Hampshire County Council Guide to Designing Extra Care Housing

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Contents

1.   Introduction

1.1   The Vision for Extra Care in Hampshire

Hampshire County Council has a strong track record of developing, and working with partners to develop, high quality innovative buildings. As the County moves forward on Project Extra Care its ambitious programme of seeking to ensure that Extra Care Housing is a realistic and viable option for older people across the county, we are seeking to continue this tradition. Whilst the County Council will not be directly building or owning any of these scheme, we have produced this guide with a view to assisting our prospective partner developers of Extra Care Housing schemes in the county. Its purpose is to act as an aide memoire highlighting sources of statutory guidance that should be considered in the development of schemes, and also acting as a signpost to other expert resources and sources of good practice that have developed in specific areas.

Whilst its primary purpose is to assist partners with whom we will be working on the development of publicly funded mixed tenure schemes, we also hope that developers of purely private for sale schemes will also consider taking on board our suggestions, based as it is on a combination of statutory guidance and learning and best practice from a range of existing schemes developed within and beyond Hampshire.

It is not intended to act as a proscriptive checklist, and it is recognised that not all areas highlighted will be appropriate for all schemes. In particular it is recognised that differences may occur in design features where schemes are developed entirely for sale. Rather it is intended to highlight those features which Hampshire County Council consider important in scheme developments as we continue to aspire to develop high quality, individualised Extra Care schemes, accessible to all across the county.

The Housing Learning and Improvement Network (LIN), is the leading 'knowledge hub' for a growing network of housing, health and social care professionals in England involved in planning, commissioning, designing, funding, building and managing housing with care for older people. Details of developing ideas in the design of Extra Care housing for older people, can be found on its website at:

http://www.housinglin.org.uk/Topics/browse/Design_building/

1.2   Scope of the design guide

This document relates to the building design of Extra Care facilities within Hampshire, and has been prepared as a guide to principles of design by Hampshire County Council's Property Business & Regulatory Services (PBRS) following a review of the lessons learnt from the first phase of Extra

Care developments in Hampshire, site visits to other Extra Care Housing schemes outside of Hampshire and consultation with PRP Architects, Hampshire Occupational Therapists, Nursing Home staff, District Housing Leads and Hampshire County Council's Adult Services teams.

Where the County Council enters into a formal procurement arrangement for the development of an Extra Care scheme, adherence to the principles set out in this guide will be an important consideration in the evaluation process. In the case of all other schemes, where the County Council is asked to support, organisations would be encouraged to consider the contents of this guide in developing their designs.

Very often the detailed design of specialist accommodation requires discussion and the development of detailed layouts through consensus. Some issues may not present obvious or standard solutions. As such this document is not intended to be prescriptive.

1.3   What is Extra Care?

Extra Care Housing (ECH) describes a type of housing which provides vulnerable people with the housing, care and support they need to enable them to remain in a home of their own, and maintain their independence for as long as possible.

The key aim of Extra Care is to provide facilities and flexible associated care which allows residents to remain within their accommodation as their needs change. This means that the design needs to have a longevity.

For the purposes of Project Extra Care the following definition of Extra Care has been adopted for use in Hampshire:

> *'A development of one and two bed apartments, for rent and/or for sale, grouped together with communal facilities, that through the provision of on site 24/7 care & support services offers a viable alternative to a residential care home for many vulnerable older people, enabling them to remain a part of and active within the wider community.'*

1.4   Key features of Extra Care housing:

- The development of a 'community hub', a base for day time activities and community based therapy in linked communal facilities

- Access to flexible care and support services which respond to individual need – these may increase or decrease according to variations in a persons needs

- The provision of services and opportunities which promote or maintain independent living skills

- A real community including mixed tenures and a balance of older people with high, medium and low care needs, which will contribute to the wider community and benefit from the range of ancillary services provided in the 'Community hub'

- An enabling and accessible environment including the use of telecare and assistive technology to make independent living possible for people with disabilities, including those with dementia and should:

  * Enable people to remain in place
  * Help people to self –care and promote independent living
  * Be a base for day centre activities and community based therapy
  * Be domestic in nature (not institutional residential care)
  * Provide a level of support and care by staff.

1.5   Considerations

All Extra Care schemes should aim to be:

- Focused on individual needs
- A home for life
- Enabling
- Domestic
- Designed for:
  - privacy, support and companionship
  - way finding and orientation
  - flexibility
  - Independence
- Focused on resident's control and tenancy rights
- Concerned with Neighbourliness
- Accessible to community activities
- A community resource
- Delivered with flexible care
- Delivered with 24 hour support
- Designed with access to meals
- Delivered with domestic support
- Delivered with social and leisure opportunities
- Focused on progressive privacy

1.6   Tenure

Hampshire County Council is committed to achieving the development of Extra Care schemes that meet the aspirations and needs of all older people in the county. As such it recognises that schemes covering a range of tenure models will be required. For those schemes where capital funding is sought from the County Council it is anticipated that there will be a mix of some, or all of, rented / shared equity / shared ownership / outright ownership accommodation. The balance between the differing tenures will be a matter for the developing organisation, and in determining this mix consideration

should be given to the locality demographics and needs indicators. In all schemes of mixed tenure a common design standard should be applied with no discernable difference in finish regardless of tenure and units of each type of tenure should be spread across the development to encourage community integration.

2.   Location

2.1   Site

It is recognised that the site requirements for an Extra Care scheme are largely determined by the size of the proposed development, and are therefore difficult to predict in advance. Within Hampshire a minimum scheme size of 40 rented apartments has been established for each development, as being necessary to secure its long term viability. No maximum size has been set for developments. As such developments consisting of fewer units would only be considered on an exceptional basis. To deliver a scheme of this size a minimum site size of 0.6 hectares has been identified, to enable the full range of communal facilities and usable external space to be provided. Exceptions to this are only likely to be considered in more urban areas where it is recognised that usable external space may be less commonly provided.

When evaluating the suitability of a proposed site, consideration should also been given to its topography, especially with regard to the ability of residents with limited mobility to move freely around it.

2.2   Access to facilities

As is the case with all housing developments, location is a key determinant of success. For Extra Care developments in Hampshire to meet the County's objectives of providing a realistic and viable alternative option to residential care for older people across the county, individual scheme location becomes paramount.

All schemes need to be both accessible to the local community whose needs they are aiming to meet, and accessible for a range of key services, including:

- Local shops
- Supermarkets
- Local centres
- Banks
- Post offices
- GPs
- Buses
- Trains
- Community and leisure facilities
- Social amenities
- Places of worship

- Libraries.

It may be that these facilities are not present within the immediate locality, but measures are instead proposed to provide the required range of services, for example by means of a visiting library service. The scheme itself may be the opportunity to enhance or rectify a deficiency in local amenities e.g. by provision of a base for occupational therapy and podiatry services. The development of a scheme should be seen as an opportunity to enhance the locality and existing services.

For Extra Care schemes to operate as a community hub, additional consideration needs to be given to ensure that the schemes are located within a community setting, accessible by public transport.

Key References:

Planning Policy Guidance 24: Planning and Noise, particular reference should be made to Annexe 1, Noise exposure categories for dwellings. It notes that a level of less than 35dB(A) is recommended to preserve the restorative process of sleep.

3.   Externals

3.1   Building approach

Consideration should be given to improving access routes to neighbouring facilities through dropped kerbs, crossings and accessible street furniture. A safe drop off position is required.

This is likely to be used by a variety of vehicles such as minibuses, ambulances and private cars and consideration should be given to accommodate rear tail wheelchair lifts on minibuses, which can lead to quite a large drop off area.

Good practice suggests a 'horse shoe' drop off configuration is preferable to avoid the need to reverse with the associated health and safety risks.

Consideration of the needs of residents suggests inclusion of an entrance canopy to allow residents to move directly into a sheltered area and minimise exposure to inclement weather as wheelchair users particularly, are prone to rain in a seated position.

Accessible parking spaces should be provided adjacent to the entrance. Any general parking requirements will be determined in consultation with the Local Planning Authority, and will be influenced by the tenure of the scheme.

3.2   External landscape

The external garden areas should be safe and secure and provide residents with opportunities to make the grounds part of their home environment. A courtyard design offers an appropriate form giving enclosure and shelter, but orientation must be considered if adopting this approach. Residents with dementia are prone to wandering and a series of looped paths avoids frustration from dead ends and repetitive routes. Provide regular seating places for resting and for residents to sit in the sun or shade.

The beds should be planted to give a succession of colour and interest throughout the seasons and some beds should be left clear for residents to garden. Areas of raised beds will suit wheelchair users and those unable to work at ground level.

The sensory aspects of the external landscape should be developed to give colour, texture, and scent, together with sound via the use of grasses and water features.

Plants should be selected to avoid toxicity, thorns and sharp foliage and berries which may present a choke hazard.

A shed and a greenhouse could be considered for inclusion in the landscape design as a way to encourage residents to take part in gardening activities.

3.3   Car parking

In determining the level of car parking provided within a scheme, consideration should be given to the location of the site with regard to local facilities, its proximity to public transport links, and the policy of the local planning authority in this area. It is recognised that the requirement to provide parking spaces in Extra Care schemes in general will normally be at a lower level than would normally be required for general needs housing, and that where developments are in high density urban areas, planning restrictions may apply to the provision of on-site parking.

3.4   Energy Efficiency

In addition to the expectation that all Extra Care schemes will comply with all relevant legislative requirements with regard to energy efficiency, it is expected that additional consideration be given in this area to help combat the issue of *fuel poverty.* This is defined as:

> *Where in order to heat the home to an adequate standard of warmth a household needs to spend more than 10% of its income to maintain an adequate heating regime, usually defined as 21 degrees for the main living area, and 18 degrees for other occupied rooms* (Department of Energy & Climate Change).

In the context of Extra Care such considerations should also be applied to the

method of heating adopted, and energy efficiency measures incorporated throughout the scheme as a whole.

4.   Facilities

4.1   Security

Most examples of existing Extra Care have a main entrance which is secure at all times and all visitors gain entry into the building via an intercom system. A lobby will guard against draughts, and allows staff, visitors and residents to get into a dry environment before being authorised to enter the rest of the building out of hours. The design of the access into the building is normally agreed with the Secure by Design Police Liaison Officer.

The provision of office accommodation for both the landlord and the care & support provider along with staff/admin areas adjacent to the front entrance to receive visitors acts as a security measure and can also act as a buffer to the more private residents' accommodation. CCTV offers residents a means of communicating with the front door and can be a Secure by Design requirement.

Good practice has shown that there should be clear visible routes into the communal lounge or related daytime activities area with a clear distinction between this and the private residential areas. A similar distinction should be made in those schemes where additional facilities have been included for use by the wider community.

The positioning of the daytime activity areas or communal spaces towards the front of the building provides a public presence, eases access for those using it from the local community and allows residents a view out into the public domain. It will also retain privacy and security for residents by avoiding the need for those accessing these areas to walk through the corridors which serve the flats.

Placement of the entrance to the front of a site can allow the remaining grounds to be safe and secure and used for the benefit of residents.

Good practice has shown that ancillary access to the kitchen and laundry areas needs to be separate from the main entrance for safety and visual reasons. Refuse disposal and recycling arrangements need to be considered and agreed with the local refuse department.

Buggy storage and access will require careful consideration and discussion. Most schemes provide a buggy area with charging points near to the entrance for use by those vehicles designed for use on the road, in addition to space within individual flats for 'lighter' models. Buggy storage may also be required for use by visitors. Adequate transfer facilities from buggy to wheelchair may require a hoist. Safe storage of wheelchairs in the buggy store will allow residents to access their flats. Consideration may be given to the inclusion of facilities to enable residents to clean buggies, such as an outside tap/ water

supply in a suitable location.

4.2   Entrance

Good design practice indicates that the range of public spaces and facilities should be grouped together to provide a welcoming public space and act as a 'hub' for the community or provide a central core to the scheme.

Automatic entrance doors aid accessibility. This is related to the nature of the residents who are likely to be physically frail and have difficulty in applying enough force to open the entrance doors.

Residents may have a preference for swing doors rather than sliding as these may be confusing and not fulfil the user-group's expectations about a 'domestic environment'. The operation of swing doors needs to be carefully considered to ensure that doors do not open and knock residents over.

Progressive spaces will lead from a welcoming public area to private accommodation, with clear boundaries established through use of doors with fobbed access, and through physical structures.

Good practice would indicate that where additional communal facilities have been included in the scheme with the intention of providing a service directly to the local community, a clear delineation of public and private areas aides the use of the building by visitors and residents.

4.3   Bedroom facilities

Careful consideration of the size and number of bedrooms should be given, with the balance between one and two bedroom apartments be determined locally on a scheme by scheme basis that reflects local demand and need.

Wheelchair users should be considered throughout the design of the building. However certain areas such as residents' kitchens can be designed to permit adaptation for people to use as their needs develop.

Good practice has shown that measures should be taken to ensure the structure has the ability to accommodate ceiling hoists if required, and to accommodate this consideration should be given to including knock-out panels to accommodate hoist tracks.

The type of accessibility and the changing patterns of care as residents remain in their apartments will need to be established to enable a suitable toilet/shower room to be developed.

A key consideration is the ability for residents to remain in their apartment as their care needs change which may be reflected in the following features:

- A layout which allows twin beds and will permit the use of profiling beds
- Use of illuminated light switches
- Avoid locating bedrooms adjacent to noisy areas/rooms (i.e. laundry).

4.4   Kitchens & catering facilities

In order to deliver the required one meal a day, a fully commercial kitchen is likely to be required. Kitchens and laundries generally have full air handling equipment (supply and extract) in accordance with CIBSE guidance, comprising supply and extract fresh air mechanical ventilation plant automatically controlled to prevent odours from drifting into the circulation corridors. It is good practice to have exhaust discharge louvers located remote from the open-able windows. Most schemes also aim to locate these areas away from the main entrance.

4.5   Housing & Care staff facilities

To enable the flexible delivery of both housing and care services provision for separate accommodation for each should be made. Whilst a sharing of rest and recreational facilities would represent a good use of space, a discrete office for each, easily accessible and visible to residents is considered best practice.

4.6   Laundries & Laundry machines

When considering the location of laundry facilities, care should be taken to ensure that they are accessible discretely by residents, and are not accessible only through larger communal areas. Washing machines should be provided that are accessible to both residents and to staff delivering care services and should be fitted with protection devices to comply with the requirements of the Water Supply (Water Fittings) Regulations 1999. category 5.

4.7   Cleaners' rooms

It is good practice to have cleaners' rooms provided on each floor and within kitchens and laundries, for easy access to cleaning equipment as required. Cleaners' rooms should be lockable and fitted with lockable cupboards for the safe storage of cleaning fluids. Hand-washing facilities should also be provided separately from general sink and bucket sink facilities.

5.   Accessibility

5.1   Health and Safety Including Fire

Schemes should be designed to ensure the safety and well being of residents, staff and visitors at all times. A thorough fire avoidance and control strategy should be incorporated when designing Extra Care Housing developments. There should also be an appreciation of the fire risks, both during construction & upon occupation by building owners/managers to ensure that all aspects of fire safety are covered from design inception through to construction, completion, occupation & throughout the lifetime of the building.

Fire Suppression Systems, although not mandatory in Extra Care Units in England, there is an expectation that larger units should included a fire suppression system as a cost effective solution to business continuity planning and to cover for the likely increase in life risk over time.

Systems will generally be expected to comply with the relevant British & European Standard. However to facilitate the provision of fire suppression within buildings there is now general acceptance that risk based, fit for purpose systems with some variation away from current standards may be acceptable.

5.2 General layout principles

Most schemes will need to incorporate central communal facilities serving all the residents and the local community.

Social groupings of eight to ten flats through the form of linked buildings may retain a domestic scale and avoid long corridors. The placement of support facilities such as assisted bathrooms, and smaller lounge spaces with regard to distances and accessibility also needs to be considered.

Generally a mix of dependency levels of residents across all floors should help to create community, and conversation between neighbours.

5.3 Circulation

Good practice has found that circulation areas designed to reflect the following are of benefit to the residents and others:

- Avoid long corridors which can feel institutional and affect accessibility

- Maximise the use of daylight

- Create clear circulation patterns allow residents to orientate themselves

- The ability to see out at regular points aides orientation and enhances the space

- Regular seating areas provide rest, and meeting points

- Ends of corridors which have a seating area avoids frustration by residents with a propensity to wander

- Avoid dead ends which have fire risks and issues for dementia sufferers

- Ensure wheelchairs can pass safely

- Generally the circulation can be designed as a positive social space linking the flats rather than just a means to access the accommodation

- Artwork and features at key access points and changes in direction to aid orientation

- Handrails to assist physically frail residents

- Level thresholds allow access

- Entrances to flats ideally should be slightly recessed to avoid ranks of entrance doors, and to provide a private space by the front door. This also gives residents the potential to personalise their front doors, which can help to prompt memory

- Circulation should be internal to avoid residents having to go outside to gain access to central facilities

- Fire doors ideally should be on hold open devices linked to the fire alarm system and ideally recessed flush to reduce snagging points

- A 300mm space is required to the leading edge of all doors to facilitate ease of use by wheelchair-bound residents, in accordance with Approved Document Part M

- A means of identifying front doors by colour and/or personalisation is preferred

- Avoid a monotonous succession of doors (institutional)

- Whilst a variety of spaces is encouraged, unnecessary turns and projections are best avoided in order to prevent disorientation

- Blinds can give control of uncomfortable glare from windows at the end of corridors during daytime hours as well as curtains for night use.

5.4 Lifts

Lifts are more convenient when located adjacent to central facilities with a clear 'waiting' space in front of them. If the lifts are intended to be used for evacuation they will require a lobby, ideally with hold open devices.

Good practice has found that clear indication of arrival to each floor through signage / way-finding / colour contrast/feature wall colour / object identification/artwork, etc. helps residents orientate themselves.

The sizing of lifts in relation to the transportation of wheelchair users and stretchers etc will aide the use of the building.

Experience has shown that consideration of whether mirrors should be provided in lifts should be judged, as these can cause confusion to residents with dementia.

Ideally, at least two lifts allows access in the event of a breakdown with one wheelchair lift, and the other a stretcher lift.

5.5   Interiors generally

A key objective is to create a homely environment and avoid an institutional feel. This may be achieved by arranging flats in small social groupings. The sense of homeliness can be increased through the use of familiar fittings such as decorative fireplaces in lounge areas, wall lights and carpets and furnishings. Particular attention needs to be given to the light fittings to ensure that they are non-institutional, yet provide sufficient light to assist those with visual impairments.

Good practice has found that corridors 1800 mm wide allow wheelchairs to pass, and with natural light at the ends and at strategic points will give a feeling of light airy spaces. Consideration of seating areas and lounges at the ends of corridors with resting areas on a circulatory routes can aid residents with dementia who are prone to wandering and also create a more homely and less institutional environment. Often schemes have recessed entrances which create a semi private approach to each flat from the corridor.

Good practice has found that a variety of carefully chosen and coordinated colour schemes assists residents to identify their flat and orientate themselves within the building. Furniture should be carefully selected to meet the care needs of the residents and also continue the homely feel whilst providing the correct support. Schemes with under-floor heating have avoided large radiators impinging on rooms and hot surfaces issues. Similarly, schemes with recessed sprinkler heads have ensured that the services do not intrude into the domestic ambience of the rooms. Designers are recommended to consult with the Building Control and the Fire Authority with regards to sprinklers.

Good practice has found that the following considerations have lead to successful schemes:

- Adequate ventilation through regular windows will avoid overheating and stale air in corridors

- Ensure excessive effort is not required to open doors (swing free closers are a good option to consider)

- A place to rest bags or objects adjacent to the flat entrance so residents can use a key to open the door

- Adequate lighting by the flat entrance to allow residents to observe who is calling at the door

- Window sills of an appropriate level to allow seated residents to see out

- Handrails which return into the wall at the end

- Lever handles which are able to be used by those with restricted grip, and have a return at the end

- Fully-lined curtains in all Flats and communal spaces, with blackout linings to bedrooms avoids sleep disturbance. Consider robust fittings and fabrics suitable for hotel or healthcare environments.

Toilet/Shower Rooms

- Homely as possible in resident areas

- Relaxing, healing and non-institutional in ambience, which is a positive experience for the resident. Assisted bathrooms, Treatment Rooms, Hair Salons, etc. can form a suite of Spa Rooms which should be accessible for both residents and non-residents

- Carefully consider the ease of access on the approach to the toilet/shower room

- Outward opening doors will allow access by staff, should a residents fall against it

- A simple lock (which can be released from outside in an emergency)

- Work to the current Building Regulations Part M and British Standards which give the configurations for wheelchair access to WC's and to showers

- Showers with level entry and a robust shower seat and rails

- Shower doors with a seal at the base which avoid excessive water across the room. Shower curtains provided in addition to half height doors to contain the water

- Selection of robust sanitary fittings and support rails

- Wheelchair accessible layouts including knee space to basin area and suitable layout to enable additional fixings of support rails in the future.

Loose Furniture

The following considerations will aide the selection of appropriate furniture:

- Furniture which is robust and fit for purpose

- A variety of heights and styles of chairs to give a broad range of choice is important

- A 'family' of seating creates a homely atmosphere and provides choice, e.g. two-seater sofas, tub chairs, some high backed armchairs, lounge chairs, etc. and helps to avoid an institutional look

- Dining tables should be sturdy, with some being height-adjustable, and should be able to accommodate wheelchairs. Square or rectangular tables can often give more flexibility as they can be pushed together to create larger groups on occasion

- Dining chairs with a mix of ones with arms, and ones without, with vinyl upholstery for ease of cleaning

- Fabrics which are impervious-backed to healthcare standards, and seat pads which include pressure-relief foam

- Consideration should be given to the ability to move furniture around the building if necessary.

5.6   Colour contrast and material selection

- Use of different colour pallets to distinguish between floors and or clusters of flats. Colour contrast the resident's doors to distinguish them from the walls is good practice and a Building Regulation requirement

- 30% tonal contrast between all surfaces is required

- Avoid "bands" or border strips of colour on floor surfaces as residents can perceive it as a barrier or step

- Experience has shown that highly patterned carpets which can cause visual confusion for residents with dementia or visual impairment, or both

- Skirting boards which are continuous across the base of riser cupboards make them appear as part of the wall and avoid confusing them with doors to rooms

- Riser cupboard doors and doors to non-resident areas which are painted in with the wall colour so that they are visually lost within the wall will reduce confusion and frustration among residents with dementia (if they try to open doors but find that they are locked)

- Sufficient colour contrast to highlight the location of fittings

- Fittings installed on a continuously-coloured background

- Satin finish tiling used to help reduce glare for people with visual impairment.

A good colour contrast between walls, floors, doors and architraves, as well as fittings and furniture, assists residents with visual impairment in identifying the different surfaces and edges of their surroundings. Good practice has found that patterns should carefully selected so as not to cause confusion between, for example, the edge of a chair and the carpet.

Colour schemes from each area, and at the entrance to each flat gives each group of flats an individual look. This can assist residents in locating 'their home'. Good practice has shown that measures should be taken to ensure non-resident areas such as stores and staff areas have the facility to be locked off and the doors and frames are 'visually lost' in the wall colour to detract residents from trying to enter restricted areas. This could lead to confusion and anxiety as they attempt to action a sign on a door - for example a door with a 'push' sign on it - only to find it locked.

The following features which aides residents represent good practice and are found within the Building Regulations:

- A 30% tonal contrast between all surfaces: Floors to walls; walls to ceilings; walls to doors/architraves

- Skirting with the same Light Reflectance Value (LRV) as the wall

- The LRV of a wall with 30 points different from that of the floor and ceiling

- LRV of door surround (architrave and frame) of 30 points different to that of the wall

- The door surround should contrast with the wall. The purpose of this is that if the door is open and the wall in the background and foreground are the same colour the opening can still be identified

- The surface of the leading edge of any door that is not self-closing or is likely to be held open, should contrast visually with the other door surfaces and its' surroundings

- Handrails to both sides of corridors and stairways. A change in material and colour at changes of direction, as well as textured indicators, will assist residents with visual impairment in identifying the route through the building

- Shiny surfaces should generally be avoided, particularly in relation to floor finishes. Tiling in a satin finish reduces glare that can confuse residents with visual impairment. See above.

Careful consideration should be given to specification of appropriate floor finishes with regard to the following:

- Carpet with an impervious backing and a pile that is not too deep so that it doesn't cause tracking of wheelchairs

- Entrance matting of a closed type construction so as to avoid walking sticks getting stuck, and the pile short enough not to cause tracking

- Vinyl or rubber flooring which can be easy to clean and slip-resistant as appropriate. Avoidance of slip-resistant vinyl's that have too high a carbon chip content, which can cause visual confusion

- Threshold and transition strips as flush as possible and which match in with the flooring colour as much as possible so as not to cause a 'visual step'.

Interior timberwork painted with satinwood as opposed to gloss reduces glare.

Use of patterned wallpapers should be carefully considered as they cause problems in the following ways:

- Bold patterns may be over stimulating

- Small patterns such as geometric ones can produce blurred vision and eye fatigue

- Vertically striped wallpaper may make some people feel dizzy

- Curved and angled lines on walls can affect balance

- Still life patterned wallpaper can be confused with reality.

5.7   Designing for dementia

Dementia groups design guidance includes the following recommendations:

- Observing a domestic scale

- Creating a homely environment for residents

- Using familiar materials and colours.

There is a reduced capacity for people with dementia to be able to judge risk or foresee danger; forgetfulness is another problem that can lead to danger in some areas. It is also quite common for people with dementia to get lost trying to find their way around a building. This reflects a person forgetting information such as the location of one room in relation to another. If numerous visual cues or reminders are incorporated into the designed environment, these can help by acting as way-finders and thus lessen the problem.

Use of good redundant 'cueing' techniques, way-finding and orientation, familiarity, scale and security can be of benefit. For example, providing well-lit, inviting entrances to day rooms, natural lighting, changes in floor and wall textures, colours, identifiable architectural features, recognisable and distinctive individual room designs to compensate for residents' sensory and memory losses.

Clear glazed screens to communal areas can permit residents to understand the use of a room without resorting to signage.

Clear and uncomplicated circulation routes are easier to interpret and reduce the possibility of residents getting lost and frustrated.

There can be a need for opportunities for residents to personalise the space, for example a distinct frame for a photo , picture or shelf by residents' flats.

Avoidance of dead-end corridors and stairs with blind turnings. In order to minimise confusion and frustration of residents with dementia, lounge dining rooms and seating areas can be located to the ends of corridors to give residents a 'goal' if they are prone to wandering.

Access and routes to non-resident areas are best understated so as not to alert residents with dementia to their presence.

The creation of seating areas to break up corridors provides meaningful areas to walk to for the wandering resident.

Consideration may be made of a dedicated dementia wing of flats which may allow residents to be catered for with without possible disturbance of other residents. However, this is difficult to fully implement, for example a person in another area may develop dementia.

5.8   Disability Discrimination Act (DDA)

The DDA is non-prescriptive in offering design solutions, but aims to ensure that reasonable access is achievable for all members of society to public buildings. The main supporting legislation for assessing the effectiveness of access issues are BS 8300:2001 and Approved Document Part M, neither of which are 'retrospective'.

Key items for consideration in all buildings are:

- Access into the site and from car parks up to and through principal entrances

- User-friendly entrance doors/access controls

- Appropriate WC facilities for visitors, preferably close to principal entrances.

These need to be considered and other topics, including accessible toilet and bathroom design, lifts, staircases, corridors, colour contrast issues and signage design.

Typically, fire doors to all rooms where residents may wish to go e.g. flats and

lounges should be fitted with 'swing free closers' which are activated to close in the event of a fire. Cross-corridor doors are to have 'hold open devices' which generally allow free access, but release the door in the event of a fire. The selection of door closers is now being driven by the requirements of Approved Document Part M which imposes a maximum closing force of 20N on any door. Thresholds should be level.

Future adaptations for consideration, which would enable residents to stay in their homes might include:

- Automatic doors to Flats

- Adaptable kitchens with height-adjustable worktops and fittings

- Adaptable bathrooms with height-adjustable basins, mirrors, shower seats, etc.

- Pull-down wardrobe rails.

5.9 Bariatric care

Current trends in obesity may prompt some consideration given to the level of care and need that the facilities can offer and be designed to meet. Flats designated for Bariatric Care (care of residents over 26st) if included would need to be located on the ground floor. These require wider doorsets to accommodate larger specialist equipment, wheelchairs, shower chairs, etc.

The bedroom and bathroom would need to have the ability to take a heavy duty XY ceiling track hoist fitted that will lift up to 45st. The bathroom if furnished will need to accommodate larger residents. Consideration should be given to floor-mounted rails, larger WC pans, bidet-toilets, etc. As stated, ideally the units designated for Bariatric Care should be located on the ground floor with the possibility of the fire evacuation leading to the consideration of bed evacuation.

5.10 Acoustics

Good practice has shown that measures should be taken to ensure a hearing assistance system for the reception desk and the lounges together with the flexibility of portable battery-operated induction loops (stored centrally), is be available for use by residents with impaired hearing. These can be taken wherever they are required. The reverberation time of large spaces needs to be controlled in accordance with relevant guidance to improve intelligibility. Sources of noise, in particular low frequency noise from lifts, laundries and kitchens are best isolated to avoid the disturbance of residents.

5.11 General signage

Signage to comply with Approved Document Part M which includes guidelines such as minimum character size, sentence case, embossing, height, type face, etc. The Sign Design Guide produced by The Sign Design Society and JMU, which is cross-referenced in Part M, is a useful reference. Appropriate signage delineating disabled parking bays will be designed in accordance with BS 8300:2009.

5.12 Protection from falling, collision and impact

Stairs should be designed in accordance with the Building Regulations Part K, but with reference to Part M.

Guarding design should be in accordance with Diagram 11. The Building Regulations require stairs and ramps to be guarded to protect people from falling by means of a 1100mm high guard at landings and a 900mm high guard on flights.

Good practice has found that where possible the stairs should been designed to avoid a straight flight in order to avoid falls. The balustrades are best solid, mitigating the need for an open stair well and avoiding possible trapping of limbs, heads etc.

The Building Regulations require opening windows should to be set above 800mm. Opening windows in addition to this requirement should be restricted to 100mm to avoid a person climbing over the guard. This also complies with the requirement to avoid persons moving about the building from colliding with open windows. The windows should also comply with BS 6399 for withstanding a force as a barrier and should ideally comply with Secure by Design.

Good practice has found that powered doors to the entrance should been designed to fail-safe open and arranged to have a clear view to either side. They also are to have sensors fitted to limit the possibility of people becoming trapped.

The Building Regulations require vision panels are provided in doors on main traffic routes with a minimum visible zone between 900mm and 1500mm above floor level.

5.13 Hot surfaces and risk of scalding

Careful consideration of the mechanical services systems and their integration into the buildings will help mitigate the risk of scalding from hot surfaces.

Good practice has found that all pipe work should be boxed in (or contained within ceiling voids and designed riser positions). If radiators are used these shall generally be a low surface temperature design.

Good practice has found that all hot water outlets other than those in the kitchens should to be protected by TMV3 standard thermostatic mixing valves which are failsafe and shall be set to provide safe hot water temperatures (ie, close to 43ºC).

Consideration of fittings in communal lounge spaces which include the provision of lockable base and wall cupboards, to enable staff to lock away any potential hazardous equipment such as toasters, kettles and microwaves which may pose a risk of scalding or hot surfaces may be of benefit.

Central kitchens and laundries which are lockable with access limited to authorised staff only is a good measure.

Under floor heating generally will reduce the risk of burns from radiators and pipes.

5.14 Lighting generally

Good natural light should be maximised in the design. Generally, people over the age of 65 need lighting four times as bright as they did when in their 20's. Low light levels reduce the ability to read, lip read and increase the risk of falls.

The correct lamp must be fitted to ensure that the design light levels, colour recognition, and aesthetic appearance is achieved. Low level sills allow residents to see out from a seated position whilst avoiding windows being confused with doorways.

6.   Services

6.1   Emergency call and resident monitoring systems

The consideration of the type of system to be installed within the new buildings will need to reflect how the residents can maintain independence with an appropriate level of assistance without intrusion on their rights. Whatever system is adopted the emphasis should be on making the system as visually non intrusive, and non institutional in appearance as possible. Wireless technology should be incorporated as much as possible. As technology continues to develop in this area it is considered prudent to make the base system as flexible as possible to accepting additional equipment and upgrades.

6.2   Emergency/back-up generator supplies and fuel/storage

All developments must comply with current legislation relating to the provision of emergency power. The consideration of standby generators in view of the likely level of frailty of residents is best undertaken on a risk assessed approach. Installation and maintenance of generators is expensive and so the benefits of their inclusion would need to be carefully considered.

In the event of the loss of the main electrical supply to the building a standby generator would automatically start and power up the unit. The generator would be sized to accept the total load of the building so that the building can continue with all its normal daily functions. If provided the generator would be tested for operation on a monthly basis.

6.3   Infection control arrangements

Environmental health considerations generally require that wash hand basins are to be provided in all clinical areas, food preparation areas, resident washing areas, sluice rooms, cleaners' rooms, staff areas, laundries, OT rooms, medical rooms and kitchenettes, and generally as close as possible to the exit point of the room.

In clinical and hazardous areas wash hand basins should be stainless steel with wall mounted lever mixer taps to avoid cross-contamination. Hand rinse basins will not be fitted with a plug or chain-stay hole to avoid sitting water.

Soap dispensers and paper towel dispensers should be provided at each washing facility.

6.4   Services access

Service access panels within the occupied parts of the building such as the corridor, en-suite toilets, lounges should be locked for safety as should the plant room area.

7.   Bibliography

Age Care - The Royal Surgical Aid Society (2002) *The Bradbury Centre* [online: web] Viewed: 12 November 2002. http://www.agecare.org.uk/BC.html

Alzheimer Scotland – Action on Dementia (2002). *Putting Quality First: The need to improve long-stay care for people with dementia.* [online: web] Viewed 25 November 2002. www.alzscot.org/policy/longstaysum.html

Armitage Shanks *Special Care – Designing to Enable (module 6).* Rugeley.

Barker, P, Barrick, J, Wilson, R. (1995) *Building Sight: A handbook of building and interior design solutions to include the needs of visually impaired people.* (Royal National Institute for the Blind) London: The Stationery Office.

Baumker, T, Netten, A, Darton, R. (2008) *Costs and outcomes of an Extra Care housing scheme in Bradford.* (PSSRU) Joseph Rowntree Foundation.

BBC (2004). *The suit that makes you feel old.* [online: web] Viewed: 5 August 2004. www.bbc.co.uk/1/hi/health/3538220.stm

Benson, S. (1996) "Designer Lifestyle*." Journal of Dementia Care.* Nov/Dec 1996, p. 16-17.

Best, Lord R., Moore, B. (2009) *The Future of Extra Care and Retirement Housing.* Staines: Hanover Group.

Boot, A., Wilkinson, V., Jones, C. (2005) *Colour and materials: integrating the use of colour effectively with different materials and products – Case Study: Newcastle Academy.* (RMJM, Newcastle College, RMJM) Colour In Design conference, RIBA.

Brawley, E.C. (1997) *Designing For Alzheimer's Disease: Strategies for Creating Better Care Environments.* New York: John Wiley & Sons Inc.

Bright, K. Prof. (1995) *DDA and Colour: the impact of the DDA on the use of colour in the design of the built environment.* (Keith Bright Consultants Ltd & The University Of Reading) Colour In Design conference, RIBA.

British Standards (2009) *BS 8300:2009 Design of buildings and their approaches to meet the needs of disabled people.* London: BSI.

British Standards (2010) *BS 8493:2008+A1:2010 Light reflectance value (LRV) of a surface – method of test.* London: BSI.

Callagan, L, Netten, A, Darton, R. (2009) *Developing social well-being in new Extra Care housing.* (PSSRU) Joseph Rowntree Foundation.

Cantley, C, Wilson, R.C. (2002) *Put yourself in my place: Designing and managing care homes for people with dementia.* Newcastle: Policy Press.

Caulkins, M.P. (2002) "Design a better bathroom: relaxing and comforting*" Journal of Dementia Care,* May/June 2002.

Caulkins, M.P. (2002) "More than carpets and chintz – creating a place for living." *Journal of Dementia Care*, Nov/Dec 2002.

Caulkins, M.P, Brush, J.A. (2002) "Designing for dining: the secret of happier mealtimes." *Journal of Dementia Care,* March/April 2002.

Centre for Healthcare Design (2000) *Better Health Buildings.* Leeds: NHS Estates.

Commission for Architecture & the Built Environment (CABE) (2006) *Designed with Care: Design and neighbourhood healthcare building.* London.

Commission for Architecture & the Built Environment (CABE) (2009) *Homes for our old age: Independent living by design.* London.

Commission for Architecture & the Built Environment (CABE*) Lewisham Primary Care Trust Children's and Young People's Centre,* London.

CSIP (2011) *The Extra Care Housing Toolkit.* London: Housing Learning & Improvement Network CSIP Networks.

CSIP (2008) *Housing LIN Extra Care Housing: What is it? Factsheet No 1.* London: Housing Learning & Improvement Network CSIP Networks.

CSIP (2008) *Housing LIN Design Principles for Extra Care Factsheet No 6.* London: Housing Learning & Improvement Network CSIP Networks.

Dalke, H. (2005) *Colour Design Research and Application: Healthcare Environments* (Colour Research Centre, Kingston University) Colour In Design conference, RIBA.

Dalke, H, Littlefair, P. J, Loe, D.L.(2004) *Lighting and Colour for Hospital Design: A Report on an NHS Estates Funded Research Project.* (Colour Design Research Group Kingston University) Norwich: The Stationery Office.

Department of Health (2002) *Care Homes for Older People: National Minimum Standards.* London: The Stationery Office.

Department of Health, Prof. Donaldson, L. (2000). *Health Survey for England - Care homes and their residents* [online: web] Viewed 14 November 2002. http://www.offical-documents.co.uk/document/deps/doh/survey00/cchr/cchr01.htm

Dunlop, A. (1995) "Designing with care." *Journal of Dementia Care.* Sept/Oct 1995, p.18-21.

Dutton, R. (2009) *Extra Care Housing and People with Dementia - Summary of Findings* Housing & Dementia Research Consortium.

Habell, M. (Sept 2001) "The evolution of 'Close Care' as user-led care of the elderly in the UK" *The Journal of the Royal Society for the Promotion of Health,* Vol 121, no. 3, pp. 165-173.

Higginson, S. (2005) *The future of colour: discover the latest predictions of colour trends for contract and residential.* (International Colour Authority) Colour In Design conference, RIBA.

Hogland, J.D, Ledewitz, S.D. *Designing to Meet the Needs of People with Alzheimer's Disease.* (extract from chapter 12).

Holloway, G. (2005) *Practical use of colour within an educational environment – Case Study: St Augustine's Primary School, Kent.* (CTM Architects) Colour In Design conference, RIBA.

Housing Corporation (2007) *Design and Quality Standards.* London http://www.homesandcommunities.co.uk/sites/default/files/our-work/design_quality_standards.pdf

Housing Corporation (2007) *Housing Quality Indicators (HQI) version 4.* London.

Housing Corporation (2003) *Scheme Development Standards Fifth Edition.* London.

Joule, N, Levenson, R. (2009) *Housing for People with Sight Loss: A practical guide to improving existing homes Good Practice Guide 4,* London: Thomas Pocklington Trust.

Judd, S, Marshall, M, Phippen, P. (1998) *Design For Dementia.* London: Hawker Publications Ltd.

Kelly, M. (1993) *Designing for People with Dementia in the Context of the Building Standards.* Dementia Services Development Centre, University of Stirling.

Kelly, M, Carr, J. S. (1995) *An Evaluation of the design of specialist residential care units for people with dementia.* Dementia Services Development Centre, University of Stirling.

King, N. (2009) *20 Years of Extra Care: A Review.* (Housing & Support Partnership) Staines: Hanover Group.

Lifetime Homes (2010) *Lifetime Home (LTH) Revised Criteria.* Habinteg.

Makower, T. (2005) *Maximising the function and use of an environment: using colour intelligently to transform the built environment Case Study: Bankside 123.* (Allies & Morrison) Colour In Design conference, RIBA.

Marshall, M. (1998) "How it helps to see dementia as a disability." *Journal of Dementia Care.* Jan/Feb 1998, p. 15-17.

Miller, E. (1994) *'Using the environment to promote independence and reduce restlessness in dementia patients'.* West Suffolk Hospital.

National Care Standards Commission (2002). *Care Homes for Older People FAQs* [online: web] Viewed 14 November 2002. http://www.carestandards.org.uk/about+us/faqs/care+homes+for+older+people.htm

NHS Estates (1996) *HFN14: Disability Access.* London: The Stationery Office.

NHS Estates (1998) *HFN 19: The Design of Residential Care and Nursing Homes for Older People.* Leeds: NHS Estates.

NHS Estates (1993) *HTM69: Protection.* London: The Stationery Office.

NHS Estates (1999) *HTM 87: Firecode.* London: The Stationery Office.

NHS Estates (2001) *National Standards of Cleanliness for the NHS.* London: The Stationery Office.

NHS Estates (1999) *Wayfinding – Guidance for Health Care Facilities.* London: The Stationery Office.

Office of the Deputy Prime Minister (2004) *Approved Document M: Access to and use of buildings.* London: The Stationery Office.

Office of the Deputy Prime Minister (1995) *Disibility Discrimination Act 1995.* London: The Stationery Office.

Pallister, M. (2003) "Architecture with care." *Journal of Dementia Care.* July/August 2003.

Parsons, M. (2005) *Finding your way around colour: a practical examination of the importance of colour for wayfinding and signage in buildings.* (RNIB JMU Access Partnership) Colour In Design conference, RIBA.

Pearson, J. (1999) "The colour coded Moorside home for older people" *Elderly Care.* Vol 11, no. 1, pp. 28-9.

Pennington, R. (1996) "Blowing the whistle on bad design." *Journal of Dementia Care.* March/April 1996, p.24-26.

Phippen, P. (1998) "Jewels in the crown – shared principles, varied solutions." *Journal of Dementia Care.* Jan/Feb 1998. p. 18-19.

Phippen, P. *The Abbeyfield Lecture 2000: Building for Longevity* (PRP Architects).

Registered Nursing Home Association (2000). *Care Standards Update Edition no. 1 November 2000* [online: web] Viewed: 14 November 2002. http://www.rnha.co.uk/csu/csu01.htm

Registered Nursing Home Association (2002). *Care Standards Update Edition no.17 April 2002* [online: web] Viewed: 14 November 2002. http://www.rnha.co.uk/csu/csu17.htm

Registered Nursing Home Association (2002). *What is a Nursing Home?* [online: web] Viewed: 14 November 2002. http://www.rnha.co.uk/page_what_is_nursing_home.htm

Research Group for Inclusive Environments (2003) *Adequacy in colour contrast between a range of door finishes and door furniture for people who are visually impaired.* University of Reading.

Research Group for Inclusive Environments (2004) *Colour and Contrast - A design guide for the use of colour and contrast to improve the built environment for visually impaired people.* Project Rainbow, University of Reading.

Research Group for Inclusive Environments (2004) *Colour, Contrast and Perception: Design Guidance for Internal Environments.* Project Rainbow, University of Reading.

Research Group for Inclusive Environments (1995) *Colour Selection and the Visually Impaired - A Design Guide for Building Refurbishment - First Advisory Paper.* Project Rainbow, University of Reading.

Research Group for Inclusive Environments (1996) *Colour Selection and the Visually Impaired - A Design Guide for Building Refurbishment - Second Advisory Paper.* Project Rainbow, University of Reading.

RNIB (2010). *Seeing It From Their Side: A guide to recognising and supporting sight loss in your care home.* London: RNIB.

RNIB Magazine: New Beacon (2002). *Cornwall Care becomes 'Visibly Better'.* [online: web] Viewed 25 November 2002. http://www.rnib.org.uk/newbeacon/mar02/welcome.html

Society Guardian (2002). *There's no place like home.* [online: web] Viewed 25 November 2002. http://society.guardian.co.uk/longtermcare/story/0,8150,673875,00.html

Stamp, N. (2002) *Walk The Floor Report for Chrismas Lodge, Aldershot.* Dementia Voice.

Sunderland City Council *Accommodation with Support – Design Guide.* Sunderland.

Tenant, I. (2005) *Examining the growing use of art and sculpture within the built environment.* (Plan Art) Colour In Design conference, RIBA.

The Medical Devices Agency (2001) *Advice on the Safe Use of Bed Rails.* London: Department of Health.

The Personal Social Services Research Unit (PSSRU) (2009) *Housing and Care for Older People Newsletter no. 3.* University of Kent.

Thorpe, S. Habinteg Housing Association Ltd (2006) *Wheelchair Housing Design Guide, second edition.* Watford: BRE Press.

Torrington, J. (1996) *Care Homes For Older People: A Briefing and Design Guide.* London: E & FN Spon.

Van-der-Heide, R. (2005) *Enlightenment: cost-effective ways of using lighting to alter the context of an environment.* (Arup Lighting) Colour In Design conference, RIBA.

Wagland, J, Peachment, G. (1997) *Chairs: Guidelines for the purchase of lounge, dining and occasional chairs for elderly long term residents.* Dementia Services Development Centre, University of Stirling.

Wel_hops European Work Group (2007) *Guidelines for the planning of houses for senior citizens.* Ervet.

Wright, A. (2005) *Colour psychology: the impact of colour on people's perceptions and design.* (Colour Affects) Colour In Design conference, RIBA.