Essex County Council
Adult Social Care

Making the difference every day

Extra Care Design Guide

2023

Contents

1 Introduction

1.1 Introduction to the Extra Care design guide

Under the Care Act 2014 Essex County Council (ECC) has a duty to facilitate and shape a diverse, sustainable and quality care market.

As part of this market shaping duty ECC seeks to stimulate a diverse range of care and support services to meet needs and ensure that people, and their carers can achieve things that matter to them. Extra Care Housing is a small but important contribution to this.

More information in relation to ECC's market shaping strategy and position statements can be found through the following link:

➔ **Essex Extra Care Market Position Statement (MPS)**

This design guide is intended for those commissioning, designing, reviewing, and assessing new Extra Care projects. It is one of a suite of guidance documents for housing people with specialist needs[1].

In providing new housing, care, and support to vulnerable people, Essex County Council's overriding aim is to help ensure that people get the right support at the right time to maintain their independence and quality of life.

Well-designed new homes can create an enabling environment which promotes and fosters independence, good health, and wellbeing.

The aim of the design guide

This document provides guidance on the design of Extra Care housing for people with varying levels of need, who want to live in a home of their own which provides specialist accommodation with on-site care and support 24 hours a day, seven days a week, that is integrated into the general community. This guide does not cover residential care and nursing home design which have different requirements to housing.

This guide describes the characteristics of the residents of Extra Care housing and the design considerations that should be considered. Using the design guide will ensure that new homes for people with care and support needs in Essex will achieve excellence in quality and desirability and that we have the right homes to enable people to live independently for as long as possible.

Checklists and best practice

At the end of this guide, we have provided a 'checklist' of design elements and facilities that we would expect to see at an Extra Care scheme. Given the pressure on build costs and the need to keep accommodation affordable for residents, we have indicated in the checklist our expectations of the facilities and space that must be provided at an Extra Care scheme and what would be considered nice to have but not essential. **See Appendix 1 - Schedule of accommodation (Must have/ nice to have)**.

We hope this will enable developers to be innovative, respond to site constraints and to acknowledge that the affordability of rent and service charges is a key driver in whether a prospective resident will move into a scheme. We will also use these standards when we respond to planning applications for private developments where Essex County Council will not be commissioning the 24/7 on-site care and support service.

1 Design Guidance – Mental Health Recovery, Design Guidance – Learning Disability, Design Guide – Supported Living Accommodation for Adults with Complex Needs

1.2 Co-production

Healthwatch were commissioned in July 2019 to undertake engagement with Adults, Adult's family and friends, Landlord staff and care staff within Extra Care schemes in Essex.

The Healthwatch engagement project identified 11 recommendations that are relevant to the design of the Extra Care schemes which have been incorporated into this design guide where they do not impact on the viability of a scheme.

Healthwatch recommendations

Sense of community

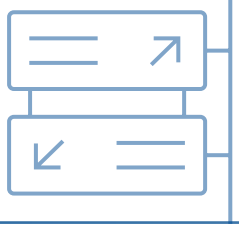
1. Consider future schemes of no more than 60 flats.
2. Include facilities such as hairdressing and wellbeing spaces more widely at schemes.
3. Provider facilitates the community use of spaces.

Environment

4. Ensure coproduction is a core part of the design phase.
5. Incorporate a large lounge which could also be used as the main hub for activities.
6. Consider the location and local infrastructure of new schemes for transport and accessing family and friends.
7. Install perspex/plastic skirting or protection for the base of the walls.
8. Establish rooms for sleep-in staff on the ground floor where possible, near the front of the building.
9. Establish dedicated parking spaces for visiting health services.
10. Consider the installation of two lifts, one of which is a stretcher lift.

Communication

11. Include easy read/varied language signage.



What is Extra Care?

2.1 What is Extra Care?

Extra Care is known by different names such as Independent Living, with no nationally acknowledged set of guidelines. In Essex, we prefer to use the term Extra Care housing.

Our vision is that Extra Care is attractive, self-contained housing that is designed to enable people to retain their independence in their own home for as long as possible. That means having the right sort of homes to make that happen. It should be designed inclusively, providing a flexible home for life that enables individuals to live independently and to be supported as their needs change. There should be 24/7 care and support on-site to ensure that planned care within and outside of normal working hours can be delivered, as well as emergencies responded to.

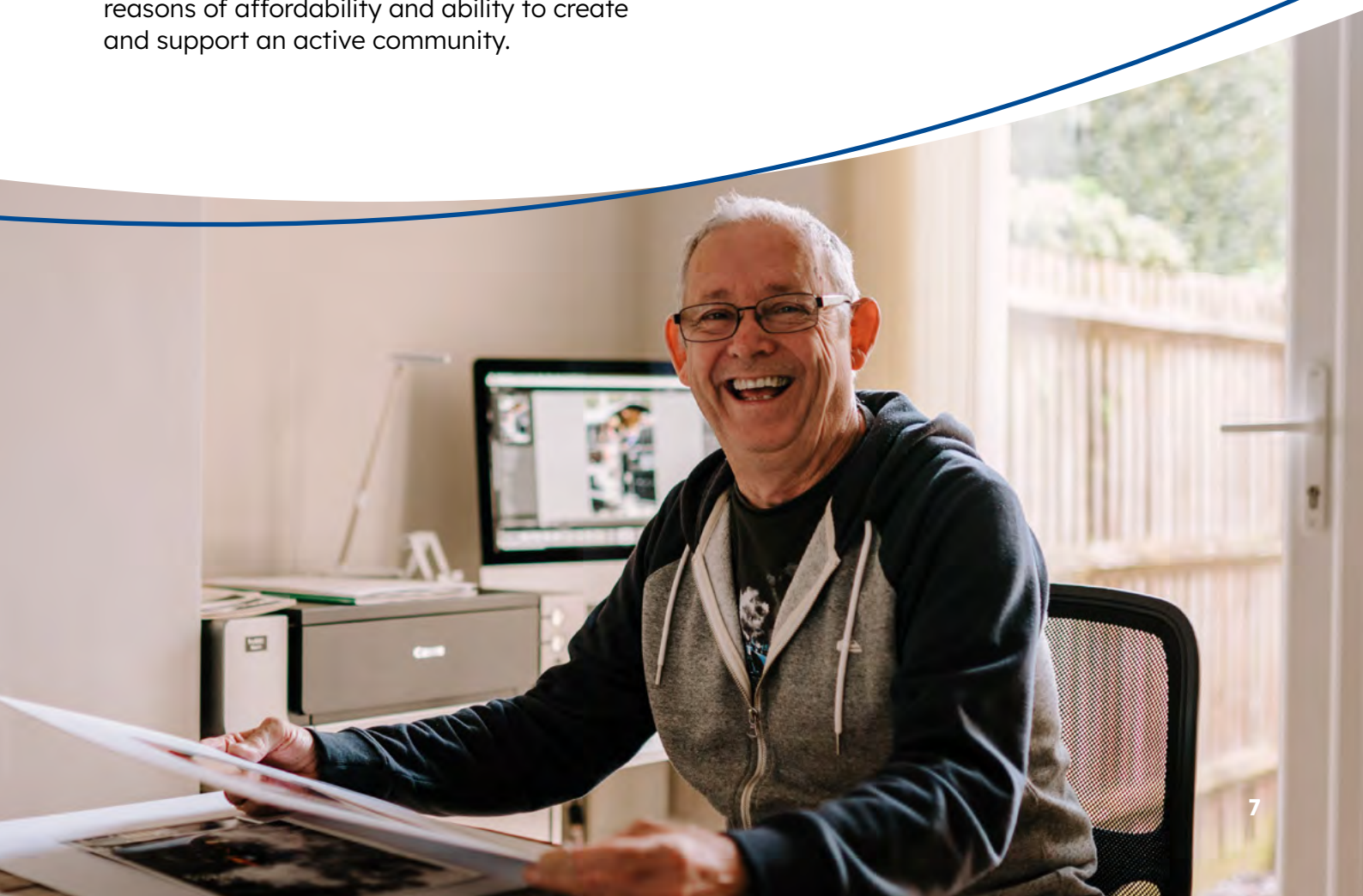
In Essex, the size and location of Extra Care housing will be determined by site availability and local demand. Our preference is for schemes to be a minimum of 60 units for reasons of affordability and ability to create and support an active community.

We expect Extra Care housing to enable and enhance the independence of residents by incorporating features which can support people with a range of needs including:

- **mobility issues**
- **physical frailty**
- **sensory impairments**
- **cognitive impairment, such as Dementia**
- **loneliness**

Further information on designing for residents with a variety of care and support needs can be found at

→ **HousingLIN Design Principles For Extra Care Housing (3rd Edition) (2020).**



2.2 Best practice design aims and principles

We want all Extra Care housing in Essex to follow best practice design principles wherever possible.

Below we provide a summary of those which are considered essential to the design and development of Extra Care housing, with more detail later in the guide. We have incorporated national best practice, including **HAPPI** recommendations, and applied them to Essex.

Inclusive design

Homes designed to provide residents with 'a home for life'. Barrier-free, spacious, flexible, and easily adaptable to meet the needs of residents as they change; intending to create an enabling environment which alleviates the impact of physical disability, cognitive and sensory impairment.

Aspirational internal environment

Maximum natural daylight and ventilation provided through plentiful glazing and dual aspect apartments where possible. Generous space standards should be provided; internal corridors should incorporate views out, natural light and ventilation.

Care Ready

Extra Care housing provides 24/7 on-site support. Accommodation should be designed to facilitate delivery of care and support and the installation of smart technology as and when required. The outcome should be to maintain the independence, safety, and security of the residents.

Choice

Extra Care housing should offer choice. This includes tenure options which reflect the economic circumstances of the prospective residents; an appropriate mix of one and two-bedroom apartments which meets local demand; a choice between privacy and social engagement through on-site activities and meeting spaces.

Appearance

Attractive internal and external accommodation, achieved through quality of materials, landscape, location and the range of on-site facilities provided. Contemporary and contextual design that is non-institutional and integrates the development into its surroundings.

Safety and security

The internal environment provides a secure space through progressive privacy and security arrangements particularly where schemes have shared facilities with the local community. Location, accessibility, topography, and crime levels should be considered. Consideration should be given to how social distancing and infection control will be managed through design. Further information on the definition of progressive privacy can be found in **section 3.7 Safety and security**.

Energy efficiency

Design should incorporate energy efficiency measures along with mitigation of the risk of overheating.

External amenity

Secure, accessible, and attractive amenity areas for outdoor living. Both communal gardens, and a private space for residents, such as a balcony or terrace with the aim to promote social connectivity' should form part of the design.

Location and connectivity

Schemes should be located close to health, retail, leisure, and entertainment facilities and/or good links to public transport. Appropriate levels of car parking that address the site location, resident profile, tenure mix and are compliant with Local Planning Policy.

Community facilities and social opportunity

Offer a range of communal facilities to residents and the local community, appropriate to the specific development, to promote social engagement, physical activity and the health and wellbeing of residents and a connection to the wider community.

2.3 Community integration

One of the principal lessons from the HAPPI report was the need to ensure a holistic and integrated approach to housing and care for older people. Locating a scheme at the heart of residential communities fosters dignity and greater independence.

Integration of the building within new or existing residential areas should consider the surrounding community and facilities that are easily accessible so that these are not unnecessarily duplicated. If the scheme offers new facilities to the area thought should be given to how these could be made available to the wider community to improve financial viability.

Extra Care housing has the potential to become a focal point for a community for example through the provision of a café.

3 Key site and design considerations

3.1 Development of the brief and the design

The development of the brief and design for a scheme should use the guidance in this document and then tailored to the circumstances of the site in terms of its location, local facilities, context, size, constraints, and particular features. Brief and design development should be regarded as an iterative process.

The designer should work closely with the commissioners, care providers and other stakeholders in understanding the needs of the user group and the proposed care and support strategy.

3.2 Site location

Site selection

Sites considered for Extra Care housing should be:

- ✓ Served well by public transport.
- ✓ Accessible - preferably a relatively flat site with the accessibility of the neighbouring area considered.
- ✓ Close or easy access to local facilities - health, retail, leisure, and entertainment facilities and/or good links to public transport which would facilitate access to these facilities.

Consideration should also be given to a site's immediate context, the surrounding development, and the current uses, including noise.

The inclusion of Extra Care housing within masterplans for new towns, urban extensions, urban regeneration programmes and estate regeneration should be encouraged as suitable locations can be agreed from the outset.

Vehicular access

Sites considered for Extra Care housing Sites which front onto busy public highways or other potentially noisy locations would be best avoided unless suitable mitigation measures can be ensured. Special attention should be given to access and egress from the site.

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

Sloping sites

Steeply sloping sites should be avoided unless appropriate level access arrangements can be incorporated to achieve level-access through careful design consideration.

Developers should refer to the Essex Design Guide. The guide includes a series of design principles that provide an insight into how best to support people to live in adaptable homes as they age. However, these principles should not be seen as being of benefit exclusively to the ageing population. Rather, they represent opportunities to positively impact the lives of people with a range of health conditions, encouraging and enabling people to live independently by:

- ensuring homes and communities are flexibly designed and can adapt to user needs
- providing options for self-care and self-support through digital connectivity
- supporting general health and wellbeing through the delivery of high-quality, considered design.

Relationship to the community

One of the key selection criteria for a site should be its location within a residential community, to enable it to be integrated as far as possible. Considerations in terms of integration will include the scale of the development; the design of the development both aesthetically and in terms of layout, relationship to the street, massing, and bulk of the building. In all respects, it should be contextual and seek to blend in with the surrounding character and scale of the residential community.

Site context

The residential density of housing for people with care and support needs will be subject to Essex County Council and local authority planning guidelines and should be appropriate for its context. If designing to a high density 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.

Subject to the suitability for the location, there is no restriction on the number of storeys that an extra care scheme can have, subject to the requirements of the local planning authority.

3.3 Scale and appearance

The scale, massing and visual impact of the development must be carefully considered to respond to the local area and should not identify itself as housing for older people and adults with disabilities.

60+

Number of units

To ensure that Extra Care housing can offer the communal facilities needed to support residents and ensure vibrant communities, schemes should provide a minimum of 60 apartments. Essex County Council anticipates that Extra Care housing will range from 60 to 100 apartments.

Apartment mix

In Essex, the demand for Extra Care housing is highest for one-bedroom properties, with some demand for two-bedroom properties.

An acceptable apartment mix is 80% one-bedroom units and 20% two-bedroom units. We welcome discussions with developer/ providers on the suitable mix of one- and two-bedroom apartments, on a scheme-by-scheme basis. The proportion of two-bedroom apartments can be increased to reflect the differences in demand for affordable home ownership tenures as required.

Tenure mix

ECC encourages mixed tenure within Extra Care housing as a reflection of the tenure provision within the local population. At present, most of the Extra Care housing with an Essex County Council contract for the provision of the on-site care and support service in Essex are social or affordable rented apartments. Demand, market conditions and planning policy requirements at the time of development will shape the tenure mix.

3.4 Transport and parking provision

Car parking

Parking standards will need to be agreed with the local planning authority. The level of parking required can vary depending on the tenure mix at the scheme; site location and transport links; provision of a travel plan to mitigate car ownership; staff and visitor numbers.

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

Reference should be made to

→ **Essex County Council's Parking Standards: Design and Good Practice (Sept 2009)**

document or any subsequent good practice document.

Mobility scooter storage and parking

Mobility scooter parking and charging points should be located within buildings and not externally, to allow people to access their scooter without being exposed to adverse weather conditions. The store should open directly to the outside and should also be accessible for residents from inside the scheme. An external door should have all the same security provisions as the main entrance door. The external doors should be outward opening and fitted with an automatic opening system operated by a fob.

Provision should be made at the scooter store for storage of internal wheelchairs or walking aids when the scooter is in use. Allow for a minimum of one space per five residents dwellings; there should be space at the side of each parking space for residents to dismount or transfer to a wheelchair. Sufficient additional space should be considered to allow for increased demand as the level of ownership may increase.

3.5 Communal areas

Relationship to the community and service on site

The provision of services on site will vary in response to the location of the site. Sharing communal facilities with the wider community should be considered along with facilities that could be operated commercially to minimise revenue funding requirements. If communal facilities are to be shared with the wider community, they should be visible to passers-by and have external signage. This will promote these spaces as belonging to everyone.

Visitors

The entrance should be clear and welcoming. The building layout should be simple to understand for wayfinding. It should be obvious which spaces are public, semi-private, or private.

Staff/care providers

Staff or visiting care providers require easy access to all areas of the building. Refer to the Equality Act 2010 as to whether the staff facilities need to be wheelchair accessible. Care should be provided discretely, for example 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.

Internal layout: Separation of residential and ancillary functions

There should be clear separation between the residents' areas (both residential and communal areas) and the ancillary and service functions (kitchen and related storage, main laundry, plant rooms, staff areas) with the administrative functions at the interface between the two.

Crossovers should be avoided if possible; for example, residents should not need to access ancillary/service areas and service staff should not need to access residents' areas in conducting back of house activities.

Front door/back door

The building should be laid out to ensure a clear separation between 'front' door functions (arrival of residents and visitors) and 'back' door functions (servicing including deliveries and/or refuse collection) with crossovers avoided if possible.

Flexibility/futureproofing

The issue of flexibility should be considered both in terms of current use and change of use in the future. Communal facilities should be considered as multi-functional spaces rather than designated for specific uses. A scheme should be designed to offer Wi-Fi in all communal spaces and have the right digital infrastructure to promote digital inclusion.

3.6 Specialist design criteria

The design of Extra Care housing needs to cater for a wide range of needs as well as being adaptable as residents needs change.

Inclusive design

Inclusive design meets the needs of a wide a range of physical and learning disabilities, cognitive impairment, such as Dementia, and sensory impairments. For further guidance relating to design aspects aimed at supporting adults with care and support needs see

➔ **HousingLIN Design Principles For Extra Care Housing (3rd Edition) (2020).**

Flexible and adaptable

Inclusively designed housing is more flexible in terms of meeting the needs of any user group and more adaptable to accommodate people as their needs change.

ECC expects that all new schemes will include apartments that are compliant with Building Regulations Part M4 (3). Our expectation is that a minimum of 5% of the total number of apartments (or in accordance with the LPA's Local Plan, whichever is greater) are provided. Developer/providers should have regard to the guidance on approach routes to communal entrances contained in Part M4 (3) of the Building Regulations where wheelchair housing is provided. Details of PartM4 (3) can be found in **Appendix 2 – Building Regulations 2015 Part M4 (2) and (3) requirements**.

3.7 Safety and security

The design and management of Extra Care 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 transition from public to private areas should be clearly defined and appropriate security/access measures put in place.

Progressive security/privacy

The term 'progressive privacy' describes the zoning of a scheme according to the degree of access permitted to non-residents to ensure the privacy and security of the residents. The zoning could be deemed as:

1. The private zone: referring to the dwelling itself, to which only the resident and invited guests have access.
2. The semi-private zone: this comprises those circulation areas and communal spaces, for example, assisted bathroom or residents-only lounge; that only residents and their invited guests may use.
3. The semi-public zone: this 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.
4. In some circumstances a fourth category - a public zone - may exist; for example, if the scheme incorporates a drop-in centre which the public could access without restriction

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

Visitors

The progression from public to private zones should apply the appropriate security measures. Both formal and informal spaces used by visitors, families and the wider community should be considered.

Defensible space

The layout and positioning of the building on the site can have a significant impact in terms of providing a basis for good security.

Residents should perceive the outside areas of the scheme as safe and secure. Areas adjacent and open to the street which are intended for residents to walk, sit or use (such as gardens) should be clearly secured by appropriate fencing or railings. External lighting can provide a well-lit safe environment at night including car parking areas and main entrance

Staff offices overlooking or flanking the main entrance will provide an additional level of surveillance both in terms of those approaching the entrance and those leaving the building.

Electronic security

Extra Care housing should incorporate the installation of smart technologies. Both hardwired and digital technologies play a significant role in the safety and security of residents.

3.8 Fire safety in Extra Care

The design of Extra Care housing should be compliant with the Regulatory Reform (Fire Safety) Order 2005, the Building Safety Act 2022, the Fire Safety Act 2021, the Fire Safety (England) Regulations 2022 and any updated legislation, building regulations or guidance.

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 local fire service at the earliest opportunity.

Additional guidance is provided in the

→ **National Fire Chiefs Councils Specialised Housing Guidance (2017)**.

It introduces guidance on the various responsibilities for fire safety and advocates a 'person centred' approach to identifying fire risks to vulnerable residents in sheltered, Extra Care and specialised housing.

Further information can be found within the **4.9 Fire protection and means of escape section** of this document.

Appendices

Appendix 1 - Schedule of accommodation (Must have/nice to have)

Must have	Nice to have	Accommodation	Specification	Notes
One-bedroom apartments – a minimum of 80%[1]				
✓		One-bed, two-person apartments	Minimum of 54m²	To exceed Building Regulations (AD part M) – Category M4(2).
Two-bedroom apartments – a maximum of 20%[2]				
✓		Two-bed, three-person apartments	Minimum of 68m²	To exceed Building Regulations (AD part M) – Category M4(2).
Communal facilities				
✓		Mobility Scooter		One mobility scooter space per five apartments. The bicycle store is often included within this space.
✓		Communal Lounge	1.5m² per apartment. Maximum of 110m², plus store of 6m²	To connect directly with the communal gardens. Storage may also be provided in this area.
✓		Dining Area Café/ Restaurant	1.5m² per apartment. Maximum of 110m²	Served by a catering kitchen.
✓		Communal WCs	Minimum of two WC's. 4m²	Located close to the entrance and lounge. Additional WCs are required if the dining area is open to the public.
✓		Guest room with en-suite shower	24m²	Should be wheelchair accessible.
✓		Activity and/or quiet rooms	Minimum of 18m²	Storage should be provided in this area. As a minimum, a flexible single space is required.
	✓	Residents' laundry Room	25m²	Required only if a space is not provided for a washing machine in each apartment (preferable for infection control). Access to an external drying area is desirable.

1 We welcome discussions with developer/providers on the suitable mix of one- and two-bedroom apartments, on a scheme-by-scheme basis. The proportion of two-bedroom apartments can be increased to reflect the differences in demand for affordable home ownership tenures as required.

2 We welcome discussions with developer/providers on the suitable mix of one- and two-bedroom apartments, on a scheme-by-scheme basis. The proportion of two-bedroom apartments can be increased to reflect the differences in demand for affordable home ownership tenures as required.

Must have	Nice to have	Accommodation	Specification	Notes
✓		Assisted bathroom	18m²	Baths should have an integrated powered seat with traverse facility to allow for easy entrance/exit (either independently or with support) of the bath, without having to wait for the water to drain. Finishes and fitting should remain as domestic as possible. A wheelchair accessible toilet cubicle with its own door should be accessible directly from the bathroom. The assisted bathroom should not be located in high traffic areas.
	✓	Residents' Tea Kitchen	8m²	Adjacent to the communal lounge. Can be incorporated into the communal lounge.
✓		Hairdressing and/or therapy room and/or consulting room	Minimum of 20m²	As a minimum, one flexible space should be provided which could be used as a hairdresser and/or therapy and/or consulting space.
	✓	Informal Seating Areas	3m²	Number of seating areas is dependent on the size and layout of the development. A seating area is required adjacent to the main entrance.
Ancillary/back of house				
✓		Reception/Managers Office	12 to 15m²	Close to the main entrance of the scheme. Consider ventilation and cooling of the room due to computer use.
✓		Staff/Care Office	18m²	Size is dependent on anticipated number of employees working during one shift. Care team may require a separate office from the housing management team. Consider ventilation and cooling in the room due to computer use, monitoring (telecare) and fire alarm equipment.
✓		Staff Change	20m²	To include lockers, staff WC and shower.
✓		Catering Kitchen	Minimum of 55 m²	Size of kitchen and storage required will depend on catering solution. Specialist advice on layout to be sought.
✓		Main Refuse and Recycling Store		Refuse strategy to be agreed with the local authority.
✓		Cleaners' Storage	1m² per 10 apartments. Maximum of 8m²	One for each floor or section.
✓		Lifts	Minimum of two lifts	One 13-person stretcher lift and one 8-person lift, as a minimum. Consider the location of the lifts to ensure residents do not have to walk long distances to use the lifts.

Must have	Nice to have	Accommodation	Specification	Notes
✓		Plant Room/ Service Risers/ Electrical Intake/ Meter room		Size based on environment strategy, water storage and possible individual metering.
✓		Holding Refuse Stores	May be required on each floor	Refuse strategy to be agreed with the local authority. Internal stores must have an accessible lobby.
✓		Laundry only for use by staff to carry out care tasks	25m²	To include one sluice machine. If CQC are registering the building, provide a segregated in-and-out arrangement.
	✓	Garden Store	5 to 10m²	

Appendix 2 – Building Regulations 2015 Part M4 (2) and (3) requirements

This appendix is a summary of the requirements that may apply to an extra care scheme where the individual dwellings are one- or two-bedroom apartments, where the accommodation within each individual apartment is on one floor only.

This appendix should be used a guide only and is not an exhaustive list of all requirements in the Approved Document M. Please refer to the **Building Regulations 2015 Approved Document M** for full details of the Part M(4) requirements.

Definitions and references

Part M4 Category 2: Accessible and adaptable dwellings - Part M4(2):

1. Reasonable provision must be made for people to:
   a. Gain access to; and
   b. Use the dwelling and its facilities
2. The provision must be sufficient to:
   a. Meet the need of occupants with differing needs, including some older or disables people; and
   b. To allow adaptation of the dwelling to meet the changing needs of occupants over time

Part M4 Category 3: Wheelchair user dwellings - Part M4(3)

1. Reasonable provision must be made for people to:
   c. Gain access to; and
   d. Use the dwelling and its facilities
2. The provision must be sufficient to:
   c. Allow simple adaptation of the dwelling to meet the need of occupants who use wheelchairs; or
   d. Meet the needs of occupants who use wheelchairs

Wheelchair adaptable and wheelchair accessible

- Part M4 (3)(2)(a) applies to wheelchair adaptable dwellings.
- Part M4 (3)(2)(b) applies to wheelchair accessible dwellings.
- All Part M4 (3) requirements in this appendix apply to both wheelchair accessible and wheelchair adaptable, unless specified

Approach	
Approach routes: to individual apartments within the building containing the apartments, and between the apartments and the point or points at which an occupant or visitor would expect to get in and out of a car	
M4 (2)	Communal approach routes to have a minimum clear width of 1200mm or 1050mm where there are localised obstructions.
	Ramps between 1:12 and 1:20.
M4 (2) **M4 (3)**	Level access entrances to all private apartments.
	Landings 1200mm long at the head, intermediate and base of ramps.
	Where there is a communal ramped approach route with a rise of 300mm or more, an additional stepped route should also be provided.
M4 (3)	Communal approach routes to have a minimum clear width of 1200mm.
	Ramps between 1:15 and 1:20.
	Dusk to dawn timer or motion detection lighting on the approach route (curtilage of the site to the entrance).
Parking	
M4 (2)	Parking bays 2.4m wide x 4.8m long. Must be capable of being increased to 3.3m wide.
	Communal parking to flats to have at least one bay (to above dimensions) provided close to the shared entrance. Minimum clear access zone of 900mm to one side and a dropped kerb.
	Parking bay must be level or, where unavoidable, gently sloping (1:60 to 1:20).
M4 (2) **M4 (3)**	Surface finishes to be firm and even with no loose laid materials.
M4 (3)	Parking bays 2.4m wide x 4.8m long. Communal parking areas must provide a clear access zone of 1200mm to both sides of the parking bay. Side access zones may be shared by two bays.
	Parking space must have 2200mm clear headroom.
	Parking bay must be level (Not exceeding 1:60).
Communal entrances	
M4 (2)	The landing area is covered to a minimum of 900mm wide x 600mm deep.
M4 (2) **M4 (3)**	Dusk to dawn timer or motion detection lighting adjacent to entrance.
	Entrance door minimum 850mm clear opening.
	Level landing area of a minimum of 1500mm x 1500mm outside the entrance.
	The threshold is an accessible threshold.
	Where there is a porch or lobby there must be 1500mm clear space between door swings.
M4 (3)	The landing area is covered to a minimum of 1200mm x 1200mm.
	Clear turning circle inside the entrance of 1500mm diameter when the door is closed.
Communal lifts and stairs	
M4 (2) **M4 (3)**	The lift care in a minimum of 1000mm wide x 1400mm deep.
	Doors have a minimum clear opening width of 800mm.
	A clear landing, a minimum of 1500mm x 1500mm directly in front of the lift at every floor.

Private entrances and spaces within, and connected to, the apartments	
Private entrance including external doors to a private outdoor space, garden, balcony, or roof terrace. As the principal communal entrance, with the addition of:	
M4 (3)	A minimum 150mm nib provided to the hinge side of the door, to allow for a letter box cage.
	Door entry controls where provided, are mounted 900 to 1000mm above finished floor level.
Circulation	
M4 (2)	A minimum of 900mm unobstructed corridor widths.
	Living area to be included on entrance storey (living room, dining room or kitchen/dining).
	1200mm minimum clear space in front of kitchen units and appliances.
	850mm maximum to glazing of principal window in living room.
M4 (2) **M4 (3)**	Step free to all rooms within entrance storey.
	Stairs to have 850mm clear width.
M4 (3)	A minimum of 1050mm unobstructed corridor widths. Where approach to a door is not head on, the corridor to extend to 1200mm wide.
	850mm clear opening to doors throughout.
Wheelchair storage and transfer space	
M4 (3)	1100mm deep x 1700mm wide space on the entrance storey, as close to principal entrance as possible.
	1200mm accessible space required beyond the storage area.
	Power socket required in storage area.
	Wheelchair adaptable: • The storage and transfer space may be used for another purpose such as general storage, with doors fitted if required, provided that the above provisions can be met without alteration to structure or services. • The space is additional to the minimum requirements for storage, living spaces and bedrooms.
General storage	
M4 (3)	Minimum built in storage space required depending on number of bedrooms. • One bedroom: 1.5m^2 • Two bedrooms: 2m^2
Bedrooms	
M4 (2)	Principle double bedroom to have a minimum of 750mm clear zone to both sides and foot of bed.
	Other double bedrooms, twin bedrooms, and single bedrooms to have a minimum of 750mm clear zone to one side and foot of bed.
M4 (2) **M4 (3)**	All bedrooms to have clear access route of a minimum of 750mm from windows and doors.

Private entrances and spaces within, and connected to, the apartments	
Bedrooms (continued)	
M4 (3)	One bedroom should be close to an accessible bathroom suitable for a wheelchair user. All other bedrooms should be accessible by a wheelchair user.
	Every bedroom ceiling is strong enough to allow for an overhead hoist to carry 200kg.
	Every bedroom to have 1200mm x 1200mm manoeuvring space clear of the bed and door when closed.
	Principle double bedroom preferably located on the entrance storey, but may be on upper or lower storey, with a minimum floor area of 13.5m^2 and at least 3m wide. Also, to have 1200mm x 1200mm manoeuvring space both sides of the bed and 1000mm clear access zone to both sides and foot of bed and in front of all furniture.
	Other double bedrooms or twin bedrooms to have 12.5m^2 floor area and at least 3m wide and provide 1000mm clear access zone to one side and foot of bed and in front of all furniture.
	Every single bedroom to have 8.5m^2 floor area and at least 2.4m wide and provide 1000mm clear access zone to one side and foot of bed and in front of all furniture.
Sanitary facilities / bathrooms	
M4 (2)	Provision for future level access shower within the bathroom, if not provided elsewhere in the apartment.
	Bathrooms to have 1100mm x 700mm clear access zones in front of the WC, basin and to the side of a bath.
M4 (2) **M4 (3)**	WC doors to open outwards.
	All walls, ducts and boxings to WC/cloakroom, bathrooms and shower room should be strong enough to support grab rails and other adaptations.
M4 (3)	Every apartment has on the entrance storey, a wet room that contains a WC, a basin and an installed level access shower.
	Every room containing a level access shower is constructed as a wet room.
	Bathroom and WC/cloakroom ceilings are to be strong enough to allow for an overhead hoist to carry 200kgs
	For single storey apartments: (a bedroom above 8.5m^2 and below 12.5m^2 is counted as one bedspace. A bedroom equal to or above 12.5m^2 is counted as two bed spaces) • Two or three bed spaces: Bathroom with a level access shower. • Four bed spaces: Bathroom with a level access shower and separate WC/cloakroom.
	There should be the potential to install a bath over the level access shower unless a bath is provided in the apartment.
	Where an apartment provides both a bathroom and a WC/cloakroom on the same storey, the WC and basin in the WC/cloakroom should provide 900mm x 700mm clear access zone in front of the WC and the basin.
M4 (3)	**Wheelchair adaptable:** • Drawings to demonstrate how the bathroom and the WC/cloakroom could be easily adapted in the future to meet the provision of wheelchair accessible. • Bathrooms to have 1100mm x 700mm clear access zones in front of the WC and the basin and to the side of a bath, if installed. • Have a level access shower within bathroom of 1200mm x 1200mm with a 1500mm diameter clear turning circle. This may overlap with the shower.

Private entrances and spaces within, and connected to, the apartments	
Sanitary facilities / bathrooms (continued)	
M4 (3)	**Wheelchair accessible:** • WC flush controls are positions on the front of the cistern in the transfer side. • WC pans should be a minimum of 400mm high. • Clear access zone of a minimum of 400mm-600mm under all basins, other than essential traps and drainage. • Bathrooms to have 1700mm x 800mm clear access zones to the side of a bath and 1650mm x 800mm clear access zones in front of the WC and the basin. • Have a level access shower within the bathroom of 1200mm x 1200mm with a 1500mm diameter clear turning circle. This may overlap with the shower by a maximum of 500mm. The shower should be positioned in a corner to enable a shower seat to be fitted. • The bathroom to provide a minimum of 1500mm clear turning circle.
Services and controls	
M4 (3)	A door entry phone with remote door release should be fitted in the living space and the principal bedroom.
	Suitable provision is made in the principal bedroom to install bed head controls in the future.
	Wheelchair accessible: • Radiator controls to be mounted 450mm to 1000mm above floor level.
Living area	
M4 (2) **M4 (3)**	Glazing to the principal window in living room to start at a maximum of 850mm above floor level.
M4 (3)	Minimum living area (kitchen, dining and living combined) for a two-bed space property: 25m^2.
Kitchen	
M4 (2)	A minimum of 1200mm clear space in front of kitchen units and appliances.
M4 (3)	Kitchen and principal eating area to be within the same or adjoining rooms.
	A minimum of 1500mm clear space in front of kitchen units and appliances.
	Wheelchair adaptable: • Minimum overall worktop length including fittings and appliances for a two-bed space property: 4330mm. • Drawings demonstrate how the kitchen could be easily adapted to be wheelchair accessible without compromission the space in any other part of the apartment and without the need for removal of aspects such as structural walls, flues, drainage stacks.
	Wheelchair accessible: • Minimum overall worktop length, including fittings and appliances for a two-bed space property is 6130mm. • The worktop includes a continuous section of a minimum of 2200mm long and incorporates combined sink and drainer unit and a hob. • The worktop is either heigh adjustable or is a fixed section capable of being refixed at an alternative height. • There is a suitable space for a built-in oven (centre line of oven between 800-900mm above floor level).
Private outdoor space	
M4 (3)	Every outdoor space to have a minimum clear width of 1500mm and provide a 1500mm clear turning circle, clear of any door swing.

Appendix 3 – Detailed design and specification

4.1 Dwellings

Entrance

Recessed entrances, with dwelling numbers, wall or down-lighting and milk shelves, creates domestic character and enlivens a corridor or access lobby.

- Recess the front door to provide an alcove to emphasise the entrance and create a semi-private space that can be personalised by the resident with pictures, plants, or residents' names.
- Fit a free-swing door closer to the front door. A solid front door with full height opaque glazed side light is desirable. Provide two spyholes 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 and can negate the need for two spy holes.
- 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/lobby

- 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 bulky items such as a vacuum cleaner; ironing board; suitcases; and coats, as well as space to accommodate a folded wheelchair/walking aid. Early consideration should be given to the position of services to ensure storage space within cupboards is not compromised.

Main 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

- Allow space for a 1200mm x 1200mm turning ellipse. The path between the furniture must be at least 800mm for wheelchair users
- A direct link to the shower-room should be allowed for either by fitting a door or by providing a room-height knockout panel within the partition wall (see Shower-room). This should be allowed for when considering the furniture layout.
- Space for the use of mobile hoists or space and appropriate layout for the use and installation of ceiling mounted hoists should be provided.
- Consideration should be given to ensuring maximum natural light in bedrooms via large windows.
- Consider night ventilation via opening vents which do not compromise security.

Second bedroom

This rooms can be smaller than the main bedroom and sized to accommodate a single bed against a partition wall rather than in a peninsula arrangement. There should be sufficient space for a desk and chair and a cupboard for clothes storage.

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.

- 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 'knock-out' panel should extend to the ceiling to allow for the fitting of a ceiling hoist track.
- At least one door into the shower-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 level access shower should be provided to allow wheelchair access. The shower curtain should be long enough to touch the floor, 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. 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 be wall mounted to enable wheelchair users to approach. The front rim of the basin should be at a height of 770-850mm and should be fixed in such a way that it can be leant on safely. Full sized basins (not doc M pack fittings) should be used in bathrooms
- Close coupled / concealed cistern, wheelchair accessible WC should be fitted with paddle-style flush handle and heavy-duty seat and cover. Seat height should be agreed with the client to suit the user group (550mm is suggested)
- All wall areas should be capable of taking the fixings / loads from future grab rails and/or shower seats for example. However, grab rails should not be installed as standard. An occupational therapist will advise on grab rails and mobility fittings required for each individual resident.
- 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. If the apartment has a jack and jill bathroom, flooring in the bedroom must be taken into consideration to work best with an opening or sliding door and a non-slippery surface should be considered.
- Emergency pull cord to be positioned between the WC and shower.

Living room

The design of the living area is very important, since residents may spend much of their time here. Special care must be taken to ensure the lounge is a generous (3m is suggested as a minimum), well-proportioned, attractive space.

- Ensure good natural daylight with generous shaded fenestration as these spaces are often deep in plan.
- Provide level access from the lounge to the dwelling's private external amenity space.

Kitchen

The provision of a kitchen open to the living room 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 and brings increased daylight into the kitchen area.

Generally, kitchens should be designed to exceed the standards for accessible and adaptable dwellings and as a minimum must conform to Building Regulations (AD part M) category M4 (2). 'L-shaped' or 'U-shaped' layouts are preferred to gallery style kitchens for ease of use. If wheelchair adaptable or wheelchair accessible apartments are required (as specified by planning policy or the client), kitchens need to be provided to standards AD Part M4 (3) (2) (a) or M4 (3) (2) (b), respectively. Please refer to **Appendix 2 – Building Regulations 2015 Part M4 (2) and (3) requirements** for further details.

Agree at the outset whether the kitchen is to be designed to accommodate future wheelchair users. Three levels of adaptations are possible: an adjustable, cantilevered worktop that allows clear space under the worktop for a wheelchair; a lowered area of worktop (with or without cupboards under) to suit a user for whom a 900mm worktop is too high; or the complete replacement of the whole kitchen to suit specific needs.

- In an open plan kitchen/lounge, one floor covering should be used to both areas to avoid a trip hazard when carrying food or hot drinks. Floor finish should be slip-resistant.
- D-handles are suggested.
- Provide carousel shelves within corner base units to improve accessibility. Use of pull-down basket wall unit storage should be considered.
- Consider providing 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 suggested within designated dementia care units). Provide a thermostatic mixer to limit the maximum hot water temperature as suggested by an M&E consultant.
- Kitchens must provide space, plumbing and electrics for a washing machine. If a communal laundry for resident's use is provided, this could be reconsidered.
- Provide a space for a tall fridge freezer, rather than an under counter fridge.
- Gas hobs should be avoided. Induction hobs are suggested with front controls to limit potential for scalding.

Balcony/winter garden/private amenity space

All dwellings should have private external amenity space in the form of a patio, balcony, or winter gardens.

- Privacy to ground floor patios can be improved by a planted trellis or screen, particularly where patios are paired due to adjoining dwellings. Security of all patio areas should be considered to ensure the resident can make use of their private external space. Hedges and planting can help to screen the patio.
- Normal height balustrading is considered appropriate for balconies provided the access door can be locked with a removable key if a resident with dementia maybe using the balcony.
- For external spaces above ground level accessed by people with dementia, refer to **Designing balconies, roof terraces and roof gardens for people with dementia** by Mary Marshall, published by the Dementia Services Development Centre at the University of Stirling.

Flexibility/open plan

Consideration should be given to sliding panels between the Living room and the bedroom, or between the living room and the second bedroom (in a two-bedroom apartment). The ability to create a more flexible open plan can greatly assist those with mobility issues.

Storage

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.

4.2 Communal layout

The design should utilise the potential of the site, such as locating individual dwellings towards the quieter areas of the site, making 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. 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. 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 Essex County Council. If refuse vehicles are required to enter the site, ensure an adequate and safe turning area is provided, preferably remote from the main entrance. Liaise with the local authority, where required, about a refuse management plan.

Building footprint and amenities

The positioning of the building(s) on the site and the footprint(s) should help to define secure and private garden/amenity areas and the transition from the public to the private realm.

Main entrance

Ideally there should be vehicular access to or close to the main entrance (or a secondary entrance).

Simple and legible wayfinding

Design should provide simple, easily comprehensible layouts that facilitate wayfinding for those with short term memory issues. Where it is not possible to minimise long internal corridors and double banked corridors, good visual cues should be provided, such as noteworthy features along the route and views out of the building to help orientation and good natural daylight.

4.3 Communal facilities

The main entrance

The main entrance should be well located, clearly visible and immediately identifiable from public realm upon approach to the development

- The main entrance doors should be fully glazed, and power assisted and should be fitted with appropriate security controls, ironmongery, and visual aids to identify visitors without compromising security.
- Doors should be fitted with a fob opening system and an entry system both visually and audio-linked to staff on site and dwellings for security. Ideally, an entrance lobby should be included to avoid draughts. If space is at a premium, a single set of entrance doors may be provided.
- Access points to the site should be kept to a minimum and, if more than one, should be clearly differentiated in leading either directly to the main entrance door or alternatively to 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.
- A double-storey-height space with a gallery providing a visual connection between the two levels might be considered to improve legibility.
- Provide a post box adjacent to the entrance.

Foyer/reception

The foyer/reception area should be a welcoming and attractive space with seating for residents and visitors. As one of the busiest areas this can be a popular space for residents to gather.

Communal lounge

A communal lounge will provide one of the primary areas for social interaction. The lounge should be a flexible, multi-purpose, open-plan space and would be ideally located directly off the main foyer/reception area where it is visible from the main entrance. If layout permits, position the lounge and dining room (where included) next to each other and divided with a sliding/folding wall or sets of double doors. This will give flexibility creating a large space for the occasional major event.

- It should be planned and configured to enable small groups to gather in alcoves/ niches of differing character. It should include a focal point, such as a fireplace. There must be Wi-Fi.
- Views and direct access onto a south facing terrace and garden would be a major benefit.
- Consideration should be given to the inclusion of an area for serving tea, coffee, and other beverages if a resident's tea kitchen is not provided.
- A storeroom off the main lounge should be provided for the storage of furniture or games equipment.

- Ensure the ceiling and lighting design is well considered, domestic and can offer a range of alternative switching for 'mood lighting'. Avoid multiple use of the same fittings.
- There should be consideration regarding blinds if the room will be used as a film/ cinema room

Dining room - café/restaurant

Subject to the location of the individual scheme in relation to local amenities/ apartment numbers, consideration should be given to locating the dining room/care/ restaurant so that it can serve the wider community on a commercial basis.

- Full catering kitchen to be provided with availability of the kitchen and café space for special events such as birthdays, anniversaries, or other social events
- Where possible, the dining area should open onto an outside terrace, with a covered area to enable dining outside in good weather.
- Allow enough space for wheelchair users and those with walking aids and ensure that dining tables should easily accommodate wheelchair users.
- The space and the specification of finishes should be considered in terms of acoustic performance so that echo within the room is avoided.
- Ensure the ceiling and lighting design is well considered, domestic and can offer a range of alternative switching for 'mood lighting'. Avoid multiple use of the same fittings.
- Floor surfaces should be easy to clean.

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 and/or therapy and/or consulting room

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 area presents a good opportunity for social interaction.

- Ensure good ventilation is available to remove the smells of perming lotions and other treatments.
- Hairdressing Room: Provide at least one height adjustable hairdressing basin to allow hair to be washed by leaning both forwards and backwards into the basin. Provide hairdressing positions with counter, mirror, hairdressing chair, lighting, and salon accessories.
- Therapy Room: Space is required for a therapy couch with adequate built-in storage for towels and equipment for physiotherapy, beauty and aromatherapy.
- Consulting Room: Space is required for a therapy couch as well as storage space for consulting paperwork and equipment. Wash hand basin, with lever taps, is required for hand washing.
- Ensure good daylighting and views from the room to the street or garden space. Locate within the active heart of the communal facilities. Carefully consider the design of the hairdressing/therapy/ consulting room if intended as a multi-

purpose space as a degree of privacy may be required for some activities Possibly use blinds, curtains, or flexible screen.

- Floor finish should be seamless, slip-resistant sheet flooring.

Activity room and/or quiet room

Consideration of a secondary communal space to be provided in addition to the main communal lounge, on a scheme-by-scheme basis, to serve as an activity room and/or quiet room. This room should be centrally located where it is easily accessible.

The function of this room will be dependent on requirements/potential of each individual scheme. The room might be designated for arts and crafts; provide a library/reading room with internet access; act as a second lounge area providing a quiet area away from noisy activities in the main communal lounge; or it could be in the form of a garden room/ conservatory allowing residents to appreciate the external landscape.

Communal toilets

These are for use by residents whilst in the communal rooms or waiting for transport in the reception area, and by visitors to the scheme.

- A minimum of two WCs (one wheelchair accessible WC and one assisted wheelchair accessible WC) should be provided within easy reach of the communal facilities such as the lounge, dining room, main entrance, laundry. If any communal facilities are remote from the others, provide an additional wheelchair accessible WC adjacent to the facilities. If two WC cubicles are provided, ensure one WC has a right-hand side transfer and the other WC has a left-hand side transfer.
- Provide a WC, basin and support rails and accessories.
- Décor and fittings should be employed to lessen the clinical appearance of these spaces, for example; the use of framed mirrors, shelves and concealing 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 people's care and support needs in mind, whilst ensuring compliance with Building Regulations (AD part M2/ M3).

Assisted bathroom

Consideration should be given to the need for assisted bathing on a scheme-by-scheme basis. Assisted bathrooms will typically be used to enable carers to give assistance to a resident who is unable to bath or shower safely alone and for whom assisted showering in their own flat is too difficult or demanding. However, residents may also use bathrooms independently as an alternative to 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. Lighting can also be used to heighten a sensory experience. Care should be taken to avoid an institutional or clinical atmosphere by the choice of high-quality tiling, decor, colour, fittings, and finishes.

- A wheelchair accessible toilet cubicle with its own door accessible directly from the bathroom.
- Where possible, a walk-in bath or spa should be provided, as this minimises the requirement for a track hoist and is more accessible for those with health and mobility issues. However, a lay-down bath that is properly positioned with a suitable track hoist or mobile hoist also meets the needs of the residents. Feedback from existing schemes has indicated that walk-in baths can be less frequently used than track hoist or mobile hoist baths, as the user must sit in a walk-in bath whilst it fills and whilst it empties.
- 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 associated with these rooms.
- 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. Stud walls should be lined with plywood for reinforcement.
- Shelving for toiletries and towels to be provided. All plumbing and pipework should be concealed.
- The floor finish must be slip-resistant.

Guest room and en-suite shower room

At least one guest room should be provided in all Extra Care housing schemes. The accommodation should be wheelchair accessible, with twin beds and en-suite shower room with WC and basin.

Mobility scooter/buggy store

- The store must be adequately ventilated.
- Allow for appropriate protection to walls and doors.
- Provide electric charging points for mobility scooter batteries, ideally with a small adjacent shelf to store charges/ batteries when not in use.

Bicycle storage

- Facilities for bicycle storage should be provided and adhere to any local planning authority policies for developments of this type.

4.4 Ancillary, staff, and service accommodation

Reception/manager's office

There must be a reception desk where customers, visitors and professionals are greeted and asked to sign into the scheme. The reception/manager's office should be located adjacent to main entrance to enable passive surveillance of arrivals, departures, and deliveries for security purposes. As a minimum, the office requires space for one workstation, a chair, two visitors' chairs and document storage.

Staff office

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.

Staff rest room

- Staff facilities should be treated with as much priority as residential areas to ensure sufficient respite. **See Appendix 1 - Schedule of accommodation (Must have/nice to have)**. Locate the staff rest room away from main circulation routes to ensure that staff can relax and enjoy privacy. The staff rest room requires adequate levels of daylight preferably linked to an external amenity space. Provide a tea-making facility and an area with tables and chairs for relaxation.

Staff change

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

Laundry only for use by staff to carry out care tasks

Laundry to accommodate washing, drying, and ironing equipment with separate areas for dirty and clean linen storage. There may be potential for the laundry facility to be extended to offer a serviced laundry provision to the wider community (used for example by people in the neighbourhood who require a laundry service due to incontinence).

- 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 such as a double-bowl sink and shelving for laundry baskets.
- Floor finish should be impervious, slip-resistant sheet flooring 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/disinfector 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. Specification of a proprietary sluice room is recommended.

Catering kitchen

Providing an on-site meal service can reduce social isolation, improve the health and wellbeing of the residents, and can encourage friends and family members to visit, as well as other members of the community.

- Walls and floors must be finished in a suitably impervious finish to facilitate ease of cleaning and maintenance and in the case of the floors, should be non-slip with coved skirtings.
- The use of domestic style kitchens floor units with plinths may not be accepted by Environment Health, unless adequately sealed.
- All food preparation areas must be impervious and capable of being easily cleaned.
- There must be a separate wash hand basin in easy reach of food handlers.
- Kitchens must be adequately lit and must be provided with sufficient ventilation.
- First Aid equipment must be provided.
- Adequate space should be provided for parking trolleys/heated trolleys (with charging facilities so as not to impede circulation routes).
- Appropriate firefighting equipment should be agreed with the Fire Officer.
- A heat detector should be provided rather than a smoke detector.
- Consideration should be given to secure storage of COSHH items such as detergents, liquids and powders.
- Open plan kitchenettes off dining rooms with a server counter are appropriate from a visual accessibility aspect but will need to be secured by a shutter or other means when staff are not in attendance.
- Access doors to the kitchen should be provided with vision panels and, if overhead closers are required, they should have free-swing or magnetic hold-open functions to allow unimpeded access for trolleys and staff carrying items.
- Access required for deliveries and to refuse/recycling store.
- The floor should be laid to a gentle slope towards a gulley, for ease of cleaning.
- Windows to be fitted with fly screens and an insect-o-cutor to be provided.
- 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.

Refuse and recycling store

Refer to Building Regulations (AD Part H) and consult at an early stage with the local authority to determine any special requirements, the method of collection and extent of recycling. The main refuse store should ideally be accessed via a lobby from inside the building with space for wheelchair turning. External refuse stores may be considered acceptable in certain locations. For Extra Care, housing a refuse strategy is to be provided. Local authorities will require Extra Care housing staff to make regular collections from individual dwellings as part of the residents' care package. If so, this will obviate the need for 'holding stores'.

- 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 nonevaporating trap). Provide a lockable cupboard for clinical waste.
- 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.

4.5 Circulation areas

Corridors

Circulation spaces in Extra Care schemes should be clear and rational to assist individuals who are suffering from dementia or memory loss. A rational building layout with 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 should be a minimum of 1650mm wide to enable two wheelchairs to pass. 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. Alternatively, consideration might be given to the introduction of small atria to bring natural light from roof level into the internal corridor spaces.
- Consideration must be given to ventilation and avoiding over-heating of corridors, particularly in double-banked situations which can become unpleasant, oppressive spaces. A dynamic 3D thermal model is required to demonstrate that overheating will not be a problem.
- 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. 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.
- Handrails should be provided to one side of the corridor. Consider tactile clues such as studs incorporated into the handrails/ dados to aid wayfinding for those with visual impairment.
- Corner protection coloured to match the walls should be provided in areas of heavy traffic.

Informal seating areas

Strategically located informal seating spaces can offer the opportunity to watch the world outside, chat to friends or as a point of visual interest to bring domesticity to corridors. They can offer views outside, which can aid orientation and introduce daylight into the corridors. Provide these small spaces to accommodate two or three chairs, beside the main entrance and perhaps on corridors at locations which might offer views or other points of interest.

Lifts

- Provide one 13-person stretcher lift and one eight-person lift as a minimum to all Extra Care housing schemes on two or more levels. Consider the location of the lifts to ensure residents do not have to walk long distances to use the lifts.
- The controls need to be visual and audible, accessible to ambulant and wheelchair users. Provide handrails 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.

4.6 External works, garden, and amenity areas

Approach and parking areas

The landscaping to the approach and parking areas can add considerably to residents and visitors first impression of the development. Brick walls with railings and associated planting beds can create an attractive enclosure that defines the entrance of the development from the public realm. Tree planting along the boundary will further soften the appearance of the building from the street. Larger parking areas should if possible be interspersed with further tree planting and planting beds.

- Adequate lighting with bollard and standard lights should be distributed around the parking forecourt.
- Consideration should be given to designated level-access pedestrian routes from the car parking to the entrance of the building.
- Brick or block pavers to the care parking areas would generally be preferred to large areas of tarmac.
- There should be a suitable amount of parking for each scheme considering the location and the number of units and staffing required.

Communal gardens/landscape design

The layout of the building on the site should be carefully planned to create a series of external garden/ amenity areas of differing character and orientation including outdoor living spaces that are sheltered, sunny and with the best possible outlook.

- The garden should be fully wheelchair accessible and should be accessible from the main communal areas. Ideally the gardens should be visible from the main entrance, leading the eye of the resident or visitor through the communal facilities, aiding orientation, and creating a light, transparent building.
- There should be adequate seating and benches located close by to promote social inclusion as well as some scattered seating for those customers who would prefer some separation.
- It is important that residents perceive the garden areas as secure and safe environment. 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 secured by appropriate gates, fences, or railings.
- There should be a garden space that residents can decide for themselves how they would like it used to promote joint decision making. 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. 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. Where possible, provide a shed or green house or similar facility for the customers to use.
- All schemes, regardless of size, should include at least one sunny terrace area for outdoor living, social activities or events such as a BBQ. The paving must be laid level, subject to 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. Shaded areas should be provided on the terrace. 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.

- Garden space should provide opportunity for residents to take a stroll regardless of size. The layout of 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 route of the path should provide variety and should ideally be circular. Dead ends should be avoided unless they terminate in a feature or 'event' such as a gazebo or seating area. 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 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. Raised kerbs should be included to prevent wheelchairs from rolling into planted beds.

- 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.

- Residents will welcome the presence of birds in the garden, and areas may be identified for feeders or nest boxes. 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'.

- 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, can create memorable highlights in selected areas in contrast to a background or structural planting of hedges and ground cover.

- Specify easily recognisable and colourful flowing 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.

- Shrubs and herbaceous borders should be used to soften the effect of boundary walls and fences.

- In addition to the typical bollard lighting of external areas for the purpose of safety and amenity, it may be appropriate to consider 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 to avoid the need for watering by hose or sprinkler wherever possible.
- Provide a garden store for mowers and other equipment, either within the building envelope or freestanding in the garden.
- In more urban locations, roof gardens may be a suitable alternative to ground level gardens where sunny outdoor space at ground level is limited. They should be accessible by lift and ideally accessed via communal facilities, for example 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. The design of balustrades should be subject to a risk assessment management in the event of residents with dementia being provided access to the roof garden.

4.7 External finishes: life cycle costs

The specification of the external fabric of the building must be carefully considered in terms of minimising future maintenance and life cycle costs. All external materials must be durable, robust, and low maintenance.

External lighting

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

External walls

External walls should ideally be brickwork or if rendered, through-colour renders should be used. Painted render requiring cyclical maintenance should be minimised.

Roofs

Use artificial slate, terracotta or cement roof tiles or prefinished sheet metal roofing. Single ply membranes can be used for flat roof areas.

Windows

Timber windows would not generally be favoured due to cyclical maintenance requirements. Environmental implications of recycling UPVC windows should be considered. Ideally, budget permitting, composite Velfac/Rational or similar timber (internal), polyester powder coated aluminium (external) should be used. Alternatively, aluminium windows should be specified in preference to timber, budget permitting.

Metalwork

- Rainwater Goods: PPC aluminium gutters and down pipes.
- Balconies: Galvanised mild steel for painted finish.

4.8 Internal finishes

General

A number of specification issues for components and finishes are critical in terms of safety and security. Other issues are less directly linked to safety and security but will determine how the fabric and finishes will perform in use. A building which deteriorates fast internally and externally will degenerate into a depressing environment which is likely to have a negative effect on residents. Components and finishes need to be robust as they are likely to be subjected to heavier wear and tear than in a normal domestic situation. This is due to the logistics of care delivery such as the use of hoists, wheelchairs, as well as the behavioural patterns and traits of the residents.

- Where stud partitions are necessary, line with robust high impact plasterboard.
- Special consideration needs to be given to the question of hygiene when considering the finishes for 'wet areas' such as shower-rooms, WC's, kitchens.

Wall finishes

- Blockwork walls are more durable than stud and plasterboard and will perform better acoustically. Hard wall plaster should be specified.
- Emulsion/ eggshell paint will be easier to wash down or replace than wallpaper, however, may be less attractive.
- Make use of finishes that stand up to use, harder, more durable, lower maintenance finishes such as brick and stone can be incorporated in high use circulation/semi outdoor spaces.

Ceilings

- Flush plasterboard ceilings with access panels to services in the ceiling voids will provide a more domestic environment than lay-in ceiling tiles. A flush ceiling is also less likely to be tampered with or damaged.
- Suspended lay-in grid fully accessible ceilings should be avoided or limited to areas where they are necessary for service access.
- Timber boarded or other combustible ceilings should be avoided unless appropriately treated with a Class O rating.

Floor finishes

Thresholds between different floor finishes should be flush and level to reduce the risk of trips and falls. Adjacent floor finishes should remain the same colour tone to avoid residents with impaired sight mistaking the change for a step or hole (if the colour is darker).

Doors

All doors should be solid, irrespective of fire rating. Hollow-core doors are acoustically inadequate and prone to damage.

- Consider kick plates, edge protection strips to doors and frames or hardwood frames where wheelchair traffic is likely to be frequent.
- Doors to all wet rooms or WCs used by clients should be capable of outward opening or, alternatively, consider specifying 180-degree door opening gear to enable doors to be opened outwards

in and emergency. This will overcome the problem of assisting a resident who might have collapsed in front of the door.

- Special consideration to vertical as well as horizontal viewing panels should be given to doors subject to heavy circulation such as corridors and amenity areas.
- High level ligature risks to be considered.
- All door thresholds should be flush both internally and externally, meaning 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 **4.9 Fire protection and means of escape**. Where door closers are required to resident areas, 'free-swing' closers with anti-slam functions should be fitted.

Windows

Generous windows and roof lights provide the ability to maximise natural light, communicate the weather, orientate and allow views of activities outside the building for occupants. Ensure windows are sized to suit internal conditions rather than being designed uniformly to suit elevational intentions. Lower floor windows should generally be larger to ensure maximum natural light and higher windows smaller to reduce the likelihood of overheating.

- Windows should all be cleanable from the inside. The specification of reflex hinges or full reversible windows provide this facility.
- Consider opening sections in terms of size, appropriate hinges, restrictors and locking devices, where security (from within and without) or suicide or self-injury might be an issue.
- 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.
- 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.
- Ensure maximum natural light in bedrooms via large windows with transoms low enough to view the outside from being in bed and provide maximum natural light into the apartment lounge and views out via large windows which are shaded to avoid overheating.
- Consider full height 'vent' panel to allow for night-time ventilation
- Opening, tamperproof restrictors should be fitted for safety and security.
- Curtains and blinds to be kept clear of all window controls.

Glazing

High standard glazing used to promote sound insulation and reverberation control will provide residents with a quiet and tranquil home environment. The glazing specification used should mitigate the risk of overheating and should lend itself to allowing for maximising natural daylight.

Balustrades and railings

In addition to meeting the Building Regulations requirements in terms of heights and non-climbability; the following measures should be considered:

- Higher than 1100mm railings for groups who might be prone to self-harm
- Continuous handrails on both sides of staircase.
- Handrails - where mobility problems are likely to be common among residents, continuous handrails should be provided along circulation routes. Where handrails stop, they should be returned to the wall face and curved to avoid sharp or dangerous projections.
- Handrails should contrast with the wall behind.

Interior design

Well-designed interiors can dramatically influence the overall impact and success of a development. The colour scheme should provide sufficient contrast between elements whilst avoid shiny and busy patterns or surfaces. An interior design consultant with experience of designing Extra Care housing, can therefore deliver major benefits. It is important that sufficient budget is allowed to provide an attractive, non-institutional, hotel like interior design as this can have a major effect on the residents' sense of wellbeing, promote socialiability an give a sense of pride in the environment.

Consideration should be given to how many hard surfaces can be found within the internal environment; the use of carpets, curtains, upholstered furniture as well as books and accessories on shelves an absorb sound to promote a more inclusive environment for those with hearing impairments.

Furniture, fixtures, and equipment (FF&E)

It is important that all furniture, fixtures, and equipment have a domestic, non-institutional appearance. Communal areas should provide residents with different seating options to give residents a choice of seat, suitable to their mobility and comfort needs.

- Chairs should be fitted with arm rests whilst 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
- Ensure fabrics used are impervious, antibacterial, and flame-retardant.
- A light reflectance value (LRV) 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 armchair. Contrast curtains to their background perhaps by introducing a colour strip to their leading edge.

Lighting design

High levels of light, appropriate fittings and good control of light are key factors to consider when designing the lighting within an environment where vulnerable groups with sensory impairment 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.

- Communal areas must be well lit and automated to standby when not needed.
- 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.

Signage

Internal signage should be kept to a minimum and where necessary to enable to scheme to preserve a domestic feel.

- Directional signs to flats and relevant communal facilities are required at each floor level outside the lift as a minimum.
- Symbols and lettering should be clear, visible (in a relatively large font) and contrast with the background. Signs with a shiny background or protruding letters should be avoided.
- Signs must comply with Building Regulations (AD part M).

Secured by Design

The local Crime Prevention Officer should be consulted and the provisions in Part Q of the National Building Regulations must be met.

4.9 Fire protection and means of escape

Extra Care housing is, typically, classified as 'Group 1 Residential' under the Building Regulations (AD part B) on the basis that the building contains apartments for individual occupation where the residents have tenancy agreements or are leaseholders (including care provision). The level of fire precautions provided should be determined following an assessment of both the level of dependency of the prospective resident group and the design features of the building, including its size, height, and layout - 'The Risk Assessment'. Consultation with a building control officer/approved inspector is essential in the early design stages. 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. 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 they must always maintain the risk assessments and safety strategy under review. It must be available for inspection by the local Fire Service 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.
- The fire alarm should be linked to staff handsets and the warden call system.
- 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.
- 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 physically disabled 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 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 to maximise the clear opening.
- 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.
- Housing for vulnerable people, generally requires a Personal Emergency Evacuation Plan (PEEP) fire strategy for each resident who is potentially incapable of independent evacuation. A fire protected area (such as cross corridor doors) should be accessible within 7.5m of the entrance to the apartment. Stairs and corridors should be designed to provide refuge areas if required.
- Furnished corridor seating areas should provide a minimum fire load and must be agreed by a fire engineer and the Essex County Fire and Rescue Service.

4.10 Hot water and heating

Injury from hot water or heating systems

People with limited mobility, reduced heat sensitivity or dementia are particularly at risk of injury from hot water or heating systems. Thermostatic blending valves must be specified to ensure that hot water is less than 44°C at outlets in Extra Care housing. 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.

Under-floor heating

Under-floor heating is often specified in housing for Adults with Mental Health illnesses to avoid dangers from hot surfaces and to provide unrestricted wall space. If under-floor 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 vulnerable 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'** (October 2014) published by Public Health England recommends minimum temperature thresholds of:

- Daytime: 18°C (65F) threshold is particularly important for people over 65 years 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.

4.11 Environmental

Vulnerable people are particularly susceptible to negative health effects of environmental factors especially as they tend to spend a much greater proportion of their time at home and are likely to experience extremes in temperature, both hot and cold, more acutely. Extra Care housing should be designed and constructed with the following considerations in mind and addressed during the design development process.

Overheating

Overheating in housing during the summer months is becoming increasingly prevalent due to a range of factors that include climate change, air-tight construction; increased glazing areas, lightweight construction (lack of thermal mass), lack of solar shading and inadequate ventilation. Overheating is a particular concern for vulnerable people. They 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, they will often spend long periods of time within their home.

Overheating in Extra Care housing needs to be assessed and addressed to ensure that residents are protected from extreme heat in the summertime for today's conditions but also projecting into the future as the climate is expected to change. To avoid potential overheating:

- Buildings should be tested by an appropriate consultant at design stage, to ensure the thermal performance will be acceptable.
- The consultant should use dynamic thermal 3D modelling to determine suitable design approaches 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 during the design development process and the design modified as appropriate.
- A 'fabric first' approach to overheating should be adopted to ensure that the structure has the necessary thermal mass and insulation specification. 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.
- Providing air-conditioning to at least one of the communal areas to provide a respite area for residents during a heat wave.

Air quality

People tend to spend long periods of time at home, which, when combined with more prevalent health conditions may lead to higher risk from poor air quality. Air quality should be a major consideration when selecting a location and designing a building for the group. 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 residents are not exposed to substances such as formaldehyde or other volatile organic compounds. Products should be selected in accordance with national standards on the maximum allowable emission factors.
- 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 not be considered unless there is clear evidence that they will not have a detrimental effect on air quality.
- Mechanical ventilation should be considered to internal corridors and circulation areas as well as internal shower-rooms and kitchens.

Daylight and sunlight

Adequate levels of daylight and sunlight within the home are of particular importance to the health and wellbeing of Extra Care residents, as they are susceptible to a higher incidence of failing eyesight, macular degeneration and sight loss and are more affected by glare. Therefore, building orientation and design must be considered to maximise natural daylighting in all habitable rooms and consideration should be given to minimise overshadowing to these 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 daylighting is essential with windows to habitable rooms adequately sized and orientated.
- The **London Plan** and BRE's **Site Layout Planning for Daylight and Sunlight** define best practice guidelines should be consulted and followed.

Noise pollution

Extra Care residents are both more likely to be adversely affected by external noise pollution. Sound insulation and acoustic performance of the building fabric is therefore of particular importance to ensure a harmonious living environment. Sites for Extra Care should be selected, where possible, away from major roads and other sources of high levels of external noise.

- 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 adjacent to noisy communal spaces (like a restaurant or entrance foyer).
- Building services, such as laundries, 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). Additionally, an acoustician should be consulted, and their advice implemented.

Climate change resilience

Climate change will have profound social and health implications for the vulnerable in society. There will be implications to 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 new build projects should follow the targets and guidance set out in Building Regulations **Approved Document Part L**. This includes installing energy efficient and low carbon heating measures When developing an energy strategy, careful consideration should be given to the end user of the building(s) including ease of use, accessibility of controls and simplicity in operation.

Local climate

Buildings and external areas are to be designed to adapt to change. The design process should be informed by thermal modelling, 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 projected micro-climate, the albedo effect, and the heat island effect to limit the risks to overheating.

Guidance on overheating, can be found in **Building Regulations Approved Document O** and guidance on ventilation and indoor air quality can be found in **Building Regulations Approved Document F**.

Social resilience

Environmental stressors such as extreme weather can irritate, annoy, and be a general source of discomfort for people. Vulnerable 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 developments include:

- 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.

Metering of services

All services must have the ability to be metered to enable residents to be responsible for the energy they use. Individual apartments must be separately metered. Residents will be responsible for the payment of their own utility bills. Heating and electricity for the common facilities will be centrally metered and covered under the service charge. Where communal boiler systems are provided, developers should ensure that they comply with the **Heat Network (Metering and Billing) (Amendment) Regulations 2020**.

4.12 Smart home/assistive technology

Given the fast-approaching Analogue to Digital Switch Over in 2025, and the speed at which digital technologies are changing, we recommend that providers refer to the **Technology for our Ageing Population: Panel for Innovation (TAPPI) Enquiry Report** (2021) which sets out the 10 TAPPI principles and offers advice and guidance. Digital technologies can mean anything from devices and apps to modern smart appliances and internet communications and connected homes. However, when considering the housing and care needs of people who will live in Extra Care housing it is important to think about the 'right solution first' rather than thinking 'digital first'.

Schemes should incorporate adaptability and 'care aware' design which is ready for existing and emerging telecare and telehealthcare technologies.

4.13 Legislation and guidance

All new developments must comply with current and relevant legislation, British Standards and other guidance relating to the design, specification, and construction.

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