

UK PASSIVHAUS AWARDS 2013

Ditchingham

Parsons + Whittley Architects



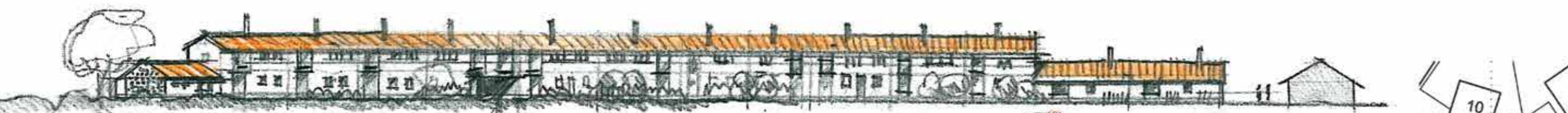
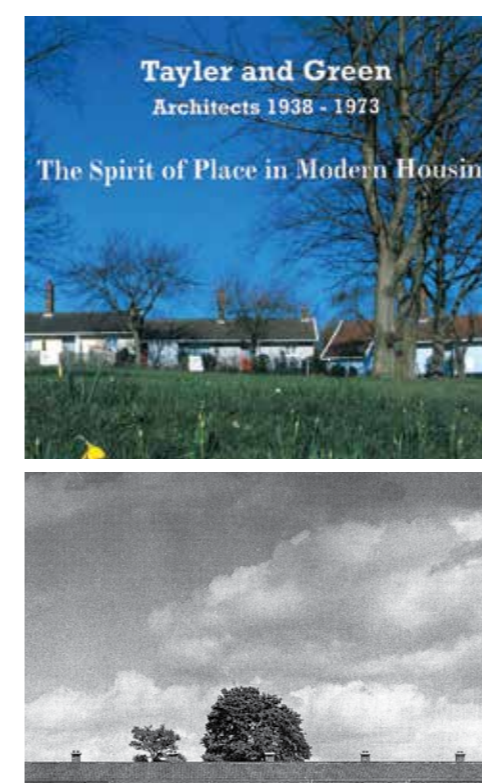
The UK Passive House Organisation



The development is set on a challenging site, in a Conservation Area and adjacent to significant Tayler & Green Grade II listed buildings. The scheme design required an understanding of the Tayler & Green legacy and in particular their innovative approach to rural housing.

We believe this scheme demonstrates that:

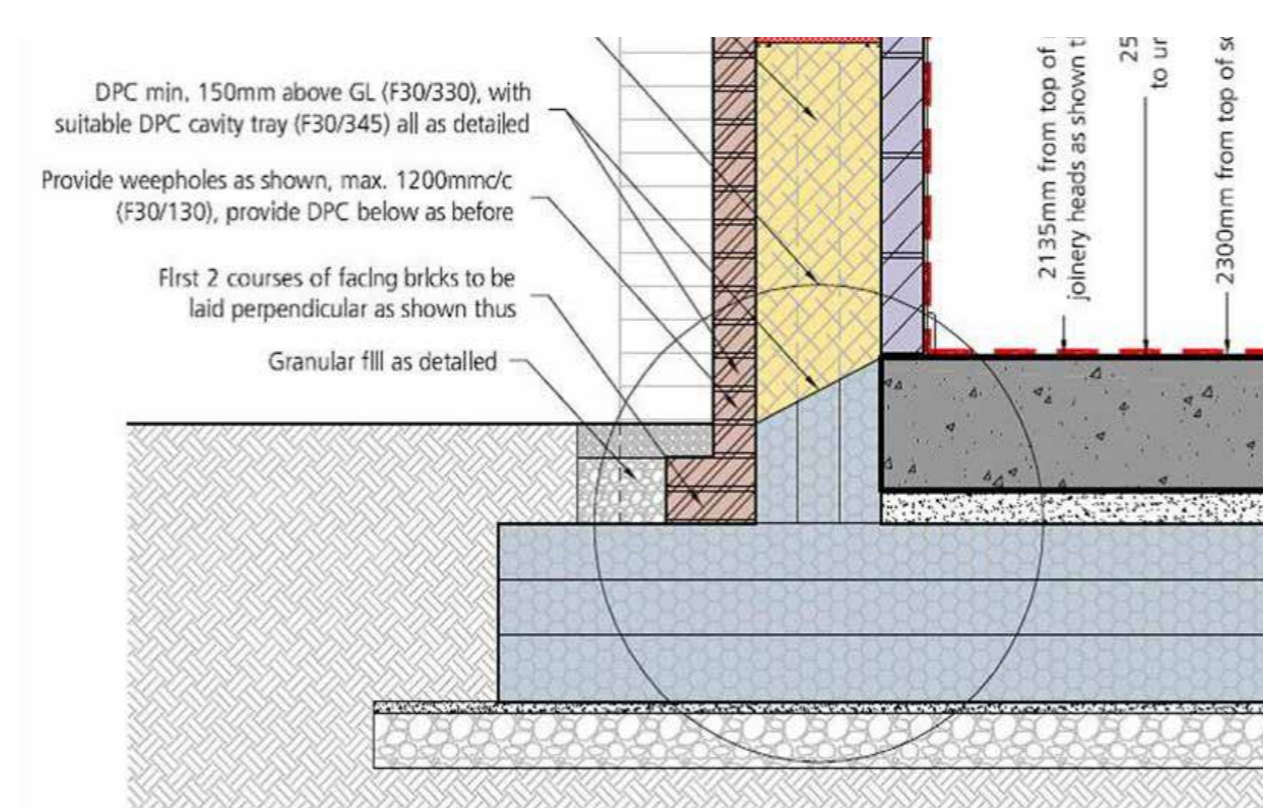
- Passivhaus can be delivered in a traditional UK idiom and can respond to local vernacular, addressing the 'European' prejudice that sometimes emerges.
- Passivhaus can be delivered in sensitive areas such as Conservation Areas and adjacent to historic assets, tackling the prejudice that the concept is only achievable with contemporary architecture.
- Passivhaus can be delivered using traditional UK construction skills, methods and materials.
- Passivhaus can be delivered in conjunction with all other UK housing standards such as Code for Sustainable Homes level 4, Lifetime Homes, Secure by Design, Building for Life etc.
- The scheme demonstrates simplicity of detailing and construction whilst achieving high performance levels.
- Passivhaus is the most effective response to issues of fuel poverty which is particularly relevant in social housing.



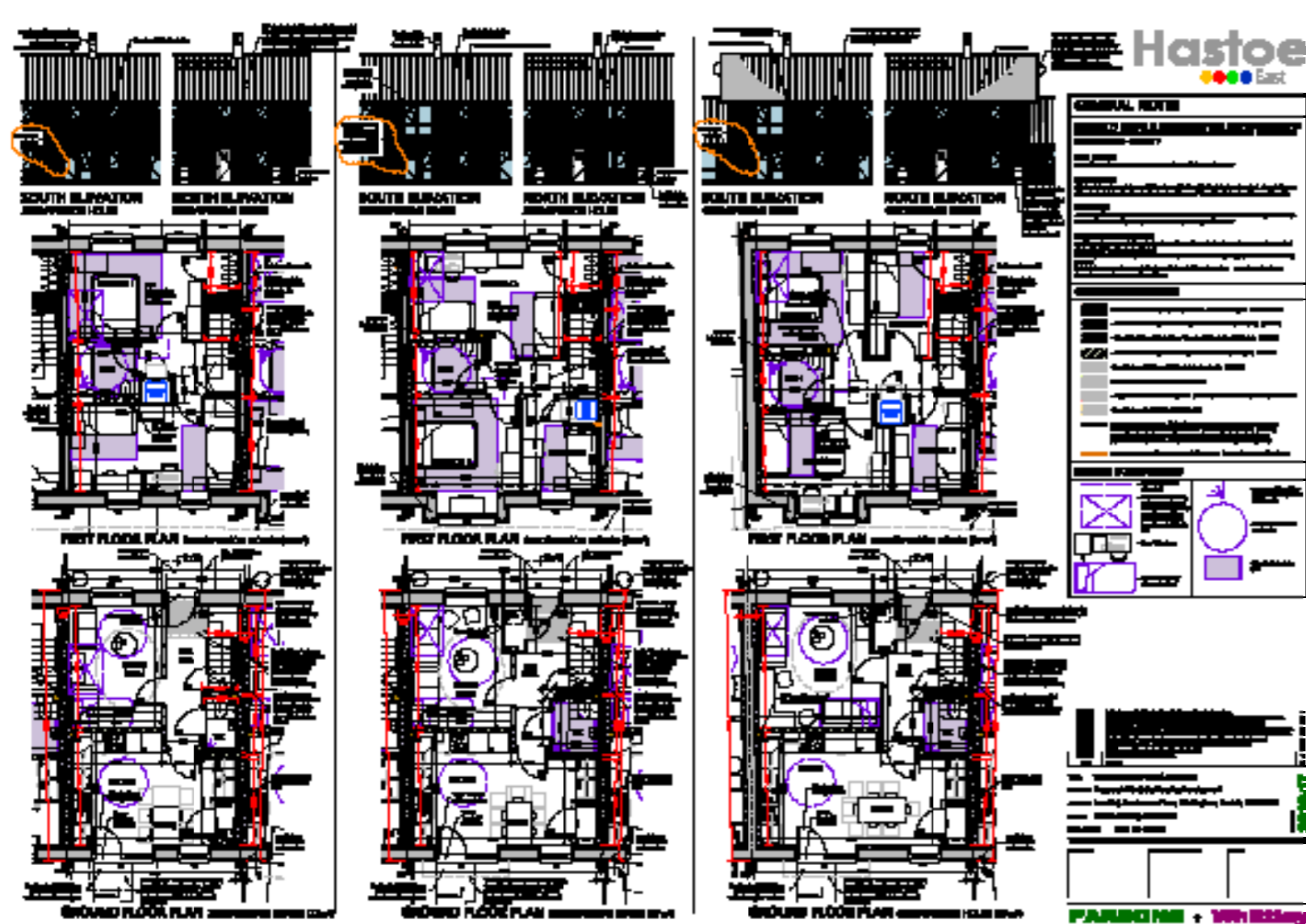
EARLY CONCEPTUAL SKETCH



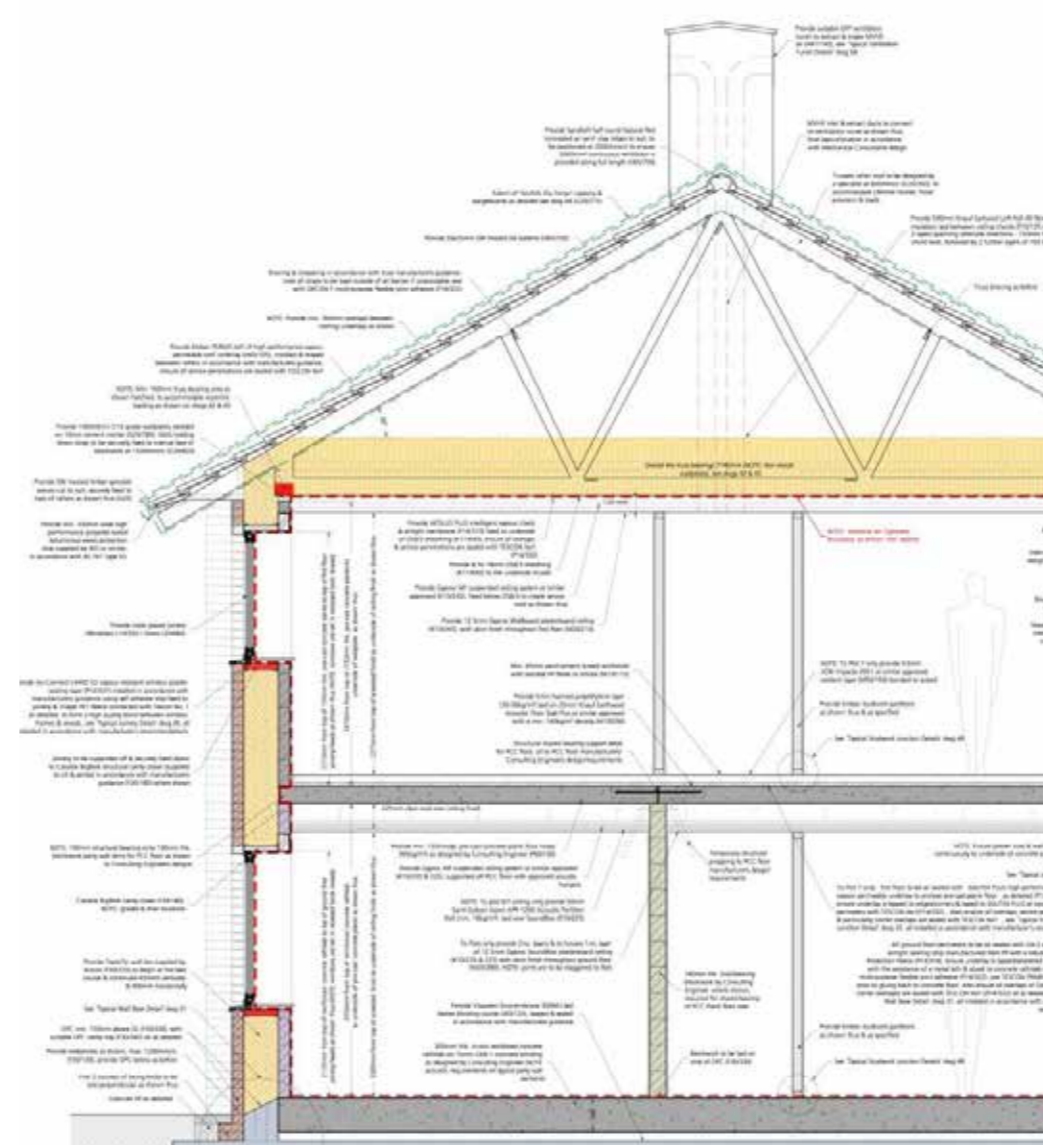
SITE LAYOUT



TYPICAL FOUNDATION DETAIL



HOUSE FLOOR PLANS



TYPICAL SECTION

Project Overview

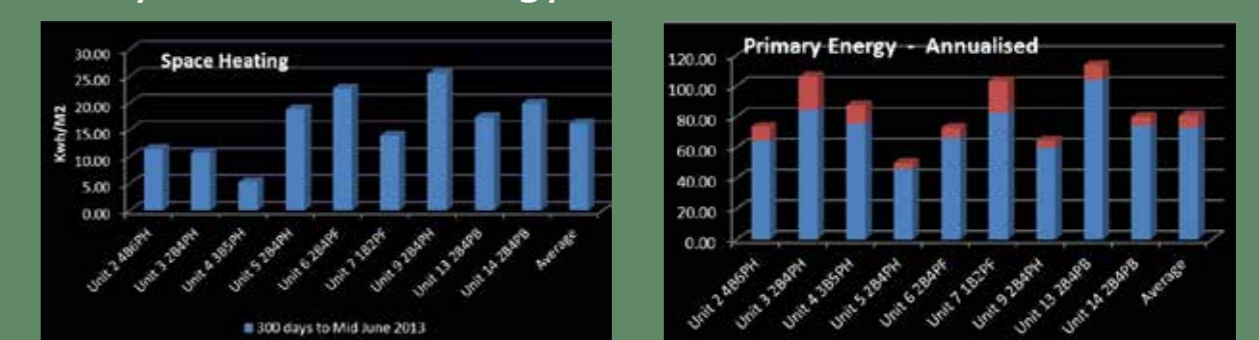
Name: Ditchingham- 14 Affordable Homes
Location: Lower Wells Close, Ditchingham, NR35 2SB
Building Type: Mix of 1-bed, 2-bed and 3-bed flats, bungalows, and houses
Construction type: Brick/block cavity construction
Completed in: August 2012
Occupancy status: Occupied since August 2012
Construction Cost: **£1454/sqm**

Sustainability features

Primary Energy Demand: **108 kWh/m².a**
Heating and Cooling Load: **9 W/m²**
Heating & Ventilation strategy: Heating/DHW and ventilation is provided via the Genvex Combi 185 unit which is a combined heat recovery ventilation and domestic hot water heat pump appliance. An air-source heat pump heats the air and 185 litres of domestic hot water, prioritising the hot water. The unit is provided with an Optima 310 Design controller. A post-MVHR duct heater (Total Home Environments PR613) is installed to provide additional heating during extreme periods of cold. Additional heating is provided to bathrooms in the form of a local electric towel rail.
Shading strategy: Overhanging eaves / external blinds.
U values W/(m²K): Exterior wall **0.098**, Roof **0.080**, Floor **0.089**, Windows **0.65**, Doors **0.82**

Measured Performance

Headline energy results:
Analysis of actual energy use:

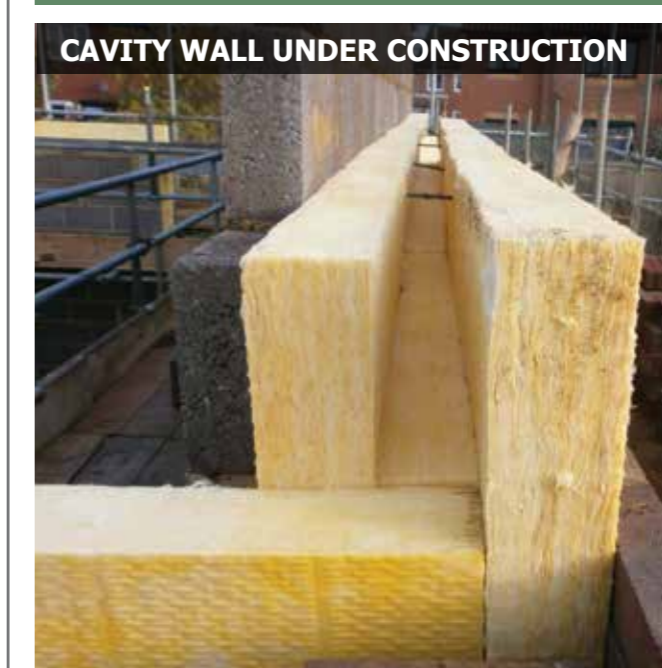


These charts show Specific Space Heating as kWh/m², with a monitoring period of 279 days. Caution! - Projected figures based on straight line extrapolation, no adjustment for forthcoming summer (if we ever get one!), therefore actually anticipated to be better than shown. Please note average nature of certification with individual units varying in performance.

Air pressure result: n50 = **0.6 ach**

Occupant Feedback:

"I love living in my new home, I couldn't ask for more. Its very spacious and thanks to the large windows there is lots of natural light. The mechanical ventilation system is very simple to use and now I have set it up to my requirements I can forget about it, whilst it does all the work, maintaining a comfortable temperature during the day and reducing slightly during the night when I'm in bed." occupant
"....my house is always so warm I have never had the need to do anything [to the thermostat]" - Occupant



CAVITY WALL UNDER CONSTRUCTION



EXTERNAL BLINDS

TEAM CREDITS

Client: Hastoe Housing Architect: Parsons+Whittley
Consultants: Davis Langdon Contractor: Keepmoat
Certifier: BRE M&E - ESC Ltd

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