

Highwood, Hitchwood Lane, Hitchin, Herts SG4 7RY

Planning permission Ref No 24/02882/FP

Decision Date 23rd July 2025

Planning Condition 12

Sustainability Strategy, Oct 2025

Demolition of an existing outbuilding and construction of a new replacement dwelling and associated landscaping scheme.

1). Renewable Energy:

The property's heating and domestic hot water will be supplied by a high-efficiency air source heat pump sized and commissioned to meet the dwelling's calculated heating and hot water demand. Underfloor heating will be installed throughout the property to maximise heat-pump efficiency and provide even thermal comfort. Dual-fuel towel rails will be installed in both the WC and en-suite to provide electric backup and rapid supplementary heating when required.

Key requirements -

System commissioning: Full commissioning, refrigerant charge check, and manufacturer-recommended commissioning report are to be provided.

Controls: Weather-compensated room thermostat, thermostatic zone controls for the underfloor circuit, and a programmable timer with remote connectivity are to be fitted where required.

Heat pump location and acoustic mitigation: The heat pump is to be located to meet the acoustic guidance given by the manufacturer and will include vibration and noise attenuation measures as required.

Servicing access: Safe, code-compliant access and space for routine maintenance and replacement of the heat-pump unit is to be provided.

2). Reducing Carbon Emissions:

The building will be designed and constructed to minimise fabric and infiltration heat losses, achieving a maximum air permeability of 5.0 m³/hr·m² at 50 Pa. Robust airtightness detailing and on-site quality control will be implemented, including a post-construction airtightness test and remedial works where necessary to meet the target and Part L1 requirements.

Airtightness and junction sealing -

Sealing strategy: All critical junctions including wall-to-floor, wall-to-roof, window/door perimeters, service penetrations will be sealed using suitable materials and techniques to maintain continuity of the airtight layer.

Windows and doors: Manufacturer's draft seals are to be fitted to all doors and windows.

Fabric insulation -

Enhanced insulation standards: Floor, wall and roof constructions will exceed minimum Building Regulations U-values to reduce heat demand and lifetime carbon emissions. Insulation materials, thicknesses and installation methods have been specified to avoid thermal bridging and preserve construction performance.

Low-energy fittings -

Lighting: Low energy-efficient LED fittings are to be installed throughout the property with appropriate luminaire controls (switching and dimming where practical).

Appliances and specifications: Energy-rated appliances and high-efficiency domestic hot water distribution are to be specified to reduce operational carbon.

Testing, verification and documentation -

Airtightness testing: An air tightness test is to be carried out in accordance with Part L1.

Performance records: Commissioning and performance records for the heat pump, underfloor heating, and key energy systems are to be undertaken.

3). Water Conservation:

The dwelling will meet the Part G water-efficiency requirement of no more than 125 litres per person per day through a package of water-saving measures and fixtures.

Specified measures -

Sanitaryware: Dual-flush toilets with effective low-flush volumes are to be fitted.

Taps and showers: Low-flow taps and water-efficient showers with flow regulators to reduce consumption without compromising user comfort are to be installed.

Appliances: Water-efficient washing machine and dishwasher models with low cycle water consumption are to be specified.

Installation and commissioning: Plumbing fittings are installed and commissioned to manufacturer tolerances to prevent drips and leaks.

Verification: Calculations demonstrating compliance with Part G and a water-efficiency specification table are to be provided in the handover pack for future occupiers.

Handover information

User guidance: The owner is to be provided with operating instructions for the heat pump, underfloor heating controls, and water-saving features, including simple tips to maintain compliance with the 125 litres/person/day target.

Maintenance schedule: The owner is to be provided with maintenance schedule for all major systems to maintain efficiency and minimise long-term water and carbon use.