



# Older People's Housing Design Guidance



Guidance produced by PRP Architects in association with the Royal Borough of Kensington and Chelsea.

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# 1. Introduction

## Royal Borough of Kensington and Chelsea, existing strategy and guidance

The Royal Borough of Kensington and Chelsea is facing challenges arising from an ageing population at a time when local authorities need to use their resources more efficiently. Alongside this, service standards are evolving rendering some buildings and services unfit for future demands.

The population of older people in Kensington and Chelsea is increasing with a substantial rise in those with dementia and those aged over 85. However, a significant proportion of older people's housing in Kensington and Chelsea is not fit for purpose. The quality of some of the accommodation does not achieve modern design and care standards or the aspirations of older people.

The Royal Borough's *Modernising Older People's Housing and Accommodation with Care Services Strategy 2013* notes -

*Delivery of good quality building-based services for older people is expected to deliver a range of benefits. An increase in the number, quality and accessibility of older people's housing will enable older people to maintain their independence for longer and as such is expected to achieve:*

- *Improved independence and quality of life of older residents*
- *Increased mobility of older residents, including releasing family sized under-occupied dwellings*
- *Reduction in overall costs of residential care*

- *Prevention of falls and ill health resulting from poor accessibility or unsuitable housing*
- *Reduced demand on adaptation spend on inaccessible and often under-occupied accommodation.*

*Laying the Foundations: A Housing Strategy for England, November 2011*, by the Department for Communities and Local Government, highlights that good quality accessible housing for older people can enable independence, promote good health and prevent costs to the NHS and social care. It outlines a commitment to encourage the provision of a range of housing types across all tenures to provide diversity and choice that will meet long-term needs. The strategy welcomes the continued work of the independent Housing our Ageing Population Panel for Innovation (HAPPI) to raise the profile of good quality specialised housing for older people and to promote innovation in this sector.

*The Care Act* which became law in April 2015, emphasises the importance of the promotion of well-being of care service users and their carers. Under the legislation local authorities must ensure there are a range of providers offering a choice of quality care services. The Act expects local authorities to integrate care and support functions with those provided by the NHS and any other health-related services such as housing.

*Further Alterations to the London Plan (FALP)*, published March 2015, by the Greater London Authority, sets out how London will manage its unprecedented population growth until 2036. FALP highlights increases in life expectancy. By 2036, relative to 2011 statistics, it is anticipated that the number of people over the age of 64 will increase by 64 per cent to nearly 580,000 with the number of over 90s expected to grow by 89,000. The London Plan indicates annual strategic targets for additional specialist housing for older people for every London borough (Annex 5 of FALP). The plan also notes that London boroughs may wish to provide further specialist housing units to replace existing stock currently unfit for use by older people. In addition to specialist housing FALP highlights the need for 'lifetime neighbourhoods' fostering social interaction within age friendly, cohesive communities.

## Aims of this guidance

This guidance provides details on the building design and service provision for two main types of housing for older people: extra care housing and retirement housing and replaces the design criteria for extra care housing that was approved by the Royal Borough of Kensington and Chelsea in 2011.

This document does not cover residential and nursing home design which have different requirements to housing.

The Royal Borough of Kensington and Chelsea wishes to encourage the development of a range of housing options for residents in the borough. This document aims to support the delivery of specialist housing options for older people from retirement housing to extra care housing. This guide outlines design standards and considerations required to support the needs and aspirations of older people. The guide has been developed for architects, developers and housing providers delivering homes across housing tenures including homes for private sale and a range of affordable housing tenures. By meeting the standards in the guide, new homes for older people in Kensington and Chelsea are expected to achieve excellence in quality and desirability.



## 2. Strategic provision

### Existing provision / typologies

Within the Royal Borough of Kensington and Chelsea there are various types of older people's housing: extra care housing, sheltered housing and designated older people's housing. There are also care homes with residential and nursing care for older people. Residents in each housing / accommodation type may receive varying degrees of care across a continuum of high care to low / no care as described:

Continuum of care	Accommodation type	Definition
<p style="text-align: center;"><b>Low</b></p> <p style="text-align: center;">↑</p> <p style="text-align: center;">↓</p> <p style="text-align: center;"><b>High</b></p>	<b>General needs housing</b>	Self-contained accommodation within general needs stock with no age or care criteria.
	<b>Sheltered housing and housing designated for older people</b>	Self-contained accommodation designated for older people (usually aged over 60 years).  Sheltered housing may have staff on site that provide concierge-type services.
	<b>Extra care housing</b>	Self-contained accommodation designated for older people in a setting where care and support can be provided as required from an on-site care provider.
	<b>Residential care</b>	Private or shared en-suite rooms within a care facility. All residents will receive domestic care and some degree of personal care.
	<b>Nursing care</b>	Private or shared en-suite rooms within a care facility. All residents will receive domestic, personal and nursing care.

## Demand for older people's housing

In order to meet the housing needs of our ageing population, the Royal Borough of Kensington and Chelsea will require a range of housing options for older people. The majority of older people will wish to remain in their homes and receive services as their needs change. There will, however, be a number of residents who either choose to move (to downsize) from larger accommodation or seek the safety and security of a building with a staff presence, or are forced to move due to poor accessibility of their general needs accommodation. Specialist housing for older people will be necessary for these groups of people. This guidance provides details on the building and service requirements for two main types of housing for older people: extra care housing and retirement housing.

## Extra care housing

The Royal Borough of Kensington and Chelsea, *Core Strategy* defines extra care housing as:

*“an alternative to residential care, helping older people to live as independently as possible and offering self-contained accommodation in a choice of tenures with access to a wide range of 24 hour care on site. Schemes may also provide communal areas, hairdressing and laundry services, hobby rooms and a shop”.*

Furthermore, extra care housing has the potential to become a focal point for community health services, outreach services and intermediate / recuperative care.

Extra care housing is also known as very sheltered housing, assisted living, or simply as 'housing with care'. Extra care housing is often replacing residential care as a cost effective model of accommodation and care for older people with better outcomes for independence and well-being. As such, older people that may previously have entered a residential care facility may now move into an extra care scheme.

Since extra care housing has an on-site housing management and care service, a minimum number of units are required to ensure that the scheme can operate. As a guide, a minimum of 50 units is desirable in each scheme to ensure that revenue costs are viable.

Extra care housing is currently more of a concept than a classification, with no nationally acknowledged set of guidelines. However, there are best practice principles which are considered inherent to extra care.

### **Extra care housing best practice principles include the following:-**

- **Independent living** - Self-contained properties that can be adapted so residents can remain in their homes as their needs increase. To provide a home for life - as far as is practically possible. Extra care is primarily housing and it should not look or feel in any way institutional.
- **Sustainable communities** - Extra care housing should have an appropriate mix of one and two bedroom dwellings with a mix of tenure. Extra care housing should support people with a range of health requirements, from those who are able and healthy, to those with greater health and social care needs (including special needs).

- **On-site care team** - Care staff to provide 24hr support seven days a week.
- **Flexible care services** - Care based on individual need. Key objective is to maximise the independence of residents.
- **Active ageing** - Extra care housing should offer a wide range of communal activities and facilities to promote older people's well-being and good health. These facilities should be available to the wider community.
- **Intergenerational / community interface** - Extra care housing should provide a focal point / community hub for older people and their carers from the immediate vicinity. Extra care housing should encourage intergenerational activities and ensure people from the local community can benefit from the facilities available.
- **Building design** - To create an enabling environment. Best practice is outlined in this guidance.
- **Technology** - Technology plays an important role in maintaining the independence and security of residents. Refer to Section 12. Technical and performance (smart/assistive technology).
- **Intermediate (recuperative) care** - Extra care housing can provide for older people's intermediate care needs - reducing hospital admissions and enabling prompt hospital discharge. Extra care housing would then offer benefits to local health services, Social Services as well as older people themselves.
- **Outreach / Home Care** - Extra care housing can provide outreach services - offering support / care to older people in the local community.
- **Provision for dementia** - Extra care housing should incorporate dementia friendly design principles. Buildings can

be designed to accommodate residents with dementia throughout the scheme or have a separate wing for residents with dementia.

Extra care housing in the Royal Borough of Kensington and Chelsea should conform to the best practice principles, outlined above, relevant to the site and location selected.

In addition, the Royal Borough of Kensington and Chelsea requires submission of an 'Extra care housing - operation policy'. The operation policy document should stipulate the care, support and management arrangements that will be provided for the proposed scheme. Requirements for the operation policy document are outlined in Section 3. Service provision.

## Retirement housing

The existing specialist housing for older people in Kensington and Chelsea is predominantly sheltered housing. Sheltered housing provides accommodation specifically for older people usually over 55 or 60. Historically, such schemes benefited from the services of a warden or scheme manager. Accommodation is provided in self-contained dwellings with limited shared facilities, a common room, a communal laundry, a guest suite and garden.

However, service models for delivering care and support to older people have changed in recent years. In the Royal Borough of Kensington and Chelsea's sheltered housing schemes, wardens have been replaced by enhanced housing management services as few residents within sheltered housing needed care and support services.

Care and support is now delivered to older people in the form of floating support and/or social care which can be accessed by older people living in any housing type (i.e. not limited to older people's housing schemes).

In 2013, a survey of the existing sheltered housing in Kensington and Chelsea highlighted large proportions of bedsit accommodation, limited and poorly used communal facilities and significant shortfalls in accessibility. The sheltered housing stock in the borough does not currently support the delivery of care in the home due to the small unit sizes and poor accessibility of schemes. The existing older people's housing stock is not fit to meet the demands of an ageing population and the added challenges created by welfare reforms.

The Royal Borough of Kensington and Chelsea seeks to substantially improve or replace existing sheltered housing with accessible and desirable homes. The new or refurbished homes for older people, which are not extra care housing, will be referred to as retirement housing within this guidance, to differentiate the improved quality of new or refurbished homes from the existing sheltered housing stock.

**Retirement housing best practice principles include the following:-**

- **Independent living** - Self-contained properties that can be adapted so residents can remain in their homes as their needs increase. To provide a home for life - as far as is practically possible. Retirement housing should not look or feel in any way institutional.
- **Sustainable communities** - Retirement housing should have an appropriate mix of one and two bedroom dwellings with a mix of tenure.
- **Active ageing/Intergenerational/community interface** - Retirement housing should provide a communal lounge with a tea kitchen linked to external amenity space and a communal WC. Communal/intergenerational activities should be encouraged. The communal lounge could be made available to the wider community.
- **Building design** - To create an enabling environment. Best practice is outlined in this guidance.
- **Technology** - Technology plays an important role in maintaining the independence and security of residents. Refer to Section 12. Technical and performance (smart/assistive technology).
- **Provision for dementia** - Retirement housing should incorporate dementia friendly design principles.

Retirement housing in the Royal Borough of Kensington and Chelsea should conform to the best practice principles, outlined above. A 'Retirement housing - operation policy' may be required on a scheme by scheme basis.



## 3. Service provision

### Introduction

Different service provision is required for extra care housing and retirement housing.

All extra care housing schemes submitted for planning must include an 'Extra care housing - operation policy', for assessment by the Royal Borough of Kensington and Chelsea.

Retirement care housing schemes submitted for planning may require a 'Retirement care housing - operation policy' for assessment by the Royal Borough of Kensington and Chelsea.

### Extra care housing - operation policy

The operation policy should stipulate the care, support and management arrangements that will be provided for the proposed scheme. All operation policies will be assessed on a case-by-case basis, by the Royal Borough or Kensington and Chelsea, to establish if the service provision for an extra care housing designation is met.

An 'Extra care housing - operation policy' should adhere to the following requirements:-

#### Service purpose

Provide details of how the scheme will meet the strategic needs of the Royal Borough of Kensington and Chelsea. Examples could include:-

- Provision of care services
- Providing older people with accessible housing
- Assisting with the reduction of hospital discharge times

- Provision of intergenerational interaction and local community inclusion to avoid schemes and older people becoming marginalised
- Promoting socialisation needs during the day and evening
- Outreach/home care services to people outside the scheme
- Intermediate (recuperative) care services

#### Housing management

Proof that the applicant or development partner has:-

- Experience of delivering housing management for tenants and leaseholders
- Experience of setting up contracts with both tenants and leaseholders
- Experience of managing, planning repairs and maintenance
- Knowledge of health and safety / fire regulations
- Knowledge of assistive technology (AT) services and development
- Experience of working with occupational therapists to install aids and adaptations
- Ideally to have knowledge of designing schemes for older people
- Ideally to have experience of setting up schemes with assistive technology (AT) and existing contracts with AT providers

#### Staff arrangements / levels

Provide information on the scheme's proposed:-

#### Staff arrangements

- On site care team and support; delivered either through Social Services or a care team to be agreed with the Royal Borough of Kensington and Chelsea Social Services and reviewed every five years.

- Proof that the domiciliary care provision will meet the requirements of the Care Quality Commission (CQC). Confirmation that discussions between the applicant and CQC have taken place.

### **Staff levels**

- Staff ratios provided to support a mixed need client group.
- Dependency mix to be set out in the operational plans; proposal should include how care needs will be defined. A useful guideline is ‘Low – 0-2.5 hours per week’, ‘Medium – 2.5-15 hours per week’, ‘High – 15+ hours per week’.
- An ideal mixed client group would have equal ratio of high, medium and low needs.
- Approximate provision should be one care worker for every two residents with high needs, one care worker for every three residents with medium needs and one care worker for every five residents with low needs. (Night staff approximate provision should be one suitably qualified care worker for every 20 residents.)
- Should a dementia care or intermediate (recuperative) care unit be provided, within an extra care housing scheme, the staff levels required will be greater than those outlined above.

### **Case study examples**

Case study examples are required of low, medium and high service users to provide evidence of how the operational policy will work in practice. The case studies should identify the roles that the core service provider will play in delivering a service to the clients.

## **Retirement housing - operation policy**

Early discussion is required with the Royal Borough of Kensington and Chelsea to establish if a ‘Retirement housing - operation policy’ is required.





## 4. Site suitability

### Site location

The location of older people's housing is extremely important to avoid residents' social isolation. A good location promotes access to the wider community particularly for residents who have reduced mobility and cognitive impairment.

Sites selected for older people's housing should be: -

- Served well by public transport - bus stops, train stations etc.
- Accessible - Preferably a relatively flat neighbouring topography with drop kerbs and pedestrian road crossings to promote access by ambulant older people, wheelchair users and mobility scooters.
- Close to local facilities - library, health centres, post box/post office, leisure facilities and shops.
- Well lit and considered a safe neighbourhood.

Where possible, sites should overlook outdoor spaces to provide a stimulating view for residents who may spend a large proportion of their day in the scheme or indeed their individual dwelling within this.

Sites in the south of the borough are particularly desirable for extra care housing as there is a shortage of this type of older people's housing in the locality.

### Site specific issues

Sites come in all shapes and sizes. Adjoining buildings, existing trees, changes of level and location of mains services are a few of the factors affecting the size, height and position of a new scheme. Consider in particular:-

- The design should utilise the site's potential e.g. locate individual dwellings towards the quieter areas of the site, make a focal point of an existing tree or provide views of street life. Orientate dwellings and principal communal spaces to ensure sunlight for part of the day to create a good balance of natural and artificial light. Use shaded areas of the site for service spaces.
- Arrange the site layout to achieve usable external spaces; preferably a sheltered, reasonably private south facing garden, directly accessed from the principal communal spaces. A warm south facing courtyard garden will encourage residents to venture out and use outside spaces.
- If possible arrange main circulation routes to overlook the garden, to assist orientation and to encourage a sense of community.
- Environmental considerations such as cross-ventilation, passive solar gain, avoiding excessive double-banked corridors etc. will also contribute towards creating views and good visual access throughout.
- Establish a logical external circulation between the site entrance/car parking and building entrance. Ensure that residents can be dropped off and picked up by minibuses, taxis and ambulances close to the main entrance.
- Ensure that refuse collection points are within limits set by the Royal Borough of Kensington and Chelsea. If refuse vehicles are required to enter the site, ensure an adequate and safe turning area is provided.

## Site context

The residential density for older people's housing will be subject to the Royal Borough of Kensington and Chelsea planning guidelines and should be appropriate for its context. If designing to high densities this must not compromise the requirement for good quality external amenity space for residents. Local public amenity is not a substitute in the case of residents whose mobility may be severely restricted. Roof terraces may contribute to outdoor amenity provision if well planned and easily accessed preferably in addition to external amenity space adjacent to the main communal facilities.

Subject to the suitability for the location, there is no restriction on the number of storeys for older people's housing. In developments with more than three storeys, the number of lifts to be provided and the emergency evacuation/ fire strategy needs to be agreed with the Royal Borough of Kensington and Chelsea at the earliest opportunity.

The scale and visual impact of the building must be considered, taking into account the characteristics of the local area. It should sit comfortably in its location and not identify itself as housing for older people by its appearance.





## 5. Planning and older people's housing

### Use classes

For planning purposes the Royal Borough of Kensington and Chelsea regards extra care housing as Use Class C2 (Residential Institutions) and retirement housing as Use Class C3 (Dwelling Houses).

Since extra care housing falls within Use Class C2 (Residential Institutions), such developments are exempt from providing affordable housing. Changing the use class from C3 to C2 was perceived as essential to promote the growth and expansion of extra care housing. It is a decision that has also been taken by a number of other local authorities.

The Royal Borough of Kensington and Chelsea wishes to encourage housing for older people and is willing to discuss innovative approaches to Use Class.

### Transport and parking provision

Older people's housing often presents a challenge to ensure that the transport and parking needs of residents, staff and visitors are properly met. Older people's housing should reflect the varying needs of residents throughout their tenure.

Proposed developments should be supported by a Transport Statement. This should provide information relating to the location of the development in the context of access to surrounding facilities and public transport. Use should be made of the Public Transport Accessibility Levels (PTAL) of the site to determine appropriate parking provision bearing in mind the mobility needs of

residents. Often a parking 'stress' survey will be useful in understanding the availability of on-street parking availability for visitors and staff.

Consideration will need to be given to the operational needs of the development including staff in terms of providing emergency vehicle access, including ambulances, drop off areas or parking for a mini-bus, and the refuse and servicing/delivery strategies.

The draft *Royal Borough of Kensington and Chelsea Transport and Streets Supplementary Planning Document (SPD)*, November 2013, provides guidance on maximum car parking standards for sheltered (retirement) housing and C2 (extra care housing).

#### Car Parking Sheltered Housing

**All scales of development:**  
0.3 per dwelling

#### Car Parking Hostels, C2, D1, D2

**All scales of development:**  
Essential need only

Essential need is defined as car parking facilities for those who cannot realistically use alternative (public) forms of transport, generally those with special mobility needs.

The Royal Borough of Kensington and Chelsea supports the introduction of car clubs and, where practicable, this may provide the opportunity to reduce parking on site.

The draft Transport and Streets SPD provides the following guidance on cycle parking.

### Cycle Parking Sheltered Housing / care homes

#### **All scales of development:**

1 space per 20 residents and 1 space per 5 staff but sufficient additional space should be set aside to allow the standards for C3 to be met in the case of future conversions. For sheltered accommodation / care home uses this additional space can be used for mobility scooters and general storage

Facilities for cycle and mobility scooter parking should, where possible, be centrally located within buildings.

#### **Travel plans**

Travel plans are a useful way of promoting sustainable travel and increasing awareness of the travel options available. They should concentrate on practical measures tailored to the needs of residents, staff and visitors.

## Local and neighbourhood plans

The *Royal Borough of Kensington and Chelsea Development Plan* sets out all the policies governing planning applications, along with the vision, objectives, strategy and targets for future development in the Royal Borough up to 2028 within the *Core Strategy*. The following documents comprise this development plan and are the main documents used in determining planning applications in the borough.

Adopted in December 2010 the *Core Strategy* sets out the overarching planning policies used in planning applications, it includes a vision, objectives, strategy and targets for future development in the Royal Borough up to 2028.

*The Unitary Development Plan (UDP)* was the previous Development Plan for the borough. *The Core Strategy* replaces most of the policies in the UDP, but some have been retained, however these are now part of the *Partial Review of the Core Strategy*.

*The Norland Neighbourhood Plan* was made on 10 March 2014 and is now part of the Council's Development Plan.







## 6. User groups

### Residents

All older people's accommodation should be 'enabling' in terms of the likely impairments residents may experience with increasing age and frailty. Recommendations for specific conditions are outlined in this section.

#### **Designing for wheelchair accessibility**

In addition to the request by the Royal Borough of Kensington and Chelsea for ten per cent of units to be designed to wheelchair user standards, all apartments and communal areas where facilities may be used by residents must be wheelchair accessible. These facilities include the communal lounge, dining areas and refuse/recycling stores.

At any one time it is likely that a relatively small proportion of residents will use a wheelchair or walking frame. A resident may arrive in the scheme as a wheelchair user or the onset of mobility difficulties may occur later. Maximum flexibility is essential.

For all new housing for older people in Kensington and Chelsea the requirements in the *Building Regulations (AD part M)* should be complied with for dwellings and communal areas accessed by residents.

#### **Designing for older people - supporting frailty**

'Free-swing' door closers linked to the fire alarm should be fitted to the front door of dwellings and other doors regularly used by residents where closers are required. Fire compartment doors should be held open on magnetic pads or hold open type door closers linked to the fire alarm. This will avoid the hazard and frustration associated with heavy overhead door closers.

Specify handrails or dado rail shelves to at least one side of circulation routes. Handrails should be returned to the wall to avoid snagging of clothing on their free ends, which could easily lead to a fall for a frail older person. Dado shelves to be sufficiently wide for an older person to lean on should support be required.

Specify appropriate ironmongery, taps etc. for older people with limited dexterity.

Specify level-threshold showers. Locate showers away from doors and detail a fall in the floor of the shower tray. Shower head rail to be a proprietary grab rail to avoid residents pulling the shower off the wall in the event of slipping.

Specify sockets and switches at an appropriate height.

Internal ramps should be avoided. If a ramp is essential, as a minimum, comply with *Building Regulations (AD part M)*.

#### **Designing for dementia and way-finding**

People suffering from confusion are less likely to become frustrated if they are able to clearly see and understand their surroundings. This is often referred to as providing a 'visually accessible' environment; i.e. an environment where, for example, there are good visual clues, such as views to the outside and views from circulation spaces into communal spaces.

Provide glazed screens and doors to communal areas to enable residents to enter a room with the confidence of knowing what is going on inside.

Design features should be incorporated that will help with orientation, recognition and familiarity. Landmarks (views out, seating bays, a piece of furniture, pictures etc.) are more important than colour in assisting way finding.

A simple floor plan should be provided to guide orientation. Maximise the amount of natural light in the building, particularly where there is a change in direction or level.

Smart technology can be of particular benefit to residents with dementia. This is considered further in Section 12, Technical and performance.

Care must be taken when selecting colours and materials. Changes in colour and or tone in floor finishes or contrasting threshold strips may appear as a step or barrier to a resident with dementia and deter some residents from entering a space or even lead to a fall. Ensure clear contrasts are used where the walls and floors meet and on steps. Avoid large patterns in carpets which can look dirty or uneven to some residents.

Provide views out or a seating bay rather than 'dead-end' situations at the end of corridors. A small window or locked door will cause frustration to some residents.

Ensure domestic features are incorporated to ensure rooms are recognisable e.g. fire places, coffee tables and book shelves in lounges and traditional dining tables and chairs in dining rooms.

Mirrors can be distressing to some people with dementia. Avoid the use of large mirrors in lifts and communal areas where there are likely to be residents with dementia. In addition, mirrors must not reflect outside views as this increases confusion.

Select artwork and wallpaper carefully. Photographic and historical images will mean more to residents with dementia as they have a stronger long term memory. Images of some animals may distress some residents, while abstract or impressionistic pictures/ papers will be confusing if residents are partially sighted or losing colour definition.

Matt finishes are easier on the eye while gloss surfaces tend to be shiny and reflective which can cause discomfort. Dark or poorly lit areas should be avoided.

All new developments should incorporate dementia friendly design principles throughout. Further guidance can be found in a series of publications by the Dementia Services Development Centre at the University of Stirling.

### **Designing for people with visual impairment**

Reduce the effects of visual impairments by incorporating colour schemes that use contrasting tones to highlight features within the building and avoiding 'visual clutter'. There should be a light reflectance value contrast of at least 30 points between the floor, walls and ceiling so that those with visual impairment can have an increased awareness of spatial dimensions. There should also be the same amount of contrast between ironmongery, door, door frame, grab rails, handrails/dado rails and wall to make it more visible to those with visual impairment. Avoid dark colours or black flooring to lifts as this can appear as a void.

Avoid numerous light fittings in a regimented array, which may cause severe glare as well as a clinical, institutional appearance. Balance ceiling mounted fittings with the use of wall mounted fittings and include dimmer switches and/or multiple switching in order to

vary the 'mood' without compromising on optimum light levels when they are required.

Avoid sharp contrast between highly lit and dark spaces, as the ability of one's eyes to adapt to different levels of light decreases with age.

Avoid glossy, shiny surfaces, especially shiny floor surfaces, as this confuses those with visual impairment.

Avoid highly patterned floor surfaces and worktop surfaces as this makes objects set against them harder to distinguish.

*Building Sight* by the Royal Institute for the Blind is a useful handbook of building and interior design solutions for the needs of visually impaired people.

### **Designing for people with hearing impairment**

The importance of adequate sound separation and reduction of reverberation is especially important in older people's housing where some, but not all, residents suffer from hearing impairments.

Consider the acoustic separation of noisy rooms, such as laundries, lifts, plant rooms and other communal spaces from residents' living, sitting and sleeping areas.

Specify finishes for large spaces with higher ceilings such as lounges and dining rooms with a high acoustic absorbency, in order to reduce echoes for the benefit of those with hearing impairments.

Specify the installation of an induction loop system to communal rooms and reception areas.

## Visitors

The entrance should be clear and welcoming.

The building layout should be simple to understand for way finding.

It should be obvious which spaces are public, semi-private or private. Consider balancing formal and informal spaces for use by different types of visitor: families and those from the wider community.

## Staff / care providers

Staff or visiting care providers require easy access to all areas of the building. Care should be provided discreetly e.g. it should not be necessary to take utility trolleys through main public spaces.

Ancillary accommodation should be conveniently located.

Staff require comfortable and functional facilities such as a changing area, rest room and office space. The staff rest room requires adequate levels of daylight and if possible linked to a small external amenity space. Staff facilities should be treated with as much priority as residential areas to ensure sufficient respite.



# 7. General design principles

## Unit mix

In the Royal Borough of Kensington and Chelsea the demand for older people's housing is highest for one bedroom properties, with some demand for two bedroom properties. Therefore, for older people's housing, an acceptable unit mix is 80 per cent one bedroom units and 20 per cent two bedroom units.

The Royal Borough of Kensington and Chelsea regards studio accommodation as unacceptable for this user group unless utilised by dementia care or intermediate (recuperative) care units. Dementia care or intermediate care units are often designed with clusters of studio rooms (bedrooms with en-suite facilities) in house groups with shared living / dining areas. Provision of dementia care or intermediate care units is encouraged within extra care housing schemes. However, to future proof the development all dementia care or intermediate care units, studio and shared accommodation should be designed and constructed to allow for its conversion into one or two bedroom dwellings in the future.

## Tenure mix

The Royal Borough of Kensington and Chelsea would like to encourage mixed tenure within older people's housing as a reflection of the tenure provision within the local population. At present the majority of older people's specialist housing in Kensington and Chelsea is for social rent only.

Mixed tenure can provide a mix of market sale, shared ownership, shared equity and rented (from housing associations, the local

authority or the private sector) within one scheme. There are three different approaches to the design of mixed tenure developments:

- Integrated - Mixed tenure options are dispersed throughout the development
- Segregated - Physical separation between different tenures
- Hybrid - Elements of both integrated and segregated on the same site

Mixed tenure extra care housing, with shared communal facilities and care, requires careful consideration of legal/financial issues, management and marketing. A useful reference is *Mixed Tenure in Extra Care Housing*, April 2014, by Housing Learning and Improvement Network and the Association of Retirement Community Operators.

## Royal Borough of Kensington and Chelsea - dwelling space standards

The Royal Borough of Kensington and Chelsea dwelling space standards (minimum and desirable) for older people's single storey apartments are outlined in Section 11. Schedule of Accommodation for Extra Care Housing and Retirement Housing. These exceed the *Housing Supplementary Planning Guidance and Building Regulations (AD part M)* to enable dwellings to better accommodate the needs of householders requiring care in the home.

The Royal Borough of Kensington and Chelsea (and the *Housing Supplementary Planning Guidance*) require ten per cent of new housing schemes to meet the standards for wheelchair user dwellings - *Building*

*Regulations (AD part M) category M4(3)*. The Royal Borough of Kensington and Chelsea require the remaining 90 per cent of older people's housing within new housing schemes to exceed the standards for accessible and adaptable dwellings - *Building Regulations (AD part M) category M4(2)*.

## Housing Supplementary Planning Guidance

The *Housing Supplementary Planning Guidance*, published November 2012, by the Greater London Authority includes minimum housing standards for internal floor areas, storage areas and private outdoor space as well as guidance on environmental performance.

The *London Housing Design Guide*, published 2010, by the London Development agency complements the *Housing Supplementary Planning Guidance*. The *London Housing Design Guide* provides minimum standards for public funded schemes (or development on London Development Agency land).

## HAPPI

Reference should be made to *Housing our Ageing Population: Panel for Innovation (HAPPI)* by Homes and Communities Agency, part of: *Housing for older and vulnerable people*. The HAPPI report outlines innovative housing examples from across Europe and makes recommendations to central and local government, developers and housing developers.

The Royal Borough of Kensington and Chelsea encourages proposals to embrace HAPPI principles as far as possible.

An audit of how a scheme considers each of the HAPPI 'ten components for the design of housing for older people' should be submitted by the applicant.

## Progressive privacy

The term 'progressive privacy' has been created to describe the policy of zoning a scheme according to the degree of access allowed to those other than the residents.

i. The private zone is the dwelling itself, to which only the resident and invited guests have access.

ii. The semi-private zone comprises those circulation areas and communal spaces (assisted bathroom, residents-only lounge, etc.) that only residents and their invited guests may use.

iii. The semi-public zone comprises any circulation areas and communal spaces (restaurant, activity space, IT suite, and hairdresser, for example) to which the public have access at certain times.

iv. In some circumstances a fourth category - a public zone - may exist; for example if the scheme incorporates a drop-in centre which the general public could access without restriction.

Access to zone (iii) will typically be controlled by a door-entry system, allowing staff or residents to permit access.

Give careful consideration to the method of door-entry between zones (iii) and (ii). Residents should not be required to come down in person to allow access to their guests.

## Building layout

The building should have a logical layout that can be easily understood. Communal areas that could be shared with, or visited by, the public should link directly to the foyer / reception area.

The orientation of individual dwellings is a fundamental design constraint. As a general rule all living rooms should enjoy a sunny aspect for a substantial part of the day. Dual aspect apartments are preferred and should be sought by innovative design.

Locate areas such as assisted baths and guest rooms away from the more public areas and closer to the individual dwellings.

## Corridors

Circulation spaces in buildings for older people should be clear and rational to assist individuals who are suffering from dementia or memory loss. Breaking down the building into identifiable zones and the provision of visual clues, signs and views to the outside will greatly assist way finding. Careful planning can reduce the length of corridors, thus reducing the travel distances and minimising an institutional atmosphere.

Corridors themselves should be as short, varied, light and as interesting as possible. The economies of double-banked corridors must be balanced against the benefits (light, views, ability to orientate) offered by single-banked circulation.

If double-banked corridors are used the corridor length must be no more than 30metres between breaks for natural light and views out. An alternative solution is to introduce small atria, to bring natural light from roof level, into the internal corridor spaces.

In all corridors places to stop for a rest or a neighbourly chat should be incorporated at regular intervals. Allow a small informal resting and seating area at least every 30metres.

Consideration must be given to ventilation and avoiding over-heating of corridors, particularly in double-banked situations, which can easily become unpleasant, oppressive spaces. A dynamic 3D thermal model is required to demonstrate that overheating will not be a problem. Refer to Section 11. Technical and performance - overheating.

Consider varying the corridor colour scheme on different floors, to aid orientation. Good tonal contrast (minimum 30 LRV) between floor, walls, ceiling, and elements such as doorways and handrails are essential but avoid strong differences in tone between different floor areas or into the lift so as not to confuse partially sighted residents or those with dementia who may imagine a step or hole.

Handrails or dado shelves should be provided to one side of the corridor. Consider tactile clues (e.g. studs incorporated into the handrails/dados to aid way-finding for those with visual impairment).

Corner protection coloured to match the walls should be provided in areas of heavy traffic.

For cross corridor fire doors refer to section 12. Technical and performance - fire protection and means of escape.

The entrances to flats should be celebrated as the threshold of the resident's private domain by the use of colour and provision for personalisation. By contrast those doors that lead into service areas or staff areas should be played down and painted to blend in with the surrounding wall.

## Lifts

Provide one 13 person stretcher lift and one eight person lift as a minimum to all older people's housing schemes more than one storey high.

The controls need to be visual and audible, accessible to ambulant and wheelchair users.

Provide hand rails on all sides of the lift car and a folding seat.

Do not use very dark or black flooring in the lift as this can appear as a 'black hole' to partially sighted residents.

## Windows and doors

Window sizes should be maximised to allow optimal daylight into the building, however this must be balanced with the risk of overheating and overlooking.

Within the bedrooms and lounges of residents' individual dwellings the bottom glazing line of a window should not be higher than 800mm, and preferably not higher than 600mm above finished floor level. Glazing below 800mm must provide containment and guarding.

Window handles, controls and trickle vents should be located within reach of a resident seated in a wheelchair. Where this is not possible remote operation (preferably electrical) of windows with controls at a suitable position for a wheelchair user is acceptable. Opening restrictors should be fitted for safety and security. Curtains and blinds to be kept clear of all window controls.

All door thresholds should be flush both internally and externally; i.e. a maximum level change of 13mm but ideally less.

Glazed panels within doors in circulation routes should incorporate manifestation at high and low level to ensure safety for wheelchair users.

Ironmongery should have a matt finish (with a LRV contrast of at least 30 points), be easy to operate and set at a height that will prevent the user from bending or stretching to reach it. Avoid operations that require two hands (handle and key mechanisms).



Solid D-shaped lever handles should be specified. Locks should be simple to operate. Where possible fit large thumb turn locks that are easy to operate with a closed fist. If possible fit front door locks above the handle so they can be easily viewed.

For fire doors to dwellings and communal spaces refer to Section 12. Technical and performance - fire protection and means of escape.

## Signs

Only provide signs where absolutely necessary. Directional signs to flats and relevant communal facilities are required at each floor level outside the lift as a minimum. Areas such as guest rooms and WCs should be identified but communal lounges do not need signs as they should be easily identifiable from the layout and design of the scheme.

Symbols and lettering should be clear, visible (in a relatively large font) and contrast with the background. Signs with a shiny background should be avoided. Signs must comply with *Building Regulations (AD part M)*. The choice of signs should be domestic and be considered as a key element of the interior design package.



## 8. Accommodation: residents' dwellings

All dwellings must conform to the Royal Borough of Kensington and Chelsea space standards/unit mix; refer to Section 7. General design principles.

Avoid single aspect dwellings that face north. Avoid single aspect dwellings facing noise exposure categories C or D. Provision of dual aspect homes is encouraged.

All individual dwellings should be single storey units with no internal steps or stairs.

All plug sockets and light switches should contrast with the walls.

Minimum storage areas are noted in the *Technical housing standards – nationally described space standard*, March 2015 by Department for Communities and Local Government. In addition to this locked storage (for medication/money/care records) is to be provided. This could be a single cabinet in the kitchen.

All dwellings in extra care housing are to be fitted with an assistive technology telecare hub which, as a minimum, is to be hard wired to the dwelling's shower room's emergency pull cord. Additional devices can be added to the system (connected by Wi-Fi) to suit the requirements of the individual resident. Refer to Section 12. Technical and performance: smart home/assistive technology.

All dwellings in retirement housing are to be telecare ready. All dwellings must have a hard wired telephone point and adjacent electrical spur to allow for the future installation of a telecare hub. A hard wired connection from a future emergency pull cord (positioned in the shower room) to the future telecare hub installation point is also required. Refer to Section 12. Technical and performance: smart

home / assistive technology.

It should be noted that there is a move away from hard-wired assistive technology solutions. The move is towards GSM (roaming SIM) based equipment and services and towards Wi-Fi enabled equipment and services. There is expected to be a transitional period after which hard-wiring is likely to be phased out in older people's housing developments.

### Entrance

- Recess the front door to provide a semi-private, defensible space at the entrances to the dwelling. A recess allows an older person time to open a front door without compromising access along the corridor.
- Providing recessed entrances, with dwelling numbers, wall lighting and milk shelves, creates domestic accents along a linear corridor / deck access. In some developments recessed entrances are personalised with pictures, plants or residents' names.
- Fit a free-swing door closer to the front door. A solid front door should with full height opaque glazed side light is desirable. Provide two spy-holes in the front door, one at 1500mm above floor level and the other at 1100mm to suit wheelchair users. Wide angled spy holes or door scope viewers for those with sight impairment should be provided.
- A letterbox should ideally be positioned in the front door. Letterboxes to be a minimum of 750mm above finished floor level with a letter cage internal to the flat. Ensure the front door opens to a minimum of 90° with the letter cage fitted.

## Hall

- Ensure that hall doors do not clash and door swings facilitate easy access around the home.
- If the hallway is internal, provide borrowed light if practical.
- The hallway must include built-in storage for large items such as a vacuum cleaner, ironing board, suitcases and coats.
- Identify a space to accommodate a folded wheelchair/walking aids.

## Lounge

- The design of the living area is critical, since residents will spend most of their time here. Special care must be taken to ensure the lounge is a generous, well-proportioned, attractive space.
- Provide level access from the lounge to the dwelling's private external amenity space.

## Private external amenity space

- All dwellings require private external amenity space. This external space may be provided by patios, balconies or winter gardens. Winter gardens (sheltered external space beyond the building's thermal envelope, highly glazed, enclosed but not sealed, with opening/moveable elements to avoid overheating in the summer months) are particularly appropriate for older people sheltering the external amenity space from wind, rain and noise.
- The *Housing Supplementary Planning Guidance* stipulates minimum areas for private outdoor spaces and the minimum depth and width of balconies / external spaces.

- Privacy to ground floor patios should be improved by a planted trellis or screen, particularly where patios are paired due to adjoining dwellings. The patio should not be fully enclosed by planting or hedging; the resident(s) should have the opportunity to access the garden circulation routes where feasible. Security of all patio areas should be considered carefully to ensure the resident can make good use of their private external space.
- On upper levels where dwellings adjoin one another care must be taken to ensure privacy of the residents' private external space with careful design of balconies with separating solid or obscured glazed screens if required.
- Subject to the location of the scheme, and of the balconies relative to adjoining public spaces, consider means of deterring unlawful access by climbing up supports, etc. (i.e. cantilevering the balcony or in setting any posts to create a substantial overhang).
- Normal height balustrading may be considered appropriate for balconies provided the external lounge door can be locked, with a removable key, to enable staff if necessary to prevent balcony access by residents with dementia.
- For external spaces above ground level accessed by people with dementia refer to - *Designing balconies, roof terraces and roof gardens for people with dementia* published by the Dementia Services Development Centre at the University of Stirling.

## Kitchen

- Provision of a kitchen open to the living room is particularly appropriate for older people's housing. An open plan arrangement avoids a barrier between

the two spaces improving accessibility and sociability. In addition, incorporating the kitchen into the living area will provide a greater sense of space within the dwelling. One floor covering can be used in both areas avoiding a tripping hazard when carrying food.

- Avoid the use of galley style kitchens. 'L' shaped or 'U' shaped layouts are preferred.
- Within wheelchair user dwellings (10 per cent of housing within older people's housing developments) kitchens are to conform to - *Building Regulations (AD part M) category M4(3)*. The wheelchair user kitchens must be large enough to enable a wheelchair to manoeuvre freely and safely. As a minimum, allow space for a 1500 x 1800mm turning ellipse. Provide a clear space of 1500mm in front of all fittings.
- Within dwellings designed to exceed the standards for accessible and adaptable dwellings (90 per cent of housing within older people's housing developments) - kitchens must as a minimum conform to *Building Regulations (AD part M) category M4(2)*. Allow space for a 1500mm turning circle or 1400mm x 1700mm turning ellipse. Provide a clear space of 1200mm in front of all fittings. These kitchens should be designed to accommodate future adaption for a wheelchair user.
- Provide carousel shelves within corner base units to improve accessibility. Use of pull down basket wall unit storage should be considered.
- Provide glazed doors to at least two wall units that will allow those with dementia to find stored items more easily.
- Where possible provide some shallow open shelving to supplement the wall and base cupboards.
- Mixer taps with lever or cross handles should be provided to the sink. (Separate

hot and cold taps are required within designated dementia care units.) Provide a thermostatic mixing to limit the maximum hot water temperature to 44°C.

- If a residents' communal laundry is not provided within the scheme; dwellings' kitchens must provide space, plumbing and electrics for a washing machine.
- Provide a space for a tall fridge freezer, rather than an under counter fridge.
- Floor finish should be slip-resistant.
- When a window is fitted above the worktop; a remote window opening control should be provided.

## Bedroom

- At least one bedroom within a dwelling should be capable of accommodating a 1.5m wide double bed with space around it to allow a wheelchair user access to all parts of the room. It should be possible for a wheelchair user to gain access to the far side of the bed to open and close curtains and then to return without needing to reverse.
- A direct link to the shower/bathroom should be allowed for; either by fitting a door or providing a room-height knockout panel within the partition wall (see shower room). This should be allowed for when designing furniture layouts.
- Space for the use of mobile hoists or space and appropriate layout for the use and installation of ceiling mounted hoists should be provided.
- The path between the furniture must be at least 800mm for wheelchair users.
- Allow space for a 1500mm turning or 1400mm x 1700mm turning ellipse.
- Consideration should be given to ensuring maximum natural light in bedrooms via large windows.

## Shower room

- Care should be taken with the design of the en-suite shower room to ensure that the overall look is domestic and attractive. The use of well-chosen large format wall tiles throughout, wall lights and shelves will ensure the space is not just practical but also attractive.
- The shower room must comply with *Building Regulations (AD part M)*.
- A direct link to the bedroom should be allowed for, either by fitting a door or providing a knockout panel within the partition wall. This should be taken into consideration when arranging the fittings. The knockout panel should extend to the ceiling to allow for the fitting of a ceiling hoist track.
- At least one door into this room should open outwards. External override door locks should be fitted so access can be gained in the event of a user collapsing against the door and requiring assistance.
- A flush floor shower should be provided to allow wheelchair access. The shower curtain should be long enough to touch the floor, in order to prevent water from spilling out of the shower area. The shower curtain should have weighted hems. The shower head should be mounted on a proprietary vertical grab rail (rather than the vertical slide bar which is normally provided as part of the shower system) to avoid residents pulling the shower off the wall in the event of slipping. The grab rail should allow height adjustment of the shower head between 900mm and 1800mm above finished floor level.
- Mixer taps with lever or cross handles should be provided to the basin.  
(Separate hot and cold taps are required within designated dementia care units.)  
Hot water to shower and wash basin to be fitted with thermostatic mixing valves that limit the maximum temperature to 44°C.
- Wash hand basin should not have a full pedestal as this can make it difficult to reach for wheelchair users. The front rim of the basin should be at a height of 800-850mm and should be fixed in such a way that it can be leant on safely.
- Close coupled / concealed cistern, wheelchair accessible WC should be fitted with paddle-style flush handle and heavy-duty seat and cover.
- All wall areas should be capable of taking the fixings / loads from future grab rails, shower seats etc.
- An occupational therapist is to advise on the grab rails and mobility fittings required for each individual resident. Grab rails etc. fitted in standard locations is not acceptable. Grab rails must be fitted as and when they are needed.
- Glass shelves shall not be used unless they are frosted, as they are not as visible to those with visual impairment.
- Floor finish should be slip-resistant for bare feet. Wall tiling should be matt finish, in colours that contrast in tone with fittings and grab rails.
- Emergency pull cord to be positioned between the WC and shower. Within extra care housing the emergency pull cord to be fitted. Within retirement housing emergency pull cord wiring to be linked back to telecare hub position but cord to be fitted when required by resident.







## 9. Accommodation: communal facilities

### Local community interface

An essential part of older people's housing is the links created with the local community. These links are stronger for extra care housing, than retirement housing, due to the communal facilities available to share. Retirement housing requires minimal communal facilities (main entrance, foyer/reception, manager's office, communal lounge, residents' laundry, communal WC and guest room) compared to those required by an extra care housing scheme.

The community interaction may be intergenerational for example involvement with a local school or hire of communal facilities for social clubs or craft / art activities. Creating a community hub / focal point for sharing facilities with the public has the two-fold advantage that, firstly, it makes the provision of these facilities within the scheme more financially viable and, secondly, it ensures a lively and ever-changing mix of faces and a crucial link between the scheme and the outside world. It provides a service to the residents while also ensuring a regular point of contact between those residents and members of the local population.

Within extra care housing, particular communal facilities could be commercially attractive and therefore run independently (in terms of services, access and tenancy agreements).

Examples of services which would be suitable for use by members of the local community are the following:

- The dining area could be operated as a café, or lunch club.

- The hairdressing / therapy / consulting room could be run by a professional hairdresser / beauty therapist on a permanent basis and could also involve the services of a physiotherapist, chiropodist, etc.
- In addition, an extra care housing scheme should benefit older people from the local community. Provision of an intermediate (recuperative) care unit could be considered providing rehabilitative care for older people reducing their time spent in hospital. Furthermore, an extra care housing scheme could be used as the base for outreach / home care facilities.

### General guidance

- The Royal Borough of Kensington and Chelsea requires the applicant to submit furniture layouts, for all the communal facilities in older people's housing to demonstrate use of the spaces.
- All communal spaces and areas where facilities may be used by residents must be wheelchair accessible.
- An induction loop system must be installed in communal rooms and reception areas.
- Provide glazed screens that allow views into communal rooms such as the activity/quiet room, hairdressing/therapy room and dining area.

## The main entrance

- The main entrance doors should be fully glazed and power assisted. Doors should be fitted with a fob opening system and an entry system both visually and audio linked to staff (if on site) and dwellings. Ideally, an entrance lobby should be created to avoid draughts. If space is at a premium, a single set of entrance doors may be provided with a heat curtain.
- A drop zone, used by ambulances, minibuses and taxis, must be incorporated at the main entrance. (This area would ideally be covered to enable residents to alight from a vehicle and enter without getting wet during bad weather. In practice this is only really practical on larger schemes as large porches can result in an institutional appearance.)
- Entry points to the site should be kept to a minimum and, if more than one, should lead directly to the main entrance door or service areas.
- The pedestrian path to the main entrance, from the street or parking area, should be level or failing that ramped at no steeper than one in 20.
- In urban settings older people's housing is occasionally located above retail, health check or similar accommodation such that their main reception/communal facilities are at least one floor above street level. The most common arrangement in this instance is a dedicated street-level lobby with lifts and stairs giving access to the housing above. It is usually not practical to locate a reception desk or office at the entrance level and access to the building is therefore unsupervised. The risk of someone 'tailgating' a resident into the building and gaining access to the lifts is

increased and must be managed through good design, CCTV and door entry security systems. Such a situation may be improved by linking the entrance level and the reception/communal level by means of a double-storey-height space with a gallery, so there is direct visual contact between the two levels and clear legibility in where to find the reception.

## Mobility scooter/buggy store

- Ownership of mobility scooters is hard to predict and often underestimated, but as a minimum provide for a store to house one mobility scooter per five dwellings with a maximum ten scooter store per development. When designing, allow space at the side of every parking space for residents to dismount. Consider allowing additional space in the scheme for conversion to future mobility scooter storage since ownership may exceed expectations.
- The store should open directly to the outside or into the main entrance draught lobby, and also be accessed from inside the scheme. An external door should have all the same security provisions as the main entrance door. The doors should be fitted with an automatic opening system.
- Adequately ventilate the store. Allow for adequate protection to walls and doors. Provide electric charging points for mobility scooter batteries.

## Foyer / reception

- A reception / manager's office close to the main entrance is desirable to increase the sense of security for residents and management of visitors.
- The foyer/reception area should be welcoming and attractive with space for

residents to sit and enjoy observing the busiest part of the building.

## Communal lounge

- An open plan communal lounge should encourage social interaction amongst residents. It should ideally be located directly off the main foyer /reception area, visible from the main entrance with access to the garden. Allow small groups to gather in the lounge by subdividing with alcoves / niches and provision of a focal point, such as a fireplace.
- Views and direct access onto a south facing terrace and garden are a major benefit.
- If layout permits, position the lounge and dining room (where included) next to each other and divide with a sliding/ folding wall or sets of double doors. This will give flexibility creating a large space for the occasional major event.
- A store room off the main lounge should be provided for the storage of furniture or games equipment.
- Ensure the lighting design is well considered, domestic and can offer a range of alternative switching for 'mood lighting'. Avoid multiple use of the same fitting.

## Dining area - café / restaurant (extra care housing only)

- The dining area can be designed as a restaurant or a café.
- Subject to the location of the individual scheme in relation to local amenities/ dwelling numbers, applicant to consider whether the café / restaurant could serve the wider community on a commercial basis. A facility open to the public can be a welcome feature of any housing

scheme if properly managed, creating an interface between residents and their locality.

- If possible the dining area should open up to an outside terrace, with transition via a covered area, to allow dining outside in good weather.
- Floor surfaces should be easy to clean.
- Allow enough space for wheelchair users and those with walking aids.
- Dining tables should easily accommodate wheelchair users.
- Space should be acoustically designed so that echo within the room is avoided.
- As a minimum, the dining area must be served by a regeneration kitchen. However if there are over 70 dwellings within the extra care scheme a full catering kitchen must be provided. Reduction to the kitchen requirement may be possible, following discussion with the Royal Borough of Kensington and Chelsea, if the extra care housing is located close to local restaurants and cafés.

## Residents' tea kitchen

- Provide a tea kitchen adjacent to the communal lounge and dining area (where included), for use by residents and for refreshments for small functions.

## Hairdressing / therapy / consulting room (extra care housing only)

- Consider if the hairdressing / therapy / consulting room, like the dining area, could serve the wider community on a commercial basis.
- As far as possible create a 'spa' ambience with commercial-style fittings and attractive, comfortable seating. Ensure there is space for customers

- to sit and wait as this is a valuable opportunity for social interaction.
- Ensure good ventilation is available to remove the smells of perming lotions and other treatments.
  - Hairdressing - Provide at least one height adjustable hairdressing basin to allow hair to be washed by leaning both forwards or backwards into the basin. Provide hairdressing positions with counter, mirror, hairdressing chair, lighting and salon accessories.
  - Therapy - Space is required for a therapy / beauty couch with adequate built in storage for towels and equipment for physiotherapy, beauty, aromatherapy etc.
  - Consulting - Use of therapy couch is required. Storage space required for consulting paperwork and equipment. Sockets and telephone point required to link a computer and a printer to the internet. Wash hand basin, with lever taps required for hand washing.
  - Ensure good views from the room to the street or garden space. Locate within the active heart of the communal facilities. Consider carefully the design of the hairdressing / therapy / consulting room since privacy may be required for some activities. Possibly use blinds or curtains to provide privacy.
  - Floor finish should be slip-resistant.

### Activity / quiet rooms (extra care housing only)

- As a minimum, at least one secondary communal space should be provided as an alternative to the main communal lounge.
- The activity/quiet room should be easily accessible and not located at the ends of corridors or isolated from the main

circulation route.

- The functions of this room will be dependent on requirements/potential of each individual scheme. The room might just act as a second lounge area serving as a quiet reading room away from noisy activities in the main communal lounge. Or it could be a garden room/ conservatory allowing residents to appreciate the external landscape.

### Informal seating areas

- Informal seating spaces offer the opportunity to watch the world outside, chat to friends, to just 'be available' for a social encounter if the opportunity arises or as a visual interest to bring domesticity to corridors.
- Provide these small spaces, which need only be large enough for two or three chairs, beside the main entrance and along corridors.
- For maximum distance between seating areas in corridors refer to Section 7. General design principles - corridors.

### Communal WCs / cloakroom

- These are for use by residents whilst in the communal rooms or waiting for transport, and by visitors and members of the public coming into the scheme to use facilities.
- Retirement housing - a minimum of one wheelchair accessible WC is to be provided within easy reach of the communal lounge.
- Extra care housing - a minimum of two WCs (one wheelchair accessible WC and one assisted wheelchair accessible WC) should be provided within easy reach of

the communal lounge, dining room, main entrance, laundry etc. If any communal facilities are remote from the others, provide an additional wheelchair accessible WC adjacent. (If two WC cubicles are provided ensure one WC has right hand side transfer and the other WC has left hand side transfer.)

- Provide WC, basin and support rails and accessories.
- Décor and fittings should try to lessen the sometimes clinical appearance of these spaces e.g. use framed mirrors, shelves and conceal all pipework.
- The use of standard ‘DOC-M’ packs from sanitary ware providers is not encouraged. A more user-friendly and domestic style can be achieved by using standard fittings, selected with older people’s needs in mind. This will need to be done whilst ensuring that *Building Regulations (AD part M)* is met.

## Residents’ laundry

- A residents’ laundry is required if a space for a washing machine is not provided within each dwelling.
- The laundry must accommodate washing, drying and ironing equipment.
- As a minimum, two commercial washing machines and two commercial tumble dryers to be provided. All machines should be raised on plinths to facilitate easy access without stooping.
- A small seating area for residents should be provided.
- Contact with the garden and access to an outside drying space is desirable. Visually screen any outside drying space from the garden areas.
- Provide worktop space with a double-bowl sink.
- Floor finish should be slip-resistant with

coved skirting. A floor gully should be provided in case of a major leak.

## Assisted bathroom

- Consideration should be given to the need for an assisted bathroom on a scheme by scheme basis.
- Bathrooms in housing schemes will typically be used to allow carers to give assistance to a resident who is unable to bath or shower safely alone and for whom assisted showering in his/her own flat is too difficult or demanding. However residents may also use bathrooms independently as a change from showering or if showering is unsuitable for medical reasons. Therefore, assisted bathrooms should be equipped with baths to allow for both assisted and independent use by residents.
- An assisted bathroom should feel like a ‘Relaxation suite’. By associating bathing with, for example, a hydro-massage facility or therapy, the sense of indignity that some residents clearly experience at being taken for an assisted bath may be alleviated and an altogether more pleasurable ambience guaranteed.
- Care should be taken to avoid an institutional or clinical atmosphere by the choice of high quality tiling, decor, colour, fittings and finishes. An assisted wheelchair accessible WC and washbasin should ideally be situated in an adjoining room rather than within the bathroom.
- Where possible locate the bathroom on an external wall so that a window can be provided. This will help with ventilation and bring in natural light. The window can also be dressed with curtains to reduce the clinical atmosphere that these spaces often suffer from.

- Consider fully tiling the room but balance this with soft furnishings to avoid creating echoes that make hearing more difficult.
- Walls should be capable of taking fixings and loads from grab rails and other fittings to assist frail residents. This means lining stud walls with ply for reinforcement.
- Ensure the height of the room is adequate to allow for hoisting.
- Shelving for toiletries and towels to be provided. All plumbing and pipework should be concealed. The floor finish must be slip-resistant.

## Guest room with en-suite shower room

- A guest room should be provided in every extra care housing scheme and is desirable in a retirement housing development.
- Guest rooms are popular in extra care housing schemes and well used by friends and relatives.
- The accommodation should be wheelchair accessible, with twin beds and en-suite shower, WC and basin.
- In addition to visitors, the guest room could be used as a staff overnight room, as a carers' respite room or if linked to staff by telecare as an intermediate (recuperative) care room.

## Communal gardens / landscape design

- Buildings should create and define recognisable, usable spaces ideally sheltered and sunny, with the best possible outlook.
- The wheelchair accessible garden should

be an extension of internal communal spaces. Ideally the gardens should be glimpsed from the main entrance, leading the eye of the resident or visitor through the communal facilities, aiding orientation and creating a light, transparent building.

- It is important that residents perceive the garden areas as secure and safe from trespass. Areas at the front of a scheme may be open to the street but the areas intended for residents to walk, sit or garden should be clearly secured by appropriate fences or railings.
- All schemes, however small, should include at least one sunny terrace area adjacent to the building to allow residents to sit outdoors on warm days for events, BBQs, etc. The paving must be laid level, subject to even drainage falls, and be accessed from the building via level thresholds. The terrace should be large enough to host communal events but not so large and regular as to be dull and uninviting.
- The provision of a shaded seating area within the south-facing terrace must be considered. A well located tree can be effective, though its shading impact cannot be easily controlled. A pergola or trellis, if planted with deciduous climbers, can offer summer shade and retractable blinds or umbrellas can be used to provide immediate localised shading.
- However small the garden it is desirable to establish opportunities for residents to take a stroll. The layout of such walking routes may be formal or informal, or (if the size of the garden allows) a mix of both. The route should take full advantage of whatever features, views and points of interest are available in the garden with adequate seats for resting. The resident's journey, however short,

- should be varied, stimulating and circulatory. Dead-ends should be avoided unless they terminate in a feature or 'event'. The paths should be relatively level - certainly no steeper than one in 20 at any point - and at least 1.5m wide. The ground adjacent to the path should be level with it in order to avoid a hazard and all edgings laid flush. The surface should be even and slip-resistant. Loose gravel, logging or cobbles, for example, are not suitable.
- Gardens should surprise and delight through sound, smell and touch as well as the visual senses. Moving water, for example, can create a refreshing, soothing sound on a hot day. A piece of sculpture or a feature such as a bespoke bench may provide a tactile experience that makes a particular spot in the garden memorable and familiar.
  - Aromatic planting that incorporates colour and movement will stimulate the senses, and can be particularly significant for people with visual impairment.
  - Almost all residents will welcome the presence of birds in the garden, and particular areas may be identified for feeders or nest boxes. Similarly planting and habitat that encourages butterflies and other insects will enhance biodiversity and create interest for residents, many of whom may spend considerable time sitting and 'watching the world go by'.
  - The likelihood of residents becoming actively involved in productive gardening will vary from scheme to scheme. If space allows consider the inclusion of a small 'kitchen garden' area with vegetable beds, a greenhouse and/or potting shed for residents' use. An herb garden or a few fruit trees are other ways

in which the garden can be productive on a small scale.

- Consider incorporating raised planters as a means of bringing plants closer to residents and enabling them to participate in gardening from a wheelchair or a standing position.
- In addition to the typical bollard lighting of external areas for the purpose of safety and amenity, it may be appropriate to give early consideration to lighting effects to enhance the external space during the hours of darkness, particularly in schemes where a significant number of dwellings and communal spaces overlook a garden area and where the pleasure of the garden can be extended into the evening.
- Provide external taps for garden watering purposes. However consider the use of water butts and specifying drought-resistant plant material in order to avoid the need for watering by hose or sprinkler whenever possible.
- Provide a garden store for mowers and other equipment, either within the building envelope or freestanding in the garden.
- Roof gardens may be an appropriate supplement to ground level gardens in some schemes, particularly where sunny outdoor space at ground level is at a premium. They should be accessible by lift and ideally associated with other communal facilities (e.g. an activity room, secondary lounge or conservatory). The extent of planting will depend on the construction and the soil depth available. Non-climbable guarding to at least 1.8m height, preferably glass, will be required. Risk management in the event of residents with dementia attempting to climb over balustrading is considered more difficult in a roof garden situation than in the case of private balconies (which can be shut off when necessary).

- When selecting trees and plants remember that year-round colour and interest are key to a successful garden, particularly where it is the daily outlook for residents who tend to be sedentary. Spring bulbs, autumn leaf colour and winter blossoms, for example, should be carefully considered to establish variety and delight throughout the year.
- Specimen plants or small specimen groups, ideally installed as reasonably mature specimens, create memorable highlights throughout the garden, in contrast to the background or structural planting of hedges and ground cover.
- Plants with scent and those that encourage bird and insect life into the garden are particularly valuable. Specify easily recognisable and colourful flowering plants. Do not specify plants with any poisonous components and any thorny or spiky plants, the risks for potentially confused or physically unsteady residents is greater than for the population at large and any plants that could be a hazard should be avoided.







## 10. Accommodation: ancillary / back of house

Consideration should be given to the *Equality Act 2010* as to whether the staff facilities need to be wheelchair accessible. This is generally not required.

### Reception / manager's office

- Consideration should be given, on a scheme by scheme basis, as whether a dedicated reception is required.
- Manager's office to have views of the main entrance area. The office requires space for one work station, chair, plus two visitors' chairs and document storage.

### Staff office (extra care housing only)

- This space should be suitable for general administration, interviews and handover meetings. Privacy is important due to the confidential nature of the work.
- Adequate provision should be made for two workstations, a table for meetings, the storage of records and a dedicated space for photocopying.
- Allow space for monitoring (telecare) and fire alarm equipment.

### Outreach / home care office (extra care housing only)

- Extra care housing schemes offer an ideal opportunity to provide an 'outreach' facility to older people living in the local community, linked to the extra care housing and to its care team. The outreach workers will typically offer advice, support and meet the care needs of people living in their own homes.
- Consider the provision of a dedicated outreach office on a scheme by scheme basis. The outreach office should be conveniently close to the other staff

offices. Allow space for clothes/valuables lockers. Toilet and tea-making facilities etc. will be shared with other staff in the building.

### Staff laundry (extra care housing only)

- Laundry to accommodate washing, drying and ironing equipment.
- As a minimum, provide two commercial washing machines, two commercial tumble dryers and one commercial washing machine with a sluice cycle. All machines should be raised on plinths to facilitate easy access without stooping.
- Contact with the garden and access to an outside drying space is desirable. Visually screen any outside drying space from the garden areas.
- Storage for low-grade medical waste may be required.
- Provide worktop space, a double-bowl sink and shelving for laundry baskets etc.
- Floor finish should be slip-resistant with coved skirting. A floor gulley should be provided in case of a major leak.
- Walls to be covered with a smooth, joint-less, hygienic finish.
- Provide a separate adjoining sluice room. Sluice room could include a macerator / waste disposing unit, a flusher/ disinfectant unit, stainless steel base units with sink, stainless steel wall units / shelves and wash hand basin with soap dispenser. Taps to sink and wash hand basin to be lever handle and WRAS approved. Floor and walls as laundry. Specification of a proprietary sluice room is recommended.

- Potential for extra care housing's laundry facility to be extended to offer a serviced laundry provision to the wider community (used for example by older people in the neighbourhood who require a laundry service due to incontinence).

### Staff rest (extra care housing only)

- Locate the staff rest room away from main circulation routes to ensure that staff can relax and enjoy privacy. Rest room requires adequate levels of daylight preferably linked to an outside space. Provide a tea-making facility and an area with tables and chairs for relaxation.
- Consider providing a staff smoking area, e.g. a covered external terrace.

### Staff change (extra care housing only)

- Provide unisex staff WCs and, depending on the size of the scheme, provide space for lockers, staff changing and a shower. The WC and shower must not be accessed from the staff room itself.

### Catering kitchen or regeneration kitchen (extra care housing only)

- Provision of a catering or regeneration kitchen will be dependent on the service provision required. Catering kitchens provide freshly cooked meals. Regeneration kitchens reheat meals prepared off site.

#### All kitchens

- Ensure that an office or space for catering manager is provided, with telephone and a computer point.

- Facilities for catering staff should be separate from care staff facilities. These should include WC and basin, lockers and changing space.
- Plan, at an early stage, for adequate ventilation to exhaust at roof level, with extraction over the main cooking area.
- Access required for deliveries and to refuse/recycling store.
- Floor to be slip resistant with coved skirting.
- The floor should be laid to a gentle slope towards a gulley, for ease of cleaning.
- Windows to be fitted with fly screens.

### Refuse and recycling store

- Refer to *Building Regulations (AD part H)* and consult at an early stage with the Royal Borough of Kensington and Chelsea to determine any special requirements, method of collection, extent of recycling, etc.
- The main refuse store should be accessed via a lobby from inside the building with space for wheelchair turning. The store must be adequate for non-recyclable and recyclable waste containers and space to circulate. It should be accessed from the exterior by robust, lockable double doors. Provide adequate ventilation and a wash-down facility with floor gully (with non-evaporating trap). Provide a lockable cupboard for clinical waste.
- Retirement housing - *Building Regulations (AD part H)* requires that residents should not have to carry refuse more than 30m to a waste container (excluding vertical travel distance). Any intermediate 'holding stores' (prior to staff transfer to main refuse store) should be lobbied and ventilated. Ideally holding stores should be sited close to a lift.

- For extra care housing a refuse strategy is to be provided. The Royal Borough of Kensington and Chelsea requires extra care housing staff to make regular collections from individual dwellings as part of the residents' care package. This allows 'holding stores' to be omitted.
- The main kitchen may require its own dedicated refuse store, either as a holding point or as a separate collection point. Consider composting some kitchen waste on site and disposing of food waste separately.



# 11. Schedule of accommodation

The following schedule of accommodation lists the facilities that make up extra care housing and retirement housing.

The Royal Borough of Kensington and Chelsea minimum space standards for individual older people's dwellings are noted below. These space standards do not include the external private amenity space required by the *Housing Supplementary Planning Guidance*. (External amenity space can be provided by patios, balconies or winter gardens.)

The Royal Borough of Kensington and Chelsea also requires that ten per cent of all housing must be wheelchair user dwellings, in accordance with

the *Housing Supplementary Planning Guidance*.

The schedule is to be read in conjunction with the guidance given, in this document, in particular sections 8, 9 and 10.

The schedule for communal and ancillary facilities within this section is for fifty to sixty unit schemes. The schedule is for guidance only because it is likely that accommodation will vary dependent on the size and location of individual developments.

If the client is the Royal Borough of Kensington and Chelsea, reference must be made to the Royal Borough's general employer's requirements document suite.

Accommodation	Extra care housing	Retirement housing	Notes
<b>1 Bedroom Dwellings</b> - 80% of Older People's Housing to be 1 Bedroom Dwellings.			
<b>1 Bed 2 Person Dwellings for Older People</b>	Minimum 55m <sup>2</sup>	Minimum 55m <sup>2</sup>	90% to exceed <i>Building Regulations (AD part M) category M4(2)</i>
<b>1 Bed 2 Person Wheelchair User Dwellings</b>	Minimum 60m <sup>2</sup> * Desirable 65m <sup>2</sup> **	Minimum 60m <sup>2</sup> * Desirable 65m <sup>2</sup> **	10% to meet <i>Building Regulations (AD part M) category M4(3)</i>
<b>2 Bedroom Dwellings</b> - 20% of Older People's Housing to be 2 Bedroom Dwellings.			
<b>2 Bed 3 Person Dwellings for Older People</b>	Minimum 68m <sup>2</sup>	Minimum 68m <sup>2</sup>	90% to exceed <i>Building Regulations (AD part M) category M4(2)</i>
<b>2 Bed 3 Person Wheelchair User Dwellings</b>	Minimum 74m <sup>2</sup> * Desirable 75m <sup>2</sup> **	Minimum 74m <sup>2</sup> * Desirable 75m <sup>2</sup> **	10% to meet <i>Building Regulations (AD part M) category M4(3)</i>

\* Required by the Royal Borough of Kensington and Chelsea to meet the *Building Regulations (AD part M)*.

\*\* Based on *The Greenwich Wheelchair 'Site Brief'* and *The South East London Housing Partnership Wheelchair homes design guidelines*

## Communal facilities

Accommodation	Extra care housing	Retirement housing	Notes
<b>Communal Facilities</b>			Seating area required by main entrance.
<b>Mobility Scooter / Buggy Store</b>	1 mobility scooter per 5 dwellings. (Maximum of 10 scooters)	1 mobility scooter per 5 dwellings. Maximum of 10 scooters)	The bicycle store is often included within this space.
<b>Communal Lounge</b>	1.5m <sup>2</sup> per dwelling Maximum 110m <sup>2</sup> (plus store 6 m <sup>2</sup> )	1.5m <sup>2</sup> per dwelling Maximum 110m <sup>2</sup> (plus store 6 m <sup>2</sup> )	To connect directly with the communal gardens.
<b>Dining Area Café/Restaurant</b>	1.5m <sup>2</sup> per dwelling Maximum 110m <sup>2</sup>	N/A	Served by regeneration or catering kitchen.
<b>Residents' Tea Kitchen</b>	8m <sup>2</sup>	8m <sup>2</sup>	
<b>Hairdressing / Therapy / Consulting Room</b>	Minimum 18m <sup>2</sup>	N/A	
<b>Activity / Quiet Rooms</b>	12m <sup>2</sup> minimum	N/A	
<b>Informal Seating Areas</b>	3m <sup>2</sup>	3m <sup>2</sup>	Number of seating areas is dependent on size and layout of the development.
<b>Communal WCs</b>	4m <sup>2</sup> (2 minimum)	4m <sup>2</sup> (1 minimum)	Additional WCs are required if dining area open to the public.
<b>Residents' Laundry Room</b>	25m <sup>2</sup>	25m <sup>2</sup>	Required if space not provided for a washing machine in each dwelling.
<b>Assisted Bathroom</b>	15m <sup>2</sup>	15m <sup>2</sup>	
<b>Guest Room with En-suite Shower</b>	20m <sup>2</sup>	Desirable	



## Ancillary/ back of house

Accommodation	Extra care housing	Retirement housing	Notes
<b>Reception / Managers Office</b>	12 - 15m <sup>2</sup>	12 - 15m <sup>2</sup>	
<b>Staff Office</b>	18m <sup>2</sup>	18m <sup>2</sup>	Monitoring (telecare) and fire alarm equipment.
<b>Outreach / Home Care Office</b>	6m <sup>2</sup> per member of staff	N/A	Required if outreach services are provided.
<b>Staff Rest</b>	12m <sup>2</sup>	N/A	
<b>Staff Change</b>	20m <sup>2</sup>	4m <sup>2</sup>	Staff WC required for retirement housing offices
<b>Staff Laundry</b>	25m <sup>2</sup>	N/A	
<b>Catering Kitchen / Regeneration Kitchen</b>	70+ dwellings full catering kitchen required.	N/A	Extra care minimum: regeneration kitchen
<b>Main Refuse and Recycling Store</b>			Refuse strategy to be agreed with Royal Borough of Kensington and Chelsea.
<b>Holding Refuse Stores</b>	May be required	10m <sup>2</sup>	
<b>Cleaners' Storage</b>	1m <sup>2</sup> per 10 dwellings Maximum 8m <sup>2</sup>	1m <sup>2</sup> per 10 dwellings Maximum 8m <sup>2</sup>	One for each floor or section.
<b>General Storage</b>	3m <sup>2</sup> per 10 dwellings Maximum 15m <sup>2</sup>	3m <sup>2</sup> per 10 dwellings Maximum 15m <sup>2</sup>	
<b>Garden Store</b>	5 - 10m <sup>2</sup>	5 - 10m <sup>2</sup>	
<b>Lifts</b>	All dwellings to be accessed by a minimum of 2 lifts	All dwellings to be accessed by a minimum of 2 lifts	A minimum of 2 lifts: 1x13 person stretcher lift and 1x8 person lift.
<b>Plant Room / Service Risers / Electrical Intake / Meter room</b>			Size based on environment strategy, water storage and possible individual metering.



# 12. Technical and performance

## Smart home / assistive technology

Smart home technology is defined as:-

*“A dwelling incorporating a communications network that connects the key electrical appliances and services, and allows them to be remotely controlled, monitored or accessed.”*

Department of Trade and Industry (DTI)

Devices may be controlled automatically including door and window openers, heating and environmental controls. Smart homes include the use of assistive technology.

Assistive technology is defined as:-

*“Any product or service that maintains or improves the ability of individuals with disabilities or impairments to communicate, learn and live independent, fulfilling and productive lives.”*

British Assistive Technology Association (BATA)

Assistive technology is particularly useful to older people and ranges from the very simple (calendar clocks or touch lamps) to high-tech solutions such as GPS safety-tracking to help find someone who has gone missing.

Assistive technology sensors/devices can be described as active or passive. An active device requires the direct action of the user to make it work, for example screen readers. A passive device is one that operates without an action by the user for example a fall detector. The majority of assistive technologies are passive.

Assistive technology can be further subdivided into memory devices (clocks, calendars, medication aids etc.), telecare with safety devices (environmental, motion and tracking sensors) or telehealth with health monitoring devices.

Telecare provides safety devices within the home environment. Telecare safety sensors continuously, automatically and remotely monitor residents over time to manage the risks associated with living alone. Sensors around the home are connected to the dwelling's telecare hub. In general needs and retirement housing the dwelling's telecare hub is linked via a telephone line to a nominated person or call centre. In extra care housing the telecare hub is connected to the onsite care staff.

### **Telecare, safety devices include the following:-**

- Environmental sensors can detect flooding/gas; the system will then shut off the water/gas and raise an alarm. Sensors can also detect if temperatures are too hot or too cold or rise very quickly; the system will then send a warning signal.
- Motion sensors can monitor the lifestyle pattern of an occupant, such as bed occupancy detectors, fall detectors, door detectors and movement detectors. If the sensors detect something out of the ordinary the information is relayed to a carer or call centre.
- Tracking sensors are often used by people who have dementia. Tracking devices use satellite technology to help trace someone who has gone missing.

In addition to telecare, the introduction of telehealth may be considered suitable for some residents. Telehealth can assist in the management of long-term health conditions, including chronic obstructive pulmonary disease, chronic heart failure, diabetes and epilepsy. Telehealth can measure blood pressure, blood glucose levels or weight. Patients undertake the tests themselves in the home environment with the results automatically transmitted to a health professional for evaluation and appropriate action.

Telecare and telehealth have obvious benefits for older people's housing providing reassurance and peace of mind to the residents and their relatives. They promote independent living and allow people to remain living in their own homes for longer.

## Security

The design and management of older people's housing and its relationship with the public realm contributes significantly to the safety and security of a development and can assist crime prevention and minimise the fear of crime.

### **The security principles for older people's housing incorporate the following:**

- Main entrance to be clearly visible from the public realm.
- Access control, visual and audio, to all entrances linked to staff and residents' dwellings.
- Location of the reception/manager's office adjacent to main entrance to enable passive surveillance of arrivals and departures.

- Clear definition of public, semi-private and private space for dwellings.
- Progressive privacy allowing public entry to communal areas with secure 'fob' access to the residential accommodation beyond. (See Section 7. General design principles.)
- Secure landscaped garden areas and courtyards which cannot be accessed from the public realm.
- Where buildings are set back from the site boundary, the area is defined as private and enclosed by a wall, railings, fencing or planting.
- External lighting, providing a well-lit safe environment at night, to all communal spaces (including car parking areas and main entrance).
- The main refuse store accessed directly from the public road.

## Sustainable design

The Royal Borough of Kensington and Chelsea has established a Strategic Objective for respecting environmental limits, with the aim to: *"contribute to the mitigation of, and adaptation to, climate change; significantly reduce carbon dioxide emissions; maintain low and further reduce car use; carefully manage flood risk and waste; protect and attract biodiversity; improve air quality; and reduce and control noise within the borough."*

Whilst housing in general is at risk from a series of environmental factors as highlighted by the Royal Borough of Kensington and Chelsea's *Core Strategy* policies, research and work elsewhere highlights that older people are particularly vulnerable to negative health effects. Older people living in cold, damp, poorly designed homes with low air quality are more at risk from arthritis and rheumatism

symptoms, social isolation, mental health problems, asthma and allergic rhinitis, allergies such as eczema and conjunctivitis, amongst others. The main areas of concern are:

- Climate change (both in terms of environmental and social resilience), especially due to the effect of high temperatures and overheating in buildings.
- Inappropriate air quality, mainly due to detrimental indoor air quality resulting from emissions from materials, inappropriate ventilation and the intake of poor quality external air.
- Excessive noise pollution, resulting from nearby busy roads, building services plants and inappropriate location of sensitive areas within the building.
- Insufficient access to daylight and sunlight, resulting from over shading from nearby buildings and overall building orientation and design.

Older people's housing should be designed and built with these considerations and appropriate measures should be implemented as detailed below.

### **Overheating**

Overheating in housing during the summer months is the combined result of many factors including: climate change, air-tight construction; increased glazing areas and inadequate ventilation.

City centre locations, such as Kensington and Chelsea, are more prone to higher summer temperatures because of the observed Urban Heat Island effect.

*"Many cities in the UK experience the Urban Heat Island effect where temperatures in the city-centre can be much higher than in surrounding*

*rural areas, particularly at night. Differences of as much as 9°C have been recorded in London and 8°C in Manchester compared with local rural areas."* GLA 2006

Windows to housing in urban locations may not be opened, for ventilation, due to concerns about noise, pollution and security. Care should be taken at the design stage to avoid this. However, if it is inappropriate to open dwelling windows an alternative solution for cooling/ventilation must be provided to ensure excess heat can be expelled from the internal space.

There is no legislation relating to maximum temperatures but the CIBSE *Environmental Design Guide A*, 2015, sets out recommended comfort criteria for dwellings in the summer (23 -25°C for living rooms and bedrooms). *Housing Health and Safety Rating System*, 2006, by the Department for Communities and Local Government suggests that the negative impact of overheating. *"Effects on health as temperatures rise include increase in thermal stress, increase in cardio vascular strain and trauma, and increase in strokes. Mortality increases in temperatures over 25 °C."*

Overheating is a particular concern for older residents. Older people are at an increased risk of heat related illness, especially if their health is already deteriorating. They are usually less able to adapt to higher temperatures. In addition older people will often be at home for most of the day and therefore exposed to peak day temperatures within their housing development.

To avoid overheating, buildings should be tested by an appropriate consultant at design stage, to ensure the thermal performance is acceptable. The consultant should use dynamic thermal 3D modelling to determine suitable design approaches in order to effectively reduce the risks of overheating, energy consumption and carbon dioxide emissions whilst continuing to ensure adequate levels of day lighting and ventilation. Alterations to the model such as introducing more thermal mass, dual aspect dwellings, a natural ventilation system, shading, night time cooling, efficient light fittings /equipment, amending window sizes, glazing specification and orientation can be assessed and the design modified if appropriate.

*The London Housing Design Guide section on overheating notes that “development proposals should demonstrate how the design of dwellings will avoid overheating during summer months without reliance on energy intensive mechanical cooling systems.”*

The Royal Borough of Kensington and Chelsea encourages a fabric first approach to overheating. However, it should be noted that if the outside air temperature remains high at night, in a prolonged heat wave, a natural ventilation system may be insufficient to reduce temperatures to an acceptable level for older people. Providing air conditioning to at least one of the communal areas should be implemented to provide a respite area for frail older people during a heat wave.

Correct use of the building by the residents is also important:-

*“Opening windows when it is hotter outside than inside can result in making the overheating problem worse. The advice is to keep windows in direct sunlight shut during the day if temperatures are high, but open them at night if safe to do so.” Public Health England 2014*

If mechanical heat recovery units are specified for dwellings’ correct use of the summer bypass mode is essential along with guidance on how to operate these systems. In addition, if air conditioning is provided, the system can be programmed to automatically shut down when windows are opened.

Overheating, in older people’s housing needs to be assessed and addressed correctly to ensure Kensington and Chelsea residents are protected from extreme heat in the summertime both today and well into the future as the climate is expected to change.

### **Air quality**

Older people tend to spend long periods of time at home, which when combined with frail health may lead to higher risks from poor air quality.

Air quality should be a major consideration when selecting a location and designing a building for older people. Kensington and Chelsea falls within an Air Quality Management Area, therefore careful consideration should be given to the external sources of air pollutants and how these are likely to affect indoor air quality.

Building design, including the location of windows, ventilation intakes and exhausts in relation to external sources of air pollution should be carefully planned and closely aligned with the ventilation, lighting and overheating strategies proposed for the building.

Materials used in the finishes of the development (including for example paints, ceiling tiles, wall coverings, flooring, adhesives and glues) should be selected so that older people are not exposed to substances such as formaldehyde or other volatile organic compounds. Products should be selected in accordance to the maximum allowable emission factors as published in the *Paints European Directive* and in several British Standards.

Consideration should also be given to avoiding space and water heating technologies that may have an adverse effect on the local external air quality. For example, when installing a Combined Heat and Power (CHP) plant or a biomass based combustion solution an air dispersion analysis should be considered. Solutions should be disregarded, unless there is clear evidence that it will not have a detrimental effect on air quality.

### **Daylight and sunlight**

Access to adequate levels of daylight and sunlight is of particular importance to the elderly population, as not only are they the age group with the highest prevalence of sight loss and most affected by the effects of glare but they also spend more time indoors.

As such, building orientation and design is to be considered and key sensitive receptors, on site, are to be identified (e.g. habitable rooms, gardens, etc.). Consideration should be given to reduce over shading, to the sensitive receptors, from nearby buildings. A daylight and sunlight assessment should be undertaken for cases where the site has been identified to be at risk of reduced access to daylight and sunlight.

Good internal daylight conditions are essential with windows to habitable rooms

adequately sized and orientated.

*The London Plan* and BRE's *Site Layout Planning for Daylight and Sunlight* are best practice guides on the subject, which should be consulted and followed.

### **Noise pollution**

As people grow older, hearing is the first sense to be impaired. The ability to understand a normal conversation can be further reduced by high levels of background noise. Noise is therefore an important environmental issue for older people.

Sites for older people's housing should be selected, where possible, away from major roads and other sources of high external noise.

Internally, it is important to identify noise sensitive areas, like bedrooms, and carefully plan their location. For example, bedrooms should ideally be located next to and above other bedrooms. Noise sensitive rooms should not be positioned adjoining noisy communal spaces (like a restaurant or entrance foyer). Building services, such as plant rooms and lifts, must be located away from sensitive areas to avoid disturbing scheme's residents and occupants of neighbouring properties. Acoustic insulation should be introduced, where applicable, to reduce impact and airborne noise.

Detailed guidance should be sought from the *Building Regulations (AD Part E)* and should follow the guidance provided within the *London Plan (Sustainable Design and Construction, Supplementary Planning Guidance)*. Additionally an acoustician should be consulted and their advice implemented.

### **Climate change resilience (both in terms of environmental and social resilience)**

Climate change poses one of the greatest risks facing society today; there is a compelling need to adapt both new and existing buildings to enable them to respond to global changes in temperature and extreme weather events.

Climate change will have profound social and health implications for the vulnerable in society. There will be implications on the way buildings are designed as the complexities of balancing a reduction in energy consumption, with the provision of natural daylight, optimisation of ventilation and mitigation of overheating becomes increasingly difficult to deliver.

### **Energy performance**

The energy strategy for both new build and major refurbishment residential projects should follow the targets and guidance set out in *Building Regulations (AD Part L)* and the *London Plan (Sustainable Design and Construction, Supplementary Planning Guidance)*. When selecting an energy strategy and suitable low or zero carbon technologies, careful consideration should be given to the end user of the building(s). This is particularly relevant for older people as ease of use, accessibility of controls, simplicity and indoor air quality should be key considerations in the decision making process.

### **Local climate**

Buildings and external areas are to be designed to adapt to change (i.e. enable resilience). The design process should be informed with thermal model information, micro-climate information and design advice on climate change. Consideration should be given to the building form, proposed green and blue local infrastructure, existing and

subsequent micro-climate, the albedo effect and the heat island effect to limit the risks to overheating. *The London Plan* provides detailed guidance on how to adapt to climate change, tackle increased temperatures and drought. Additional guidance on overheating, carbon abatement and climate change can be found, and should be considered, at the Zero Carbon Hub, the Joseph Rowntree Foundation and the Innovate UK websites.

### **Social resilience**

Environmental stressors such as extreme weather can irritate, annoy, and be a general source of discomfort for older people. Vulnerable elderly residents will be affected by the impacts of climate change. This includes increased fuel poverty, health problems, social isolation and reduced access to external spaces.

A neighbourhood that is supportive is required; this means that careful consideration should be given to how the development sits and connects to the existing social fabric and local community. Measures that should be considered when designing and planning extra care and retirement housing developments are:

- Creation of agreeable indoor communal spaces (adequately warmed and cooled), which could be open to the wider community strengthening connections
- Creation of sheltered external communal spaces, with consideration to the creation of micro-climates using adequate vegetation for enhanced health benefits
- Engaging residents, where possible, in the design of communal indoor and outdoor spaces through research and resident engagement initiatives.



## Hot water/heating

### **Injury from hot water or heating systems**

Vulnerable older people with limited mobility, reduced heat sensitivity or dementia are particularly at risk of injury from hot water or heating systems. Controls must be provided to ensure that hot water is less than 44°C at outlets in accommodation accessed by older people. If radiators and towel rails are required they should be specified with a low surface temperature so that the maximum accessible surface temperature does not exceed 43°C.

### **Underfloor heating**

Underfloor heating is often specified for older people's housing to avoid dangers from hot surfaces and provide unrestricted wall space. If underfloor heating is specified, adequate space must be provided within the dwelling for heating manifolds and controls.

### **Minimum temperature thresholds**

During the winter months, heating controls can be set to provide a minimum temperature within dwellings. This protects older people from cold weather. Cold weather is associated with an increase in deaths and in addition has significant impact on morbidity.

*Minimum Home Temperature Thresholds for Health in Winter*, published October 2014, by Public Health England recommends minimum temperature thresholds.

*“Daytime - 18°C (65F) threshold is particularly important for people over 65yrs or with pre-existing medical conditions. Having temperatures slightly above this threshold may be beneficial for health.*

*Overnight - 18°C (65F) threshold may be*

*beneficial to protect the health of those over 65 or with pre-existing medical conditions. They should continue to use sufficient bedding, clothing and thermal blankets or heating aids as appropriate.”*

## Interior design

Effective interiors can dramatically influence the success of a development. Depending on the size of the housing scheme, it is often advantageous to appoint an experienced interior design consultant. A considered scheme will improve the development's market appeal critical in both the public and private sectors. It is essential that sufficient budget is allowed to provide an attractive, non-institutional, interior design.

### **Furniture, fixtures and equipment (FF&E)**

It is important that all furniture, fixtures and equipment have a domestic, non-institutional appearance.

Furniture should have rounded edges and comply with Fire Safety Regulations.

Within communal areas different seating options are required to give residents a choice of seat suitable to their mobility needs. For older people seat heights must be a minimum of 450mm above the finish floor level. Chairs should be fitted with arm rests. Sofas must have legs (rather than solid construction below seat height) to allow a seated occupant to position their feet slightly back before standing. Consider providing some chairs to suit bariatric residents.

A light reflectance value contrast of at least 30 points is required between furniture/fixtures and their surroundings. Contrast chairs and sofas to their environment possibly by colour outlining; for example colour contrast the piping on an arm chair. Contrast curtains to their background perhaps by introducing a colour strip to their leading edge.

Sharp shadows created by Venetian blinds sometimes cause confusion in people with dementia. Soft sheer blinds are more appropriate in older people's housing.

Appropriate fabrics that are impervious, antibacterial and flame-retardant should be specified. Vinyl, faux leather, is often used in older people's housing.

## Lighting design

Communal areas must be well lit and automated to standby when not needed. High levels of light, appropriate fittings and good control of light are key factors to consider when designing the lighting within an environment where older people will be residing.

Lighting design and choice of luminaires is a key element of the interior design and should be carried out in consultation with the architect, interior designer and client. Lighting design should be domestic and offer alternative settings for mood lighting.

Specify domestic style light fittings that will reduce glare and which generate a diffused and even light within a space.

Provide directional or task lighting in areas such as offices and activity rooms. Kitchens should all have pelmet lighting above the worktops.

Locate plug sockets where extra directional light sources are required; this is to avoid unnecessary flexes, which are a safety hazard.

Avoid repetitive ceiling mounted fittings in the corridors and communal lounges as these can cause glare and look institutional (especially oversized bulkhead saucer shaped fittings which are to be avoided). Balance ceiling mounted fittings with wall mounted fittings, to give a more dispersed source of light and provide switching which can provide different lighting moods.

External lighting proposals should consider enhancing the external space during the hours of darkness particularly when viewed from flats and communal spaces.

## Fire protection and means of escape

Consultation with a building control officer/ approved inspector is essential in the early design stages.

Extra care housing is, typically, classified as 'group 1 residential'. On the basis that the building contains apartments for individual occupation where the residents have tenancy agreements or are leaseholders (including care provision). The use of the term 'extra care housing' can sometimes cause confusion so it needs to be stressed that this building is not an institution in terms of classification i.e. not 'group 2 residential (institutional)'.

Retirement housing (sheltered housing) is classified as 'group 1 residential'.

The level of fire precautions provided within older people's housing should be determined following an assessment of both the level of need of the intended residents and the design features of the building, including its size, height and layout - 'The Risk Assessment'.

Fire safety engineering design by a specialist consultant or company can provide an alternative approach to the requirements set out in the *Building Regulations (AD part B)*. By installing a sprinkler system, for example, it is possible to reduce the amount of passive safety features such as door closers or increase maximum travel distances and accommodate atria spaces. Any such proposals would need to be discussed and agreed at an early stage.

In addition to complying with the *Building Regulations (AD part B)* on means of escape (or adopting an agreed fire engineering strategy: see above), designers must have consideration for the owner's obligations under the *Regulatory Reform (Fire Safety) Order 2005*, which places a duty on a building owner to carry out documented risk assessments on the building and its occupants in the event of fire, and devise specific fire safety measures to suit the circumstances. Compliance with this legislation is the responsibility of a 'Responsible Person' within the owner's organisation, and he/she must maintain the risk assessments and safety strategy under review at all times. It must be available for inspection by the London Fire Brigade on request.

Liaison between client and the design team at early design stage on the likely contents of the risk assessments and safety strategy is essential. If specialist advice is envisaged for

the purpose of assisting the Responsible Person in their duties, then that specialist should ideally be party to the design process.

Fire precautions and means of escape may include the following design measures:-

- The alarm system should have both audible and visual signals to alert those who are hard of hearing or have visual impairment. In individual dwellings residents who have hearing impairments could have a warning light (and a vibrating pad beneath their pillow) to indicate that the fire alarm has been activated. Depending on the layout of the dwelling the warning light can be fitted in the hall only if it will be visible from all the other rooms.
- Fit free-swing door closers to all fire doors operated by residents. Fire doors which are required by the building regulations to be fitted with self-closing devices are often difficult or impossible to open by older people due to the resistance of the closer. Doors such as these are often propped open by residents for this reason and therefore are ineffective in the case of a fire. Free-swing door closers should therefore be fitted. These closers are linked to the fire alarm system and will close the door in an event of a fire. At other times the door can be opened and closed freely. Residents' dwelling entrance doors and doors to communal spaces are particularly critical in this regard.
- Fire doors across corridors are required at regular intervals and to divide 'dead-end' sections of corridor from the main circulation route. These doors should be designed as 'hold-open', linked to the fire alarm system. The use of magnetic hold-open devices or hold-open type

- door closers is acceptable. Both door leaves should be fitted with devices in order to maximise the clear opening.
- Smoke and heat detectors are required in specified locations. Fit heat detectors in kitchens as burnt toast might trigger smoke detectors when there is no danger of a fire. (Within extra care housing kitchen heat detectors should be linked with the telecare system, in addition to the fire alarm, allowing staff to investigate and easily reset if appropriate.)
  - Mobility scooters/buggies must not be parked or charged in communal corridors. It is essential that mobility scooters are parked in designated stores with a fire resisting enclosure.
  - Stairs and corridors to provide refuge areas if required. (A 'stay put' fire strategy is often adopted in older people's housing negating the need for refuges.)
  - Furnished corridor seating areas should provide a minimum fire load and must be agreed by a fire engineer and the London Fire Brigade.
  - Extra care housing typically operates a stay put fire strategy for older people. Where older people are potentially incapable of independent evacuation, a fire protected area (e.g. cross corridor doors) should be accessible within 7.5m.

