

## 53 units

- 23 Social Rent ('Affordable')
- 4 intermediate (Shared Ownership)
- 26 Private Ownership

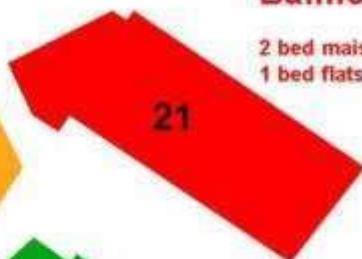
### Raydon Street

Studios / 1 and 2 bed units



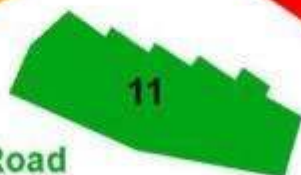
### Baltimore Street

2 bed maisonettes  
1 bed flats



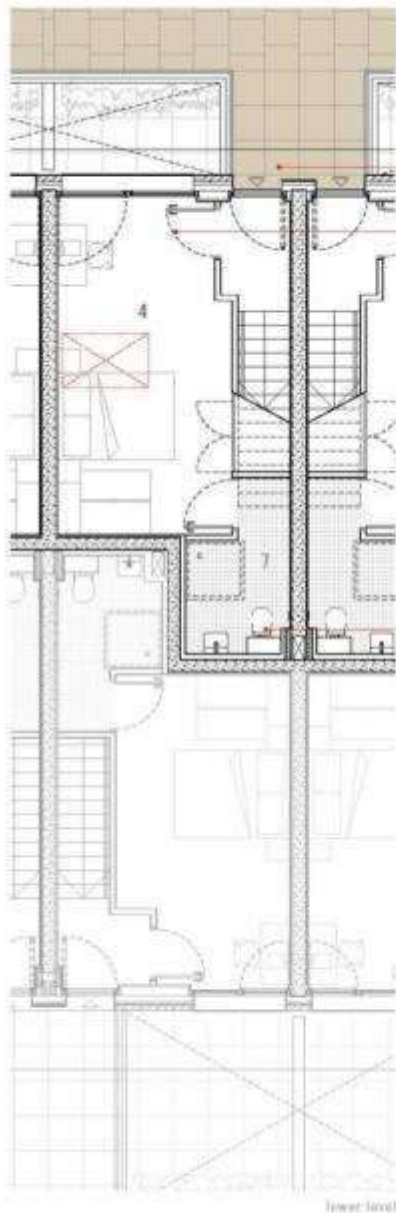
### Chester Road

3 and 4 bed maisonettes

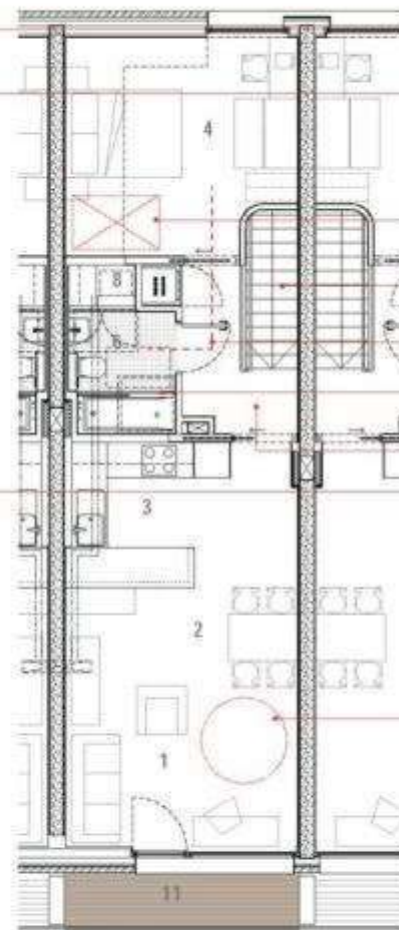


## Residential standards

- **HCA (Homes and Communities Agency) Space Standards / Housing Corporation's Design and Quality Standards**
  - 1 bed 2 person = 51sqm
  - 2 bed 4 person = 70sqm
  - 3 bed 5 person = 96sqm
  - 4 bed 6 person = 106sqm
- **Housing Quality Indicators (HQI)**  
Assessed on units size, unit layout and unit services
- **Lifetime Homes**  
16 design criteria  
Inclusivity, Accessibility, Adaptability, Sustainability, Good Value
- **Wheelchair Housing Design Guide**
- **Mayor of London Housing Design Guide**
- **Building for Life**  
Environment and Community Character, Streets, Parking and Pedestrianisation and Design and Construction
- **Secured by Design**



lower level



upper level

Demonstration of typical 2-bed maisonette and 1-bed flat compliance to the 10 Lifetime Homes criteria is indicated in red below.

LTH 3 Level/gently sloping approach to entrance

LTH 8 Entrance level living space (criteria is met by provision of space for seating/socialising for the household and visitors)

LTH 12b Future through floor lift position

LTH 12a 900mm clear between wall and handrail for future stair lift

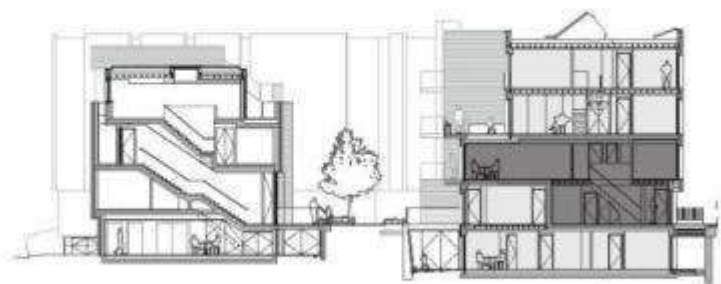
LTH 13 Future hoist to bathroom

LTH 14 Ease of access bathroom

LTH 6 Adequate internal doorway and hallway widths

LTH 10 Entrance level WC and shower drainage

LTH 7 Space for wheelchair turning in dining areas and living rooms



Typical Unit - 2-bed maisonette Balmore Block



**Developer**

**Architect**

**M&E**

**Structural**

**Main contractor**

**Certification**

**London Borough of Camden**

**Rick Mather Architects + Architype**

**Mott MacDonald + Crouch Perry & Wilkes**

**Haskins Robinsons Waters**

**Willmott Dixon Housing**

**Warm: Low Energy Building Practice**

**53 residential units (1-4 bed)**

**3 commercial units**

**Other requirements**

**BREEAM Very Good, Code Level 4**





# Heat loss form factor

Element	U value
External wall	0.12
Roof	0.1
Ground floor	0.13



Maximise solar gains!



04/10/2013 10:35



Supporting heavy masonry







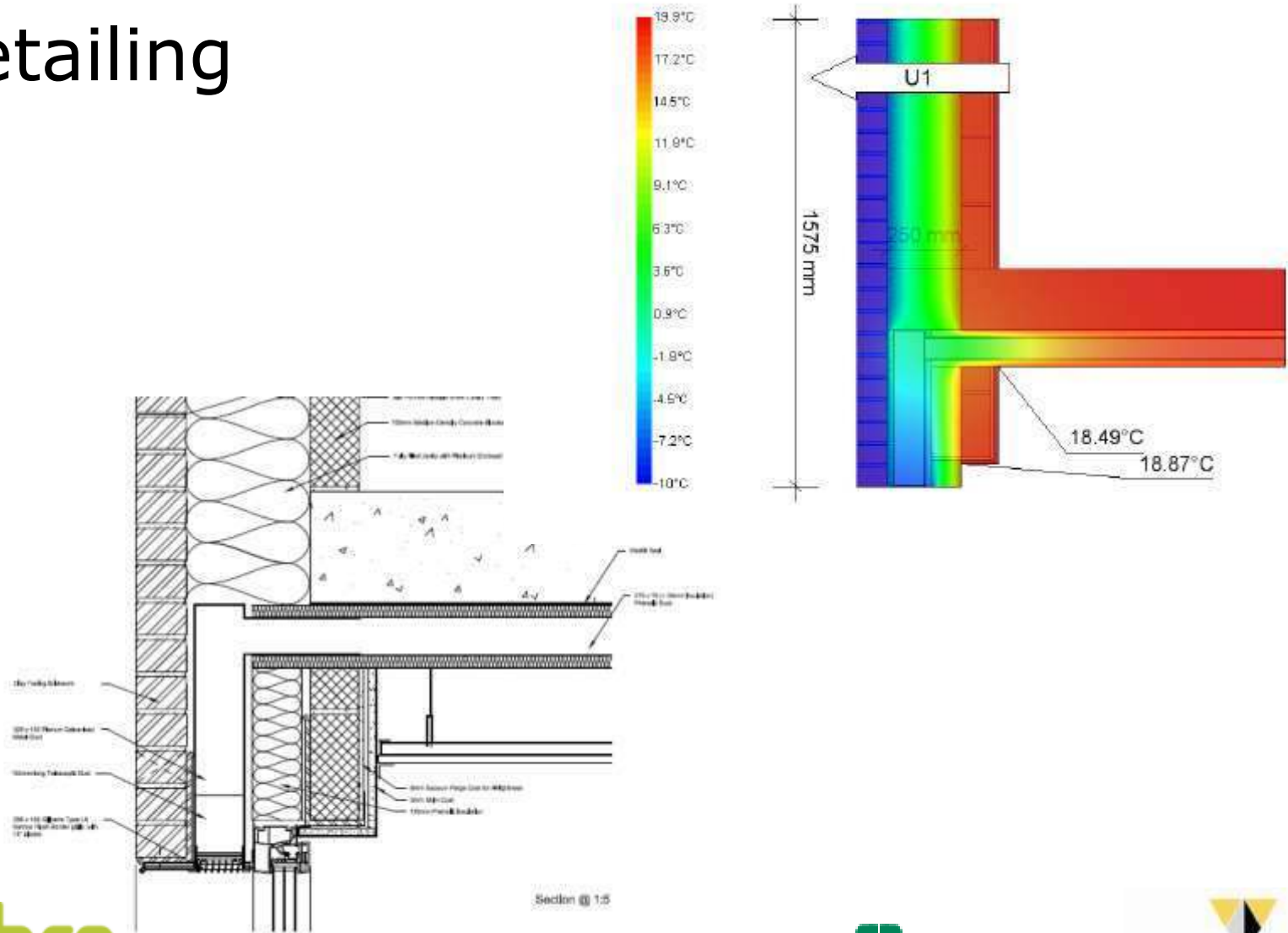
Beware of balconies,  
upstands, downstands...







# Detailing



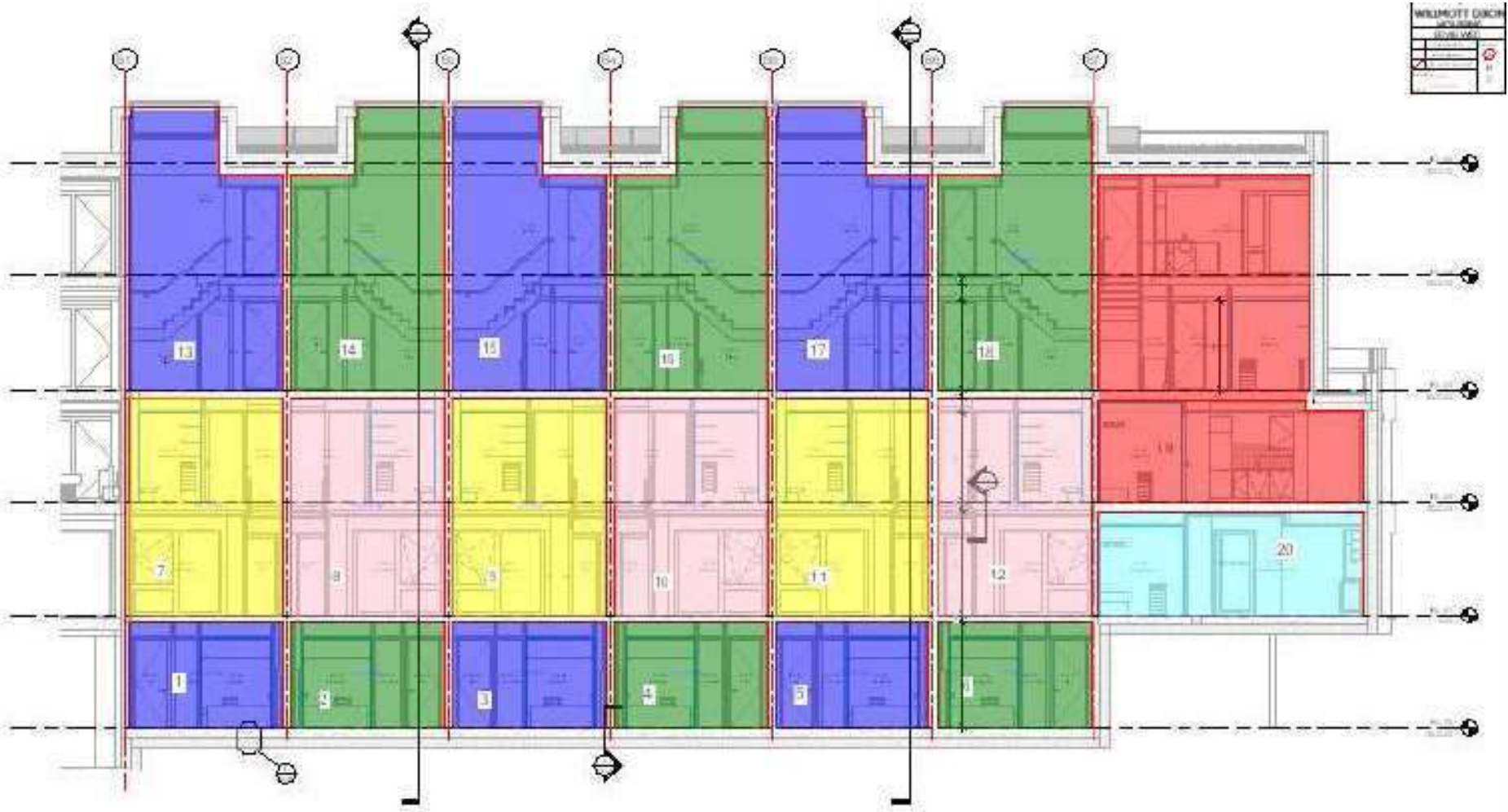


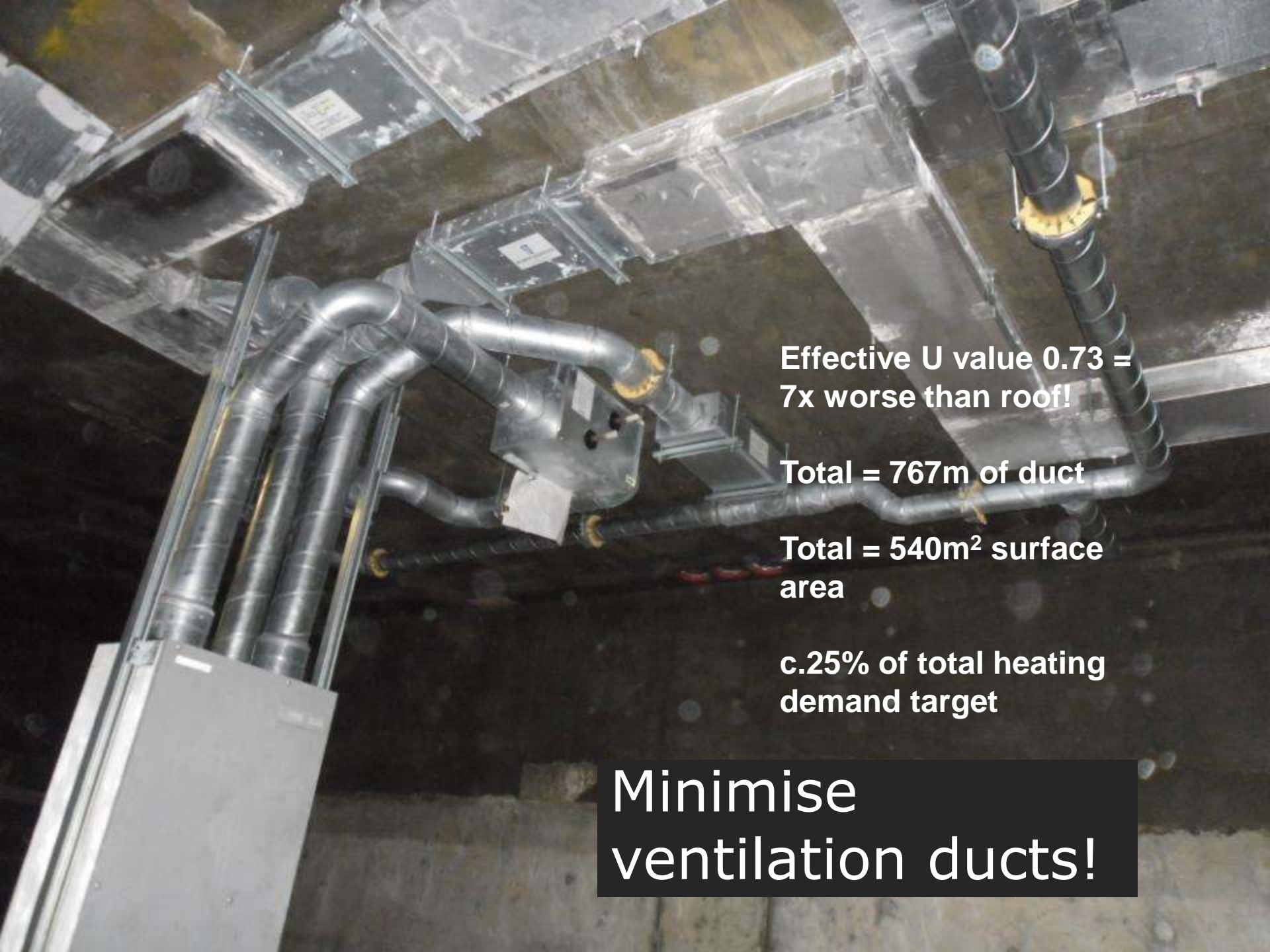
**Achieving air tightness**





# Air permeability testing volumes





Effective U value 0.73 =  
7x worse than roof!

Total = 767m of duct

Total = 540m<sup>2</sup> surface  
area

c.25% of total heating  
demand target

Minimise  
ventilation ducts!



# Primary energy demand

Communal boilers and thermal store

LTHW distribution losses

Lifts, pumps, towel rails, external and communal lighting... it all adds up!



# Other challenges

Staff continuity & quality control  
– internally and subcontractors

Keeping to programme –  
particularly air testing





# What works well on a large scale project?

- Geometry and heat loss
- Economies of scale – components, specification, site supervision resources
- Repetition of details & testing
- Presents good opportunity for monitoring and understanding users + performance



