



Essex County Council

Design Guide

Supported Living Accommodation
for Adults with Complex Needs.



Essex County Council



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Introduction

The Vision

To meet the future needs and aspirations of adults with complex needs, Essex County Council, ECC, have commissioned this design guide to promote a supported living accommodation model which encourages tenant well-being and independence. ECC requires high quality buildings that provide:

- Ambitious dual aspect dwellings that suit differing and complex care needs.
- Small, domestic scale buildings that fit into their local communities.
- Tenant independence: comfortable and secure one-bedroom dwellings with accommodation specifically adapted for the individual tenant and tenant's carer / carers.
- Tenant wellbeing: promoted in numerous ways including, high levels of natural daylight, enhanced acoustic separation between dwellings and direct connection to gardens.

Aim of this guidance

This document provides guidance on the design of housing for adults with varying complex needs who are capable of being supported within specialist living accommodation. It outlines design standards and considerations required to assist the tenant.

The design guide is aimed at those commissioning, creating, reviewing and assessing new build small supported living accommodation projects, however the principles outlined are relevant to all housing for adults with complex needs. The guide broadly describes the characteristics of the tenant and the design considerations that should be adopted by development and construction teams, housing managers, care providers and professional teams involved in the delivery process.

Through adhering to this guide and related guidance, it is intended that new ECC supported housing, for adults with complex needs, will achieve excellence in design and quality.

Brief Development

Each supported living project, for adults with complex needs, should be derived from the design principles set out within this guide and respond to its site in terms of location, context, orientation and particular features. Supported living schemes are to contain five to seven dwellings with associated staff and ancillary accommodation.

The scheme model section outlines the principles and adjacencies required for successful projects for adults with complex needs. The dwelling section illustrates two dual aspect plans (one plan is wheelchair accessible/adaptable and the other plan is for a wheelchair user). Both base dwelling plans can be amended with bespoke adaptations for individual tenants; specific adaptations are referenced in the document in two sections 'The dwelling' and 'Technical and performance'. It is envisaged that one dwelling per scheme will be for a wheelchair user.

Brief and design development should be regarded as a collaborative process. The designer should work closely with ECC, commissioners, care providers and other stakeholders in understanding the particular needs of the tenant and the proposed care and support strategy.

Adults with complex needs

Features of complexity for learning disability and/or autism – Residential Services

Placements made into residential homes for adults with learning disabilities and/or autism are made on an individual basis dependent on the needs of the individual for whom care is being sought. It is recognised that some adults placed into residential services may require a more specialist service with a higher funding rate than ordinarily available.

Complexity is to be addressed on an individual-by-individual basis and the criteria are divided into two categories, both of which have to be evidenced for the higher funding rate to be considered:

1. Features of the individual's circumstances and the needs they present.
2. Features expected of the provider who has been identified as competent to support them.

A standardised definition of complexity is needed to ensure transparency in decision making around agreement for this higher rate of funding. It should also be noted that:

- Any decision on an individual's complexity and the complexity of the service they require will be subject to review.
- The decision is to be agreed with the budget holder who will accurately record the evidence to agree or decline a request for an enhanced rate whether this relates to core hours or individual 1:1 hours.
- Decisions about the level of funding agreed will be recorded and shared.

Features of individuals who could be identified as complex:

Challenging behaviour is defined as; 'culturally abnormal behaviour(s) of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities" (**source:** Emerson 1995).

All behaviours that are identified will therefore be considered in line with their intensity, frequency and duration and may include:

- Self-injurious behaviour that requires specialised training or skilled support and/or significantly high levels of support.
- A clearly identified risk to support workers health or wellbeing.
- There may be behaviour that limits access to the community therefore restricting social inclusion and/or behaviour that leads to serious self-neglect with a substantial impact on the health and wellbeing of the person.
- Behaviour that requires additional monitoring and/or considerable restrictions to reduce risk to others such as those with a Forensic History.
- Presence of a Positive Behaviour Support Plan where the content demonstrates complexity.
- A person presenting with a specific syndrome or multiple needs or a number of chronic conditions that require significant intervention over and above what could be provided by a standard non-specialist service and support team. This could include but is not limited to Learning Disabilities/ physical disabilities/ autism/ mental health issues/ communication difficulties/ acquired brain injury and/or dementia and is often a combination of multiple needs that require significant levels of specialised support.
- An individual who is at risk of placement breakdown or hospital admission and/or who have experienced multiple previous placement breakdowns due to their levels of need and/or risk.



Design principles

Key design considerations for the supported living model



Local community and inclusion

- The scheme must provide a supportive environment where the privacy, independence, and well-being of tenants can be maintained and promoted within a local community.
- The scheme's building design and landscaping should integrate contextually into its setting. Attractive external and internal spaces to be provided with a domestic aesthetic. An institutional appearance needs to be avoided.
- Adequate parking should be provided for tenants, carers, and visitors; carefully landscaped with trees and plants to reduce audible and visual intrusion to the local community.



Acoustic performance and comfort

- Dwelling design and enhanced acoustic performance to contain noise within the home.
- Adjacencies to others to be carefully considered in the overall scheme design, to limit noise disruption to other tenants and the local community.
- All dwellings to have generous levels of natural daylight.



Personalisation and technology

- Provision of long-term sustainable tenancies, enabling occupants to live in an adaptable environment that meets their specific needs.
- All dwellings to have a private garden with a patio area.
- Kitchens to be purpose-designed to match the individual needs of tenants.
- Additional design features can be selected depending on the tenant's requirements, for example, dimmer switches for lights, ceiling track for an overhead hoist, anti-ligature fixtures and fittings.
- Use of assistive technology to be considered for each dwelling supporting tenants to live independently / enhancing outcomes for individuals.



Environment and sustainability

- Developments are to be environmentally friendly and energy-efficient, with excellent levels of insulation for a warm and quiet home.
- Avoid overheating, as tenants are likely to spend a high proportion of their time at home.
- Use of dual aspect dwellings, to enable cross-ventilation, and solar shading where required.



Robust and resilient construction

- Robust traditional construction with resilient doors and windows.
- Fixtures and fittings to be easily replaced with limited use of bespoke items.
- All plumbing and pipework to be concealed.
- Underfloor heating, to avoid radiators which can be a danger to the tenant.



Safety and security

- A secure front door, unlocked with a tenant's own key, to every dwelling.
- Careful siting of locks, to allow differing access within the scheme for tenants or staff.
- Staff override switches for water, electricity, and lighting, located outside each dwelling.
- Alternative means of escape for staff from all the dwelling's rooms except the kitchen.
- Private gardens must not be overlooked by neighbouring properties.



The scheme model

A supported living accommodation scheme should consist of 5 to 7 dwellings. For the purpose of the scheme model diagrams, 6 dwellings are illustrated.

- 6 dwellings
 - 5 x 1 bedroom 1 person 1B1P M4Cat2+ Accessible and adaptable dwellings
 - 1 x 1 bedroom 1 person 1B1P M4Cat3 Wheelchair user dwelling
- Staff facilities
- External amenity including car parking

Please refer to the schedule of accommodation, for more detailed information.

All dwellings are to be single storey. If the allocated site is small, staff accommodation can be positioned above the dwellings. However, substantial acoustic separation will be required between dwellings and staff facilities. In addition, staff accommodation must not overlook the dwellings rear private gardens. Ideally staff accommodation should be kept at ground floor level and placed centrally within the scheme.

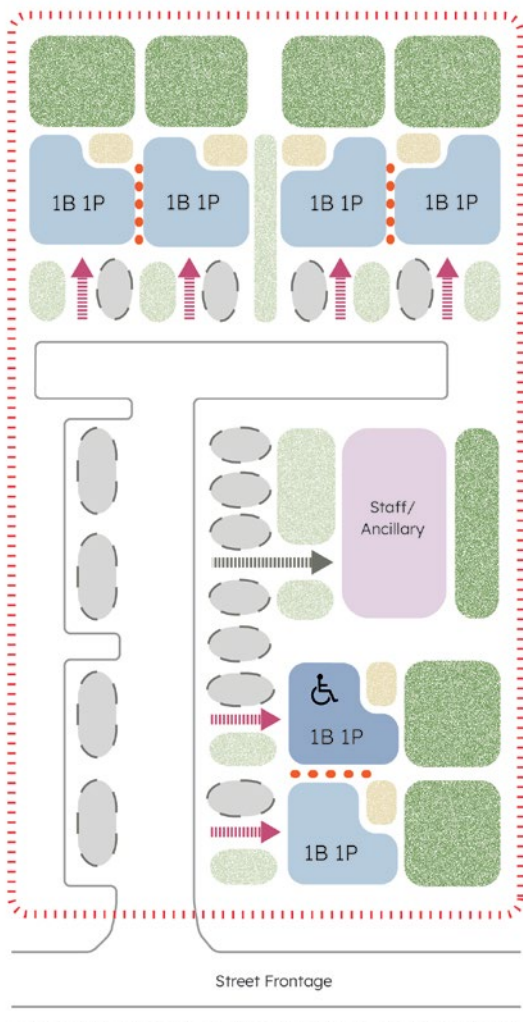
The scheme's layout and hard/soft landscaping should ensure that: -

- Dwelling front façades do not overlook each other.
- The view of passing traffic, from inside the dwellings, is minimised.
- Dwelling entrances should be separated (not paired) with individual paths to the front doors.
- Ideally, a car space should be available close to each dwelling for the tenant's vehicle.

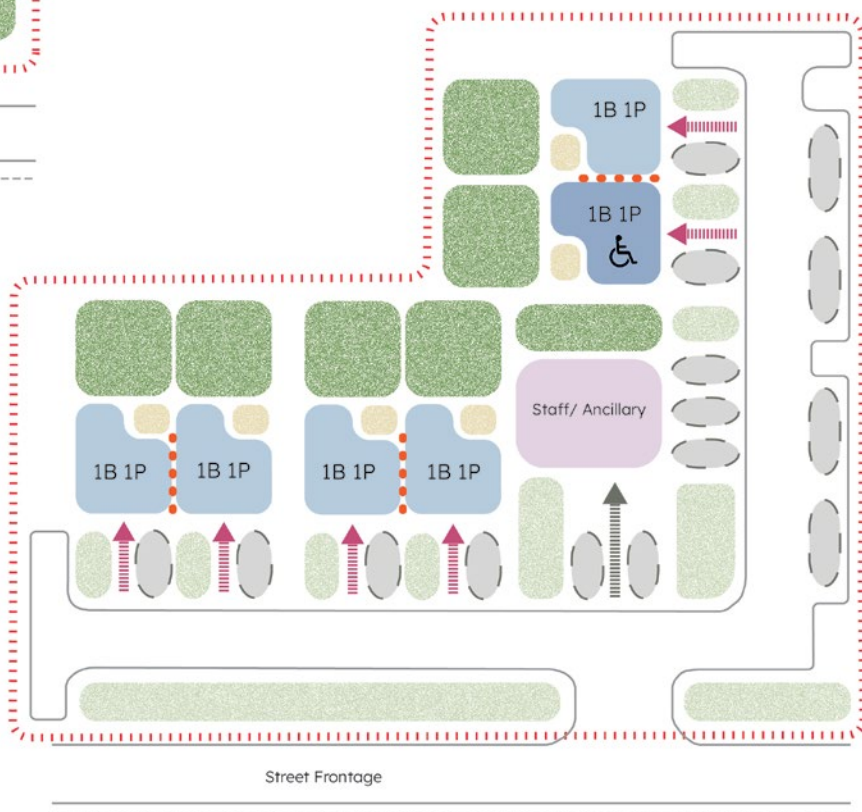
Enhanced acoustic separation between dwellings is essential. Dwellings can be arranged as detached, semi-detached or terraced. The greater physical separation of dwellings will help reduce the impact of any noisy tenants.

Rear private gardens must not be overlooked by neighbouring properties. The dwellings' garden fences or walls must be a minimum of 1.8m high to ensure privacy. Appropriate landscaping/screening may be required to protect the privacy of the tenants and the wider local community. Patios to be separated from one another and neighbouring residences.

The Scheme Model diagrams illustrate the adjacencies / principles for dwellings, staff / ancillary spaces and external amenities outlined in the design guide. However, the simple diagrams do not address site complexities, for example, building orientation to the sun, existing landscape features, the proximity of neighbouring properties, changes in level, rights of way etc.



Scheme model – diagram 01



Scheme model – diagram 02

The dwelling

General requirements

Dwelling plans have been designed in collaboration with ECC for use on supported living accommodation for adults with complex needs.

1bedroom1person 1B1P M4Cat2+ exceeds Building Regulations AD part M4 category 2 - Wheelchair accessible and adaptable dwellings

1bedroom1person 1B1P M4Cat3 meets Building Regulations AD part M4 category 3 - Wheelchair user dwellings.

The dwellings have generous space provision which reflect the tenant's need for one to one or two to one support.

Alternative means of escape are provided from all rooms, except the kitchen, to safeguard staff. The operation of the kitchen should be managed by a risk assessment of individual tenants on a case by case basis. Refer to kitchen text for further guidance.

Enhanced acoustic separation between dwellings is essential. A tenant may generate significant noise, for example, by repeatedly slamming a door, which will impact an adjoining tenant's peace and quiet.

Reducing the impact of noisy neighbours will significantly increase a tenants' well-being. For this reason, ECC requires that living rooms and bedrooms do not adjoin along the dwelling's party walls. The plans have been designed to achieve this, provided dwellings are side by side not mirrored.

The dwelling plans have a dual aspect, ensuring tenant access to sunlight and good levels of daylight. In addition, large windows on two sides of the dwelling will ensure good air movement on hot days when overheating can become a problem.

Level access and underfloor heating are to be provided throughout the dwelling. Level access is also required to the front door and the rear patio / private garden.

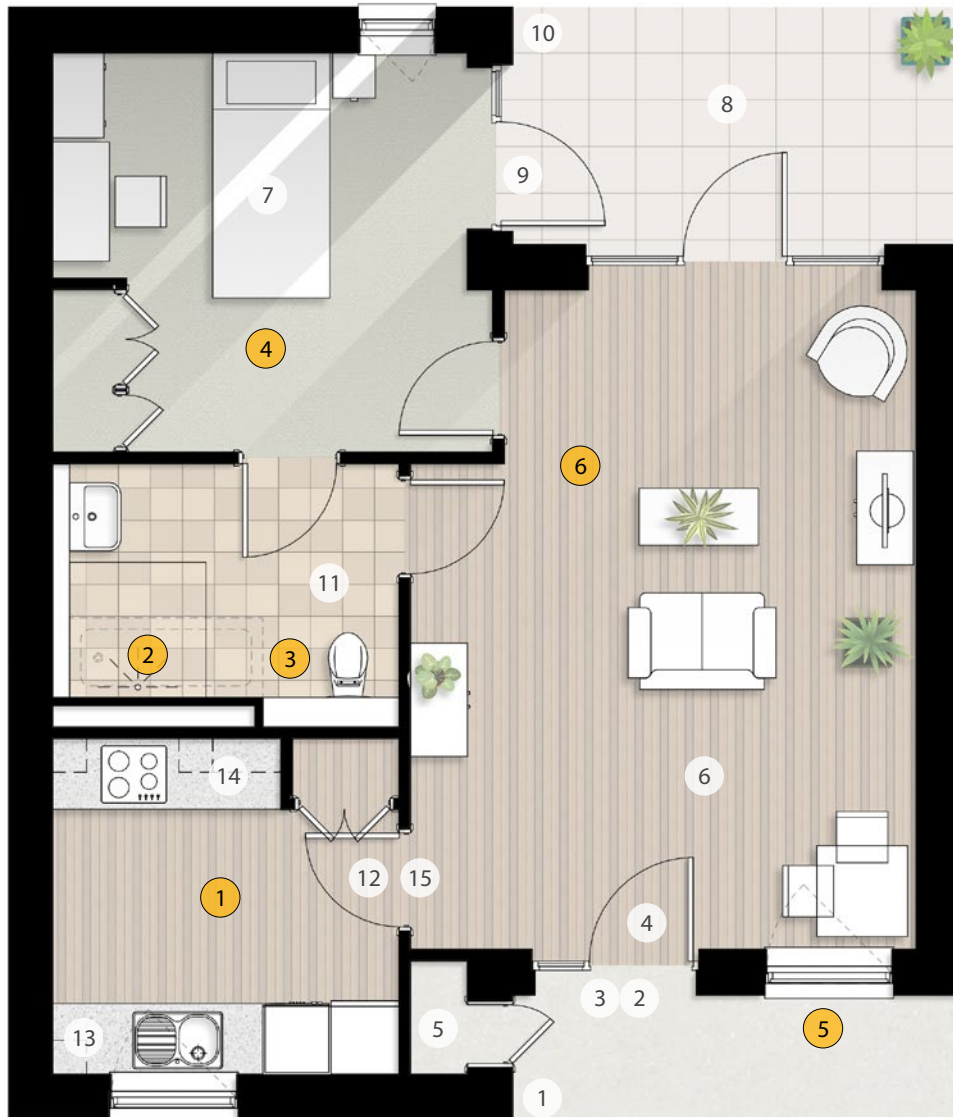
The internal and external construction of the dwelling is to be as robust as possible since it will be subjected to heavier wear and tear than in a typical domestic setting. Refer to technical and performance section of this document for further detail.





The dwelling

Part M4 Cat2+ - Wheelchair accessible / adaptable dwelling, 1 bed 1 person



General dwelling requirements

Entrance

1. Dwelling entrances should be separated from each other to give maximum privacy and space to each tenant.
2. A recessed front door provides a semi-private sheltered space at the entrance to the dwelling.
3. The front door should be well lit, at night, activated by a movement or daylight sensor.
4. Careful suiting of locks is essential to ensure each tenant has their own front door key but tenant's carers can gain access when required.
5. The service cupboard near the entrance is accessed externally, allowing staff to cut off electricity, water or lighting to an individual dwelling if required for tenant safety.

Living Room

6. A simple plan ensures the living room gives access to all the dwelling's rooms. This arrangement ensures that support and visual supervision is more easily achieved by the tenant's carers.

Bedroom

7. The bedroom links directly to the bathroom, with the WC viewed from the bed. Night lighting of the WC may be required as a prompt. Alternatively the bed can be positioned against the wall, dependant on tenant requirements, and still maintain the view of the WC from the bed.

Patio / private rear garden

8. The dwelling plan if terraced or semi-detached ensures that patio areas are separated, giving greater tenant privacy.
9. External doors to the patio act as an alternative means of escape, for staff, from the living room and bedroom.
10. External lighting to be provided to the patio area.

Shower / Bathroom

11. The shower room is designed as a wet room with all pipework hidden.

Kitchen

12. The kitchen door should be fitted with an electronic lock to be used by staff if required.
13. Kitchens designed and purpose made for each tenant. The kitchen layout must ensure that a member of staff working at a kitchen work top cannot have their back to a door. Therefore, a galley style kitchen is illustrated, L or U-shaped kitchens are inappropriate in this setting.
14. A washing machine is required in addition to standard kitchen white goods.
15. It is possible that a tenant's meals will be delivered, and a kitchen will not be required. In this scenario, the kitchens services (electric power points, plumbing and water supplies) would need to be capped and hidden from view to allow the space to be used for another activity.

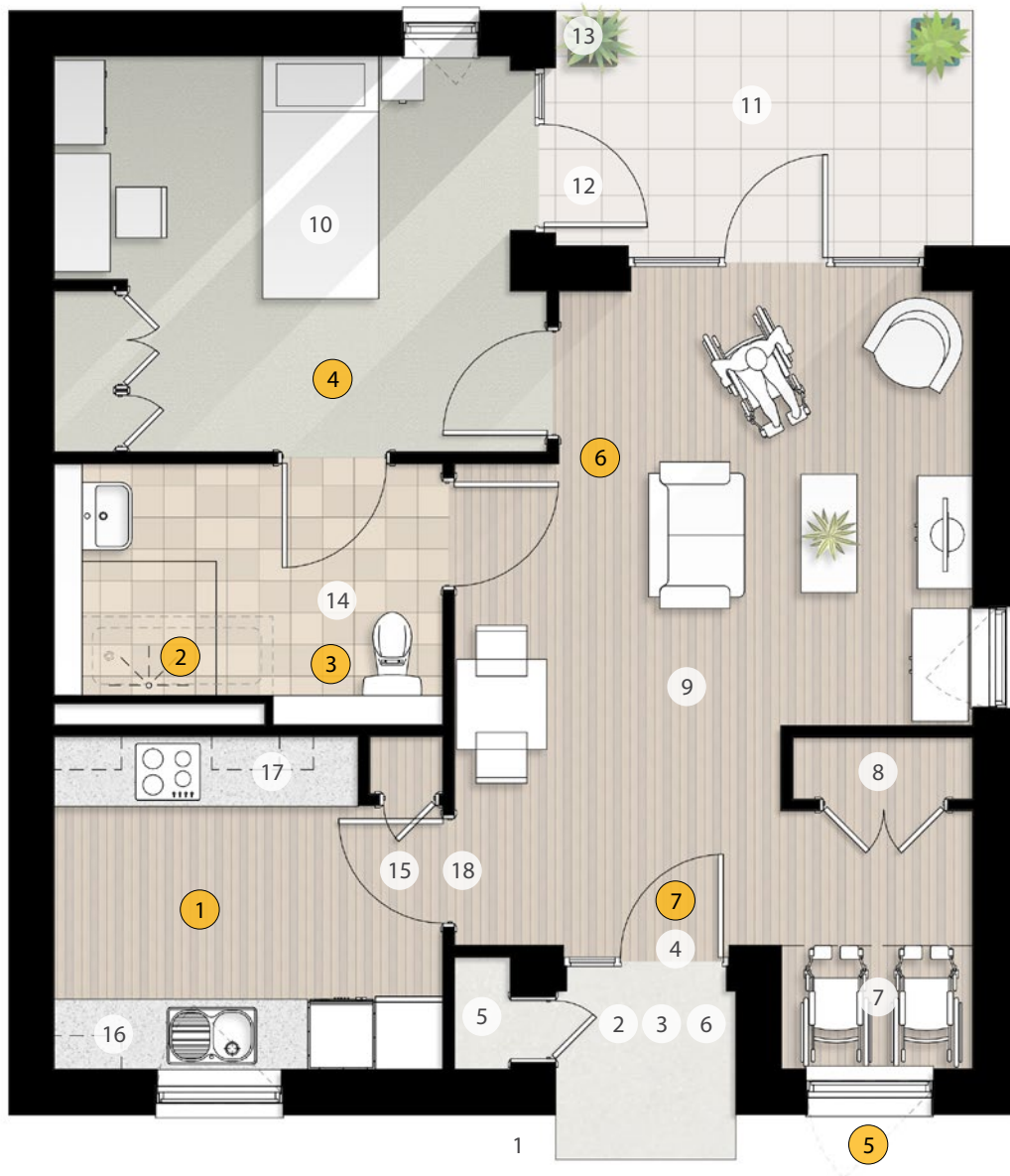
Specific adaptations to the dwelling for individual tenants

1. Kitchen space designed for each tenant.
2. The layout allows a bath to be fitted instead of the level shower.
3. Grab rails can be fitted to suit individual tenant requirements.
4. A ceiling track can be provided for an overhead hoist.
5. To improve privacy, glazing to the front of the property can be obscured.
6. Anti-ligature fixtures and fittings can be installed if required by the tenant. Anti-ligature fixtures and fittings include window and door furniture, door closers, hinges, light fittings, taps, shower heads, towel rails, grab rails, coat hooks, sanitary ware etc.

For specific adaptations to construction for individual tenants, refer to technical and performance section, robust and resilient construction.

The dwelling

Part M4 Cat3 - Wheelchair user dwelling, 1 bed 1 person



General dwelling requirements

Entrance

1. Dwelling entrances should be separated from each other to give maximum privacy and space to each tenant.
2. A recessed front door provides a semi-private sheltered space at the entrance to the dwelling.
3. The front door should be well lit, at night, activated by a movement or daylight sensor.
4. Careful suiting of locks is essential to ensure each tenant has their own front door key but tenant's carers can gain access when required.
5. The service cupboard near the entrance is accessed externally, allowing staff to cut off electricity, water or lighting to an individual dwelling if required for tenant safety.

M4Cat3 Wheelchair user dwelling only:-

6. Electric spur to be fitted close to front door, to allow for future door opening mechanism.
7. Recess for wheelchairs with a charging point.
8. Entrance storage cupboards – to comply with significant storage area required by approved document M4 Cat 3 dwelling.

Living Room

9. A simple plan ensures the living room gives access to all the dwelling's rooms. This arrangement ensures that support and visual supervision is more easily achieved by the tenant's carers.

Bedroom

10. The bedroom links directly to the bathroom, with the WC viewed from the bed. Night lighting of the WC may be required as a prompt. Alternatively the bed can be positioned against the wall, dependant on tenant requirements, and still maintain the view of the WC from the bed.

Patio / private rear garden

11. The dwelling plan if terraced or semi-detached ensures that patio areas are separated, giving greater tenant privacy.
12. External doors to the patio act as an alternative means of escape, for staff, from the living room and bedroom.
13. External lighting to be provided to the patio area.

Shower / Bathroom

14. The shower room is designed as a wet room with all pipework hidden.

Kitchen

15. The kitchen door should be fitted with an electronic lock to be used by staff if required.
16. Kitchens designed and purpose made for each tenant. The kitchen layout must ensure that a member of staff working at a kitchen work top cannot have their back to a door. Therefore, a galley style kitchen is illustrated, L or U-shaped kitchens are inappropriate in this setting.
17. A washing machine is required in addition to standard kitchen white goods.
18. It is possible that a tenant's meals will be delivered, and a kitchen will not be required. In this scenario, the kitchens services (electric power points, plumbing and water supplies) would need to be capped and hidden from view to allow the space to be used for another activity.

Specific adaptations to the dwelling for individual tenants

1. Kitchen space designed for each tenant.
2. The layout allows a bath to be fitted instead of the level shower.
3. Grab rails can be fitted to suit individual tenant requirements.
4. A ceiling track can be provided for an overhead hoist.
5. To improve privacy, glazing to the front of the property can be obscured.
6. Anti-ligature fixtures and fittings can be installed if required by the tenant. Anti-ligature fixtures and fittings include window and door furniture, door closers, hinges, light fittings, taps, shower heads, towel rails, grab rails, coat hooks, sanitary ware etc.
7. M4Cat3 Wheelchair user dwelling – a front door electrical opening mechanism can be installed.

For specific adaptations to construction for individual tenants, refer to technical and performance section, robust and resilient construction.

Staff and ancillary spaces

Entrance

A bright and welcoming entrance area should be provided to the staff/ancillary facilities, located close to staff and visitor's car parking.

A small seating area should be provided for informal meetings of 2 to 3 people.

The staff accommodation should act as a central base for all post and deliveries to the scheme. Post and delivery boxes, for the 6 dwellings, to be provided in the entrance area.

Care offices

The care office must be sited close to the entrance. The office is to be used for general administration, handover and interviews.

The office is to be subdivided in half by an acoustic folding/sliding partition. Each subdivided area to have space for two workstations, two visitors' chairs and secure document storage.

Laundry room

As a minimum, provide one commercial sluice washing machine and one commercial tumble dryer raised on plinths to facilitate easy access.

Provide a worktop with a double-bowl stainless steel sink, shelving for laundry baskets and cupboards for cleaning products etc.

Contact to an outside drying space is desirable.

Storage for low-grade medical waste may be required.

The floor finish should be slip-resistant with coved skirting and floor gully.

Walls to be covered with a smooth, joint-less, hygienic finish.

Staff rest / sleepover room

Locate away from the entrance area to improve staff privacy, with good levels of daylight, preferably linked to an outdoor space.

Staffroom to provide comfortable seating with a small table for relaxing. And a table with chairs for eating or working.

The room is to double as an occasional sleepover space for one member of staff. One pull-down/drop-down single bed is to be accommodated within the area.

A kitchenette is to be positioned along one wall with a sink, kettle, microwave, under-counter fridge and dishwasher.

Staff change / WCs / shower

Provide unisex staff facilities - two cubicles with WC and wash hand basin, one cubicle for showering and one cubicle for changing.

20 lockers to be provided for staff.

Refuse / recycling store

A central refuse/recycling store is to be provided for the whole scheme. Staff will assist tenants taking their refuse/recycling to the central store.

External amenity

Dwelling front garden / car parking space

Ideally, the tenant's car parking space should be immediately adjacent to / in front of the dwelling.

The dwelling's front garden provides a defensible space to the public realm. Well designed soft and hard landscaping to the front garden / car parking space can make a considerable contribution to the overall design of the property.

Level access is required from the tenant's car parking space to their dwelling's front door.

Dwelling private rear gardens

It is important that a tenant perceives their private rear garden as a safe space. All gardens must have a 1.8m wall or fence enclosure and must not be overlooked by neighbouring properties.

The private garden should be laid to lawn. If the garden size permits a tree (not fruit) should be provided. The patio area can be accessed from both the living room and the bedroom, providing a semi sheltered external space for the tenant to sit.

An external tap for watering plants and a small shed for garden equipment are required.

Staff and visitors parking area

A significant additional site area is required for visitor and staff parking. Visitor and staff car parking may be distributed throughout the site or within a designated car parking court.

All parking areas should be landscaped and interspersed with trees and planting beds. Large areas of tarmac should be avoided; the use of cobbles, sets and block paving should be considered. Attractive boundary treatments, low level walls, hedges or planting, that respect the local context should be provided. Parking areas should be adequately lit at night possibly using low-level lighting bollards.



Schedule of accommodation

Supported living accommodation model requirements

Dwellings		
Accommodation	Area	Notes
1 Bedroom 1 Person - M4(2+)	55.8 m ²	<ul style="list-style-type: none">• To exceed Building Regulations AD part M category M4(2) - Accessible and adaptable dwellings.• Dwellings to be adapted for each tenant.
1 Bedroom 1 Person - M4(3)	62 m ²	<ul style="list-style-type: none">• To Building Regulations AD part M category M4(3) - Wheelchair user dwellings.• Dwellings to be adapted for each tenant.



Staff and ancillary spaces

Accommodation	Area	Notes
Entrance	To suit the design	<ul style="list-style-type: none"> A welcoming space with a small seating area. Post and parcel collection point for the supported dwellings.
Care office	24 - 30 m ²	<ul style="list-style-type: none"> Acoustic folding/sliding partition to divide office in half. Each half to provide space for 2 work stations plus 2 visitor chairs.
Laundry room	8 m ²	<ul style="list-style-type: none"> Commercial sluice washing machine and tumble drier. Worktop with inset double sink.
Staff rest / sleepover room	18 - 20 m ²	<ul style="list-style-type: none"> Staff rest room to occasionally double as a staff sleepover room. Space for a pull-out bed required. Staff room to accommodate 3 to 4 staff members plus a kitchenette. Room to be immediately adjacent to the staff change.
Staff change/ WCs / shower	16 - 18 m ²	<ul style="list-style-type: none"> Unisex staff change area. 2 WCs, 1 shower, 1 changing cubicle and 20 lockers.
Cleaner's store	1 m ²	<ul style="list-style-type: none"> Small cupboard space with cleaners sink.
Circulation space		<ul style="list-style-type: none"> To be kept to a minimum.
Refuse / recycling store		<ul style="list-style-type: none"> Refuse and recycling store for the whole scheme.

External amenity spaces

Accommodation	Area	Notes
Dwelling's garden spaces		<ul style="list-style-type: none"> Front garden ideally to include tenant's car parking space. Private individual rear gardens to each dwelling with a small lockable shed for garden chairs and equipment. Private gardens should not be overlooked by neighbouring properties.
Car parking	2.5 spaces per dwelling	<ul style="list-style-type: none"> A significant site area is required for car parking. A car space should be available close to each dwelling for the tenant's vehicle. In addition, most tenants will have one to one care, potentially two to one, requiring additional car parking spaces for carers. Spaces are also required for visitors, additional carers, OTs, etc. If there is a plentiful supply of car parking in the surrounding area the number of parking spaces may be slightly reduced.

Technical and performance

Guidance for construction

Robust and resilient construction

General

Construction is to be as robust as possible since it will be subjected to heavier wear and tear than in a typical domestic situation; due to the behavioural patterns and traits of the tenants.

Masonry construction, with Hardwall (high impact resistant) wet plaster is required throughout the dwellings. Plasterboard, stud partitions are to be avoided.

All fixtures and fittings should, wherever possible, be robust but also easy to source and replace. Avoid the use of bespoke items.

Emulsion/eggshell paint finishes are easier to wash down and should be specified.

Flush or acoustic plasterboard ceilings should be specified for dwellings. Suspended 'lay-in grid' accessible ceilings can only be specified to staff/ ancillary areas since tenants are likely to tamper or damage them.

Floor finishes

Non-slip sheet flooring with welded joints should be specified to all wet areas. All other floor areas are to be fitted with strip vinyl wood effect flooring.

Doors

All doors should be solid irrespective of fire rating. Hollow core doors are acoustically inadequate and prone to damage. In addition, door frames and hinges must be as robust as possible, fixed securely into their openings, to withstand repeated slamming by tenants. High-level ligature risks to be considered when specifying doors and ironmongery.

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

Windows

Consider carefully openings in terms of size, appropriate hinges, restrictors and locking devices where security (from within and without) may be an issue. Lockable tamper proof restrictors should be fitted for safety and security. High-level ligature risks to be considered when specifying windows.

Window frames and hinges must be as robust as possible, fixed securely into their openings, to withstand repeated slamming by tenants.

Floor to ceiling windows are not ideal for this end-user, since they can be easily kicked and damaged. However, damage to fully glazed doors is not such a problem.

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

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 are required.

Glazing

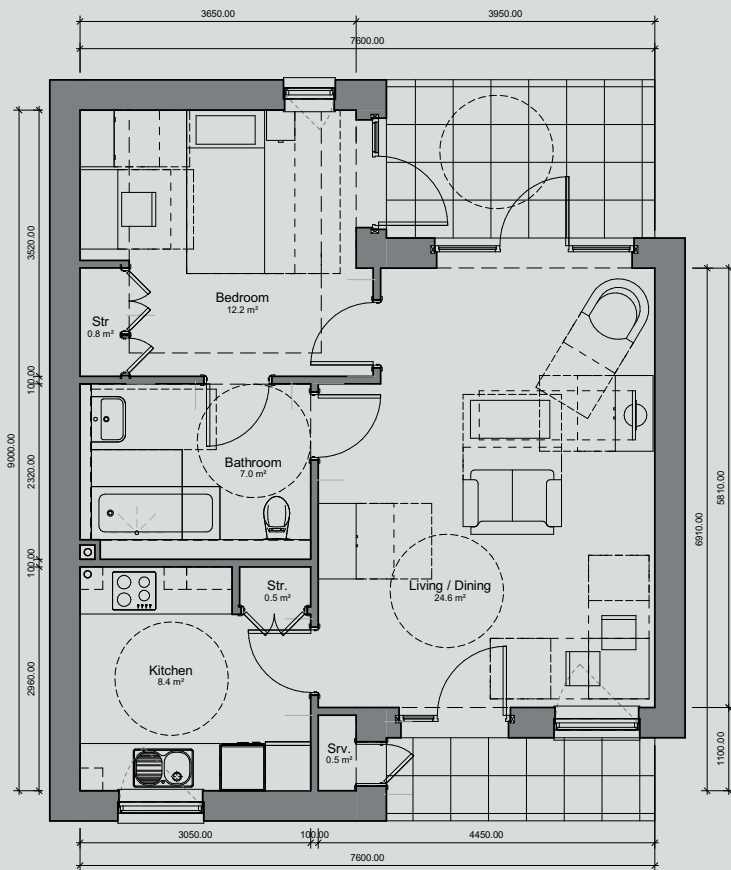
In addition to meeting Building Regulations requirements on safety glazing, specify safety glazing throughout for windows, mirrors, etc.

Electronic locks/keyless access

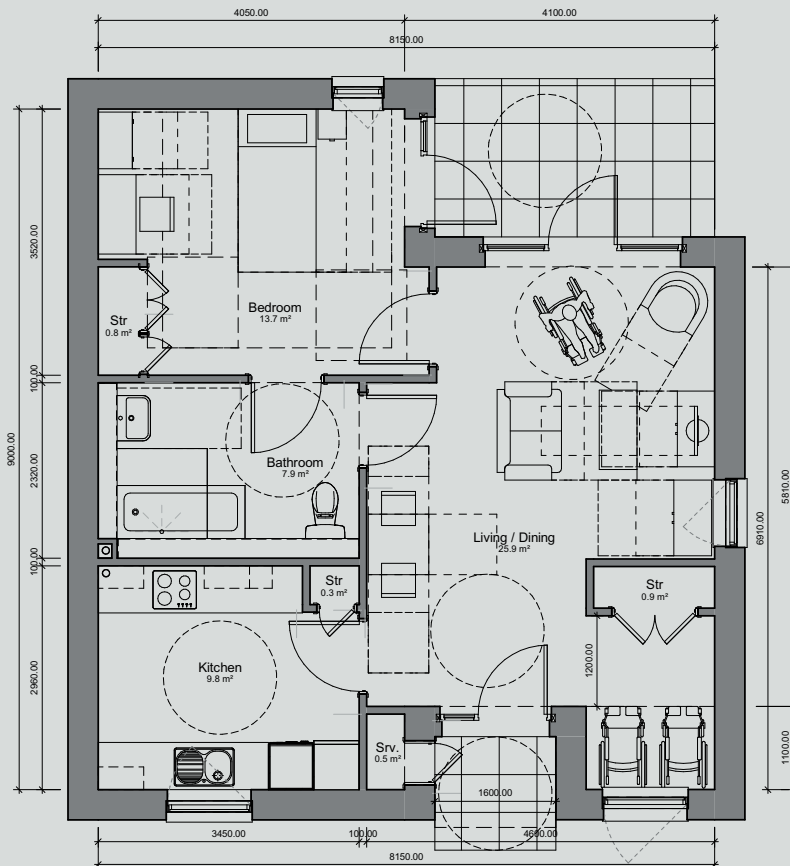
Electronic locks with keyless fob access to be provided on every scheme. A keyless system allows specific access to be allocated to staff or tenants. In an emergency, a keyless solution provides staff with quick access to locked dwellings/areas.

Anti-vandal sanitary wear

Anti-vandal sanitary wear, wash hand basins and WCs, with a white resin finish to be specified for all dwellings.



Part M Cat 2+ - Wheelchair accessible / adaptable dwelling, 1 bed 1 person



Part M Cat 3 - Wheelchair user dwelling, 1 bed 1 person

Technical and performance

Interior design

Research has suggested that some people on the autistic spectrum see colours with greater intensity. Therefore, the designer should limit the intensity of colours and use an autism-friendly colour palette. In addition, strong colour contrast and busy patterns should be avoided, both can be distracting to the tenant. (For example, avoid speckled or marbled kitchen worktops.)

Lighting design and choice of luminaries is a key interior design element and should be specified in consultation with the architect, interior designer and client. Lighting should be domestic with recessed LED light fittings providing the most robust solution. Bulkhead 'institutional' light fittings are to be avoided. Light fittings should be dimmable but connected to standard light switches. Dimmer switches will be at the tenant's request. For some adults, with complex needs, dimmer switches could be frustrating and confusing.

Specific adaptations to construction for individual tenants

Floor finishes – Some tenants may require a more resilient flooring, for example, a non-slip quarry tile.

Glazing - Where deliberate attempts to break glazing are likely, Perspex can be fixed over at risk glazed areas.

Lighting – Dimmer light switches can be installed.

Environment

Noise control

Noise control will make a significant contribution to the success of a scheme. Tenant's can be extremely noisy, and limiting the disruption to others should be a priority.

As mentioned in The scheme model and The dwelling sections, enhanced acoustic separation between dwellings is essential by carefully planning dwellings and adjacencies. However, enhanced sound insulation to dwellings' separating walls is also required.

Separating walls between dwelling houses as outlined in the Building Regulations Approved Document E, minimum airborne sound insulation should be exceeded by 10dB.

Specification of hard surfaces for walls and floors to provide a robust and resilient construction will increase sound reverberation within the dwellings. Soft furnishings can help absorb sound but may not always be possible for this tenant. Thought should be given to introducing acoustic ceilings or sound-absorbing panels to reduce sound reverberation within the dwelling.

Noise pollution

Adults with complex needs may suffer from hearing impairments with the ability to understand a normal conversation reduced by high background noise levels. Sites for supported housing should be selected, where possible, away from major roads and other sources of high external noise.

Overheating

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

City centre locations are more prone to higher summer temperatures because of the observed Urban Heat Island effect. In addition, windows to housing in urban areas may not be opened for ventilation, due to concerns about noise, pollution and security. Care should be taken at the design stage to avoid this. However, if it is inappropriate to open dwelling windows, an alternative solution for cooling/ventilation must be provided to ensure excess heat can be expelled from the internal space.

Tenants are at an increased risk of heat-related illness, if their health is already compromised. A fabric first approach to overheating should be adopted by providing suitable thermal mass, dual aspect dwellings, shading, efficient light fittings /equipment, appropriate window sizes and correct building orientation.

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

All dwellings must be fully compliant with the latest Building Regulations Approved Document O, Overheating.

Air quality

Tenants with complex needs tend to spend long periods of time at home, which may lead to higher risks from poor air quality. Air quality should be a major consideration when selecting a location. 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.

Materials used for the internal finishes (including paints, flooring, adhesives and glues) should be selected to avoid substances such as formaldehyde or other volatile organic compounds.

Services

Hot water and heating

Vulnerable adults with learning disabilities may have limited mobility, reduced heat sensitivity or sensory impairment and are therefore at greater risk of injury from hot water or heating systems. Thermostatic blending valve controls must be provided to ensure that hot water is less than 44°C at outlets in accommodation accessed by this group. Towel rails should be specified with a low surface temperature so that the maximum accessible surface temperature does not exceed 43°C.

Flooding

Flooding, resulting in property damage, is sometimes caused by adults with complex needs. Therefore, floor drainage and flood/leak sensors with automatic shutoff must be fitted to the dwelling's shower/bathroom and kitchen. Automatic overflow shutoffs are also required. Sensors are often linked to a dwelling's Telecare assistive technology.

In addition, isolator valves must be fitted to every water-using appliance, including taps for basins, baths and sinks, toilet cisterns, showers, washing machines and outside taps; this gives staff control over individual items rather than cutting off the whole dwellings water supply.

Under-floor heating

Under-floor heating is required to avoid dangers from hot surfaces. In addition, radiators are a potential danger to the tenant. During the winter months, heating controls can be set to provide a minimum temperature within dwellings. This protects vulnerable people from cold weather.

Flush switches

Robust, flush lighting/electrical switches to be fitted.



Technical and performance

Staff controls

Staff control of services to each individual dwelling is essential for tenant safety. Staff override/cut off for lighting, water and electricity to be located in a service cupboard outside each dwelling.

Smart home/assistive technology/telecare/telehealth

All dwellings to be smart home/assistive technology ready to enable the installation of a system tailor-fitted to an individual tenant. Specified cabling to allow a wide range of wireless call and security systems. Care should be taken when using metallic materials for the building fabric (insulation, cladding etc) to ensure that these do not inadvertently block WiFi and mobile phone access.

Smart home technology allows electrical appliances and services, for example, heating controls, to be controlled remotely via a communication network. Smart homes may use assistive technology, including telecare and telehealth.

Telecare, provides safety devices, such as door and movement sensors, within the home environment that continuously, automatically and remotely monitor residents overtime to manage risks. Sensors around the home are connected to onsite or offsite care staff.

Telehealth can assist in managing long-term health conditions, including diabetes and epilepsy. Telehealth can measure blood pressure, blood glucose levels and weight. Patients undertake the tests themselves in the home environment, with the results automatically transmitted to a health professional for evaluation and appropriate action.

The use of telecare and telehealth technologies requires the assessment of each tenant on a case by case basis. Assisted technologies have obvious benefits for supported living accommodation promoting independent living, enhancing life outcomes and providing reassurance to tenants and their relatives.

Fire protection and means of escape

In the case of fire, people's behaviour is unpredictable, and loss of life can occur because of irrational reactions due to fear and confusion. Means of escape for adults with complex needs may be more problematic due to extreme behaviour patterns. Enhanced fire alarm systems, including a generous provision of heat and smoke detectors with audible/visual alarms, above building control requirements, should be considered for the single-storey dwellings. ECC also require that the schemes' driveways/roads are built to council adopted standards to enable fire engine access.

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

In addition to complying with the Building Regulations (AD part B) on means of escape, 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 a 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, who must maintain the risk assessments and safety strategy under review at all times. It must be available for inspection by the local Fire Brigade on request.



