Inclusive Housing Design

Supplementary Planning Document

Adopted 11 May 2011
Inclusive Housing Design
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In Waltham Forest we are completely committed to promoting equality for disabled people and central to this is creating accessible and inclusive housing. Whilst there are many factors which cause inequality for disabled people an inaccessible environment can be a major barrier to independence and equality.

The emphasis throughout this draft Supplementary Planning Document (SPD) is to encourage designers to look creatively at schemes from the beginning to ensure all housing proposals are inclusive and do not create barriers to equality and inclusion. It also sets out the reasons and benefits for designing inclusively and technical standards that need to be taken on board to achieve this.

I very much hope that this document will be used by developers, architects, building professionals, disabled people community groups and of course by us within the local authority. It is designed to make a difference, it is just one of the ways that we are working to improve the accessibility of our environment and tackle the inequality experienced by disabled people.

We will not make Waltham Forest accessible overnight, this is a long journey which we have been on for a while but I am sure that this document will speed up that journey and help us all to make a real difference.

Thank you,

Councillor Marie Pye, Cabinet Member for Housing and Development
Chapter 1
Introduction

Introduction

1.1. This supplementary planning guidance is intended to raise awareness about inclusive design and raise the standard and quality of all housing developments in the borough. The objective being to ensure that homes and their settings provide an inclusive environment that is usable by everyone.

1.2. This guidance is intended to assist developers, applicants and the Council in its capacity of a property owner to achieve best practice in inclusive housing design. The document sets out the key inclusive design principles to be applied to the design and construction of all housing development to ensure it is designed and built to lifetime homes standards and where applicable wheelchair accessible standards. The principles are drawn from current best practice in a range of documents including Lifetime Homes Standards, Habinteg “Wheelchair Housing Guide 2006”, and BS 8300 2010. More details are given in Appendix 3 Useful Documents.

1.3. The Lifetime Homes standards are readily available for downloading and are not therefore reproduced in this document; instead the majority of the document lays out the key design principles for wheelchair accessible homes. The policy framework requiring Lifetime Homes and Wheelchair accessible housing is set out in Chapter 3.

1.4. The borough has a modestly increasing population. It was 224,300 in 2009, with approximately 24,000 disabled people. Of these, approximately 9900 people have some form of mobility difficulty including 1355 people who use a wheelchair. The retired population is forecast to increase projections in 2007 indicated an increase of 4,150 in the 65+ age group, and 1200 in the 75+ group by 2026. “The Housing Needs and Market Survey 2007” provides a more detailed breakdown.

1.5. Both disabled and older people need well designed inclusive housing. Without this they are denied the opportunity to live in accommodation which is easily adaptable to meet their changing and diverse needs over their lifetime.

Purpose of the document

1.6. The purpose of this SPD is to provide clear guidance on inclusive housing and accessible design for developers, applicants, planning officers, the public and other interested parties in bringing forward proposals for development in Waltham Forest. This document sets out the reasons for designing inclusively and key design principles that need to be implemented in all residential developments, with the key objective of significantly increasing the accessibility and quality of housing development within the borough.

1.7. Inclusive design principles need to be considered when developing master plans and development briefs as well as in individual planning applications – the earlier these principles are
embedded into the development process the more accessible and inclusive the development is likely to be. Further guidance on this is given in the London Development Agency Inclusive design tool Kit. (See Appendix 3)

1.8. Ensuring proposals for building work are inclusively designed is only part of creating a sustainable community. A well designed environment needs to have well integrated management and customer service practices which recognise the needs of disabled people.

Who should use this document?

1.9. These standards are intended to be used as a design manual by:

- Professionals - architects, planners, occupational therapists, registered social landlords, landscape architects and other designers.

- The community, especially disabled people, as a reference tool about the standards they can expect from development requiring planning permission.

- The Council when carrying out development and improvements to its residential premises.

How to use this document

1.10. The technical advice in these guidelines is set out systematically with background information followed by the key design principles. Where sections are supplemented with illustrations these are not drawn to scale and are for information only. All dimensions quoted are in millimetres (mm).
Chapter 2
Core Principles

Introduction

2.1. There are two core principles underlying the advice in this supplementary planning document (SPD):
  - inclusive design
  - the social model of disability

What is inclusive design?

2.2. The principle of inclusive design derives from the social model of disability, and focuses on the design of the environment as opposed to an individual’s impairment. Buildings and environments designed to be inclusive will be safe, accessible, convenient, flexible, adaptable, sustainable, legible and usable by everyone.

2.3. An inclusive environment cannot always meet every need, however designs that consider peoples diversity will remove unnecessary barriers and exclusion, often achieving superior solutions which enhance the urban environment. Inclusive design benefits individuals with physical, sensory or cognitive impairments, people with mental health conditions, older people, children, and carers of children and adults, people with temporary impairments, and anyone with heavy luggage or shopping. Inclusive design aims to benefit all of us.

2.4. This principle is also fundamental to the established concepts of sustainable communities.

Social model of disability

2.5. The social model is the core principle underlying inclusive design. It was developed by disabled people and rejected previous medical and administrative models of disability. It is the basis for creating inclusive and accessible environments.

2.6. Central to the model is the recognition that whilst an individual may be limited by their impairment (physical, sensory, cognitive) it is society that creates institutional barriers which ‘disable’ people.

2.7. Barriers such as social, attitudinal, economic, procedural and environmental can all exclude disabled people from fully participating in society.

2.8. The emphasis throughout this Supplementary Planning Document (SPD) is to encourage designers to look creatively at schemes from the outset to ensure proposals are inclusive and do not create barriers to equality and inclusion.

2.9. The Council is committed to the social model of disability and this permeates its Disability Equalities Statement.

2.10. See www.walthamforest.gov.uk/index/social/equality-strand-disability/des.htm

Creating sustainable communities

2.11. Inclusive design permeates the concept of sustainable communities and can make it a practical and realistic vision. The aim of this guidance is to create sustainable communities and enable more people to participate in and use the built environment through ensuring it is inclusively designed from the outset.
2.12. Central government defines sustainable communities as

“Places where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good services for all.”

www.communities.gov.uk/archived/general-content/communities/what’s/

2.13. Waltham Forest Council’s Sustainable Communities Strategy (SCS) 2008 sets out a vision for the borough where Waltham Forest becomes a place that people aspire to live in. This will be achieved by creating an attractive residential location with the right housing built in the right place, distinctive town centres, friendly neighbourhoods, excellent schools and access to quality open spaces. This vision for the borough will be positively affected by the quality and accessibility of the built environment and its infrastructure.

Status of the document

2.14. This document is produced as a Supplementary Planning Document (SPD) to the Waltham Forest Unitary Development Plan (UDP) First Review 2006, under the Planning and Compulsory Purchase Act 2004.

2.15. The Council is currently preparing its Local Development Framework (LDF). Once the Core Strategy has been adopted this document will be supplementary to it and will form part of the LDF.

2.16. The SPD is a material consideration in the determination of planning applications and in relation to appeals and public inquiries. It is to be used in detailed negotiations regarding the layout and design of all planning applications to ensure inclusive design has been considered and incorporated.

2.17. Development proposals will therefore need to take into account the guidance set out within this document, in addition to other relevant guidance produced by the Council such as the Council’s Urban Design SPD.

2.18. This document replaces our ‘Access for All’ SPG and has been subject to public consultation in accordance with the principles set out in Planning Policy Statement 12 - Local Spatial Planning.

How the document was prepared

The process

2.19. The initial evidence gathering included meetings with the Access Alliance (now disbanded) and research into current policy and best practice guidance. A draft SPD was then prepared with an Equality Impact Assessment taking on board the findings of the evidence gathering, and was followed by a 5 week consultation period. Representations were made in this consultation period which were considered and taken into account in the final draft.
Sustainability Appraisal

2.20. Following recent amendments to the Planning and Compulsory Purchase Act 2004, it is no longer a statutory requirement for Councils to produce a sustainability appraisal for supplementary planning documents. However in preparing this SPD, the Council has taken into account best practice guidance and requirements in addressing sustainability and the climate change agenda. A Climate Change Impact Assessment was completed to ensure the SPD places sustainable development at the heart of inclusive design and to ensure development fully considers the future impact of climate change.
Chapter 3
Policy Context

Background

3.1. This document is written within the context of current national, regional and local planning policies and guidance on inclusive design and other relevant standards and codes of practice. A summary of the most relevant national, regional and local planning policies are provided below.

National Policy

Planning Policy Statements

3.2. Inclusive design is an integral part of national planning policy. Planning Policy Statement 1 – Delivering Sustainable Development (PPS1) (2005) states that ‘good design ensures attractive usable, durable and adaptable places and is a key element in achieving sustainable development.’ It states that “good design should contribute positively to making places better for people”. “High quality and inclusive design should be the aim of all those involved in the development process”. It defines high quality and inclusive design as a place which “functions well and add to the overall character and quality of the area”. Inclusive access is also at the heart of PPG13: Transport (2001) and there is also reference in PPG17: Planning for Open Space, Sport and Recreation (2002) to ensure that facilities are accessible for people with disabilities.

3.3. PPS3: Housing (2010) states that “Good design is fundamental to the development of high quality new housing, which contributes to the creation of sustainable, mixed communities.” It also aims to ensure that new development is “easily accessible and well-connected to public transport and community facilities and services, and is well laid out so that all the space is used efficiently, is safe, accessible and user-friendly”.

3.4. PPS4: Economic Development (2009) includes recognition that in order to promote high quality and inclusive design, town centres need to provide accessible and safe environments for businesses, shoppers and residents. Proposals in centres should be of high quality and inclusive design to ensure a place will function well and add to the overall character and quality of the area’.

3.5. Inclusive access is also at the heart of PPG13: Transport (2001) and there is also reference in PPG17: Planning for Open Space, Sport and Recreation (2002) to ensure that facilities are accessible for people with disabilities.

Code for sustainable homes

3.6. The Code for Sustainable Homes has been introduced to drive a step change in sustainable home building practice. It is a standard for key elements of design and construction which affect the sustainability of a new home.

3.7. Lifetime Homes are now mandatory to achieve level 4 of the Code. A technical guide has been produced and provides advice on assessing
Regional Policy

The Draft Replacement London Plan


3.9. As set out in the Mayor’s vision in the draft replacement London Plan, London should be “a city of diverse, strong, secure and accessible neighbourhoods”. Inclusive design is one of several ingredients needed to help build strong neighbourhoods and places. The importance of place making and the role of inclusive design is clear throughout the Plan.

3.10. Policy 3.8 – Housing Choice aims to ensure that all new housing is built to ‘Lifetime Homes’ standards, that ten per cent of new housing is designed to be wheelchair accessible, or easily adaptable for residents who are wheelchair users. Account should also be taken of the changing age structure of London’s population and, in particular, the varied needs of older Londoners, including supported and affordable provision.

3.11. Policy 7.1 – Building London’s neighbourhoods and Communities states that new development should be designed so that the layout, tenure, mix of uses and interface with surrounding land will improve people’s access to community infrastructure (including green spaces), commercial services and public transport. New development should maximise the opportunity for community diversity, inclusion and cohesion and should contribute to people’s sense of place, safety and security. Places of work and leisure, streets, neighbourhoods, parks and open spaces should be designed to meet the needs of the community at all stages of people’s lives, and should meet the ‘lifetime neighbourhoods’ criteria.

3.12. Policy 7.2 – An inclusive environment aims to ensure new development achieves the highest standards of accessible and inclusive design. The policy aims to ensure new development can be used safely, easily and with dignity by all regardless of disability, age, gender, ethnicity or economic circumstances. It should also be convenient and welcoming with no disabling barriers, so everyone can use them independently without undue effort, separation or special treatment.

Your Home in a Changing Climate

3.13. The Mayor of London has produced a document to guide homes owners on the best ways to adopt their homes to deal with climate change. ‘Your Home in a changing climate: Retrofitting existing homes for climate Change Impacts.. This can be obtained from the Climate Change partnership on 0207983 or downloaded from their website. See Appendix 3 for details.
Local/Waltham Forest policy

Waltham Forest Council Key Priorities

3.14. This document has been prepared in accordance with our legal duties including the Equality Act 2010 and contributes to the Council’s key priorities.

3.15. The Council’s key priorities and commitments are:

- Protect the most vulnerable
- Improve the safety of our community
- Get cleaner and greener
- Regenerate our borough
- Make the most of the Olympic Year

3.16. There is a strong emphasis on supporting and empowering our most vulnerable residents to live independent, active and enjoyable lives. Inclusive design can be instrumental in this.

3.17. In this context the Council also has a duty under the Equality Act 2010 to have ‘due regard’ to:

- the need to eliminate discrimination
- advance equality of opportunity
- foster good relations across all of the protected groups

3.18. These are key elements in the creation of a sustainable community and reinforce the role of inclusive design in terms of creating the community Waltham Forest wants.

Climate Change Strategy

3.19. The Council is committed to addressing the impacts of climate change within all developments proposed in the Borough. The Waltham Forest Local Strategic Partnership (LSP) which includes the Council and its partners such as the police, health authority local businesses and the voluntary sector, is responsible for the borough’s Climate Change Strategy (CCS) and has set up a multi sector task force to oversee its development and delivery.

3.20. The CCS supports the wider Sustainable Communities Strategy (SCS). The key climate change commitments within the SCS are:

- To involve residents, businesses and the public sector in reducing landfill waste, energy use and carbon emissions.
- To promote sustainable forms of private and public transport.
- To ensure new developments and existing public sector buildings are environmentally sustainable.

3.21. Delivering these commitments is therefore fundamental in making sure that development happens in the right place, is close to existing or proposed new facilities, has good access to public transport and provides energy efficient homes. Further details on climate change mitigation measures can be found in the Urban design SPD – at section 5.12.
Local Policy – UDP and Emerging Local Development Framework

3.22. Waltham Forest’s Unitary Development Plan (UDP) (First Review, 2006) is the Council’s adopted planning policy document. It sets out the planning objectives for the borough and aims to ensure that new development makes a positive contribution to improving the quality and accessibility of the urban environment in the borough. The key policies in relation to inclusive design are as follows:

3.23. Policy HSG10 – Housing for Disabled People, states in accordance with the London Plan that The Council will seek to achieve inclusive design and accessibility in all new housing developments and to ensure that:

A) All new housing is built to ‘lifetime homes’ standards, and

B) 10% of new housing is designed to be wheelchair accessible, or easily adaptable for residents who are wheelchair users.

3.24. Policy BHE5 - Access for All states that applications for new development (including the alteration, extension or change of use of buildings and land) to which the public have access should, where practical and reasonable, be designed so that everyone, including disabled people, can conveniently reach and enter any buildings or use any open air facilities.

3.25. The Council is currently drafting its Local Development Framework (LDF) which will guide regeneration and development in the borough over the next 20 years. Once adopted this will form the Council’s planning policy framework. The central document in the LDF is the Core Strategy. The Council has developed their Core Strategy to submission draft. The Core Strategy sets out the overarching and strategic planning policies in the borough. In terms of inclusive design, Policy CS2 – Improving Housing Quality and Choice aims to ensure that new homes should be accessible to all members of the community and be able to adapt to the changing needs of residents throughout their lives. Policy CS15 - Well Designed Buildings, Places and Spaces states that new development proposals will be expected to incorporate high quality and inclusive design measures to create an attractive, safe, healthy, accessible and sustainable environment throughout Waltham Forest.
Chapter 4
The Planning Process

Understanding the planning process

4.1. Most new buildings, or major changes to existing buildings or to the local environment, will need planning permission.

4.2. An application for planning permission should be made to the Development Management team within the Council, and must include sufficient detailed information to assess the proposed development and its potential impact on the local area.

4.3. The Council also provides a pre-application service for which there is usually a charge. This service can be useful in enabling an applicant to discuss the principles and details of a proposal with the Local Planning Authority prior to the submission of a formal application. The Council encourages use of this service, and further information can be obtained from the Development Management team (contact details are in Appendix 2: Useful Contacts).

4.4. Applications for residential development should provide information on the design of Lifetime Homes and wheelchair accessible housing. This should be included in the development description with detailed information (including illustrated plans) set out in the Design and Access Statement.

4.5. The Council’s validation requirements need to be referred to regarding the scale of plans required and level of detail. Because of the level of detail that needs to be checked in a residential development it is essential that plans are at scale 1:50. The Council’s validation check lists provide more information.

4.6. For those developments that are likely to be referred to the Mayor it is recommended that applicants use both the GLA and TfL pre-planning application advice service. For more information about this go to http://www.london.gov.uk/priorities/planning/strategic-planning-applications/pre-planning-application-meeting-service.

4.7. Some areas, buildings or monuments have protection against certain developments because they are of special cultural, architectural, historic, or wildlife interest. These include conservation areas and listed buildings. Trees within or adjacent to a development site may also be protected.

4.8. If development proposals affect one of these designations or protection orders, additional controls are likely to be imposed. In some instances, such as work to a listed building or development within a conservation area, additional consent to the standard planning permission may be required.

4.9. It is therefore advisable to check with the Council’s Development Management Team or consult the Council’s Unitary Development Plan to see if there are any designations that affect the site. See Appendix 2 for details of the relevant people to contact.
Design and access statements for housing development

4.10. In 2006 planning legislation was introduced that requires anyone submitting planning applications (with some exceptions) or those applying for listed building consent, to include a design and access statement with their application.

4.11. A design and access statement sets out the design principles and concepts that have been applied to a particular development, The access component of a Design and Access Statement covers vehicular and transport links and inclusive access and concerns how everyone can get to and move through the buildings and surroundings regardless of age, disability, ethnicity or faith.

4.12. Solutions to providing inclusive access may vary depending on the size, scale, nature and intended use of a building. There may also be constraints imposed by existing structures, historic buildings or conservation requirements.

4.13. The Design and Access Statement enable applicants to explain the opportunities and constraints offered by a proposal and the various solutions used to enable a satisfactory inclusive outcome.

4.14. By documenting the various processes leading to a final design an applicant can demonstrate, at planning application stage, that all possible options to improve accessibility had been considered.

What to Include?

Relevant Policies and design standards

4.15. The statement needs to include details about the planning policies that are relevant to the scheme with particular reference to inclusive design and disabled people. It is also important to identify the design standards being used - this should include the design guidance in these guidelines, BS 8300 2010, Habinteg Wheelchair Housing Guidelines, Lifetime Homes standards or other best practice relevant to the type of development. This ensures that inclusive access principles are considered at the outset of the development process, and integrated into the design.

Monitoring

4.16. The GLA monitor housing developments as part of the London Development Database (LDD) and requires details on the numbers of homes that meet the Lifetime Home standards and the wheelchair housing standards. This information needs to form part of the Design and Access Statement. This means residential schemes should include typical flat layouts that demonstrate that the Lifetime Homes criteria have been addressed. It should also provide flat layouts for any wheelchair units if proposed and be clear on the plans where the wheelchair accessible flats are located, how many there are, appropriate parking provision and overall how the wheelchair housing design standards have been achieved.

Application of design standards

4.17. The statement needs to address how these standards are applied to ensure access is achieved.
4.18. This will need to cover external access and movement around the site as well as entrance into the building and the internal layout. This should cover the visibility of entrances and access to the buildings, and access to facilities such as toilets meeting rooms, and changing facilities. Circulation within the space also needs to be considered. It should also explain how level changes throughout the external space are being addressed for example sloped routes, dropped kerbs as well as access to and from parking spaces. Diagrams showing how people can move to and through the place will be very useful.

4.19. It is important that the statement and the submitted plans demonstrate that the scheme is inclusive and that disabled people are not be segregated and are able to move up and down within the residential development using the same entrances, corridors and rooms as everyone else without having to use an alternative route. Typical floor layouts for flats, maisonettes and houses will need to demonstrate that the Lifetime Homes criteria have been addressed and also provide details to demonstrate how the wheelchair accessible units address the design principles set out in these guidelines.

Mixed Development

4.20. Mixed use developments with a non residential element will need to refer to the advice on design and access statements in the companion to this SPD document Inclusive Design and Non Residential development.

Consultation

4.21. Information about any consultation completed or to be carried out on access issues needs to be mentioned. Depending on the scale of the development proposal, this may include consultation with local communities and access groups. This includes technical advice sought on inclusive access from the Senior Occupational Therapist in Housing, other access specialists, highway engineers, Secured by Design and urban design specialists.

4.22. For significant developments it is useful to consult the local disability forum Action Disability Waltham Forest or consider setting up a strategic access forum. An example of best practice is the Stratford City Consultative Access Group.

4.23. Further advice on Design and Access Statement can be found at:

The Councils website

4.24. [link]

The GLA advice on design and access statements

[link]

CABE

[link]

Appeals

4.25. If the local authority refuses planning permission, the applicant can appeal against this decision to the Planning Inspectorate. The address of the Planning Inspectorate is:

The Planning Inspectorate
Room 3-4 Temple Quay House
2 The Square, Temple Quay
Bristol BS1 6PN
Tel: 0117 372 8000
[link]
Chapter 5
Legal framework and Best Practice

Legal framework

5.1. The legal framework supporting this SPD is set out in more detail in the published Evidence base supporting the preparation of this document. Briefly, legislation regarding access to buildings for disabled people began in 1970 and the range of legislative applications has widened over time and detailed requirements have been extended and refined.

5.2. The relevant Acts are listed in chronological order.

Planning and Compulsory Purchase Act 2004

5.3. This amended the Town and Country Planning Act 1990 and omitted the long standing duty requiring local planning authorities to draw the attention to certain provisions benefiting disabled people when granting planning permission. Section 42 compels applicants of planning applications to submit a design and access statement to accompany their application in the majority of cases.

Workplace (Health, Safety and Welfare) Regulations 1992

5.4. The Workplace (Health, Safety and Welfare) Regulations 1992 aim to ensure that workplaces meet the health, safety and welfare needs of each member of the workplace, including disabled people.


5.5. The Equalities Act 2010 consolidates the array of anti discrimination law and regulations into a single act and includes the duty to end discrimination against disabled people by providing rights in the areas of employment, obtaining goods and services, access to education, transport and buying or renting land or property. Local authorities are obliged to have “due regard” to duties to promote equality of opportunity across the protect groups included disabled people, and to publish equalities objectives.

The Building Regulations 2000

5.6. Approved Document M, 2004 Edition, ‘Access to and use of buildings’ covers domestic and non-domestic buildings. It aims to make it reasonably safe and convenient for people to gain access to, and use, non-domestic buildings, whether visitors or employees. It applies the concept of inclusive access for all. This takes account of major changes to the British Standard 8300:2001 subsequently amended and updated in 2009. It includes all new developments (residential and non-residential) alterations to existing buildings and certain changes of use, and to apply the concept of inclusive access for all.

5.7. This takes account of major changes to the British Standard 8300:2001 subsequently amended and updated in 2009 and 2010. Approved Document M and BS 8300 are primarily aimed at non-residential development and have not been
updated to take account of Lifetime Homes Standards and Wheelchair Accessible housing. It is intended that the Approved Document will be reviewed and expanded to cover Lifetime Homes Standards and is likely to be reissued in 2013.

Best Practice

5.8. A complete list of best practice documents is set out in the evidence base which is reproduced as in the appendix - “Useful Documents”.

5.9. The most recent emerging guidance is set out in BS 8300 2009/2010; the latest version of Lifetime Homes, updated in July 2010, and the Interim London Housing Design Guide 2010. These add substantial weight to the standards used in this SPD.


5.11. The HCA Design and Quality standards for new wheelchair accessible housing developments are also based on the Habinteg design guide. Further empirical research by the Northern Ireland Housing Executive provides the evidence base for the space requirements for wheelchair users.

5.12. Attention is also drawn to other useful documents that help to provide more accessible housing but which are not so critical at planning application stage, such as the Thomas Pocklington Trust advice on designing homes that are accessible to visually impaired people. Details are provided in Appendix 3 at the back of this document.
Chapter 6
Lifetime Homes

Background

6.1. This Council’s Unitary Development Plan seeks to ensure all new housing developments, whether new build, refurbishment, extension or conversion, are built to Lifetimes Homes Standards and that 10% of new housing is designed to be wheelchair accessible. This approach is consistent with existing and emerging local and regional planning policy.

6.2. The Lifetime Homes Standards are well documented and were revised and updated by Habinteg in July 2010 following extensive public consultation.

Why Lifetime Homes

6.3. The Lifetime Homes Standards were established in the mid 1990s to incorporate a set of principles that should be implicit in good housing design. Good design, in this context, is considered to be design that maximizes utility, independence and quality of life, while not compromising other design issues such as aesthetics or cost effectiveness.

6.4. The Standard seeks to enable ‘general needs’ housing to provide, either from the outset or through simple and cost-effective adaptation, design solutions that meet the existing and changing needs of diverse households. This offers the occupants more choice over where they live and which visitors they can accommodate for any given time scale. It is therefore an expression of Inclusive Design.

6.5. Housing designed to these standards will be convenient for most occupants, including some (but not all) wheelchair users and disabled visitors, without the necessity for substantial alterations. It is also capable of meeting the requirements of a wide range of households, including families with push chairs as well as some wheelchair users. The emphasis on functionality and accessibility in Lifetime Homes housing benefits most people in daily life.

Lifetime Homes and Wheelchair standard housing

6.6. Lifetime Homes are suitable for most occupiers but are not a substitute for purpose-designed wheelchair standard housing. Many wheelchair users will require purpose-designed wheelchair housing and will find a lifetime standard home inadequate for their space requirements.

6.7. Wheelchair housing is designed to specifically meet the diverse and changing needs of wheelchair users and the multiplicity of impairments that some wheelchair users experience. Greater spatial demands and increased flexibility and specification in a property designed to wheelchair housing standards aims to ensure that not only does a wheelchair user have access to every facility inside and outside of the dwelling, but also has choice on how best to approach (and sometimes adjust) that facility to suit their particular needs. The guidance on wheelchair housing sets out these standards.
The Standards

6.8. The Standards consists of 16 revised criteria. These are not reproduced here as they can be viewed in full at www.lifetimehomes.org.uk together with examples of application and good practice recommendations which exceed or are in addition to the criterion.

Good Practice recommendations

6.9. The Council strongly encourages all developments to incorporate good practice recommendations set out in the Habinteg’s guidance for Lifetime Homes and the Mayor’s London Housing Guide. In particular providing wider doors and the inclusion of lifts where development is more than two storeys high.
Chapter 7
Wheelchair Housing Standards

Background and Design Principles
Section A - Siting, Layout and Tenure

Background

A.1. Council policy requires that 10% of new housing is designed to be wheelchair accessible or easily adaptable for residents who are wheelchair users. This applies across all tenures.

A.2. Disabled people and their families want to have access to the same housing choices as everyone else. Therefore thought must be given from the outset as to how a person is going to use the property and its surrounding environment.

A.3. Location is crucial, particularly ensuring close proximity to local facilities and accessible transport. Hilly isolated sites should be avoided. Consideration must also be given to disabled visitors and the overall aim to provide truly inclusive design. Residents in existing wheelchair units have indicated that where properties have a street frontage, that a protection zone be provided so that the front door does not open directly onto the pavement. Therefore the overall layout needs to be consistently designed to enable all people ease of access around all areas of the development.

A.4. Where several wheelchair units are provided within a single scheme there must be a mix of bedroom size. They must be located throughout the site, and not grouped together, and therefore may be on different floor levels.

A.5. Layouts of all wheelchair units must be provided at scale 1:50 indicating circulation layouts but also items such as furniture and radiators as these can restrict essential circulation areas.

A.6. Schemes including wheelchair units for sale or ‘intermediate’ ownership for example part rent/part buy, must be marketed for 6 months in accordance with Section 106 Agreements as part of the planning permission. The six month advertising period can commence before handover. This is set out in more detail in the SPD on Section 106 agreements and the process for marketing can be discussed with the Senior Occupational Therapist in Housing.
Key Design Principles

Location
1. Wheelchair units need to be evenly distributed throughout a site, and where possible with a mix of property size, type and tenure.
2. Hilly sites are to be avoided where possible.
3. Sites need to be near to accessible transport and facilities for example shops, schools, health practices.
4. Individual units must be designed to provide as much natural light as possible to assist people with visual impairments.

Unit Size
5. The minimum unit size must be a 1 bedroom 2 person unit. This is explained more fully in Section N - Bedrooms.
6. Ensure blocks with units above ground floor have 2 wheelchair accessible lifts, ideally of fire evacuation standard. See Section F for more details
7. Units of more than a single storey for example a house/ maisonette must provide a wheelchair accessible through floor type lift.

Tenure
8. Wheelchair housing units are to be provided across all tenures.
9. Units for private sale or ‘intermediate’ type options for example part rent/part buy, must be marketed for 6 months in accordance with planning conditions and Section

10. The Council requires wheelchair units in any one development to be advertised alongside the other general needs housing units and to include floor plans where possible. Advice should be sought from the Senior Occupational Therapist in Housing.

11. They must be advertised locally, regionally and nationally:
   Locally
   - The Walthamstow Guardian - www.guardian-series.org.uk
   Regionally
   - Intermediate tenure units must be advertised in www.firststepslondon.org
   Nationally
   - www.accessible-property.org.uk
   - www.mobilityfriendly.co.uk
   - www.disabilitynow.org.uk
   - Regionally - Intermediate tenure units must be advertised in www.housingoptions.co.uk.

12. Assistance regarding financing these types of ownership options can be obtained from www.mysafehome.info
Section B - Parking

Background

B.1. Large planning applications for mixed use redevelopment, shopping or commercial development and Council’s own developments need to take account of these standards.

B.2. Appropriately sized, level parking areas should ideally be ‘off street’ and within the curtilage of the property to allow easy access. Where space within a development site is restricted a less desirable alternative might be to provide a designated bay immediately in front of the unit, within clear view, and not on a public highway or encroaching on the pavement.

B.3. The provision of designated Blue Badge parking bays on the public highway has been found not to work for several reasons:

- It is not always possible to dedicate the bay to a specific wheelchair accessible unit.
- It may not provide ease and speed of access.
- It raises concerns about visibility and security of the bay.
- Access to the space around the bay can be compromised.

B.4. Canopies and covered routes to the bay should be provided where they can be integrated into the overall design and do not conflict with other requirements, for example Secured by Design.
Key Design Principles

General

1. Each unit must have a dedicated, clearly indicated parking bay within close proximity

Access and Approach

2. Access routes from parking areas to the unit need to be level (1:60 or shallower), as this enables easy way finding. Routes also need to be clearly signposted, and well lit.

3. Access from parking areas must be easy to negotiate and clear of obstructions for example bollards, columns in basement parking, bin/bike sheds and their door openings.

4. Gates must be fully automated by remote key fob in addition to fixed, easily accessible control panels.

Layout

5. Parking bays to be 3600 mm x 6000 mm which includes a 1200 mm transfer space to the side and rear.

6. Dropped kerbs must be provided throughout site to assist access.

7. Bays must have a clear access route around them which does not impinge on the actual bay and its transfer zones.

8. Carports and/or ceilings to basement parking must be a minimum 2600 mm high to accommodate a high top vehicle and/or assistive devices.

9. If parking bays on the public highway are unavoidable dropped kerbs are to be provided at appropriate points.

Signage

10. Clear signage must be provided. See non-residential guidance on parking.
Section C - Approach

Background

C.1. Care must be taken to provide level access within the development and avoid ramping where at all possible. It can be extremely tiring and awkward to have to negotiate ramps, especially if they are steep (greater than 1:20), long and have landings and turnings. This is made more difficult when carrying items such as shopping from a parking area, whilst having to brave the elements.

C.2. If ramps are essential for example owing to topography, thought must be given to include them within the overall design and to accommodate levels across the whole site.

C.3. The site layout should carefully consider the location of features that can impinge on overall accessibility to a unit for example ground level utility meters on approach routes, bin/cycle stores and access routes fully integrating with the public footway/highway.

C.4. The design should ensure that windows and doors do not open over approach routes. Approach routes need to have good levels of natural and artificial lighting at all times for safety reasons but also to enable facial recognition. Advice about suitable lighting levels can be found in relevant guidance.
Key Design Principles

General
1. Ideally a level approach is required to wheelchair units. This should be no steeper than 1:60. If ramping is unavoidable see below.

2. Approach routes must be well lit, well signposted and easy to navigate.

Materials
3. Colour contrasting materials must be used for hazard warning and route definition.

4. Surfacing materials should be slip resistant and level

Pathways
5. Pathways must be a minimum 1200 mm clear width, 1800 mm if accessing more than one wheelchair unit. This must be clear of obstructions for example handrails, utility meters, outward opening doors and windows.

6. Where a level approach is not possible, ramps must be kept to a minimum and not exceed 1:20 gradient.

7. Where ramps are provided an alternative stepped route is required.

8. Flights of ramps must not exceed 10 metres, or a rise of more than 500 mm.

9. Protective edges of 100 mm to be provided to ramps and all drops must be guarded.

10. Level landings must be 1500 mm square (ideally 1800 mm).

11. Level landings must be provided at top and bottom of ramps and at appropriate intervals according to length and gradient. See Non Residential guidance.

12. Level landing areas of 1500 mm (ideally 1800 mm) must be provided beyond all door openings.

Handrails
13. Handrails are to be provided on both sides of a ramp and steps.

14. Rails should be 900 mm high to top of rail and extend 300 mm horizontally beyond the top and bottom.

15. Rails should be easy to grip.

16. Rails should be finished to provide visual contrast with background surroundings.

17. Where there is an additional identified need for tactile markers on handrails please contact the Sensory Resource Team (see Useful Contacts).

Steps
18. Ramps must be accompanied by steps.

19. Handrails are required

20. Hazard warning surfaces will be required

21. The top of the ramp must not align with the top of the steps for safety reasons.

22. See Non Residential guidance re step design.
23. Good even levels of lighting must be provided on all access routes, entrances and external communal areas.

24. Minimum light levels of 100 lux are recommended on steps and ramps. See BS 8300 2009 +A1: 2010 sections 5.8.8 and 5.9.8 for more information.

25. Security lighting must also be provided where and when there are low levels of natural light. This will need to be sensor activated.
Section D Entrances

Background

D.1. Demands for higher density housing schemes means that there is an increasing provision of blocks of flats and maisonettes. This can create the need for communal doors.

D.2. Large, heavy, security type doors are very difficult for a disabled person to negotiate and this is further compounded when there is more than one door.

D.3. When designing entrance doors, care should also be taken to ensure that any issues raised by Secure by Design are addressed without compromising accessibility for example:

- clear opening width
- the type of door
- locking mechanisms and
- automated key fobs

D.4. All entrances and exits including access routes to parking areas must have level access and a level threshold. Designers should also consider emergency egress for disabled residents, including communal circulation areas and routes to individual units. Where larger hallway areas are provided these can become cluttered with residents belongings, for example buggies. Therefore appropriate management policies and procedures should be in place to deal with such issues.

D.5. Units with their own external entrance door should have some private frontage which provides a protection zone so that the entrance does not open directly out onto the street. This increases feelings of safety, privacy and enables easier siting of canopies above the door.

Figure 1. Entrance door details
Key Design Principles

General
1. Wheelchair units should ideally have dedicated access, avoiding the need to negotiate heavy communal doors. Doors should not open directly out onto the street but provide some protection zone within the site curtilage.

2. The provision of secondary access to individual wheelchair units can assist emergency egress.

3. Canopies must be provided over entrances.

4. Lobbies must be kept to a minimum.

Door Opening
5. All communal doors to units, including those to parking areas and lift lobbies, must be fully automated for example via a remote key fob device.

6. Where units are for private sale the necessary electrics and space above/behind door openings must be provided as a minimum.

7. Manually operated doors must not require more than 20 Newton’s of force to open.

Door design
8. All entrance doors must provide a minimum 900 mm clear open width and a level threshold and weather bar. (Please refer to Section E on Doors).

9. A leading edge of preferably 500 mm (300 mm absolute minimum) must be provided to all main entrance and front doors, with a minimum 200 mm on hinge side to allow additional space for possible automated opening devices.

10. Level landing areas of minimum 1500 mm square (ideally 1800 mm) must be provided clear of the door swing on both sides.

Entry Systems
11. Entry phone systems and control panels must be suitable for users with physical, sensory and cognitive impairments for example legible, easy to reach and operate, with tactile markers and large, clearly visible controls and instructions.

12. They must be positioned within 400 mm of the leading edge of the door and a minimum of 300 mm out from corners Between 800 – 1050 mm above finished floor level and not in hard to reach areas, for example corners or behind doors. They should also incorporate audible feedback.
Thresholds

13. All external doors must have a level threshold without any upstand.

Mat wells

14. Mat wells can reduce trailing of dirt but must not cause a sinking or tripping hazard for wheelchair users so must be firm and flush with the finished floor surface.

Figure 2. Threshold details

![Threshold details diagram](image)
Section E Internal and External Doors

Background

E.1. All doors must be easy to access and operate. Doorways to rooms may be easier to negotiate if aligned opposite each other. The number of doors provided should be kept to a minimum so as not to cause unnecessary increased effort. Please note that wider doors will impinge on circulation space and siting of furniture, therefore consideration of door design should be given from the outset.

E.2. Where circulation space is limited and privacy is not an issue then pocket doors which are recessed into a wall can be utilised. Sliding doors which rely on floor tracks are not acceptable as the track can cause a hazard.

E.3. Please refer to Section D- Entering the Building of the companion Document “Inclusive design for Non residential Buildings” for further advice about the types of door opening devices and door opening forces.
Key Design Principles

General
1. Doors must be robust enough to withstand additional wear and tear from the use of a wheelchair and able to support the fitting of additional handrails.
2. Sliding doors with tracks in the floor must not be provided.
3. Pocket/cassette type doors can be used. These slide into the wall and have no bottom track. Handles must allow for easy, single-handed operation and not slide into the recess.

Door Width
4. All doors are to provide 900 mm clear opening width. Where double doors are provided, at least one single leaf door must provide the 900 mm clear opening.

Side Clearance
5. External and main entrance doors are to have 500 mm clear space on the leading edge. This allows for the necessary turning circle beyond the door opening and for anyone approaching in larger, powered wheelchairs or scooters.
6. Internal doors must have a minimum 300 mm clearance to leading edge on both sides of the door.
7. There must be a minimum of 100 mm on the hinge side of door to allow for fitting of door ironmongery. On main doors where automated devices may be fitted, a minimum 200 mm is required, or as detailed in manufacturer’s requirements.

Hinges
8. Door hinges should allow for the door to open beyond 90 degrees but not so far as to cause a hazard.

Thresholds
9. There should be no internal threshold strips or upstands to any doors.

Door Furniture
10. Ball catches on internal doors require less effort to open/close.
11. Delayed action closers must not exceed 15 Newton’s internally (20 Newton’s externally).
12. Door handles must be easy to operate and reach for example larger ‘D’ type handle within the accessible zone (800 – 1050 mm), ideally at 900mm from FFL.

Other matters
13. Doors to bath/shower rooms are to open outwards and have a lock that can be opened from the outside in an emergency.
14. Security grilles if fitted inside a doorway must not restrict access. They must be flush with the floor so may need to be recessed into the floor.
Figure 3. Cassette/Pocket door

900mm effective clear width
Section F - Internal Communal Circulation Areas

Background

F.1. Internal communal circulation space within blocks of flats needs to be carefully designed to ensure that wheelchair units accessed off the communal areas are easy to reach. This means corridors need to be wide enough to enable two wheelchair users to pass in opposite directions. Circulation areas need to be well managed to ensure they are kept clear and not obstructed by items such as buggies. Internal communal doors are to be kept to a minimum as they are heavy and difficult for disabled people to operate. Where provision is necessary they are to be automated.

F.2. Where wheelchair accessible units are provided above ground floor level then at least two accessible lifts are needed to enable residents to access their homes in the event of breakdown or servicing of one of the lifts. This is acknowledging that disabled people may wish to live above the ground floor but also allowing for a more mixed provision across a scheme, or where there is mixed use such as the ground floor being used for commercial premises.
Key Design Principles

Horizontal Circulation

1. Circulation routes must be level with no internal ramps.

2. Management strategies should be in place to avoid items cluttering circulation space in internal communal areas.

Corridors

3. To be a minimum 1.2m wide clear of obstructions but wider where 2 wheelchair units are access off a communal corridor. The corridor widths must also take account of the dimensions required for Entrances – see Section D.

Internal Communal Doors

4. If the provision of these cannot be avoided they must be kept to a minimum and automated or power assisted so as not to exceed 20N.

5. Controls for automated doors must be easy to reach and operate – see Section D Entrances.

Vertical Circulation/Lifts

6. Wheelchair flats provided above ground floor are to have 2 wheelchair accessible lifts so that residents can still access their property in the event of one lift breaking down or being serviced.
Section G - Circulation within the Home

Background

G.1. It is imperative when designing a wheelchair accessible unit that thought is given to how the residents can access and use all areas of the property. This extends beyond door opening and corridor widths and needs to take account of how a person moves around and uses individual areas, rooms and the functions attributed to them. This means more space and a larger footprint will generally be required, and that a high-quality, flexible design is essential.

G.2. The design should demonstrate that all aspects of wheelchair accessibility can be accommodated within the footprint. By providing sufficient circulation space, for example a larger hallway, room sizes must not be reduced accordingly.

G.3. Research by the Mobility and Inclusion Unit of the Department of Transport in 2005—“A Survey of Occupied Wheelchairs and Scooters” demonstrated that the general population is getting physically larger. This impacts on the size of equipment required, for example mobility aids, wheelchairs, and the size of through floor lifts required. Feedback from residents also demonstrates that most people have two or three wheelchairs. Additionally more than one family member may use a wheelchair.

G.4. All the above demonstrate the need for increased circulation space, so an 1800 turning circle is recommended rather than 1500 mm. Ergonomic research carried out for BS 8300 2001, and subsequent work in 2006 by the Northern Ireland Housing Executive (NIHE) demonstrated in their “Wheelchair User Housing Study’ that a larger turning circle of 1800 mm is actually required. This is now a requirement in their Wheelchair Housing Design Standards.

G.5. The impact of higher density housing means space is becoming even more of a premium. Therefore well thought out, flexible design from the outset of a development is essential. A flexible design will take into account the need for more space and potential for either a non-disabled occupant or wheelchair user. For example the unit may not be initially purchased/occupied by a wheelchair user but could easily be adapted whilst still providing an attractive, larger, well designed unit.
Key Design Principles

Horizontal Circulation

1. General layouts should incorporate a generous central hallway with rooms leading off, avoiding long corridors or the need to negotiate turns or awkward angles.

2. All areas of a room should be accessible and therefore awkward shaped rooms with recesses and angles should be avoided.

3. Doorways can be easier to negotiate if aligned opposite each other.

Figure 4. Hallway circulation (Not to Scale)
4. There should be a minimum 1500 mm (ideally 1800 mm) turning space clear of all door swings, radiators, fixtures and fittings.

5. There should be an easily accessible wheelchair charging and transfer area of 1200 mm x 1700 mm with a power supply provided in the hallway area which lessens trailing of dirt.

6. Corridors are to be 1200 mm wide clear of all obstructions for example skirting boards and low surface temperature radiators.

7. Circulation space must take account of necessary wheelchair access, transfer space, furniture, additional equipment and larger doors/ door openings, including those to outside.

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**Vertical Circulation**

**Through floor Lifts**

8. Vertical circulation / domestic through floor lifts with a powered door are to be provided to all storeys of the dwelling.

9. Lift shaft dimensions should provide a minimum 1046 mm x 1555 mm space.

10. Through floor lifts to be provided off the general circulation area with a minimum 1500 mm turning circle (ideally 1800 mm) clear of any obstruction and beyond the lift door opening.

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**Figure 5. Through floor lift (Not to Scale)**
11. Lifts must not be sited directly opposite the top of a staircase. There should be a safety protection zone to take account of necessary wheelchair circulation space for example when coming out of the lift or a room.

12. Lifts to be oriented to enable front access/egress, not side entry.
Section H Storage

Background

H.1. Evidence based research demonstrates disabled people require additional storage to accommodate essential items. Storage must not be compromised in wheelchair units because of trying to provide sufficient space elsewhere within the overall footprint.

H.2. Without sufficient accessible storage space the remaining areas become cluttered which then restricts a person’s ability to access their home. Examples of this are:

- Cloakroom toilets used for storage
- Wheelchair charging/transfer areas used to store shoes and coats
- Circulation space reduced owing to need for additional equipment, additional wheelchairs (including manual and powered types), and larger items of furniture for example powered riser/recliner type chairs

H.3. Thought must also be given to the need for accessible storage space, in addition to housing items such as condensing boilers and heat recovery systems.

H.4. Scooters require storage and charging facilities. Where provision is possible it should be in close proximity to the unit, have a dedicated power supply and be well lit and easy to access.

H.5. Plans need to identify all storage space at the outset of developing the layout of units.

H.6. The National Housing Federation standards should be referred to as these take into account disabled peoples need for additional storage space.
Key Design Principles

1. Space must be provided for the required 1200 mm x 1700 mm wheelchair charging/transfer area to allow easy side transfer.

2. Additional storage space is essential to accommodate the need for items such as:
   - Wheelchairs
   - Hoists/Standing frames
   - Specialist machines and medication, for example dialysis machines or incontinence pads

3. All Storage cupboards and wardrobes should provide task lighting inside.

4. Cupboards and shelving need to be accessible.

5. Where scooter storage and charging facilities are proposed, these should:
   - be in close proximity to the unit
   - have a dedicated power supply
   - be well lit and easy to access
   - have a dedicated power supply
Section I - Windows

Background

I.1. Thought must be given from the outset to the positioning of windows, cill heights, railings and balcony enclosures as they will affect the overall aesthetics of a development.

I.2. It is imperative that a person is able to see out of their own home from a seated position, as some disabled people may spend more time indoors. This also allows active surveillance on to the street or parking area.

I.3. In relation to the design and positioning of windows, the following issues must also be considered:

- retaining privacy
- not compromising security
- not heightening feelings of vulnerability or being overlooked
Key Design Principles

1. Cill heights should be 800 mm maximum to glazing line.

2. Handles must be easy to operate single handed and within the accessible zone (800 mm - 1050 mm) so must not exceed a height of 1050 mm from finished floor level.

3. Remote control window winders must be provided for high level windows where a lower position is not feasible, for example bath/shower rooms and kitchens.

4. Balcony enclosures must not restrict views.

5. Enclosures to the front/back of unit must not restrict sight lines
Section J - Kitchen

Background

J.1. Fully wheelchair accessible kitchen layouts must be shown on drawings to demonstrate that the necessary space, layout, services and controls can be accommodated within the footprint, and to ensure the unit is being designed flexibly.

J.2. Consideration must be given to safety issues for example somewhere to place items next to the oven and hob, doors not opening over appliances. A high standard of lighting is essential. Natural light should be provided where possible to lessen reflection/glare and allow users with a visual impairment to carry out tasks more safely.

J.3. It is extremely important to provide high quality, robust fixtures and fittings as they must be able to take possible additional wear and tear from people using mobility aids or wheelchairs.

J.4. Space must be provided within a layout for an accessible hob, sink and oven as well as standard kitchen appliances such as a fridge freezer, or washing machine/dryer. Washing machines should not be fitted under the height adjustable work surface housing the sink, as this will prevent adjustability.

J.5. Essential storage space is lost underneath adjustable height accessible worktops so space should be maximised where possible. This might include providing taller wall cupboards, providing standard base units in some parts of the kitchen (particularly in larger family units) or base units with deeper, taller recessed plinths for a wheelchair user to get the footplates underneath.

J.6. Wheelchair accessible kitchens can appear unattractive owing to visible pipe work and plumbing under height adjustable work surfaces. Care should be taken to design them sympathetically and enclose pipe work where possible, without restricting access.

J.7. Feedback from residents indicates that they prefer a separate kitchen with dedicated dining space, separate from the living room.
Key Design Principles

General

1. All kitchens should be designed to provide space for a fully wheelchair accessible layout. The user must be able to carry out all activities safely and easily.

2. The kitchen must be easily accessible from the dining area. Ideally the kitchen should be large enough to accommodate the dining area. This is preferable for reasons of safety, access and smell. (See Section K – Dining Area).

3. Layouts should provide a minimum 1500 mm turning circle clear of any possible obstructions for example worktops, fitting, equipment, radiators and all doors.

4. Storage space needs to be maximised where possible to compensate for lost space under accessible worktop for example additional/full height wall cupboards, pull out larder units/bins, and pull down baskets and carousels.

5. Space must be provided for a full height Fridge Freezer.

Work Surfaces

6. Where provided, adjustable height work surfaces must be provided between 700 mm – 900 mm with unobstructed space underneath.

7. There should be at least one 900 mm section of accessible, height adjustable worktop.

8. Deep fascias to the front of worktops can restrict access under the worktop but can provide siting for sockets and switches and hide unsightly plumbing and pipe work.
**Tiled Surfaces**

9. Tiling must be provided behind the full height of adjustable sections and above to accommodate the splashback.

10. Tiling should have a matt finish to lessen reflection and glare.

**Colour Contrast**

11. Features such as the worktop, edging, base/wall units, sockets, switches and handles must all contrast in colour with each other. They must also contrast in colour with the wall, tiled surfaces and floor surfaces. Advice on this can be obtained from organisations such as the RNIB and ICI (Project Rainbow by Dulux have produced guidance based on research and can provide colour contrast charts).

**Hob and Oven**

12. Hobs must be height adjustable and flush with the work surface for ease of control and safety when transferring pans.

13. Extractor fan controls are to be easily accessible and/or remote controlled.

14. In addition to the hob, there should be provision of a side hung oven built into oven housing. It must be set at an accessible height to the adjacent section of worktop so hot items can be transferred safely.

15. The oven should have a hinged door which opens sideways onto the worktop. Pull out locking shelves are also essential.

16. A sturdy, heat resistant pull out shelf should be provided directly underneath the oven.

17. A minimum 300 mm section of worktop must be provided alongside the hob and oven to transfer hot items.

**Sink**

18. The sink basin should be a rectangular, insulated 150-200 mm shallow bowl. Pipe work underneath must not restrict access and plumbing must be flexible to accommodate changes in height.

19. Exposed waste pipes and plumbing underneath can cause scalding as well as being unsightly so should be insulated and where possible covered.

20. Taps must be easy to reach, understand and operate single-handedly for example dual flow mixer/mono-bloc with swivel arm and clear temperature markers.

**Wall Cupboards**

21. The design needs to allow for the maximum number of tall wall cupboards to be provided to maximise storage for example 900 mm tall.

22. Wall cupboards must provide as much easily accessible storage space as possible for example pull out/down baskets and carousels.

23. Wall cupboards to be fitted approximately 350 mm from the top of worktop to the base of cupboard.

24. Edges and corners should be rounded.

25. Handles need to be easy to reach, grip and operate and contrast with their background.

26. Wall cupboards should have task lighting underneath.
Base Cupboards

27. To maximise storage, standard base units (not necessarily wheelchair accessible), can sometimes be integrated into the overall kitchen design especially in larger, family kitchens. They can also help maximise lost corner storage space and should include carousel type baskets.

28. Base units with wheelchair accessible recessed plinths can also be provided.

Tall/Broom Cupboards

29. Where possible these should provide pull out, larder type shelves.

Controls and services

30. All controls including sockets, switches, boiler, thermostat and consumer unit controls must be easy to access, grip, operate and understand for example not placed high up or in hard to reach corners. Where a window handle cannot be reached, window winders that are accessible from a seated position must be provided.

31. Controls should contrast with their background and fitted approximately 100 mm from the worktop surface to base of socket.

Lighting

32. Good quality lighting must be provided, including additional task lighting under wall cupboards, especially where there is poor natural light. Guidance can be obtained from the RNIB and the Sensory Resource Team.

Floor Finishes

33. Flooring must have a matt finish, be slip resistant and easy to clean and provided throughout the whole kitchen area.

34. The finish should provide colour contrast.
Section K - Dining Area

Background

K.1. This area is often compromised to provide the necessary circulation space elsewhere, for example in kitchen and living areas.

K.2. Long, narrow, awkward shaped rooms must be avoided as they restrict positioning of furniture to provide full wheelchair access and sufficient circulation space accordingly.

K.3. It is imperative that sufficient dining space is provided in addition to kitchen and living areas. It must provide full wheelchair access to an appropriately sized table and chairs and not restrict access routes to other surrounding areas or doorways.

K.4. A dining area should allow items from the kitchen area to be transferred easily. Accessible dining space is additionally important for disabled people for the following reasons:

- to be able to assist with activities such as feeding and using specialist seating.
- fewer risks associated with sitting/eating at a table

K.5. Feedback from residents indicates they prefer a separate kitchen and dining space, separate from the living room.
Key Design Principles

1. The dedicated additional dining area must provide sufficient space for the number of people in the household and the necessary additional wheelchair circulation space.

2. The dining area should be designed to be in close proximity to the kitchen area. This is preferable for reasons of safety and access.

3. Where the dining area is separate from the kitchen, both should be in close proximity and access between the two must be easy and safe to negotiate.

4. The additional floor space required for the dining area must be clearly shown on all drawings. It should not obstruct any access routes for example to door openings, living area and positioning of furniture.
Section L - Living Room

Background

L.1. Space in living rooms can often be compromised due to a lack of understanding about the need for additional space requirements for disabled people.

L.2. Living room areas are also often mistakenly merged into what should be a separate designated space for the kitchen and dining areas.

L.3. As explained in previous sections, evidence based research demonstrates that additional space is required to accommodate specific furniture such as large powered riser/recliner chairs, and other items of equipment and radiators. Layouts also need to incorporate adequate space for transfers alongside furniture and possible assistance from other people.

L.4. All the above require additional floorspace and must not impinge on necessary circulation space and access routes. Often furniture will be positioned back against a wall to enable clear access routes. Therefore awkward shaped, angled rooms should be avoided.
Key Design Principles

1. Space for living rooms should be in addition to kitchen and dining areas.

2. Living rooms should be of uniform shape, with no awkward angles or curves and a minimum 4 metres wide.

3. Living rooms must provide sufficient space to accommodate the whole household with all necessary furniture and full wheelchair access.

4. Additional space will be required for furniture and equipment for example large riser recliners type chairs and hoists. It is also necessary to allow adequate space for transfers from a wheelchair to seating, and for people assisting.

5. Care must be taken when positioning doorways to ensure these do not restrict access routes, circulation space and positioning of furniture.

6. An entryphone handset must be provided in the living room within the accessible zone (800-1050 mm) avoiding the need to travel to the front door. Residents who are deaf or hard of hearing will require an entry phone handset with an amplifier and flashing light.

7. Additional sockets need to be provided around the room.
Section M - Bath/Shower Room & Toilet

Background

M.1. Sufficient space and an appropriate layout are essential for all bath/shower rooms to provide safe and easy wheelchair access. This includes access into and around the room, space in front of and to the side of the toilet, wash-hand basin, shower area and bath.

M.2. The layout needs to ensure that there is adequate space for anyone requiring assistance, additional equipment and space to change clothing.

M.3. It is also crucial to consider the additional space required for positioning of soil stacks and low surface temperature radiators. Boxing in must be avoided as this further restricts access and can sometimes end up rendering a bath/shower room inaccessible. Therefore these items must be shown on initial drawings so as not be become a problem at construction stage. Under floor heating may be an alternative solution.

M.4. During consultation with disabled people, the need to provide a facility to soak soiled items was raised, particularly if units only provide a shower facility.

M.5. Advice on provision and positioning of rails, controls and equipment will be provided by the Senior Occupational Therapist in Housing for individual schemes, owing to differing layouts.

M.6. The size of accommodation will determine the level and type of provision. Larger units are more likely to require additional accessible toilet and shower/bathing facilities as there may be more than one disabled member of the household.

M.7. Where the property is laid out over more than one storey, accessible toilets must be provided on each level with handed side transfer space.
Key Design Principles

Level of Provision

Units of 1 and 2 bedrooms

1. A bathroom with space for a bath or appropriately sized level shower is preferred.

2. In units of 4 persons or more, an additional fully accessible toilet should be provided. Where there is more than one toilet they should have handed, clear transfer space on opposite sides.

Units of 3 or more bedrooms

3. Ideally family sized units should provide a separate accessible bathroom and a separate shower room, both with a toilet.

4. In family sized units bathrooms which provide a layout sufficient to accommodate both a fully accessible bath and level access shower area may be acceptable in certain circumstances but is not the ideal as separate facilities are preferable and more accessible.

5. The recommended minimum floor space for a combined bath and shower room is 2600 mm x 3200 mm. This takes into account the necessary circulation space clear of shower/bath areas, side transfer space to toilet and clear space required in front of the toilet and wash hand basin.

General

6. The ceiling, floor, all walls and doors must be capable of taking heavy duty fixings.

7. Doors should open outwards with an emergency release lock on the outside.

8. All controls must be within the accessible zone (800-1050 mm) and long pull cords provided on shaver light units.

9. Radiators must be low surface temperature and not restrict access. Under floor heating or wall mounted heaters at an appropriate height may be a suitable alternative.

10. Flooring must be matt, slip resistant easy to clean and colour contrast with walls.

11. Tiling should ideally be matt so as not to create glare and selected to enable colour contrast with fixtures and fittings.

12. Exposed pipe work must be insulated and/or boxed in to prevent scalding and possible injury.

13. Boxing in of pipe work and soil stacks must be avoided or kept to a minimum as it restricts essential circulation space for example to rear of toilet pan/cistern (see necessary dimensions below) and under wall mounted wash hand basins. It may be preferable to put pipe work behind a full height wall or high shelf but this must not impinge on the required circulation space.

14. A minimum 1500 mm (preferred 1800 mm) turning circle must be provided clear of all obstructions for example door swing, sanitary ware, shower area, radiators.

15. There must be a clear approach of 1200 mm in front of the toilet and wash hand basin.
**Basins and taps**

16. Basins should not be standard pedestal type but must be height adjustable, securely wall mounted with flexible plumbing. They should be of sufficient size and type for a wheelchair user to easily wash and place items on the edge. Therefore small, cloakroom basins are not appropriate.

17. Basin taps should be a short lever type, easy to operate single-handedly with clear temperature markers for example monobloc mixer type

18. Mirrors fitted above wash hand basins should be approximately 800 mm overall height to accommodate someone seated or standing. They should be fitted 100-150 mm from top edge of basin to bottom edge of mirror.

**Toilet**

19. A standard toilet pan should be provided, unless otherwise specified.

20. Toilet seat to colour contrast with toilet pan.

21. There must be 800 mm from front edge

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**Figure 7. Bathroom layout. Not to Scale.**

(a potential additional shower area/gulley alongside the bath is shown however a separate accessible shower, in addition to a bathroom, is advised).
of toilet pan to rear wall/boxing in.

22. There should be approximately 450-500 mm from mid line of toilet pan to flank wall.

23. There must be 850 mm clear transfer space to the side of toilet or 550 mm where it is positioned beside a shower area.

24. The toilet flush should be a spatula type handle, positioned on the outer side.

25. A drop down rail with leg support should be provided on the outer side of the toilet. Where a toilet is positioned alongside a wall, an additional grab rail fitted on the wall adjacent to toilet. Advice on provision and positioning will be provided for individual schemes.

**Bath and taps**

26. Baths must be standard type, unless advised otherwise, i.e. 520 mm high, 700 mm wide and 1700 mm long. Integral handles must not stand proud of the bath edge.

27. Bath taps to be short lever type and fitted at the end of the bath not to the side. If mixer taps are fitted they must have a thermostatic control, usually set at 43 degrees C, with the ability to be increased.

28. Any shower or shower attachment must be within the accessible zone (800-1050 mm) with a 1 metre long riser pole. Ideally use a combined riser pole and grab rail.

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**Figure 8. Shower room (Not to Scale)**
29. There must be 850 mm clear transfer space to side of edge of bath (where a shower area is not being provided).

**Shower**

30. Level access shower areas should ideally be graded/fall to floor type. They should be flush with the floor and have no up-stands or edges that could cause a tripping hazard.

31. The fall of the floor within the shower area should be no steeper than 1:50 to prevent a tipping hazard.

32. Shower areas and their gullies should be sited in the corner of a room, furthest from the doorway, to prevent water egress.

33. Positioning the shower area in the corner also allows optimum positioning i.e. a large fold down seat (with support legs) and appropriate rails on one wall, and the shower controls, riser pole and appropriate grab rails on the adjacent/flank wall. This is easier and safer for a person to use rather than having to reach behind where everything is positioned on one wall. This is also why a shower provided alongside a bath is not the preferred option.

34. Level access shower areas must be a minimum 1200 mm square, clear of a 1500 mm turning circle, all sanitary ware and door openings.

35. All controls must be fitted in the accessible zone (800 – 1050 mm). They must contrast in colour with their background and be easy to operate and understand for example larger, lever type handles with clear tactile markings for use and temperature. Advice on exact positioning will be provided for individual schemes.

36. The shower riser pole should be 1000 mm long to accommodate someone both seated and standing. It should be fitted approximately 1000 mm from the finished floor level to the base of pole. Combined riser pole/grabrails are available.

37. Provision should be made for a large fold down shower seat with leg supports and two 600 mm grab rails within the shower area. Advice on exact positioning will be provided for individual schemes.

38. A weighted, floor length shower curtain must be fitted outside the 1200 mm square shower area as this assists in preventing water egress into the rest of the bathroom.

39. Thermostatic controls should be provided for the shower (and bath) mixers, with the facility to set the temperature to 43 degrees. Exposed hot pipes must be insulated or recessed into wall behind.

40. Shower hoses must be 1500 mm long.

41. A soap dish and hook must be provided in the shower area and a towel rail elsewhere at an accessible height i.e. 800 -1050 mm.
Section N - Bedrooms

Background

N.1. The overall footprint of all units must be large enough to provide full wheelchair access within a bedroom. Bedrooms for a wheelchair user need to be appropriately sized with adequate space around the sides and end of the bed. This is essential to enable someone to get in and out of either side of a bed, to use equipment such as hoists, and receive assistance if necessary. Other issues such as the positioning of full height glazing/windows and radiators must be taken into account as they can further restrict the positioning of furniture and access around beds.

N.2. Research has shown the need for additional items within bedrooms. This may include particular furniture such as larger profiling type beds, equipment such as hoists; and/or medication (the latter requiring storage in additional, larger sized bedside cabinets).

N.3. A double bedroom cannot provide the necessary circulation space, taking into account all the issues raised, if it is not a uniform shape and much less than 16 metres square.

N.4. Some units with a single bedroom, as opposed to a double, may not meet the wider needs of residents, for example:

- A 2 bedroom/3 person unit may not be suitable for a couple with a disabled child if the child requires a double bedroom owing to wheelchair circulation and equipment/storage requirements. Therefore these sized units may end up being 'under-occupied' and more suited to a single disabled person or couple who will use the single bedroom for essential storage or a live-in personal assistant.
Key Design Principles

1. Fully wheelchair accessible bedrooms are generally double sized i.e. capable of accommodating a double bed, necessary circulation space (as detailed below) and furniture. They should be approximately 16m square, a uniform shape with no awkward angles.

2. Single bedrooms should still provide full wheelchair circulation as detailed.

3. Space additional to a standard furniture layout will be required for items such as large profiling type beds, hoists, riser recliner chairs, additional equipment / medication.

4. All parts of the bedroom must be accessible including controls, built in cupboards, doors and windows.

5. Thought must be given to positioning of doorways and full height glazing/ windows as they impact on circulation space and positioning of furniture and radiators. The provision of pocket/cassette type doors for example to an en suite shower may assist in providing more circulation space.

6. There must be a minimum 1200 mm clear space to both sides and the end of the bed.

Figure 9. Bedroom (Not to Scale)
7. All bedrooms must have a minimum 1500 mm (ideally 1800 mm) turning circle clear of all door swings, necessary furniture and any other obstructions such as low surface temperature radiators.

8. It is preferable to provide a bath/shower room adjacent to, or directly opposite, the bedroom. This allows ease of access and future provision of a knock through panel for the installation of a ceiling track hoist.

9. An entryphone handset, two way light switch, TV point, telephone socket and additional sockets must be provided by the bed within easy access.
Section O - Private/Outside Space

Background

O.1. Owing to higher density build and increased provision of flats/maisonettes, critical access to private and communal outdoor space can be compromised.

O.2. Access to private outdoor space is essential for disabled people for the following reasons:

- providing disabled children with a self contained area to play develop and be supervised
- enabling disabled parents to supervise their children more easily
- increased privacy can also decrease feelings of vulnerability
- space for assistance pets for example guide dog, which are crucial to some peoples’ ability to live independently
- access to additional storage space for example shed/scooter storage
- it enables access to and use of outside drying facilities

O.3. Increasing numbers of people are using scooters. If sufficient private (and possibly communal) outside space is provided to a unit, additional storage and charging space can be accommodated by the provision of a large shed.
Key Design Principles

1. External doors and thresholds must be designed to the standards set out in Section D. Gates to/from outside space must provide a 900 mm clear opening with 500 mm preferred (300 mm minimum) leading edge.

2. Locks should be easy to operate and within an accessible height range i.e. 800 – 1050 mm.

3. Private outdoor space should be easy to maintain and have a minimum, level patio area of 2 m x 3 m beyond any door openings.

4. Where outside space is provided on the ground floor, an accessible external water supply/tap needs to be provided.

5. Balconies should provide level access, with no upstands, and be deep enough to allow a wheelchair user to enter beyond the door swing.

6. Accessible drying facilities should be provided, for example height adjustable rotary driers.

7. Refuse and recycling bins, cycle sheds and storage space must be accessible, within close proximity to the unit and must not open onto or restrict access routes.

8. Cycle stands must not obstruct access routes.

9. If an outside shed is provided, a dedicated power supply enables scooter charging and storage. Access to the shed must be well lit, level and easy to negotiate.

10. Outdoor spaces will also need external lighting.
Section P - Controls & Services

Background

P.1. It is essential that all controls and services can be accessed independently so that a person is not disadvantaged by having to rely on someone else unnecessarily. Particular thought must be given to detailing in this area for example thermostatic controls, colour contrasting, and the siting of consumer units in cupboards.

P.2. Additional, accessible controls may be required to enable the householder to remotely operate equipment for example an extractor fan using a key fob.

P.3. Extra accessible controls may be required to enable wheelchair access and additional sockets required to use equipment for example powered riser/recliner type chairs, pressure mattresses in bedrooms and charging facilities for batteries for wheelchairs, hoists and other essential equipment.

P.4. Services for refuse and recycling need to be easy to access and use. The Council operates an assisted collection service.
Key Design Principles

General

1. All controls must be an accessible height (800-1050 mm), easy to operate, read and understand. This includes consumer units, gas and electricity meters, stop cocks, entryphone systems, lift controls, post boxes, refuse/recycling, radiator thermostats, heating controls, ventilation or extraction controls, windows, taps, shower controls and, switches. Sockets should not be lower than 600mm.

2. Controls must not be fitted where they are difficult to reach or obstructed by fixtures and furniture for example the back of deep worktops, in far corners and the back of utility cupboards.

3. All controls must be easy to operate with minimum force for example large rocker switches. They should contrast in colour from their background.

4. Intercom system and door entry controls to provide handsets in the hallway, living room and bedroom.

5. Additional accessible remote controls may be required to operate features which are difficult to reach for example extract fans and window controls.

6. Two way light switches should be fitted where appropriate for example in the hallway, and bedroom.

7. Additional double sockets must be provided throughout a unit.

8. Electrics and necessary space at entrance doors should be provided to enable future provision of automated door systems.

Radiators and heat sources

9. Radiators/heat sources should be recessed and/or guarded for safety for example low surface temperature covers or under floor heating. Covers should be as slim-line as possible so as not to further restrict circulation space.

Lighting

10. A high standard of lighting both externally and internally is essential, especially where there are any potential hazards. Where good natural light cannot be provided, high quality artificial light that does not create glare is required. It is important that any low energy bulbs emit sufficient light and are easy to purchase and fit.

11. Guidance on designing for people with a visual impairment including lighting and colour contrast can be obtained from organisations such as the Thomas Pocklington Trust and the RNIB. See Appendix 3 for further details.

Alarm systems

12. Smoke alarm systems must be mains powered with battery back up and incorporate features such as flashing light and a vibrating alarm.

Refuse and Recycling

13. Refuse and recycling facilities must be located within a short distance to the unit, and be easy to access and use.

14. Using large visual and tactile labels on bins assists people with a visual impairment.

15. In upper floor flats it may be worth
considering an accessible ‘chute’ type system.

16. Where larger, communal/‘euro’ bins, are provided they must not be positioned directly beside pathways or access routes. Models of euro bins are available which have foot operated levers at their base requiring only light touch/depression to lift the lid. Contact the Senior Occupational Therapist in Housing for more details.

17. The Council have a Waste Management Department which can offer an assisted collection service for disabled residents. See http://www.walthamforest.gov.uk/index/environment/rubbish-recycling.htm

**Post Boxes**

18. Post-boxes must be easy to reach access and not restrict corridor or circulation space.

**Utilities**

19. Utility meters fitted outside at/on ground level must not impinge or restrict essential circulation space or access routes.
Section Q - Management

Background

Q.1. Research has shown that this crucial area is often overlooked and that efforts tend to be concentrated on the design process rather than what will happen after the building is constructed and occupied.

Q.2. It is essential that all information about a property and its management is provided in a range of accessible formats.

Q.3. Residents should be provided with information on how a property and its surrounding areas will be managed and by whom.

Q.4. Information should include how to make full use of certain systems within a property for example video/automated door entry systems and Through Floor Lifts. This should include details of who is responsible to maintain and service them; and what to do in the event of an emergency.

Q.5. These crucial areas can directly affect how accessible a property is and are a measure of how effective and inclusive a property is in meeting the lifetime requirements of both the residents and the overall development.
Appendix 1
Glossary of Terms

Access
Approach, entry, exit or internal circulation.

Accessible
Capable of being accessed and used by anyone regardless of disability, age or gender.

Accessible Kitchen
A kitchen which has been specifically designed for someone who is a wheelchair user and has adjustable height, accessible worktop, oven, hob and sink. Appliances, cupboards and sockets/switches etc. will also be within easy reach of a person seated.

Accessible route
Any route that is used to approach a building, or to move between buildings or within a building, and is accessible to disabled people.

Access statement
See Design and Access statements. The access element explains the philosophy and approach to inclusive design adopted in the design and construction of a building.

Blue Badge Parking Bay
A parking bay with additional space to the side and rear to enable disabled people easier access. This is reserved for anyone in a vehicle displaying a blue badge.

Cassette Door
See Pocket Door

Chamfered
A bevelled/rounded edge.

Clear Opening Width
Clear Width (for ramps, steps and access routes) - the clear space between any obstructions or protrusions including handrails.

Contrast visually
The perception of a difference visually between one surface or element of a building and another by reference to their light reflectance values (LRV)
(For further information, please see ‘Colour, contrast and perception - Design guidance for internal built environments’ - Reading University).

Controlled door closing device
A device that is capable of closing a door from any angle and against any latch fitted to the door. These are not recommended unless automated.

Corduroy hazard warning surface
A form of tactile paving whose surface has raised ribs to warn blind and partially sighted people of a potential hazard ahead. These are used at the top and bottom of external flights of steps.

Cross Fall /camber
The gradient of slope across the line of travel (i.e. at 90 degrees) of an access route or ramp.

Effective clear width
The unobstructed width through a doorway clear of any projections on the door face to the opposite door stop or leading edge of a secondary door leaf.
Espagnolette Locking Device
An ‘espagnolette’ is a locking device, used on a door or window with a handle at around hand height with bars that slide into sockets at the head and foot of the door and enable anyone with reduced mobility to access top and bottom door bolts.

Finished Floor Level
The top surface of a floor screed or flooring. The surface from which all levels are taken, usually excluding floor covering.

Fully Automated Door
A door which provides full automation e.g. operated via a remote key fob device and does not require a person to use force to open/close it.

Gentle slope
Any route which has a gradient between 1:21 and 1:59.

Going
On a step – the horizontal distance between two consecutive nosings.
On a ramp – the horizontal distance between each end of the ramp flight.

Hearing enhancement systems
These enable sound signals to be transmitted to people who are deaf or hard of hearing, without interference from background noise or excessive reverberation.

Inclusive design
Design that produces buildings, environments and products that are usable by everyone not just disabled people.

Kick plates
A plate attached to the bottom portion of a door that can resist bumps, blows and scratches. These are usually made of metal sheets but any durable material can also be used. Perspex plates maybe suitable in domestic settings.

Leading Edge
The approach to the side of a door, also know as the ‘nib’.

Legibility
The quality of places buildings and spaces which enables people to use, understand and orientate themselves without necessarily using signage. See wayfinding.

Level
This means a predominantly level surface with a maximum gradient along the direction of travel of 1:60. This definition is applied to the surface of a level approach, access routes and landings (associated with steps, stairs and ramps).

Level Access Shower
A fully accessible shower area that provides level access i.e. no upstands, edges or lips. This is usually graded to the floor gully to enable surface water to drain away. See wet floor shower.

Lifts
Conventional passenger lift
A lift designed to operate at speeds greater than 0.15 m/s, for any travel distance, and able to transport passengers and goods without the need for instructions on its safe use.
Evacuation lift
A lift which is used as part of the phased emergency evacuation of people requiring assistance. This can be a conventional passenger lift with appropriate structural, electrical and fire protection.

Stairlift
This is a term generally used for a piece of equipment or a device which transport a person either seated or perching between 2 or more landings by means of a metal track/rail which is fixed to the stair goings, not the wall. It has a folding seat and footrest.

Chair stairlift
This is a term sometimes used for a ‘stairlift’ as detailed above, with a folding seat. These are not recommended in public buildings.

Through Floor Lift
A domestic lift, usually only over 2 storeys and provided in a domestic setting.

Wheelchair stairlift (platform stair lift)
This is a stairlift with a horizontal platform which accommodates a wheelchair user.

Vertical lifting platform (or vertical platform lift)
This device serves fixed landings and consists of a horizontal platform designed to accommodate a person using a wheelchair or anyone with limited mobility. These can be enclosed or non-enclosed depending on the vertical travel distance. See through floor lift.

Light reflectance value (LRV)
This is the measure of the total quantity of visible light reflected by a surface at all wavelengths and directions when illuminated by a light source. Surfaces that differ sufficiently in LRV can be distinguished from one another by blind and partially sighted people (see BS 8300 2009 Annex B).

Manifestation
Permanent markings or features within areas of full-height transparent glazing, glazed walls or screens, fully glazed doors or glass doors. Manifestations can help to prevent collisions by making the glazing more visible to building users.

Newtons - Opening and Closing Force
Newtons are a measure of the force required to open and close a door.

Nib
See Leading Edge

Pocket Door
Or cassette door. A space saving door which slides into the construction of the wall and has no track in the floor.

Power Assisted Door
A door which is semi automated when pushed to lessen the opening force required.

Ramps, steps and stairs – different elements

Flight
continuous series of steps or ramp between two levels
Going
horizontal distance between two consecutive nosings, measured along the walking line; horizontal distance between each end of a ramp

Gradient or Slope
This is calculated as a percentage or ratio. The preferred gradient of any ramp should be 1:20.

ratio
1:G (gradient) = length of ramp/height of rise
percentage
P% (percentage) = height of rise x 100 / length of ramp
The preferred gradient of any ramp should be 1:20.

Handrail
component of stairs, steps or ramps that provides guidance and support at hand level

Landing
level platform or part of a floor at the end of a flight, ramp or floor

Nosing
front edge portion of a tread or landing

Ramp
length of inclined surface that provides access between two levels

Rise
vertical distance between the horizontal upper surfaces of two consecutive treads, or between a tread and a floor or a tread and a landing; vertical distance between each end of a ramp flight

Riser
vertical component of a step between one tread and another or a landing above or below it

Safety protection zone
The shared level landing area at the top of a ramp and adjacent stairs. This should be clear of any corduroy hazard warning surface, and large enough for a wheelchair user to safely manoeuvre without risk of approaching the top riser.

Stair riser
Vertical part of a step between tread or landing above or below it.

Stair tread
Horizontal part of a step. This is also known as the going.

Stair width
surface width of a stair on plan perpendicular to the walking line of a stair

Secured by design
This is an official UK Police initiative which supports the principles of “designing out crime” Secured by Design focuses on crime prevention at the design, layout and construction stages of homes and commercial premises and promotes the use of security standards for a wide range of applications and products.

http://www.securedbydesign.com/

Shared surface
External shared space used by footway users, bicycles and vehicles.

Spillover
Interference within one induction loop from a signal from another induction loop nearby
**Tactile paving**
Profiled paving surface providing guidance or warning to blind and partially sighted people.

**Threshold**
A horizontal strip across the foot of a doorway. This should always be flush with the finished surface or chamfered so as not to create an upstand.

**Transom**
A horizontal bar across a door or window.

**Unisex**
Sanitary accommodation designed for use by either sex with or without assistance by people of the same or opposite sex.

**Upstand**
A concrete kerb or wall on the edge of a ramp.

**Visual contrast (or contrast visually)**
Perception of a difference visually between one surface or element of a building and another by reference to their light reflectance values (LRV).

**Wayfinding**
Wayfinding encompasses all of the ways in which people orientate themselves in physical space and navigate from place to place. These ways enable a person to find their way to a given destination through the use of effective signage, or using other devises such as materials, lighting and colours. See Legibility.

**Wet floor shower**
A fully accessible, level access shower area with specialist waterproof, slip resistant floor and a gulley for drainage. Sometimes referred to as a wet room/area. See level access shower.

**Wheelchair Turning Circle**
The space required for a person in a wheelchair to turn a full 360 degrees. This has historically been 1500 mm. Recent research and BSi Anthropometric testing has shown it to be much greater than this and that it should be least 1800 mm.
Appendix 2
Useful Contacts for further advice

Waltham Forest Contacts

For general advice on development proposals please contact:
Development Management team
London Borough of Waltham Forest
Sycamore House
Forest Road
Walthamstow E17 4JF
Tel: (020) 8496 3000
e-mail: dcmail@walthamforest.gov.uk

For specific design advice please contact:
Urban Design team
London Borough of Waltham Forest
Sycamore House
Forest Road
Walthamstow E17 4JF
Tel: (020) 8496 6736/6739
e-mail: urbandesign@walthamforest.gov.uk

For conservation area/listed building advice please contact:
Guy Osborne
Urban Design team
London Borough of Waltham Forest
Sycamore House
Forest Road
Walthamstow E17 4JF
Tel: (020) 8496 6737
e-mail: guy.osborne@walthamforest.gov.uk

For wheelchair housing design advice please contact:
Jacquel Runnalls
Senior Occupational Therapist in Housing
London Borough of Waltham Forest
Cedar Wood House, 2d Fulbourne Rd
LONDON E17 4GG
Tel: 020 8496 5544
Jacquel.Runnalls@walthamforest.gov.uk

For Sensory Loss advice please contact:
Sensory Resource team
313 Billett Road
London E17
Tel: 020 8496 2491
Fax: 020 8496 2845
SMS: 07792 660 508.
Beverley.Stowers@walthamforest.gov.uk

Other Useful Contacts

College of Occupational Therapists & Specialist Section in Housing
http://www.cot.co.uk

British Standards Institute
Contact to purchase copies of BS 8300
www.bsi-global.com

Centre for Accessible Environment (CAE)
The CAE produce many useful documents on inclusive design, and provide training.
www.cae.org.uk
Equalities and Humans Rights Commission
For information on the Equality Act.
www.equalityhumanrights.com

Habinteg Housing Association
For information on wheelchair housing
www.habinteg.org.uk

Lifetime Homes Standards
www.lifetimehomes.org.uk
Appendix 3

Useful Documents

National Legislation and Regulations

The Equalities Act 2010

Approved Document M 2004
www.communities.gov.uk/publications/planningandbuilding/buildingapproveddocumentm

The Code for Sustainable Homes
www.communities.gov.uk/planningandbuilding/buildingregulations/legislation/codesustainable/

International & National Best Practice

Inclusion by design CABE 2008
Search the National Archive for this document.
Go to www.cabe.org.uk

Inclusive Mobility
www.dft.gov.uk/transportforyou/access/petl/inclusivemobility

Manual for Streets
www.dft.gov.uk/pgr/sustainable/manforstreets/pdfmanforstreets.pdf

Planning and Access for Disabled People – a good practice guide (ODPM 2006)

Accessible Thresholds in New Housing
The aim of the guide is to suggest solutions that will make the thresholds of dwellings more accessible to wheelchair users and people with limited mobility, whilst minimising the risk of water entering the building; and to help designers achieve solutions that do not conflict with other aspects of the Building Regulations. The guidelines were developed by an industry working party, representing the interests of house builders, manufacturers, designers and disabled people. This can be purchased from The Stationery Office, http://www.tsoshop.co.uk/bookstore.asp?Action=Book&ProductId=9780117023338

Building for Life
www.buildingforlife.org/criteria

Wheelchair User Housing Study (Northern Ireland 2006)
www.nihe.gov.uk/wheelchairreport.pdf

NIHE Wheelchair Guidance
www.dsdni.gov.uk/index/hsdiv-housing/registered_housing_associations/ha_guide/hag-index/hagds-design-standards-contents/hagds-background-specific-wheelchair.htm

Habinteg Wheelchair Housing Design Guide.
This can be purchased from http://www.habinteg.org.uk/main.cfm?type=PUBLICATIONS

Lifetime Homes
www.lifetimehomes.org.uk/

Case Study Examples – Lifetime Homes (GLA)
www.london.gov.uk/archive/mayor/strategies/sds/docs/lifetime-homes.pdf

Lifetime Homes, Lifetime Neighbourhoods - A National Strategy for Housing in an Ageing Society
www.communities.gov.uk/documents/
Dulux - Project Rainbow
Dulux has produced two tools to help create a colour scheme that meets the requirements of all users of buildings. The Trade Colour Palette fan-book identifies LRV easily in its notation for every colour. The Dulux Trade CD allows you to identify a colour palette reference and therefore the LRV for its key colour ranges. www.icipaints.co.uk/support/specifications/colour/accessibility/colour_scheming.jsp

English Heritage
English Heritage has produced “Easy Access to Historic Buildings” 2004, and a number of other documents dealing with physical access to historic buildings. Many of these can be downloaded. http://www.english-heritage.org.uk/

Access to Church Buildings
The Council for the Care of Churches produced the publication “Widening the Eye of the Needle” regarding access to churches.

The Christian organisation “Through the Roof “seeks to remove the barriers that disable people through equippping organizations and churches and empowering disabled and non-disabled individuals. http://www.throughtheroof.org/. This gives practical advice about how to make church premises accessible.

Lifetime Homes Lifetime neighbourhoods – A national Strategy for Housing in an Aging Society
www.communities.gov.uk/documents/housing/doc/Lifetimehomespart1.doc

LDA/GLA Inclusive design Toolkit
Homes and Communities Design and Quality Standards
www.homesandcommunities.co.uk/design_sustainability_standards

Design and Access Statements:
More information can be downloaded from:
www.planningportal.gov.uk/wales/professionals/policy/access
www.cabe.org.uk

Planning Building and Streets and Disability Equality (DRC 2006)

Mobility Scooters – research (Department of Transport)
www.dft.gov.uk/transportforyou/access/tipws/

RNIB publications
The RNIB produces a series of relevant publications - Building Sight and The Sign Design Guide. For more information go to: http://www.rnib.org.uk/professionals/accessibleenvironments/Pages/accessibleenvironments.aspx

Thomas Pocklington Trust
Produces a range of publications and provides assistance to help to identify practical ways to improve the lives of people with sight loss
http://www.pocklington-trust.org.uk/

GLA/London Development Agency Inclusive Design Tool Kit
This can be downloaded from http://www.lda.gov.uk/publications-and-media/publications/inclusive-design-toolkit.aspx

GLA and TfL pre-planning application advice service.
For more information about this go to
http://www.london.gov.uk/priorities/planning/strategic-planning-applications/pre-planning-application-meeting-service

The London Plan Spatial Development Strategy for Greater London Consolidated with Alterations since 2004
http://static.london.gov.uk/mayor/planning/strategy.jsp

Draft London Replacement Plan 2009
www.london.gov.uk/shaping-london/

London Housing Design Guide – Interim version 2010
www.london.gov.uk/who-runs-london/mayor/publications/housing/london-housing-design-guide

Wheelchair Accessible Housing – Best Practice Guide (GLA 2007)
http://static.london.gov.uk/mayor/strategies/sds/bpg-wheelchair-acc-housing.jsp

www.london.gov.uk/archive/mayor/strategies/sds/docs/spg_accessible_london.pdf

Regional Policy Documents and Best Practice

Recommendations for Living at Superdensity
www.designforhomes.org/pdfs/Superdensity.pdf

Your Home In a Changing Climate
To obtain a copy of this please contact the
London Climate Change Partnership on 0207983 4908. Or download from on www.london.gov.uk/lccp/publications/home-feb08.jsp
Waltham Forest Sustainable Communities Strategy

LBWF Disability Equality Scheme 2010-2013
www.walthamforest.gov.uk/index/social/equality-strand-disability/des.htm

Waltham Forest Unitary Development Plan (First review 2006) – Saved

Local Development Framework

This makes reference to the need for wheelchair accessible housing and life time homes.