

How can OTs contribute to housing design?

©Maison a Bordeaux: Rem Koolhaas

Marney Walker  
Independent Occupational Therapist  
Specialist in Housing Design

# Occupational therapists and housing design

- OT input on Extra Care and Supported Housing
- Lauren Walker OT Royal Borough of Greenwich- working with Secure by Design
- Jenny Buterchi Partner PRP
- Ed Warner Founder of Motionspot

## Your views:

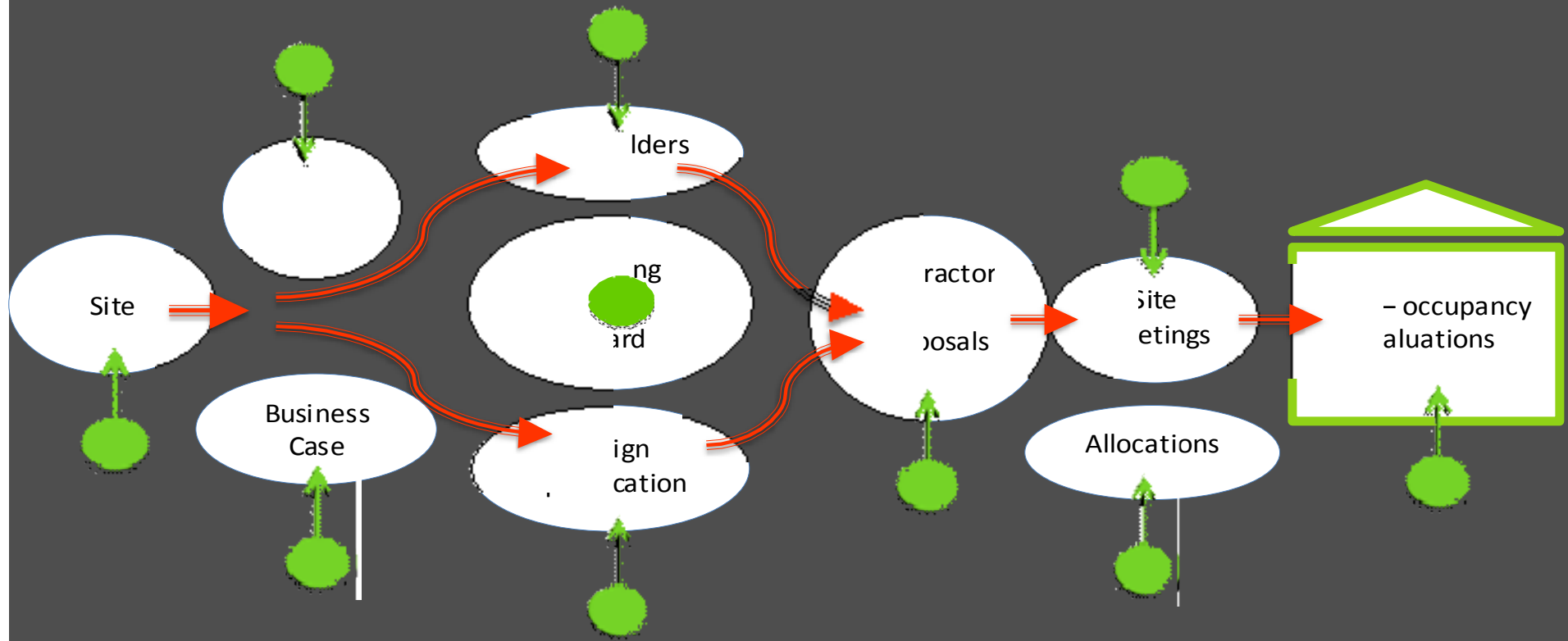
- Why would you consult an OT?
- What knowledge and skills can OTs bring to the design process?
- Effective joint working methods

# Inclusive Housing Design: Why use an OT?



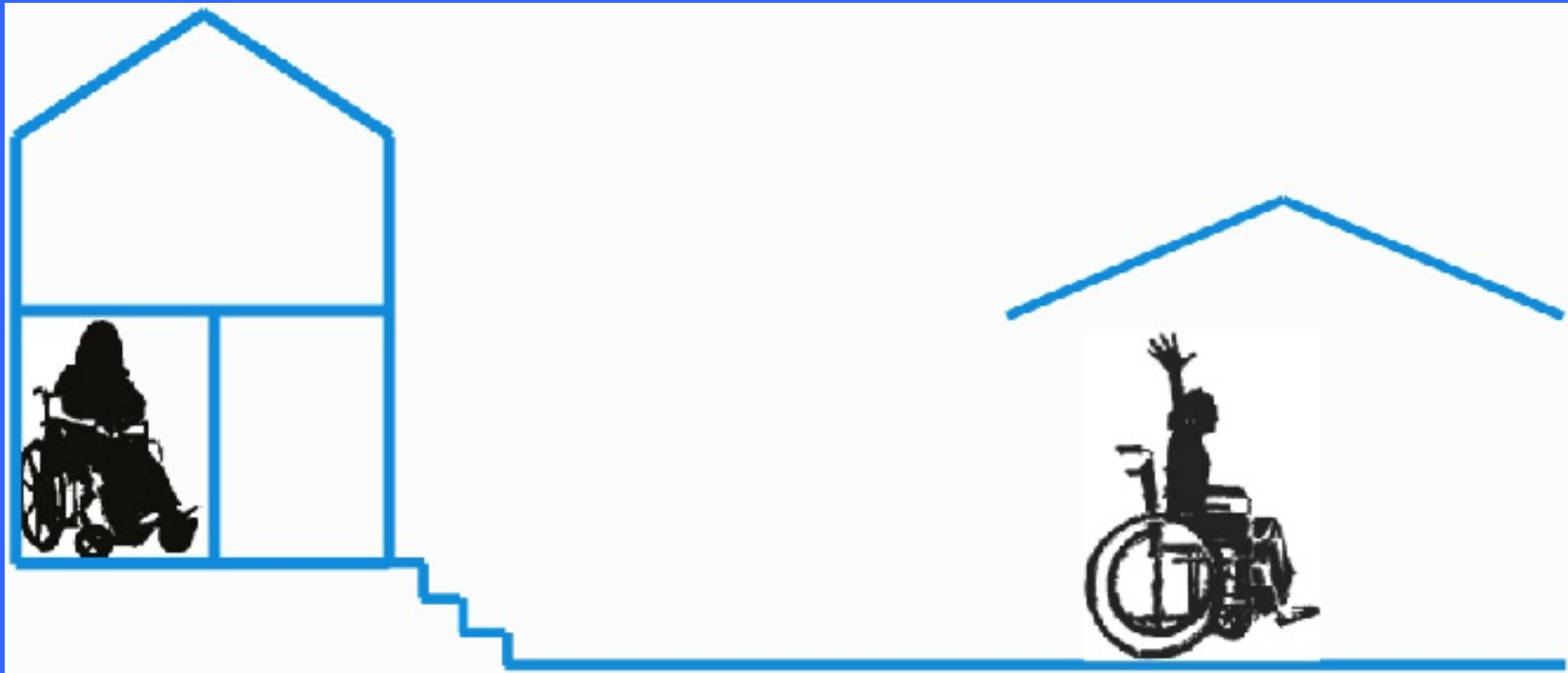
# Before and after the drawing board

## Tracking Design Decisions



Commissioners - Housing Providers – Architects - Employers Agents - Contractors - Residents

*Removing barriers*



*From adaptations to accessible homes*

## *Inclusive v Bespoke - striking a balance*



- *Future proofing*
- *Physical , sensory, and cognitive impairments*
- *Families and carers*
- *The critical user approach*

*Future Proofing : Avoiding over specification*

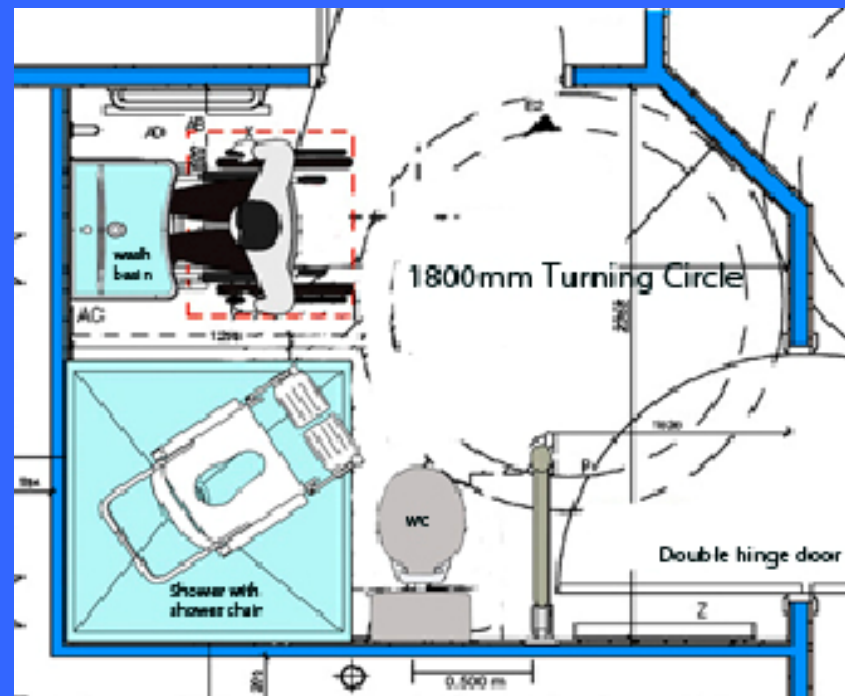
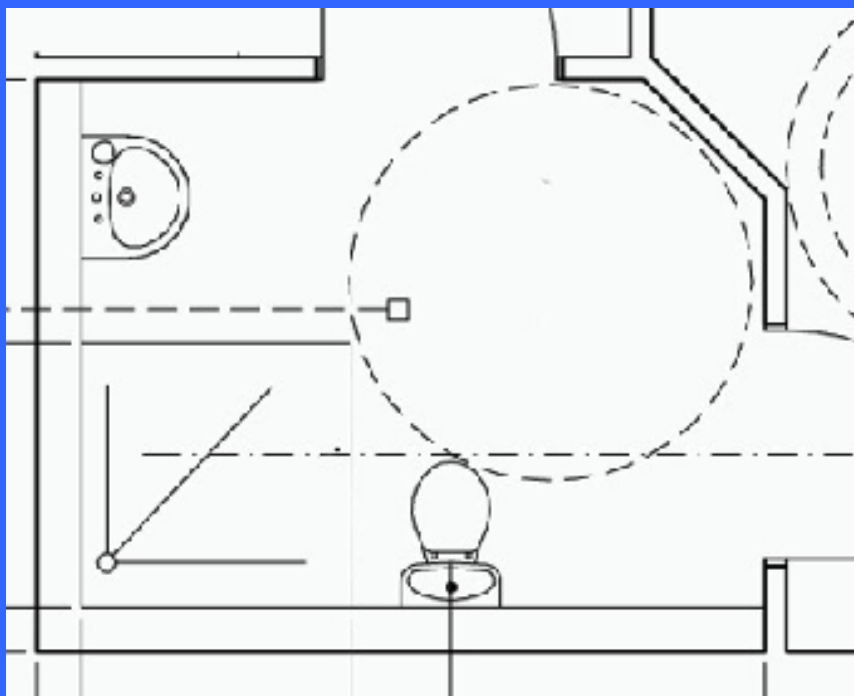


*Achieving Adaptability*





*Being able to respond at short notice*  
*Compatibility with specialist equipment*



© Idapt

# Housing with care : when to improve on minimum standards



OTs as interpreters of regulations

Importance of catering for different needs:

- Space for care and support
- Sight Loss
- Hearing Loss
- Design for Dementia

Finding better solutions

## Being able to respond at short notice

BSM	Approved Document M 2004 with 2013 amendments Section G-10 Means of access to and into dwellings	Approved Document M M4 (1) Wettable MANDATORY	Approved Document M M4 (2) Accessible and Adaptable OPTIONAL	Approved Document M M4 (3) Wetroom/Urinal WAG/WAD OPTIONAL	Lifetime Homes Standard 2011 COMPLIANT + GOOD PRACTICE (GP)	Wetroom/Urinal Housing Design Guide 2 <sup>nd</sup> Ed 2007 REQUIRED (REQ)/RECOMMENDED (REC)	South East London/ Greenwich Wetroom/Urinal Brief 2012	BSG100 2009/2010	BSI Adaptations Design Commission Tool kit 2014	ENGLIT Evaluating Older Peoples Living Environments 2010
		New Technical Housing Standards effective from 1 <sup>st</sup> Oct 2015 Incorporating 2013 amendments updated 15/03/16								
<b>WCs</b>										
WC at entrance lobby	Diagram 3.1 and 3.2 & 3.7	M4: 950 x 1200 clearance in front of WC see Diagram 3.3-1.4 plus 1M: 1000 x 1500 OR 800 x 1700 (interior dimensions) to accommodate door opening outwards	Diagram 3.5 and 3.6 1500 x 1800 / 1450 x 1800 with door opening outwards	Diagram 3.11 (4) 1100 Diagram 3.12 (4) 1100 WC/desk-room 1700 x 2700 with door opening outwards Diagram 3.14 second WC: 1500 x 1700 or 1300 x 1500	accessible WC and sink with approach 100-300 from centre of WC to wall and 1000 to adjacent side, and 1000W x 1100 D from front rim of WC with falls for future fitting of level floors				900 x 1070 for INO WC Use	
<b>WCs</b>										
WC/shower at entrance level			Installed LIS OR power/BI TAP							
WC pan height WC controls	160 for public WC; 80 to top of seat			WVC 100H			400		300mm floor to water/transfer side	
WC projection					500 from others	80, 750 inc others	800	750 including others		
WC position	450 min 500 preferable from centre line to each wall	400-450 from centre line to each wall (min WRB if WC/deskroom)	450 from centre line to wall - 1000 on other side	450-500 from centre line to wall	400-500 from centre line to wall and 1000 clear on exposed side	80-450 from centre line to wall	500 centre line to wall	450-500 centre line from wall	400 centre line from wall	500 to each side to allow access for trolley

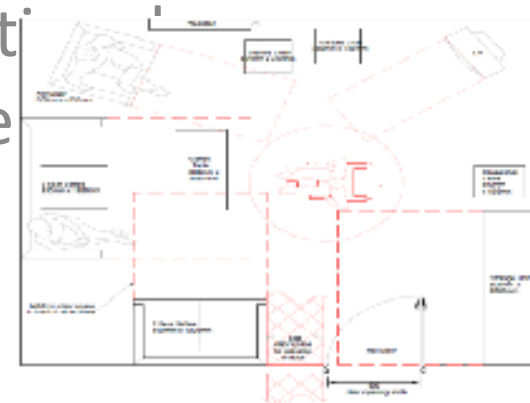


Post Occupancy Evaluation: how it works in practice

# Accessibility and Security: A collaborative approach

Joint project between Occupational  
Therapists and Secured by Design

Lauren Walker, Housing Occupational Therapist  
Disability & Home Improvement Team  
March 2017



- At present there are some areas of conflict between the accessibility requirements, security requirements and fire safety standards that are written into our local planning conditions
- When accessibility is compromised e.g. because of security measures, the supply of useable accessible housing is impacted
- When security is compromised e.g. to increase accessibility, vulnerable individuals may be at increased risk of becoming victim to crime and anti-social behaviour
- **We all want safe, secure, inhabitable housing**

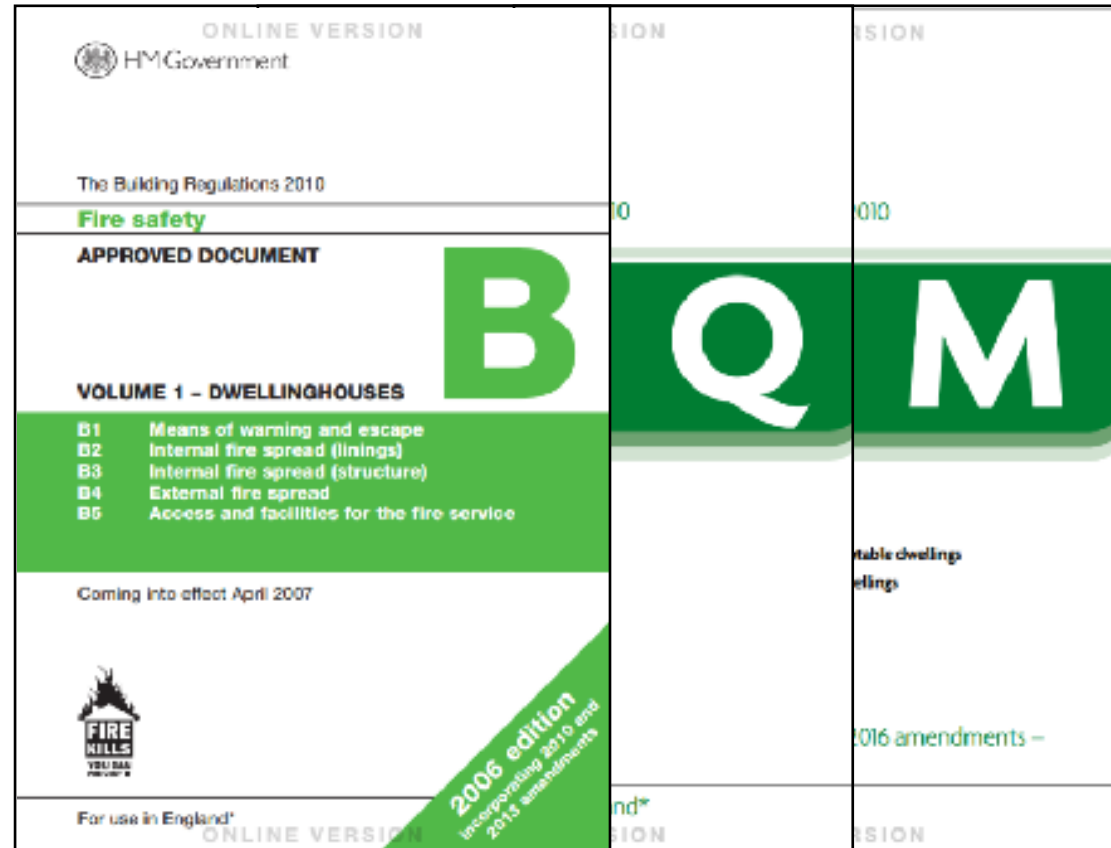
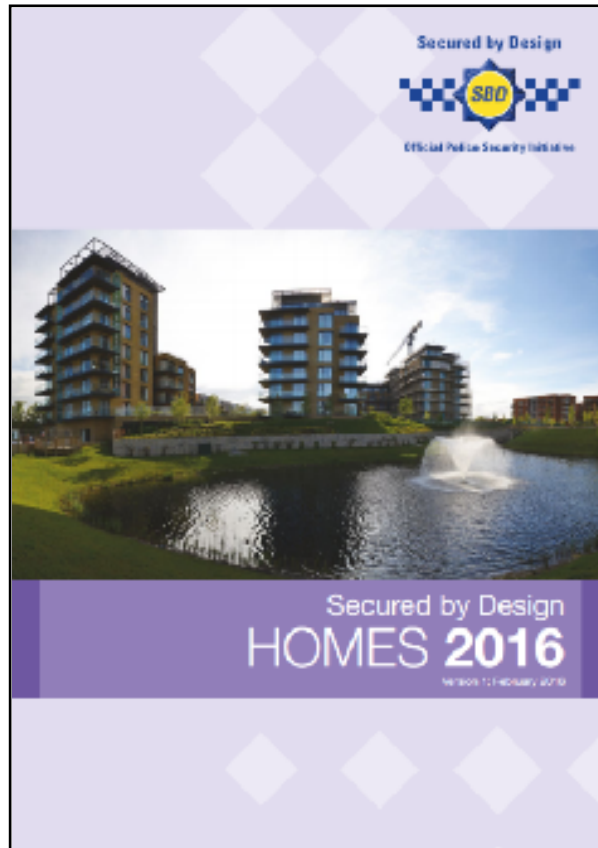




## In Royal Borough of Greenwich:

- New schemes containing 25+ dwellings must include provision for 10% wheelchair user dwellings
- Wheelchair user dwellings of private and intermediate tenure should be wheelchair adaptable
- Wheelchair user dwellings of social / affordable rental tenure should be wheelchair accessible









We are all working for the benefit of residents  
– especially the most vulnerable

## Secured by Design



**Official Police Security Initiative**

“ The official UK Police flagship initiative combining the principles of ‘designing out crime’ with physical security”

<http://www.securedbydesign.com> 06/02/17

**Secured by Design**  
Official Police Security Initiative

<b>ANTI-LIFT DEVICE</b>	Head and sash hinge prevent a sash being lifted out of the frame and allow the sash to be removed from the window.
<b>DRILL RESISTANCE</b>	Drill resistant reinforcement and security bolts to protect the most vulnerable parts.
<b>GLAZING</b>	Each pane is secured individually at each end for increased security.
<b>HANDLE HELPS</b>	Bi-directional roller handles and their anti-impedance feature are two-step to allow for a secure hold, even in adverse conditions.
<b>HANDLE</b>	A choice of stylish finishes in a variety of colours can be specified. All handles are available by key.
<b>LOWEYRE GLAZING BEAD</b>	Secure glazing bead with low profile spacers for increased security and greater sightlines.

Secured by Design



Official Police Security Initiative



**Police approved doors**

Secured by Design



Official Police Security Initiative



Secured by Design



Official Police Security Initiative



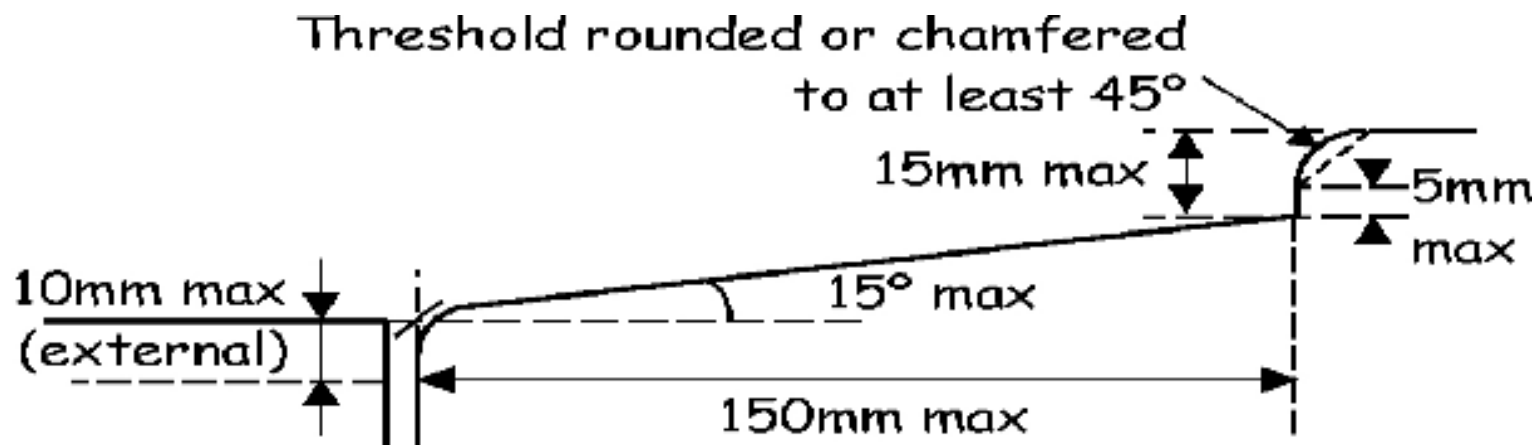


- Doors
- Level thresholds
- Power-assisted entry and reduced opening forces
- Simple opening and locking mechanisms



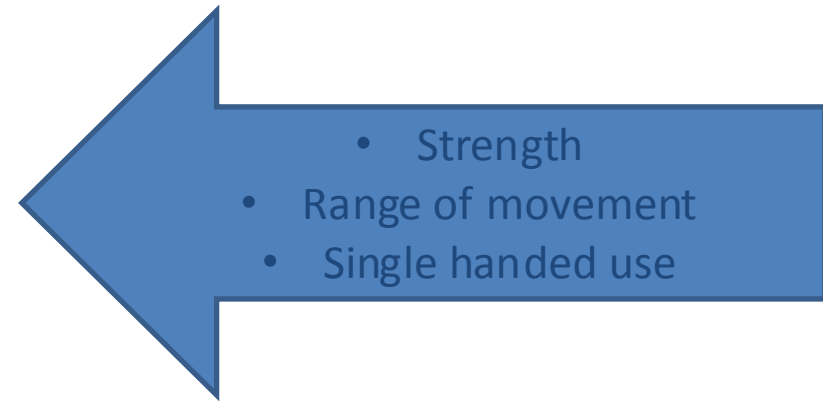
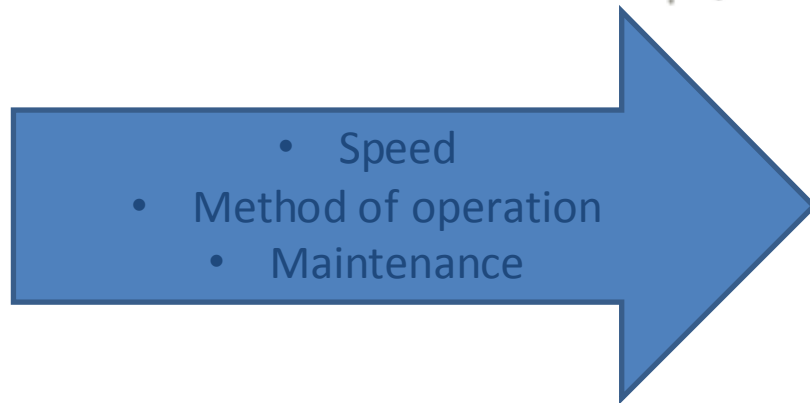
Principle: To facilitate safe and independent access to building and dwelling, and equal access to all shared amenities

Implications of non-compliance: Unable to access building independently, or at all; unfair exclusion from utilising facilities to which residents are entitled

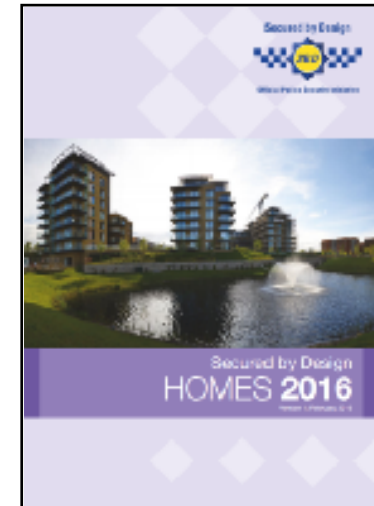


15mm vertical up-stands are not acceptable. Any up-stand of more than 5mm should be rounded or chamfered. Many wheelchair users find vertical up-stands difficult or impossible to negotiate.





- Compartmentalisation
  - ‘Meet and greet’ policies
  - Fob-controlled doors and lifts
  - Access for regular and one-off visitors
- 
- Principle: To reduce instances of unauthorised access e.g. by tailgating, and minimise anti-social and criminal behaviour by restricting non-essential access
  - Implications for disabled occupants: Impractical / impossible to leave flat to ‘meet’ visitors. Unfair reliance upon third parties to provide access. Potential for overall reduction in security for all

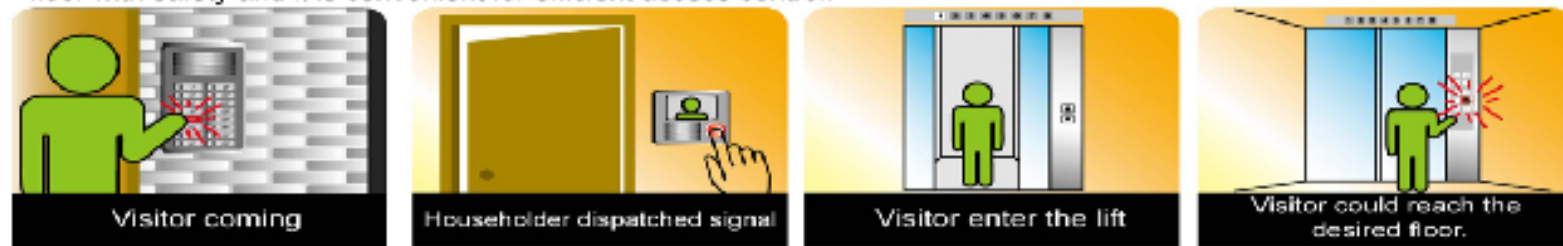


## Lift controller link with intercom

To authorize the visitor's access to lift directly at home.

### System introduction:

DIO-240B is designed to work with 24-floor Lift controller. It allow householder to press one button at home when visitor calls by door phone at front door to assign available floor for his/her visitors, so that the visitor could reach the desired floor with safety and it is convenient for efficient access control.



### **Local joint-working:**

- Possible discrepancies should be flagged up early in the planning and build process so they can be addressed and resolved effectively

### **Collective joint-working:**

- We want to encourage innovative product design so that accessibility isn't sacrificed in order to achieve high security, and security isn't compromised in order to achieve good accessibility

PRP

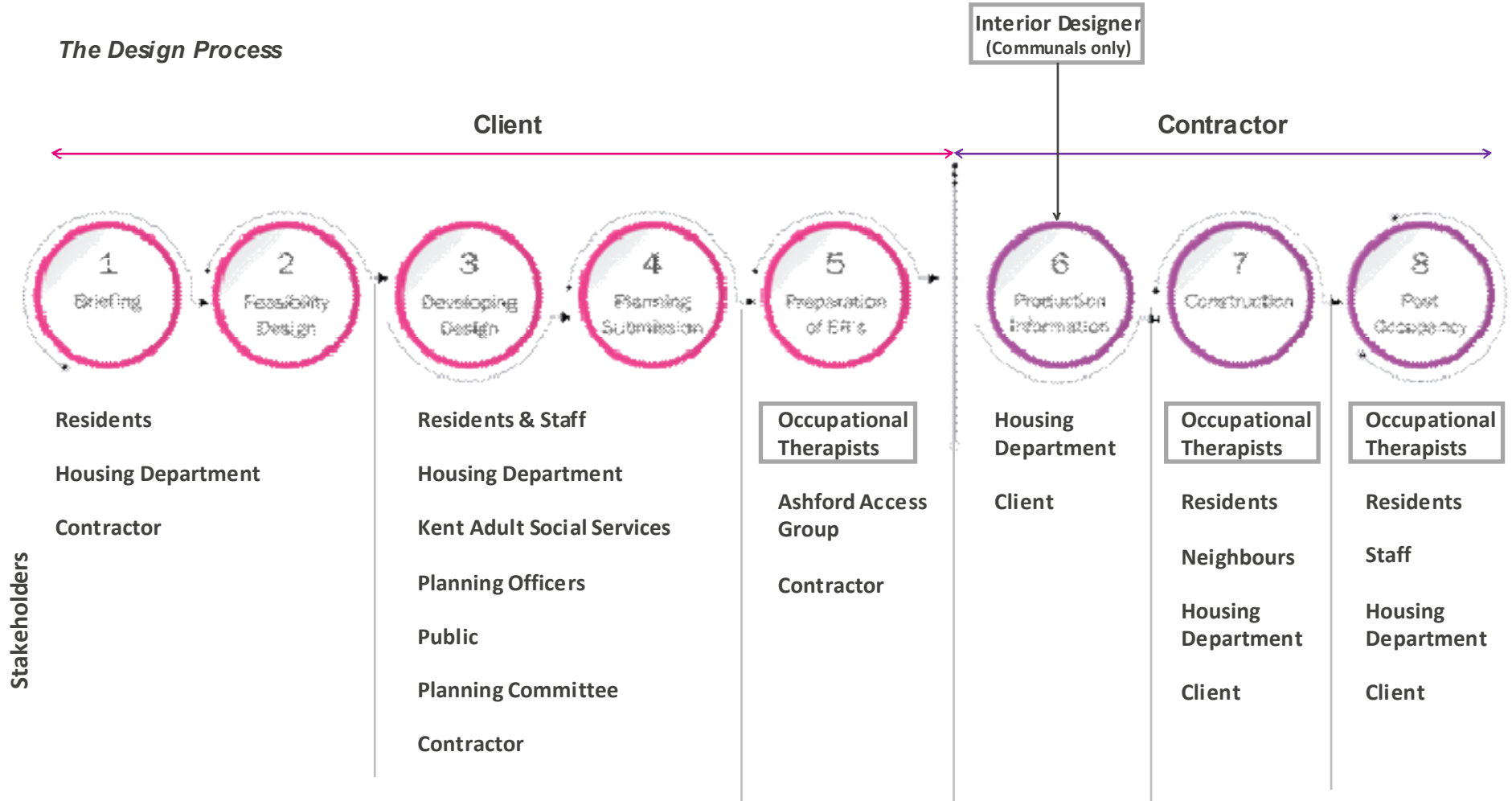
## The Designer's Perspective

Jenny Buterchi, Partner



# Case Study: Farrow Court

## The Design Process



## Case Study: Farrow Court



### *The starting point.....*

- Generous space standards
- Semi-recessed balconies & patios
- Full height glazing
- Generous storage including built-in wardrobes
- ‘Care-ready’
- Modern open plan living



1 Bed @ 55m<sup>2</sup>



2 Bed @ 71.5m<sup>2</sup>



Recuperative Care @ 34m<sup>2</sup>

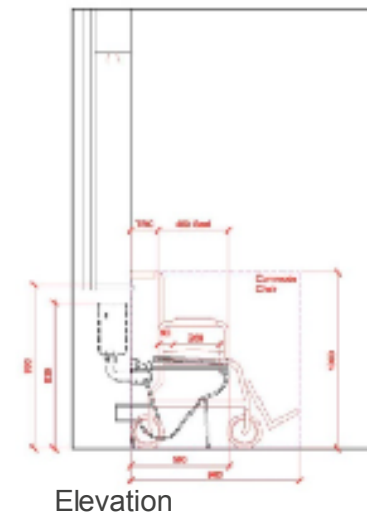
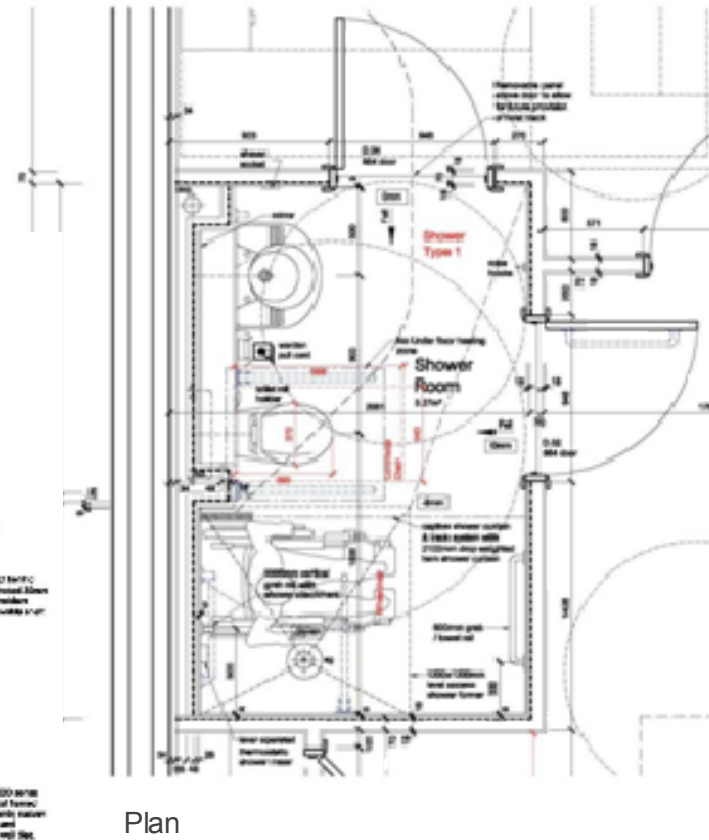
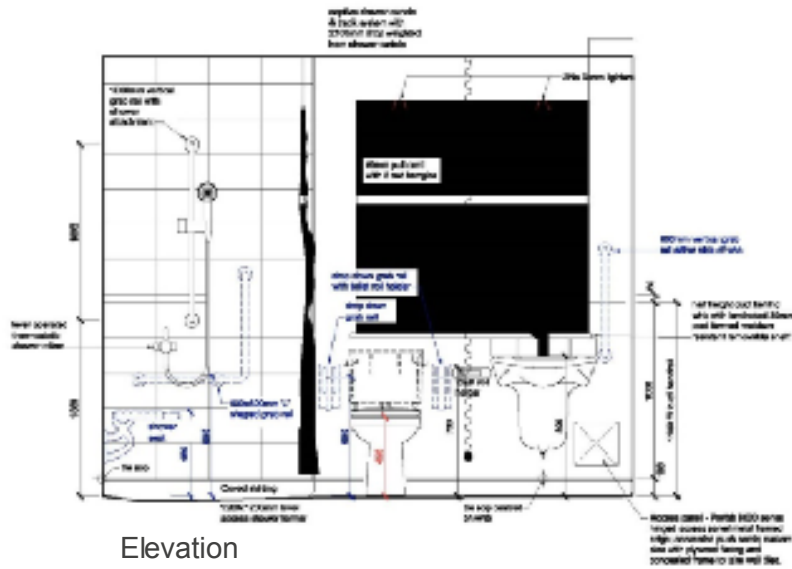


# Case Study: Farrow Court



## Occupational Therapist workshop

- Height of WC – commode chair
- Access hatch, ductwork & cistern
- Shower and grab rails
- Access around WC and basin
- Recess with down lighters, full width mirror





## Case Study: Farrow Court



### *The Bathroom*

- Height of w c
- Show er rail
- Finishes



## Case Study: Farrow Court

### *The Bathroom*

- Grab rails installed
- Access hatches
- Shelf & mirror



## Case Study: Farrow Court

### *The Kitchen*

- High level oven
- Induction hob
- Position of controls
- Position for washing machine
- High and low level cupboards
- Plug sockets – position and colour
- Lighting & Finishes

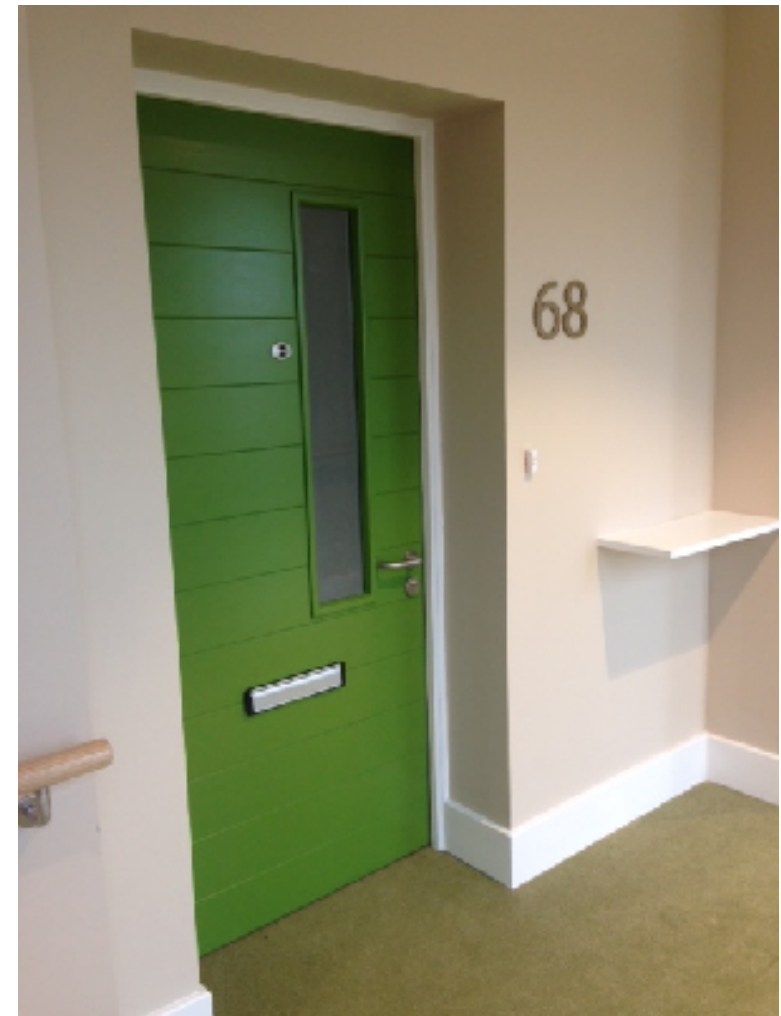


## Case Study: Farrow Court

### *The Front Door*

Some practical considerations

- Storage
- Letterbox
- Free swing door closer
- Coat hooks
- Spyhole
- Handrail



# Case Study: Farrow Court

## *Interior Design of Communals*



Activity



Lounge

# Case Study: Farrow Court

*Interior Design of Communals*



Hairdressers



Therapy

## Case Study: Farrow Court

### *Interior Design of Communals*



Foyer Seating Area



Restaurant

## Case Study: Farrow Court



### *Phase 1 Post-Occupancy Feedback*

#### **Apartments**

- Like open plan layouts (100%)
- Easy to use bathrooms (100%)
- Very happy with front door, layout and storage (80%)
- Kitchen Layouts, storage and worktops (100%)
- Balconies safe and easy to use (93%)
- Electricity running costs good (4 out of 5)
- Hob/oven easy to use (93%)
- **Need more storage / fitted wardrobes (93%)**
- **More shelving in bathroom (55%)**

#### **Communal Spaces**

- Easy to navigate the building (100%)
- Hair salon well used (57%)
- Interior finishes liked (93%)
- Signage easy to read (86%)
- Furniture comfortable (79%)
- Garden used (50%)

***“The grab rails weren’t in the right place to suit my husband’s needs so they installed a floor to ceiling pole”***



*What do you think of the show so far?*



## Things to consider

- Consider which stage of the design to liaise with OTs
- Visit Comparative buildings and show rooms together
- OTs have experience of specific disabilities
- Designers must balance function with aspiration
- Co-ordination of M&E
- Interior Designer input into apartment finishes
- Consider who will champion the design on site
- Only install grab rails if actually needed
- Building User guides for future OTs



**JEWISH CARE**

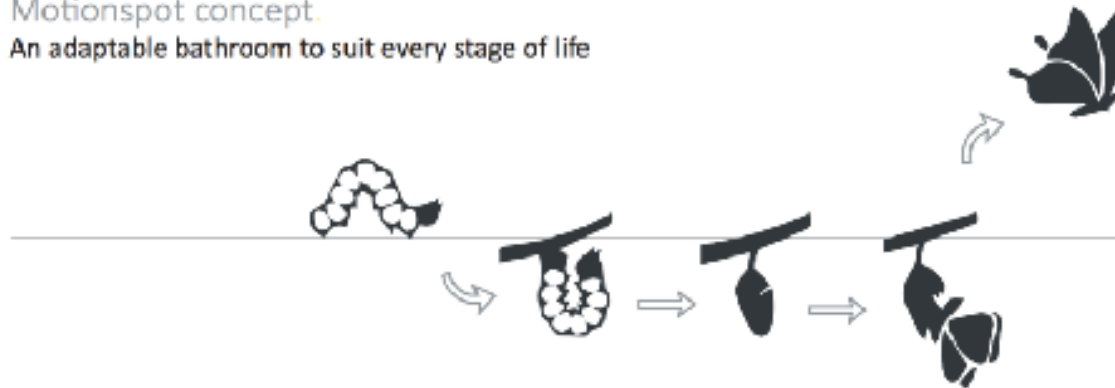
**MOTION  
SPOT**



## Designing environments for all



Motionspot concept.  
An adaptable bathroom to suit every stage of life



## Adaptable products



Lit mirror cabinet



With visible storage



With vinyl overlay



# This is where OTs can contribute

*How can we establish effective joint working methods ?*

## **Aspects of access**

- Physical access
- Visual Access
- Acoustics
- Design for dementia
- Learning Disability



Creating homes that people would like to live in rather than have to live in:  
Is there a role for occupational therapists in the design of housing?

## **Aspects of schemes**

- Size and layout
- Communal areas
- Outdoors
- Individual flats
- Bathrooms
- Kitchens
- Interior design
- Lighting

## **Stages**

- Commissioning
- Site feasibility
- Business Case
- Design briefs and Specifications
- Pre and post planning
- During construction
- Product and material schedules
- Post Occupancy

<http://www.housinglin.org.uk/Topics/browse/Design-building/occupational-therapists-input-on-design-of-housing/>