

Farrar Bamforth Associates Ltd.

Chartered Architectural Technologists

CONROY BROOK (DEVELOPMENTS) LTD

Residential Development at Fountain Pub, Ingbirchworth, Barnsley

Sustainability & Energy

Barnsley Council has recently declared a climate emergency (September 2019).

Local Plan policy CC1, along with supporting text, set out how the Council will seek to reduce the causes or and adapt to the future impacts of climate change.

This includes:

- Promotion of sustainable design and construction techniques
 - Promoting the use of Sustainable Urban Drainage (SuDS)
 - Promoting and supporting the delivery of renewable and low carbon energy; and
 - Promoting investment in Green Infrastructure to promote and encourage biodiversity gain Consideration has been given to sustainable design on all aspects of the development.
 - The construction details will utilise materials that have low environmental impact where possible.
 - The site contains existing buildings & hardstanding's with considerable impermeable areas from which surface water currently drains into the sewer. The proposed drainage will use soakaways where possible inline with SUDs, with the remaining drainage connecting into the sewer.
 - Each dwelling will be provided with garaging with space to accommodate bicycles to encourage sustainable travel.
 - Each dwelling will be provided with an Electric Vehicle Charging Point, this will be wall mounted single outlet charging point to be installed in a position that is accessible to electric vehicles.
- Cable and circuitry ratings shall be of adequate size to ensure a minimum continuous current demand of 16 amp (3.7kW) for standard charge and a maximum demand of 32 amp (7kW) suitable for rapid charge per charging point.
- Consideration will be given to further sustainability measures for the site including PV, however, due to the size, location, and orientation of the properties on the site these are not considered financially viable.
 - The following Energy Calculations are for Typical dwellings built by Conroy Brook (Developments) Ltd.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	TPD/Conroy/Helme/A/26		Issued on Date	28/03/2019	
Assessment Reference	001	Prop Type Ref			
Property	Plot 26, Helme Lane, Meltham, Holmfirth				
SAP Rating	84 B	DER	16.73	TER	16.94
Environmental	84 B	% DER<TER	1.26		
CO ₂ Emissions (t/year)	2.25	DFEE	57.12	TFEE	64.24
General Requirements Compliance	Pass	% DFEE<TFEE	11.08		
Assessor Details	Mr. Mark Purnell, Award Energy Consultants Ltd, Tel: 01423 506070, mark@awardenergy.co.uk			Assessor ID	8032-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Mains gas		
Fuel factor	1.00 (mains gas)		
Target Carbon Dioxide Emission Rate (TER)	16.94	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-0.21 (-1.2%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	64.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	57.12	kWh/m ² /yr	
	-7.1 (-11.1%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.28 (max. 0.30)	0.30 (max. 0.70)	Pass
Floor	0.16 (max. 0.25)	0.16 (max. 0.70)	Pass
Roof	0.11 (max. 0.20)	0.18 (max. 0.35)	Pass
Openings	1.30 (max. 2.00)	1.31 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	5.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Boiler system with radiators or underfloor - Mains gas Data from database Ideal LOGIC SYSTEM s18 Efficiency: 89.6% SEDBUK2009 Minimum: 88.0%	Pass
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BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

Measured cylinder loss: 1.48 kWh/day
Permitted by DBSCG 2.30

Pass

Primary pipework insulated

Yes

Pass

6 Controls

Space heating controls

Time and temperature zone control

Pass

Hot water controls

Cylinderstat

Pass

Independent timer for DHW

Pass

Boiler interlock

Yes

Pass

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous extract system (decentralised)

Specific fan power

0.1300 0.1100

Maximum

0.7

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Slight

Pass

Based on:

Overshading

Average

Windows facing North East

15.83 m², No overhang

Windows facing South East

3.28 m², No overhang

Windows facing South West

9.35 m², No overhang

Windows facing North West

8.09 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

5.00 (design value)

Maximum

10.0

Pass

10 Key features

Roof U-value

0.10

W/m²K

Thermal bridging y-value

0.031

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

PREDICTED ENERGY ASSESSMENT



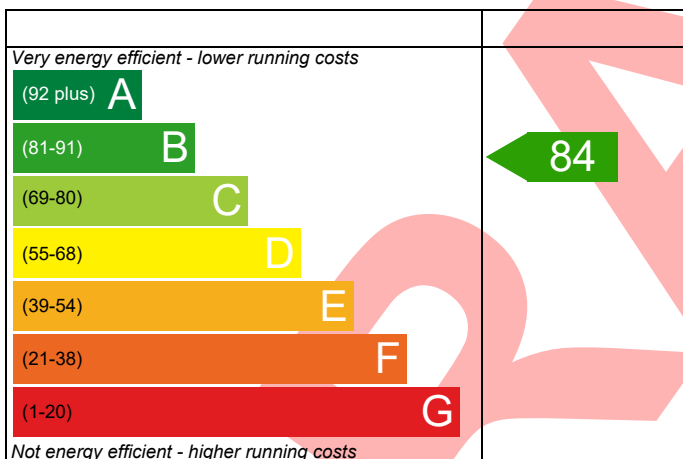
Plot 26, Helme Lane,
Meltham,
Holmfirth

Dwelling type: House, Detached
Date of assessment: 28/03/2019
Produced by: Award Energy Consultants Ltd
Total floor area: 160.73 m²

This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

The energy performance has been assessed using the Government approved SAP2012 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating

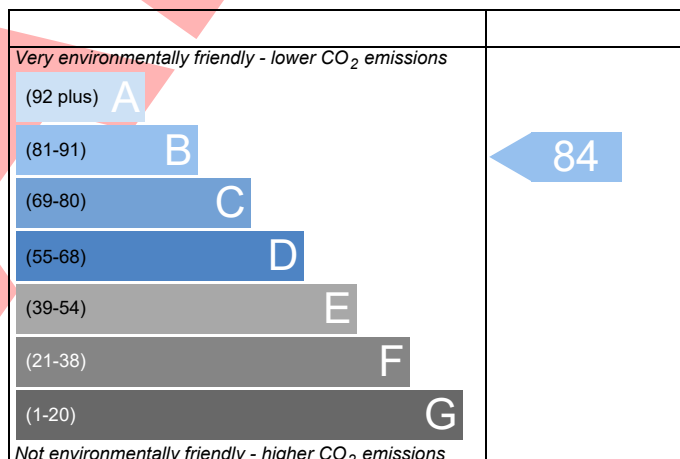


England

EU Directive
2002/91/EC

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

Environmental Impact (CO₂) Rating



England

EU Directive
2002/91/EC

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

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