

UK PASSIVHAUS AWARDS 2014

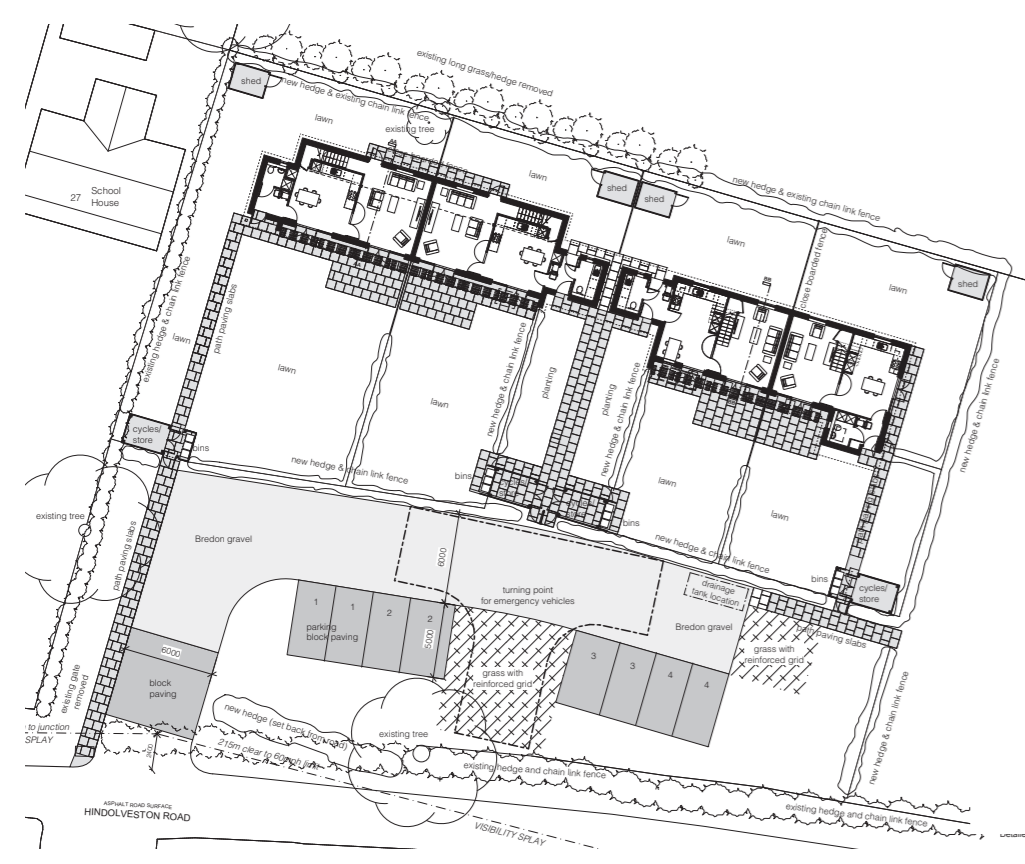
FULMODESTON PASSIVHAUS

MOLE ARCHITECTS /
BROADLAND HOUSING ASSOCIATION



VIEW OF SOUTH ELEVATION

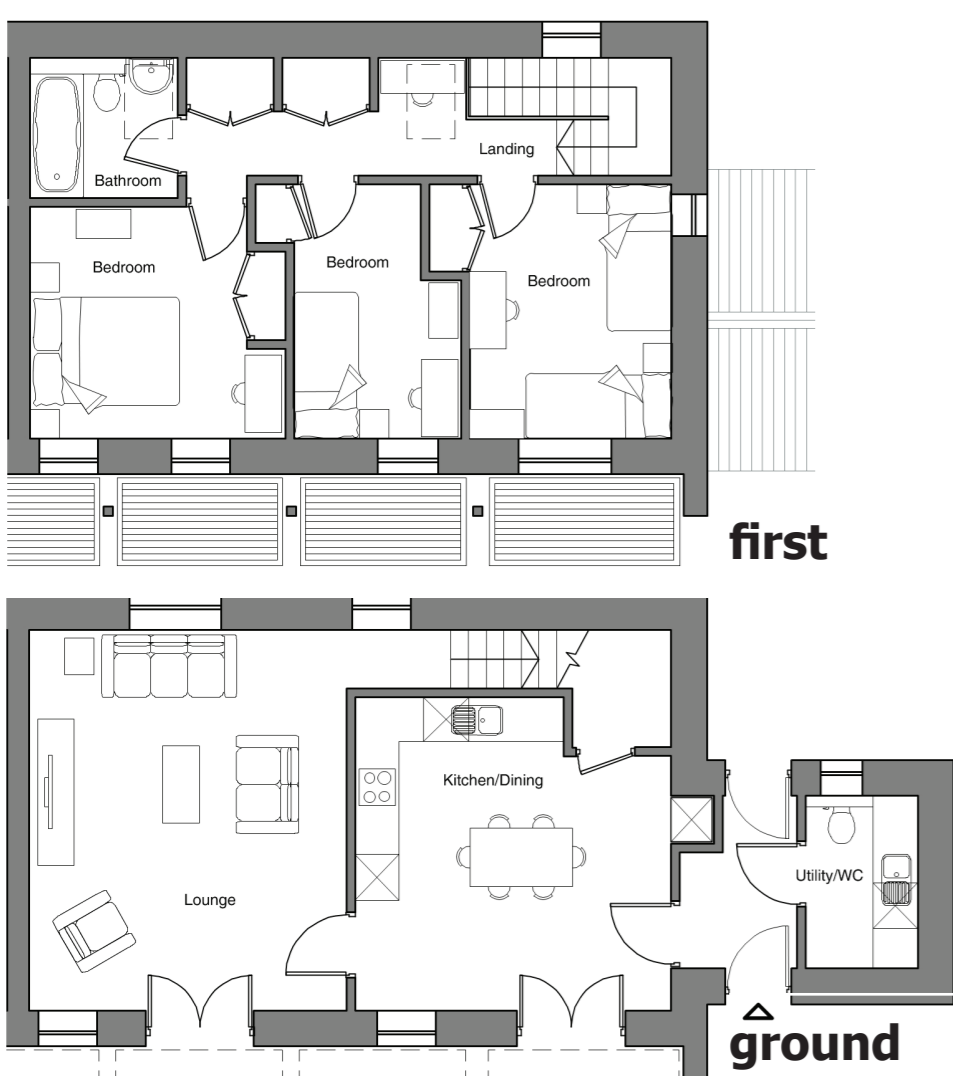
Design philosophy & key project innovations, Fulmodeston Passivhaus, Hindolveston Road Fulmodeston, North Norfolk, is an affordable housing / Passivhaus development of 2/3-bed semi-detached houses, two of which are passivhaus accredited. The scheme is extremely successful in terms of design quality / progressive social housing provision. Built under Rural Exception Housing policies, it provides high-quality affordable homes for local households. The area suffers from high fuel poverty, affecting over 25% of households with low average incomes and no mains gas provision. The Passivhaus approach is key to significantly reducing energy costs, leaving householders with disposable income to afford their home. The houses are so energy efficient no central heating system is required - a first for Passivhaus schemes in the East of England.



LOCATION PLAN

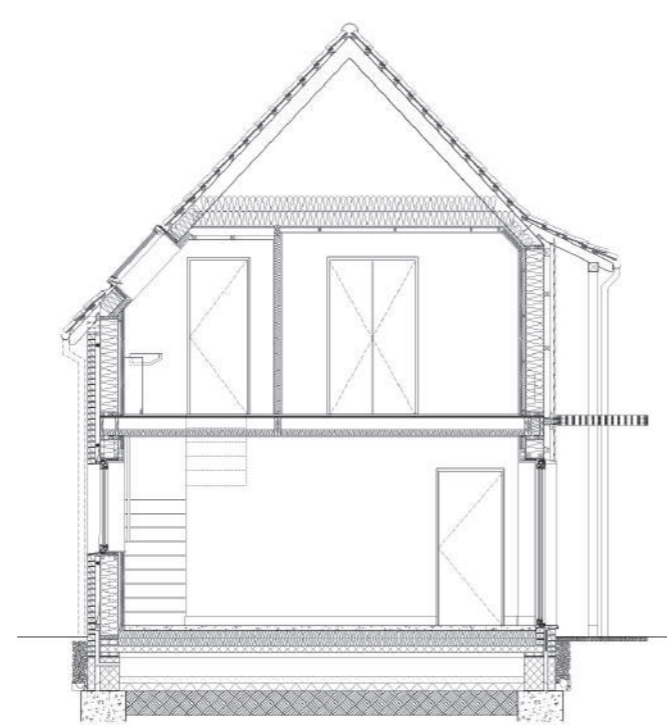


DETAIL OF SOUTH ELEVATION



first

ground



PLANS & CROSS SECTION



GATEHOUSE ENTRANCE

Project Overview

Name: Fulmodeston Passivhaus
Location: Hindolveston Road, Fulmodeston, North Norfolk
Building Type: 2/3-bed semi-detached family houses
Construction type: Timber frame, timber & brick cladding
Completed in: July 2013
Occupancy status: Occupied since August 2013
Construction Cost: £730/sqm
TFA: 177m² according to PHP

Sustainability features

Primary Energy Demand: 87 kWh/m²
Heating Demand: 12 kWh/m²
Heating & Cooling Load: 10 W/m²
Air pressure result: 0.6 @50Pa
Ventilation strategy: Balanced PH MVHR
Heating strategy: Single Dimplex Heater in Bathrooms
Shading strategy: External Timber Brise Soleil
U-Values W/(m²K): Walls 0.109, Floor 0.107, Roof 0.093
Doors 0.85, Windows - Frame 0.86, Glazing 0.6

Energy Performance

Broadland are monitoring electricity use and internal/external temperatures at Fulmodeston and its sister development in nearby Barney – built to Code 3 standards - for performance/cost benefit analysis through the 'Build with Care' scheme at University of East Anglia.



Lessons learnt: A big challenge was the lack of local supply chain for passivhaus and difficulty finding companies to spend R&D on a small development. The project became a learning tool, prompting a groundswell of support in Norfolk, with shared learning benefiting

"Broadland's first certified passive scheme in Norfolk is a significant step on one association's journey towards social housing fit for the 21st century." *Passiv House Plus*



TEAM CREDITS

Client: Broadland Housing Association
Architect: Mole Architects
Consultants: Andrew Fisher
Lovell Partnerships Ltd.
Contractor: Lovell Partnerships
Other: Structural Engineers Rossi Long Consulting Ltd
Certifier: BREEAM

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