited access value in public environments. Fitted to an existing staircase. Structure supported i.e. does not rely on load bearing wall. May restrict access to stairs while in use. Care should be taken to ensure rails do not restrict access on an escape route. The least accessible form of lift provision. Will only benefit a minority of building users. |

* Where indicated the device will be suitable for a standard manual wheelchair. Some of the above lifts may not be suitable for an increasing range of indoor/ outdoor or outdoor powered chairs and scooters.

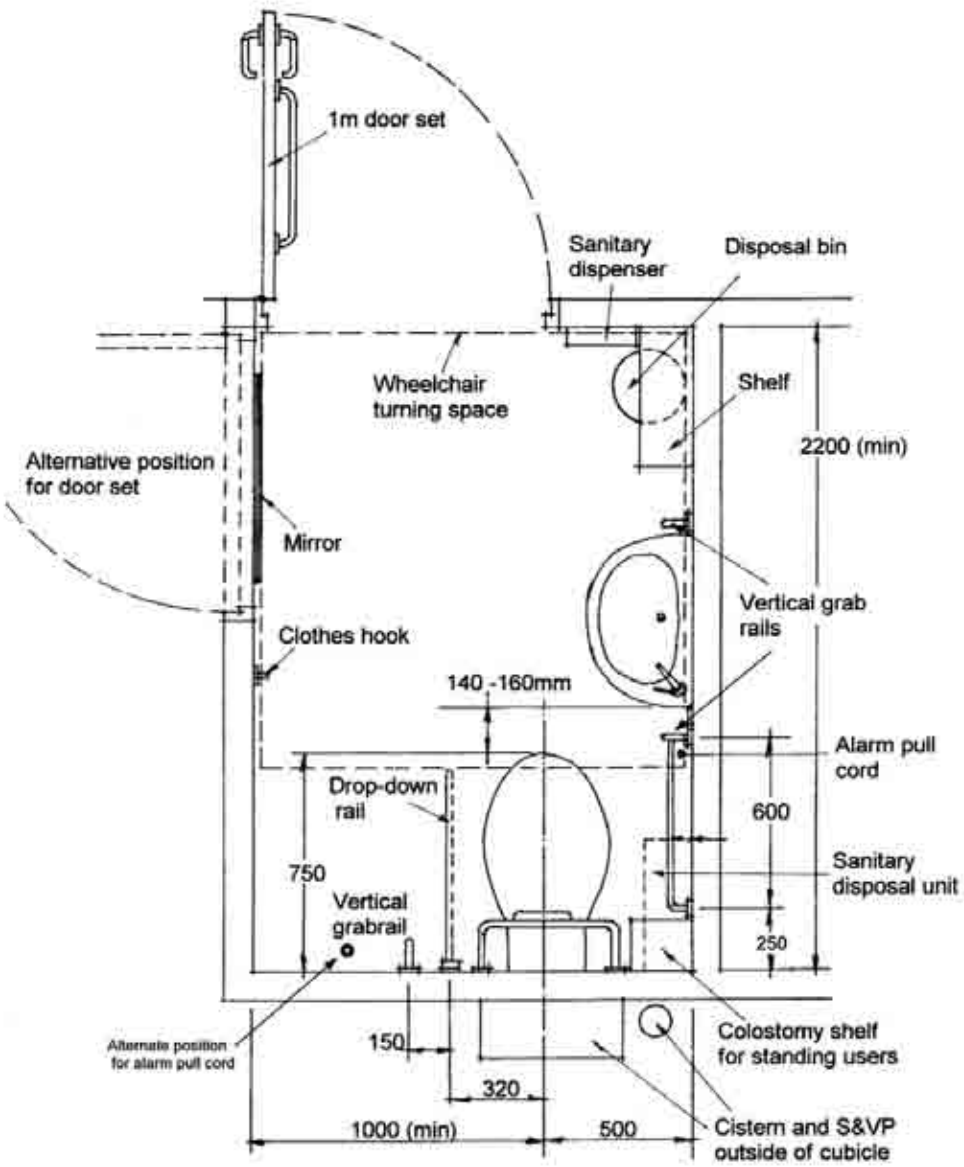
# 7. WC facilities

## Accessible WC facilities

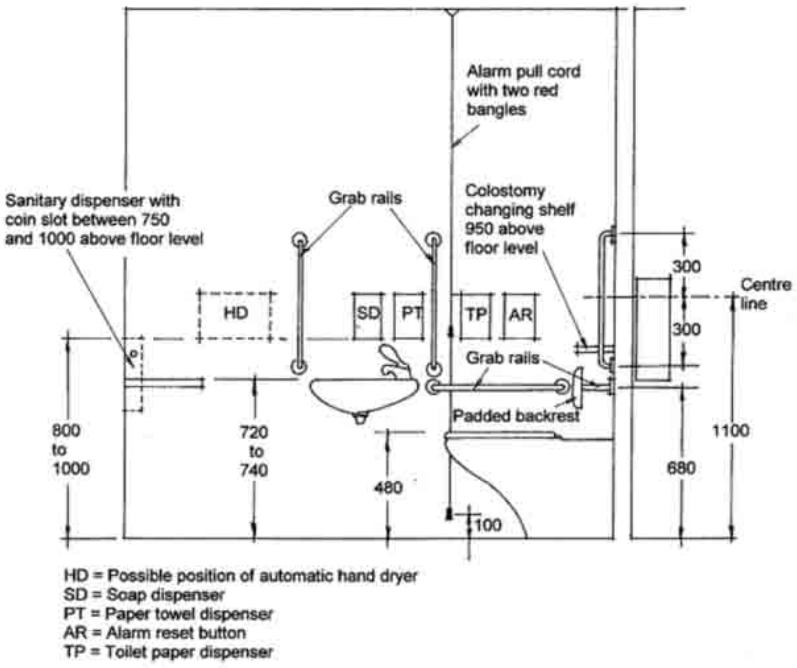
WC provision is invariably limited and cubicles are often small and difficult for all to use. If you are a disabled person, a parent with a child or an older person, the size of cubicles can create many difficulties. Wheelchair accessible WC facilities can be a welcome facility for many users, not solely wheelchair users.

It is vital that the location of accessible WC facilities is no less available for disabled people than for able-bodied. A disabled person should not have to travel more than 40m to reach a unisex WC facility on the same floor where the access is direct and unobstructed along a circulation route e.g. where any doors have hold-open devices, or more than 40m where the circulation is obstructed e.g. doors that do not have hold-open devices.

Wheelchair accessible WC facilities should be provided at each location in a building where there are WC facilities. It is obvious to state that the larger the size of the cubicle, the more accessible the facility will be. BS 8300 and Part M (2004) states that a cubicle 2200mm by 1500mm is the minimum standard for accessibility. Whilst these dimensions may seem large to many non-wheelchair users, this space is limited when consideration is given to manoeuvring a wheelchair in a confined space with perhaps an assistant. Wheelchair users commonly use WC's in one of three ways, lateral transfer, angled transfer or frontal transfer. The cubicle detailed below is designed to accommodate a variety of methods of transfer and allows most users to wash their hands while seated before transferring back into their wheelchair. This is why handrails, the sink and single lever tap, and tissue and paper towel dispensers are all concentrated around the pan.




## Diagram 19 – wheelchair accessible WC plan




## Diagram 20 – Wheelchair accessible WC elevation

The location of handrails has been designed to assist the widest range of wheelchair users and their location is vital to the accessibility of the facility. In such a small space it is important to give careful consideration to the details of the location of handrails etc. within the cubicle and in particular to maintaining the vital manoeuvring space around the pan, see diagram 15.

Doors to wheelchair accessible WC facilities must open outwards to ensure manoeuvring space within the cubicle is maintained. In some exceptional circumstances the cubicle door may have to open inwards, this can only be acceptable if the cubicle is increased in size to maintain the manoeuvring space required in cubicles. A "break-out" facility should also be included where doors are designed to open inwards. This is a vital requirement for access should somebody fall against an inward opening door.

Door closers should not be installed on doors of wheelchair accessible WC facilities unless absolutely necessary, and then it is important to install a delay action closer to ensure that a wheelchair user has time to manoeuvre through the door before it starts to close. It is also important that an individual should not be required to use a force in excess of 30 newtons for 0-30° and 22.5 newtons for 30-60°, to open a door. See BS 8300: 2001, amendment 15617 June 2005.
Door furniture in WC facilities is often small and difficult to hold. Care should be taken to ensure that door locks and lever handles are designed to be easy to grasp as shown on page 12.

Many people will prefer to use these facilities, such as people with ambulant disabilities, parents with small children and, in particular, blind and partially sighted people who appreciate the common layout of the cubicle. Therefore, the use of colour and tonal contrast within the cubicle is beneficial. Contrasting fittings and fixtures with the fabric of the building will improve visibility and therefore accessibility. Highly glossed surfaces should be avoided as they reflect light which can be confusing to some partially sighted people. A non-slip floor surface should also be used. The use of colour and tonal contrast should not be restricted to wheelchair accessible WC's only. The benefit will equally apply to all WC facilities.

## Unisex Vs integral layouts

As some wheelchair users may require assistance when transferring, the concept of unisex facilities was developed to enable a wheelchair user to enter a cubicle with a partner or an assistant of the opposite sex without any unnecessary embarrassment. It is particularly important to install a unisex facility in public places such as cinemas, restaurants, function halls or retail units. Integral design may be more appropriate in buildings such as office accommodation as long as at least one unisex facility is provided in the building. In larger buildings a mixture of integral and unisex WC facilities is recommended to give a degree of choice.

## The level of provision and handing facilities

Disabled people should not have to travel further to a WC facility than anyone else and, therefore, the majority of buildings will need to provide more than one wheelchair accessible WC facility. Part M (2004 Edition) of the Building Regulations gives guidance on the level of provision in a new building. Consideration should be given to handing provision within a building, this is reversing the layout. This is particularly important in multi-storey buildings on alternate levels as some wheelchair users may prefer to transfer from one particular side. If all facilities within the building have the pan on the left of the cubicle then people who prefer the pan to be located on the right may experience difficulties throughout the building. Handing facilities on alternate floors will give people options and improve the accessibility of facilities within the building.

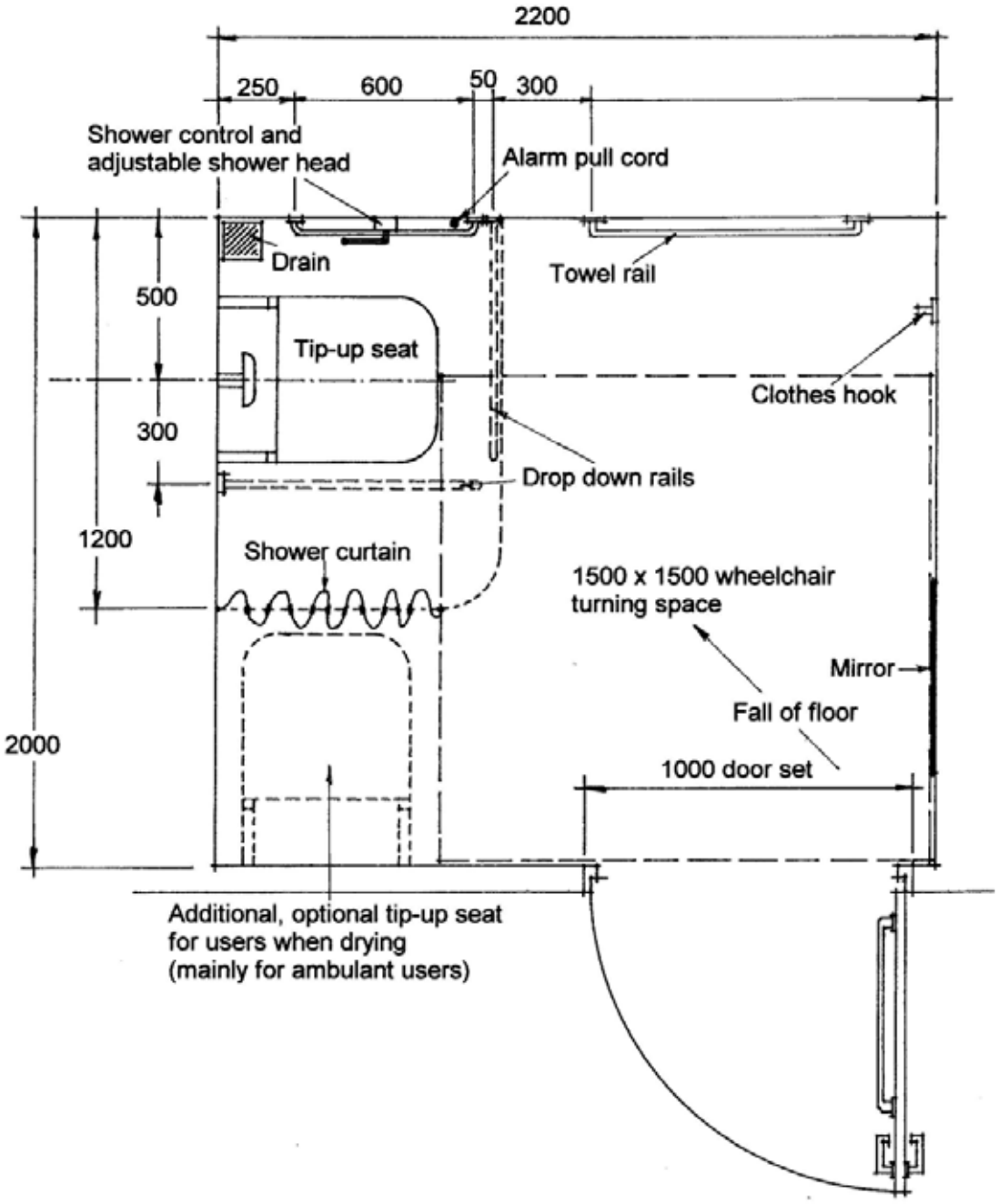
## Ambulant facilities within general WC provision

Within general WC provision consideration needs to be given to providing at least one WC cubicle in separate sex accommodation suitable for use by ambulant disabled people. In this type of accommodation when there are four or more cubicles one should be enlarged in addition to the ambulant provision.

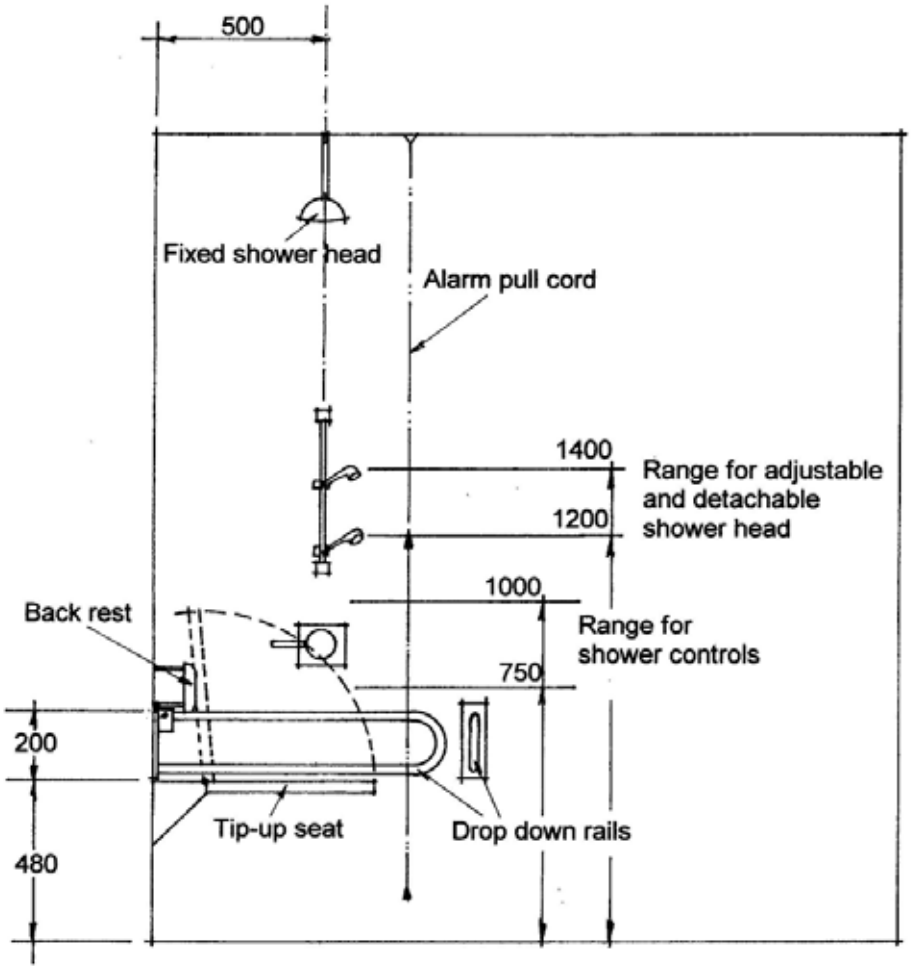
## Shower facilities

It is increasingly common to incorporate additional facilities within buildings such as shower facilities. Shower facilities for building users should be kept separate from the wheelchair accessible WC facilities (this ensures that the WC accommodation is kept available for people who need to access an accessible WC facility); that manuoevring space is kept free within the cubicle for wheelchair users; and that the cubicle does not become excessively wet from shower use. However, if showers are being installed, consideration needs to be given to providing an accessible showering facility. The preference is to keep any accessible shower and WC facilities separate. However, BS 8300 does give guidance on providing a combined facility in a cubicle a minimum of 2400mm by 2500mm, guidance on layout is also given within the document.

Showers should be level access and have suitable, accessible fixtures and fittings. To maximise functional space it is recommended that a “dish-floor” shower be installed rather than a shower tray (‘dish-floor’ showers involve sealing the floor surface with a self draining, slip resistant waterproof membrane which has significant circulation advantages over fixed tray solutions).




## Diagram 21 – shower facility (plan)




## Diagram 22 – shower facility (elevation)

## Baby change facilities

When providing baby changing facilities, care should be taken to ensure such facilities are accessible to all visitors. Ideally a separate "accessible" facility should be provided. Such facilities should never be solely incorporated into wheelchair accessible WC. This can mean the cubicle is unavailable for disabled people wishing to use the WC facility. Where a separate facility is not practicable provision should be made in all WC facilities (male, female and wheelchair accessible). Care should be taken to ensure that where baby changing facilities are fitted, they are flush fitted, at an appropriate height, and do not restrict circulation space.

# 8. Housing

Housing that meets the needs of all the community, whether young or old, is an essential component of housing development. Housing needs to be flexible and meet the demands of modern living to contribute to providing sustainable communities and development. New housing provides an opportunity to secure a more accessible housing stock for the future and ease the difficulties experienced by many disabled people, older people and families with small children.

Early guidance on accessible housing focused on provision for wheelchair users. Whilst there is still a need for housing designed specifically to the requirements of wheelchair users, designers are now required to look to a more general level of accessibility in all dwellings. Incorporating specific design standards improves the dwelling's flexibility for future occupants and allows for adaptation without further structural alteration should this be required in the future.

Bracknell Forest Borough Council has a policy within its Local Plan to ensure all new dwellings are generally accessible. The policy also enables the negotiation of housing designed specifically for the needs of wheelchair users on larger sites. Policy H14 Accessible Housing is detailed in Chapter 1 of this document under the heading Bracknell Forest Borough Local Plan. Applicants and developers will need to demonstrate how the basic principles of accessible housing have been incorporated into their designs.

On larger sites, the Borough Council will negotiate housing designed specifically for occupation by wheelchair users. This will be assessed subject to identified demonstrable need. The Borough Council will discuss any requirements, in line with policy H14, at the pre planning application stage with developers.

The Borough Council will look to best practice when assessing applications; these include design standards such as the Joseph Rowntree Foundation "Lifetime Homes" standards and the former Access Committee for England standards, "Building Homes for Successive Generations". Building homes that are more flexible for future occupants led to the concept of 'Lifetime Homes', developed by the Joseph Rowntree Foundation. To meet Lifetime Homes standards, designers need to incorporate sixteen structural features which are designed to meet the needs of occupiers throughout their lifetime. Many of the features are subtle and unobtrusive and occupiers are often unaware that they are living in a 'lifetime home'.

## Lifetime Homes

Within the Lifetime Home standards there are requirements to provide the following:-

### Approach to dwelling

1. Parking close to the dwelling, which should be capable of enlargement to attain a 3300mm width.
2. The distance from the car parking space to the home should be kept to minimum and should be level or gently sloping. Path widths should be a minimum of 900mm. Gradients should be a minimum of 1:12 on an individual slope of less than 5 metres or 1:15 between slope distance of 5m – 10m and 1:20 slope distance more than 10m.
3. The approach to all entrances should be level or gently sloping.
4. All entrances it should be both covered and illuminated to provide a dry and safe environment while negotiating entry to the dwelling with the threshold up stand not exceeding 15mm.

### Internal layout

5. Communal stairs should provide easy access and where homes are reached by a lift it should be fully accessible (min. internal dimensions 1100mm x 1400mm).
6. Minimum widths for both doors and corridors to allow wheelchair users to manoeuvre into and out of all rooms. Front doors should have a clear opening width of 800mm.
7. All the principal rooms should have adequate circulation and turning space for wheelchair users (Turning circle of 1500mm or an ellipse of 1700mm x 1400mm).
8. The living room should be located at entrance level.
9. There should be adequate space within the entrance level storey for a single bed to cater for a person unable to use stairs due to a temporary/ permanent illness.
10. Provision of a downstairs toilet with drainage and service provision for a future shower to be fitted. In dwellings of 3 bedrooms or more the toilet should be fully accessible that is allowing the wheelchair user to close the door from within the closet and achieve a side transfer.
11. Walls in the toilet and bathroom should be capable of taking adaptations for example grab rails.
12. The design should incorporate provision for future installation of a stair lift and through floor lift.
13. The design should provide for a reasonable route for a potential hoist from the main bedroom to the bathroom.
14. Bathroom layout should be designed to allow side access from wheelchair to bath and toilet and access to wash hand basin.

## Fixtures and fittings

15. Living room glazing should begin at 800mm a level where people seated are able to look out of the window and at least one of the windows should be easy to open from a seated position.
16. Sockets and switches at a height accessible from a seated position between 450mm – 1200mm from the floor.

Further detailed guidance available **from www.jrf.org.uk**

Many of the 'Lifetime Home' standards are incorporated in both the Housing Corporation Scheme Development Standards and the guidance produced by the former Access Committee for England, "Building Homes for Successive Generations: Criteria for Accessible General Housing".

Policy H14 makes reference to guidance produced by the Access Committee for England, "Building Homes for Successive Generations". The criteria are still relevant today, although the standards have been superseded and developed further in part by Lifetime Homes standards and Part M of the Building Regulations. Details of the Access Committee for England standards are listed in appendix 1.

Since October 1999 there has been a minimum requirement in Part M of the Building Regulations to provide a level of general accessibility to all new housing.
The extension of Part M of the Building Regulations to cover dwellings has improved the 'visitability' of dwellings by disabled people, older people and parents with small children. However, the standards contained within Part M in relation to housing are for a minimum standard acceptable. Planning will seek to ensure standards of best practice wherever possible.

The technical requirements within Part M remain unchanged in the 2004 edition of Part M. However, the duty not to make the situation worse now applies to dwellings e.g. the removal of downstairs WC or changes to ramped access must result in similar alternative provision being provided. One limitation of Part M (dwellings) is that the requirements focus on the approach to the principal entrance and facilities within the entrance/principal storey. Therefore, reliance on the Building Regulations is insufficient to provide totally flexible and adaptable accommodation suitable for a wide range of people.

# 9. Signage

Careful consideration should be given to the design and location of signs. Signs should be simple, short and easily understood.

Signs should be located in logical positions where they are immediately obvious and are easily identifiable. Signage can in some locations, create an obstruction and care should be taken to locate signs in areas where there is no risk to users of the environment. The preferred minimum headroom of directional signs suspended from the ceiling or posts or projected from walls, should be 2300mm. Signs associated with control panels should be located between 900mm and 1200mm above floor level.

A sign board should contrast with the background against which it is seen and lettering should contrast with the sign board. Adequate illumination of signs should be provided at all times.

The Royal National Institute for the Blind (RNIB) recommends the following points for providing effective signage:-

- the legibility of signs is improved if white lettering is set on a dark background;
- lower case (non capitalised) lettering is generally easier to read;
- signs should be fixed at eye level (between 1.4 and 1.6m above floor level) with easy access for close-up viewing;
- avoid reflective glass cases to minimise glare; the sign should have a matt surface.

Directional signage and signs identifying functions or activities within a building should incorporate embossed (not engraved) letters in a sans serif type face with a depth of 1.25mm, a stroke of 1.75mm and a letter height of between 15mm and 50mm.

Braille should be considered in addition to embossing. Grade 1 Braille should be used for single word signs and Grade 2 Braille for multi-word signs. Where Braille forms part of a sign, a marker (notch) should be located at the left hand edge of the sign to help locate the Braille message.

Tactile signs are particularly helpful for use on WC facilities, lift call buttons, the top and bottom of flights of stairs and wherever else it is necessary to show the function of a room. Signage using symbols and pictograms can assist many people, particularly those with learning disabilities. Symbols or pictograms should be of a standard design, simple and uncomplicated. Symbols should have significant tonal contrast and should be as large as the location will allow, subject to design constraints.

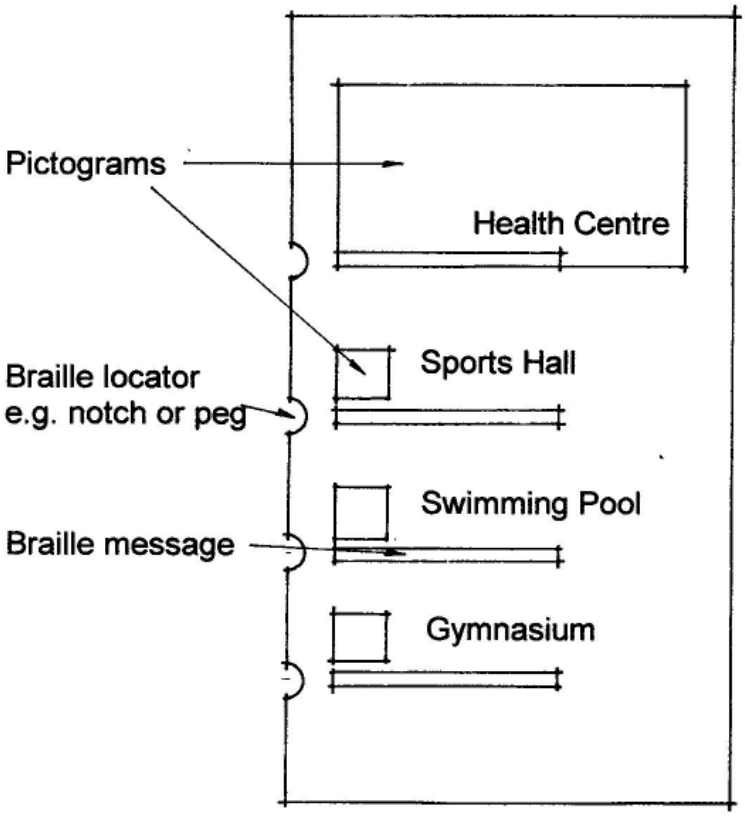



**Diagram 23 – Signage**

# 10. Lighting

Assessing lighting is an important part of assessing the accessibility of a building. Lighting assists all of us to use a building but lighting levels can have very dramatic affects on people who are blind and partially sighted.

Lighting aids vision, but reflection and glare can cause visual confusion. For that reason floor and wall surfaces should have a matt finish.

Uniformity of illumination is important. Shadows and pools of light can create optical illusions and mask potential hazards. Care should be taken to ensure lighting levels are even throughout a building. As uniformity of levels of lighting is difficult to achieve, any unavoidable variations in lighting levels should be as gradual as possible as you pass through an area. Bright lights can produce excessive glare and be as uncomfortable as low lighting levels.

Where one-to-one communication is important e.g. reception desks, lighting should illuminate the face of a person speaking to make it easier when lip-reading.

Natural light enables us to assess true colour rendering and it plays an important part in how we design and use our buildings. However, natural light varies in response to the season, time of day, and local weather conditions. Artificial lighting should be able to respond to these changes in natural lighting levels. Dimmer switches can assist with maintaining a certain level of lighting throughout the day. The type of lighting selected and its continued maintenance can significantly impact upon building users. Flickering lights may distress people with epilepsy and blown bulbs may produce pools of light so good lighting maintenance is a key issue.

Some lighting luminnaires may be incompatible with other electronic and radio frequency installations e.g. hearing loops, so a full assessment of facilities should be considered when reviewing or installing lighting.

In certain applications it may be important to provide suitable task lighting to augment general provision. An important factor in providing suitable task lighting is the provision of convenient power outlets.

The Chartered Institution of Building Services Engineers (CIBSE) has produced lighting standards. The CIBSE Code if observed is usually “deemed to satisfy” the legal requirements for the provision of lighting.

## Recommended lighting levels

| Area | Maintained Illuminance (lux) |
|---|---|
| Entrance | 200 |
| Reception Desk | 500 |
| Corridor / Stairs | 100 |
| Lift | 100 |
| General Office | 500 |
| Conference rooms | 300-500 |
| Church | 100-200 |
| Library (general) | 300 |
| Library (counters) | 500 |
| School assembly | 300 |
| Sports Hall | 300 |
| Public rooms / Village Halls | 300 |

Code of interior lighting (1994). Chartered Institution of Building Services Engineers (CIBSE)

# 11. Colour

Colour is crucial to good design but too often it is given a secondary or cosmetic role in the design process. Creative use of colour can have a large impact on how people with impairments use their environment. It can benefit people with a visual or cognitive impairment.

Colour and tonal contrast are the most effective means of improving visibility.

When a person with a visual impairment initially enters a space, they will stop and look up to the upper wall and ceiling, searching for visual clues to gain an impression of the space. These areas are often the least cluttered.
Moving through the space, the person will constantly scan looking downwards within 1-2 metres above floor level.

When designing the colour scheme it is important to consider that there is adequate colour and tonal contrast between wall, floor, ceilings and doors to distinguish boundaries and provide valuable information for visually impaired people.

If features of a building/environment are visually accentuated and contrasted with the background colour, the environment created will assist the person navigate safely through a space.

**For example**:

- Entrance doors
- Columns in circulation space
- Nosings on stairs
- Door furniture
- Hand rails / grab rails
- Sanitary ware
- Switches / control buttons
- Defined walking area

Highly reflective surfaces can cause visual confusion and it is preferable to use matt finishes. Likewise, highly patterned surfaces can cause confusion and disorientation.

Further information and guidance on the use of colour has been produced by the University Of Reading and ICI; see chapter 20 for further information.

# 12. Communication aids

## (Induction loops, infrared systems, and radio systems)

Induction loops, infra-red systems and radio systems have been developed to assist people with hearing impairments. The choice of any particular system will depend on its intended use, the environment in which it is to be installed, and maintenance issues. Professional advice is strongly recommended before committing to any one particular system. It is also worth noting that it is more cost effective to install such pieces of equipment when a building is being constructed or refurbished, than leaving it until a user requires the service.

Induction loops work by converting sound via a microphone into a varying magnetic field which is converted back into amplified sound by an individual's hearing aid. When switched to loop use ('T' switch activated) the hearing aid only picks up information input via the loops microphone which helps to cut out background noise.

Induction loops should be fitted wherever information is given verbally; i.e. airports, railway stations, box offices, ticket offices, banks, post offices, churches, meeting rooms, cinemas and theatres. Where multiple loops are used or confidentiality is an issue, care should be taken to ensure that "spillover" does not occur.

Infra-red systems work by converting a sound source into an infra-red light. Individuals wear a special headset to receive the signals and therefore they are appropriate for installation in controlled areas such as cinemas and theatres. Infra-red may be particularly advantageous where confidentiality is required or multiple channels needed.

Radio receiver enhancement systems work by converting a sound source into radio signals. Like infra-red systems, the user is required to wear a special headset to receive the signal. Unlike infrared, radio systems do not require 'line-of-site' between sending and receiving equipment and reception is not affected by natural light.

The availability of communication systems should be clearly identified by the appropriate symbol (loop, infrared, and radio systems have different symbols).

Part M (2004 Edition) of the Building Regulations requires provision for a hearing enhancement system is installed in rooms and spaces designed for meetings, lectures, classes, performances, spectator sport or films, and at service or reception counters when they are situated in noisy areas or behind glazed screens.

# 13. Tactile Paving Surfaces

Tactile paving is used as a warning surface for visually impaired pedestrians. Tactile paving is not an indication of a safe place to cross the highway but is designed to alert attention to potential hazards.

There are a number of different types of paving which if used incorrectly can give conflicting information. This may confuse the individual and create an even greater hazard. In some cases it may be better to provide no tactile information rather than information that is misleading. Reference to guidance documents and consultation with appropriate user groups is vital.

Detailed guidance on the use of tactile paving surfaces was issued by the Department of Transport **(www.mobility-unit.dft.gov.uk/tactile/index.htm).**

- incorrect use of tactile paving e.g. using red blister paving designed for use on controlled crossings laid for use at uncontrolled crossings (and vice versa)
- inappropriate use of tactile paving e.g. on side roads or car park entrances with low use or where pavement surface is not flush.
- no colour/tonal contrast between warning surface and surrounding pavement surfaces
- incorrectly laid tactile paving e.g. stem sections not installed in line with direction of travel, or stem not in line or adjacent to push button control box.
- too little tactile paving e.g. no paving at an in-line uncontrolled crossing which is flush with road surface.
- too much tactile paving e.g. tactile paving on indented crossing at a side road laid to a depth greater than 400mm.
- conflicting user needs e.g. corduroy paving at the top of steps impeding access to an adjacent ramp.

Common problems with installation of tactile paving include;

The approved document Part M (2004 edition) requires the installation of tactile paving where there is a danger of a visually impaired person inadvertently walking into a vehicular access route at an uncontrolled crossing point (blister paving type), and on an external stepped approach to give advanced warning of a change in level (corduroy paving type).

# 14. Reception Desks

Counters and reception desks should be located away from the principal entrance (but still easily identifiable from the entrance) where there is a reduced risk that external noise will be a problem. The approach to the desk should be direct and unobstructed. Space infront of a counter or reception desk should provide a clear manoeuvring space of;

- 1200mm deep and 1800mm wide where knee recess is at least 500mm
- 1400mm deep and 2200mm wide where there is no recess

Any reception desk or counter is designed to accommodate both standing and seated visitors such that at least one section of the counter is at least 1500mm wide, with its surface no higher than 760mm, and a knee recess, not less than 700mm, above floor level.

Consideration should be given to the design of counters and desks designed to be staffed by wheelchair users. In some cases it may be desirable for the floor on the receptionists side to be higher than the visitors side. Where a ramp is used a gradient no steeper than 1:12 should be used.

Where a glazed security screen is used or where the ambient noise levels may have a negative impact on communication an induction loop should be provided. To facilitate lip reading lighting design should ensure that receptionists faces are evenly lit and light reflection on the glazed screen does not produce excessive glare. Providing an appropriate plain and tonal contrasting wall behind the receptionist may also aid lip reading recognition. Movement and activity behind a reception area can be distracting and can be reduced using appropriately contrasting screens.

A number of low level cashiers desks should be provided in banks, building societies etc. Serving counters in restaurants, bars and retail units can also form potential barriers. Consideration should be given to providing a low level section to all desks and counters.

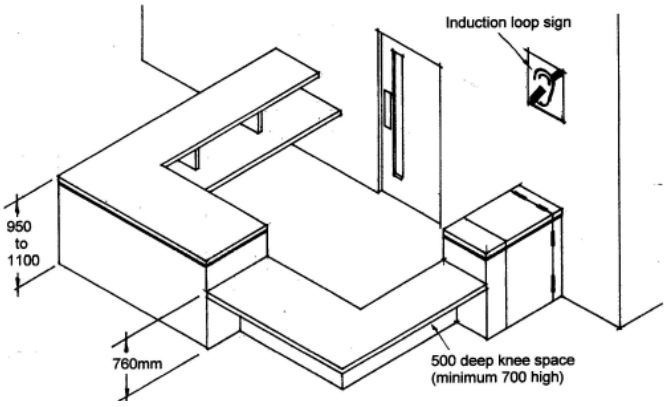



**Diagram 24 Reception desk.**

# 15. Switches, Outlets and Controls

| Control type | Position above floor level (mm |
|---|---|
| Wall mounted socket outlets<br>e.g. 13amp plug socket etc | 400 - 1000 |
| Permanently wired appliances<br>e.g. wall heater, electric cooker | 400 - 1200 |
| Switches & controls requiring precise hand move-ment e.g. dimmer switches | 750 - 1200 |
| Push button controls requiring limited dexterity<br>e.g. automatic door activation button | not more than 1200 |
| Controls requiring close vision<br>e.g. Thermostats, gas/electric meters | 1200 - 1400 |
| Light switches | 900 - 1100 |

Light switches should have large push pads and be aligned horizontally with door handles. To allow wheelchair users to reach them, all switches, sockets and controls should be at least 350mm from any corner in a room. The switches should clearly contrast visually with their backgrounds. Where a large push pad cant be provided a lighting pull cord set between 900mm and 1100mm above floor level should be provided. The cord should be fitted with a 50mm diameter bangle visually contrasting with its background and clearly distinguishable from any emergency assistance pull cord.

Pull cords for emergency alarm systems should be red in colour, located as close to a wall as possible, and have two red 50mm diameter bangles, one set at 100mm and the other set between 800 and 1000mm above the floor.

Public telephones should be designed so that the controls are located between 750mm and 1000mm above floor level. The controls should be well lit and the buttons should have large embossed or raised numerals. A raised dot should be provided on the number 5. Where there is more than one accessible public telephone, the telephones should be mounted at differing heights to allow for wheelchair users and ambulant people.

Consideration should also be given to the design of telephone kiosks. Entrances should be flush with doors that provide a minimum of 800mm clear opening width, if provided. A shelf can assist a user of a facility, these should not be installed in excess of 1400mm high.

Facilities for people with hearing impairments should be provided. The Royal National Institute for Deaf People (RNID) will be able to give information on the latest technology. Public text phones are available and should be installed with public telephone facilities. For people with hearing aids, induction couplers should be provided in all public telephones. Telephones which have induction couplers should be identified by the relevant signage and have facilities to control the volume. Automatic Teller Machines (ATM's) or cash dispensers are important to disabled people as many banks are inaccessible and ATM's can provide an increasing range of services for users. Consideration should be given to the accessibility of the approach, reach and visibility. Card slots/dispensers and controls should be a maximum height of 1250mm, particularly important if the controls are recessed. Controls should also be tactile to assist people who are blind or partially sighted. Screens and displays should be clearly visible to wheelchair users. The design should also take into account privacy, providing measures to prevent other people seeing the information displayed on the screen and the keyboard operations.

Consideration should be given to the height of services and controls, for example, light switches and door handles should ideally be 1000mm, fire alarm call points, swipe card systems, entry phone systems should not exceed 1400mm high.

# 16. Hotels, Boarding Houses, and B&B's

Seeking accessible accommodation when on holiday or attending conferences etc., can be problematic for many disabled people. Part M (2004 Edition) of the Building Regulations requires new or extended hotel and motel facilities to be accessible. The regulations look to the provision of a certain level of accommodation to be wheelchair accessible.

One in every twenty guest bedrooms should be accessible in terms of size, layout and facilities for use by a wheelchair user. Part M (2004 edition) of the Building Regulations details an example of an accessible facility, with more examples and guidance being provided in BS 8300. The British Standard also gives explanations as to why dimensions for bedroom layouts are crucial for wheelchair manoeuvrability around the room and transferring from the wheelchair to the bed. It is also important to ensure that switches, sockets and controls are easy to reach from both a wheelchair and the bed.

As well as bedrooms, those parts of the hotel accessible to able-bodied customers should also be accessible to disabled people, such as bars, restaurants, conference rooms and reception areas. Any balcony adjoining an accessible bedroom should also be accessible.

Building managers of existing facilities should try to consider how they can make their accommodation more accessible. In many cases simple alterations like the installation of handrails and easy grip door handles can assist disabled people, as well as considering furniture layouts. If current accommodation is inaccessible but other parts of the existing building are accessible, could any of the accessible areas be converted into guest rooms? Rethinking the use of each room can sometimes lead to the ability to provide accessible accommodation.

Note: For Building Regulations Purposes a dwelling may be classed as "Residential (Other) (hotel or boarding house)" - and therefore have to meet the requirements of the building regulations (and Part M) where sleeping accommodation is provided in those premises for more than 6 persons being staff or guests. For further information and advice on the differences between Boarding Houses/Hotels and Bread and Breakfast facilities please contact your local authority Building Control department.

Service providers and employers should be aware of their obligations under the Disability Discrimination Act 1995 in addition to any building regulation requirements.

# 17. Audience and Spectator Seating

Consideration should be given to disabled people when planning audience and spectator seating. Wheelchair users have specific requirements in terms of providing space that can be easily manoeuvred into. Thought should also be given to enabling able bodied and disabled companions to sit next to wheelchair users. It should be ensured that disabled people are not segregated into special areas and that seating or spaces for disabled people are not an obstruction. Spaces should always be on a flat and level surface and the design should take into account the possibility of people standing in front of the wheelchair user.

Access to varying parts of a theatre, cinema, concert hall, sports stadia and the like should be provided to give people a choice of seating location. Changes in level should follow the access standards for internal and external steps and ramps as detailed earlier in this document. In certain circumstances, where no alternative is possible, platform lifts may be acceptable. Particular thought needs to be given to lighting levels (this is particularly important where sign language or lip reading facilities are provided), and highlighting changes in levels by using contrasting colours.

Part M (2004 Edition) of the Building Regulations provides minimum requirements on accessible audience and spectator seating.

| Seating capacity | Permanent seating | Removable seating |
|---|---|---|
| up to 600 | 1% of total seating | remainder to make up total of 6 |
| 600 - 10,000 | 1% of total seating | additional provision if desired |

The minimum requirement for a space for a wheelchair user is detailed as 900mm wide by 1400mm deep providing a clear view of the event.

More comprehensive guidance and alternative options are provided within BS 8300 – Design of Buildings and Their Approaches to Meet the Needs of Disabled People and Accessible Stadia – A good practice guide to the design of facilities to meet the needs of disabled spectators and other users (see Appendix [14] for further details).

# 18. Fire Safety

It is crucial that building design takes into account not only access and facilities in and around the building for disabled people but also suitable means of evacuation in an emergency situation. There are several design features that can aid in providing means of escape measures but management procedures should also be adopted if the means of escape is to work effectively. Management procedures are most important in existing premises where specific features have not been allowed for in the original design.

BS 5588 Part 8 – the British Standard Code of Practice for Means of Escape for Disabled People, gives authoritative guidance on the design and management of buildings to enable the safe evacuation of disabled people in the event of fire.

Some possible design features that can assist in providing suitable means of escape for disabled people include:

## Early warning

Connecting the building's fire alarm system with flashing beacons or vibrating pagers can alert those with hearing difficulties as soon as the fire alarm is activated. In hotels or similar premises, vibrating pillows or mattresses can provide early warning to someone sleeping.

## Minor changes in level

Where minor changes in level occur on the same storey or at a fire exit, a ramp with a gradient not exceeding 1:12 should be provided. The ramp should be non-slip, have suitable landings where necessary and, depending on the length of the ramp, have handrails both sides. See ramp design earlier in the guide.

## Refuges

Because some people have difficulty using staircases in an emergency, refuges incorporate the idea of phased evacuation. A compartment or compartments are provided across the building and along the route of escape to allow movement from one compartment to the next in order to buy time whilst awaiting assistance to escape. The most common form of refuge is an enlarged area within a protected staircase, 1400mm by 900mm.

## Staircases

Some disabled people will be able to use a staircase for escape purposes, providing the staircase design takes this into account. A staircase designed for access as described earlier in this guide will also be suitable for escape purposes providing it is a protected stair.

Certain products can, in conjunction with management procedures, make staircases more usable for escape for people who have difficulty walking. Such a product is the Evac Chair by Paraid.

## Lifts

Generally lifts should not be used for means of escape. However, lifts should only be used as a means of escape if they are suitable for this purpose. These are Firefighting lifts designed in accordance with BS5588 Part 5 and Evacuation lifts designed in accordance with both BS 8300 (or Approved Document M of the Building Regulations) and BS 5655.

## Management Procedures

This is one of the most important aspects of fire safety, whether for disabled or able – bodied people. Good procedures include regular fire evacuation drills, maintaining clear escape routes, and having fire wardens who are trained in assisting with the evacuation of disabled people.

The creation of individual personal emergency egress plans (PEEPS) can assist with the safe evacuation of disabled people (employees/students). When drawing up these plans it is important to take the following factors into account:

- the individual needs of the employee/student;
- the difficulties the building presents; and
- the abilities of the staff in providing assistance.

Early consultation with your Local Authority Building Control Surveyor, Access Officer and area Fire Officer can help eliminate problems from arising at a later stage.

# 19. Sources of Further Information and Useful Organisations

**Access Association**
C/o Honorary Secretary
Pippa Moreton
Corporation of London
Department of Community Services
PO Box 270
London EC2P 2EJ
Tel: 020 7332 1933
Fax: 020 7332 3398
Website: **www.access-association.org.uk**

**Centre for Accessible Environments**
70 South Lambeth Road
London SW8 1RL
Tel: 020 7840 0125
Fax: 020 7840 5811
Website: **www.cae.org.uk**

**Disability Rights Commission**
DRC Helpline
Freepost MID 02164
Stratford-upon-Avon
CV37 9HY
Tel: 08457 622633
Fax: 08457 778878
Textphone: 08457 622644
Website: **www.drc-gb.org**

**National Register of Access Consultants (NRAC)**
70 South Lambeth Road
London
SW8 1RL
Tel: 020 7735 7845
Fax: 020 7840 5811
Textphone: 020 7840 0125
Website: **www.nrac.org.uk**

**Royal Association for Disability and Rehabilitation (RADAR)**
12 City Forum
250, City Road
London
EC1V 8AF
Tel: 020 7250 3222
Fax: 020 7250 0212
Textphone: 020 7250 4119
Website: **www.radar.org.uk**

**Royal National Institute for the Blind (RNIB)**
224 Great Portland Street
London
W1N 6AA
Tel: 020 7388 1266
Fax: 020 7388 2034
Website: **www.rnib.org.uk**

**Royal National Institute for Deaf People (RNID)**
19/23 Featherstone Street
London
EC1Y 8SL
Tel: 020 7296 8000
Fax: 020 7296 8199
Textphone: 0808 808 9000
Website: **www.rnid.org.uk**

# 20. Useful Publications

[1] ACE (1992) **Accessible General Housing: Building Homes for Successive Generations, 1992** - Access Committee for England, available through RADAR

[2] P Barker/J Fraser (2000) **Sign Design Guide; a guide to inclusive signage** Joint Mobility Unit and Sign Design Society

[3] J Barrick/R Wilson (1995) **Building Sight** HMSO in association with Royal National Institute for the Blind

[4] BSI (2001) **BS 8300 2001: Design of buildings and their approaches to meet the needs of disabled people – Code of practice**-BSI HMSO

[5] BSI (1999) **BS5588 Part 8 1999: Fire precautions in design, construction and use of buildings code of practice for means of escape for disabled people** BSI, HMSO

[6] BSI (2003) **BS EN 81-70:2003 Safety rules for the construction and installation of lifts: Part 70 Accessibility to lifts for persons including persons with disability** – BSI, HMSO

[7] BSI (1996) BS 7036 series. **Code of practice for safety at powered door for pedestrian use** – BSI, HMSO

[8] Carroll C/ Cowans J/ Darton D (1999) **Meeting Part M and designing Lifetime Homes** Joseph Rowntree Foundation

[9] Cobbold C (1997) **A costs benefit analysis of Lifetime homes** York Publishing

[10] Dept for Transport (2002) **Inclusive Mobility** Department for Transport

[11] DETR (1998) **Guidance on the use of Tactile Paving Surfaces** DETR http://**www.mobility-unit.dft.gov.uk/tactile/index.htm**

[12] DTLR (2001) **Better Places to live** DTLR

[13] DfEE (1999) **Access for Disabled People to School Buildings: Management and Design Guide.** Building Bulletin 91 Available from The Stationery Office website: **www.dfes.qov.uk/schoolbuildings**

[14] DfEE and DfES (2000 and 2001) **Asset Management Plans Guidance sections 1-6.** Sent to all LEAs. Available from DfES Publications Centre and website: **www.dfes.gov.uk/amps**

[15] DfEE (2001): **Inclusive School Design Building Bulletin 94**. Available from The Stationary Office and website: **www.dfes.qov.uk/schoolbuildings**

[16] DfES (2001): **Guidance on the Constructional Standards for Schools** Available from website: **www.teachernet.gov.uk/sbconstand**

[17] Football Licensing Authority and the Football Stadia improvement fund (2003) **Accessible Stadia – A good practice guide to the design of facilities to meet the needs of disabled spectators and other users**. (ISBN 0-9546293-0-2)

[18] English Heritage (2004) **Easy access to historic buildings** English Heritage

[19] Housing Corporation (2006) Housing **Corporation Scheme Development Standards** fifth edition

[20] Imrie R/ Hall P (2001) Inclusive **Design: Designing and Developing Accessible Environments** Spon Press

[21] A Lacey (1999) **Designing for Accessibility: an essential guide for public buildings** Centre for Accessible Environments

[22] NHS Estates (1999) **Wayfinding – effective wayfinding and signing systems guidance for healthcare facilities** HMSO

[22] Office of the Deputy Prime Minister (2003) **Planning & Access for Disabled People – A Good Practice Guide** ISBN 1-851126-04-X

[23] Office of the Deputy Prime Minister (2004) **Approved Document Part M – Access to and use of buildings.** The Stationery Office ISBN 0-11-753901-5

[24] Sangster K(1997) **Costing Lifetime Homes** Joseph Rowntree Foundation

[25] Sport England (2001) **Access for Disabled People** Sport England publications downloadable from website **www.sportengland.org**

[26] Strategic Rail Authority (2001) **Code of Practice – Train and Station services for disabled passengers** DTLR/DPTAC

[27] University Of Reading and ICI (1997) **Design Guide for the use of Colour and Contrast** ICI free cd-rom available tel: 0870 242 1100

[28] Thorpe S. and Habinteg Housing Association (Feb 2006) - **Wheelchair Housing Design Guide** (2nd edition).

[29] College of Occupational Therapists and Housing Corporation (Jan 2006) - **Minor Adaptations Without Delay**

# 21. Appendices

## Part M Building Regulations - dwellings (ODPM)

Approval for a dwelling/block of flats will be achieved if M2 and M3 of the Building Regulations are satisfied.

Reasonable provision shall be made for disabled people to gain access to and to use the building (M2). This will include the following as illustrated in Approved document M.

Level/ramped approach from point of access to principal entrance
Approach should have an unobstructed width of 900mm
Accessible threshold to entrance level
Entrance door should have minimum clear opening width of 775mm
Doorways and corridors within the entrance/ principal storey should be sufficiently wide enough without obstruction to allow convenient use by a wheelchair user
Switches and sockets at suitable height
Communal stairs in blocks of flats should provide ease of access to ambulant disabled people
Provision of a lift in a block of flats should be accessible to all residents including wheelchair users

Reasonable provision shall be made in the entrance storey of a dwelling for a toilet or where the entrance storey contains no habitable rooms the principal storey which shall be suitable for a wheelchair user (M3).

## Building Homes for Successive Generations

## (Access Committee for England)

The essential criteria

Level ramped approach to dwelling
Dwellings accessed by a lift, the lift should be accessible to a wheelchair user
Entrances to dwellings should have flush threshold and minimum clear opening of 800mm
Internal doors clear opening of 750mm
Circulation space at entrance level minimum corridor width of 900mm
Toilet and living room at entrance level
Entrance level toilet should allow access by a wheelchair user
Staircase to be designed to allow for future installation of stair lift Desirable features
Door and window ironmongery which is convenient to operate and easily accessible (lever door handles 1040mm above floor level are recommended)
Low windows (maximum cill height 750mm) with eye level view for seated person
Ventilators with easily reached controls
Electrical switches at waist height (1m) and electrical sockets not less than 450mm from the floor. An electrical socket suitable for possible stairlift installation
Heater controls, meters, fuse boxes and water stopcocks within easy reach
Space for platform or seat at head end of bath. Capstan-headed tap or lever fittings for basin, bath, etc. Space for manoeuvre around bathroom fixtures
Thermo-controlled taps and radiators
Easy access to waste disposal and clothes drying facilities
Good illumination outside entrance doors
Optional features
Non slip floor surfaces
Height adaptable worktops
Where a car-port or garage is within the curtilege of the dwelling, there is undercover access from car-parking space to entrance
Increased space standards
Allowance for future lift installation


Disabled
parking
only

DESIGNED BY
tipe
0118 935 7316 www.tipe.uk.net


www.bracknell-forest.gov.uk
development.plan@bracknell-forest.gov.uk
01344 352000

PLANNING PEOPLE PLACES

BRACKNELL FOREST BOROUGH COUNCIL