

SUSTAINABILITY / ENERGY MANAGEMENT STATEMENT

Proposed Development of a Single Residential Dwelling
within the grounds of the existing residential dwelling known as The Cottage, Highground
Lane, Barnham, West Sussex PO22 0BT.

Approval Reference BN/17/21/PL

Condition 9

No development above damp proof course (DPC) level shall take place unless and until details and a timetable in the form of an Energy Statement (including details of physical works on site, sustainable construction methods, energy conservation and energy efficiency measures and renewable energy sources), have been submitted to and approved in writing by the Local Planning Authority. At least 10% of the energy supply of the development shall be secured from decentralised and renewable or low carbon energy sources (as described in the glossary at Annex 2 of the NPPF) unless it can be demonstrated that a fabric-first approach would achieve an equivalent energy saving. The development shall be implemented in accordance with the approved details and timetable and retained as operational thereafter, unless otherwise agreed in writing by the Local Planning Authority.

ENERGY STATEMENT

SUSTAINABLE CONSTRUCTION METHODS / PHYSICAL WORKS

Demolition on site (part demolition of the existing garage structure) will be carefully managed to allow for the recycling of any salvageable materials either for reuse or for recycling into construction materials off site.

Any concrete or masonry arising from the site will be repurposed for hardcore or crushed and used for sub base materials. It is proposed that any such materials will be separately collected by local waste recycling specialists.

Where possible all materials for the construction of the new dwelling will be prefabricated off site to avoid unnecessary wastage and ensure components are manufactured within controlled environments.

Timber truss rafters and timber frame panels will be prefabricated using FSC sustainable and responsibly sourced timber before being delivered to site just in time for construction.

All materials will also be delivered to site just in time to avoid unnecessary storage on site and the potential of damage and waste of materials whilst on site.

All waste materials will be sorted and set aside for recycling where possible.

ENERGY CONSERVATION & EFFICIENCY

A fabric first approach has been taken to provide consistently improved U Values for all key elements of the proposed dwelling.

The floors, walls and roof elements have been designed with highly efficient construction details utilising insulation in excess of those required under the Approved Documents.

During the design of the key construction elements of the dwelling, consultation with a thermal engineer has been carried out to ensure the building meets the highest standards for thermal efficiency. Detailing in line with accredited timber frame manufacture details will ensure good practice in design, manufacture, installation and performance.

Together with the use of an efficient renewable energy source, a design SAP rating of 105 (A) has been achieved. The design CO₂ reduction is 121% (negative emissions) although this assumes a standardised occupancy pattern.

Water use calculation are being prepared however throughout the decision phase for new sanitaryware, water saving products and fittings have been actively sourced and specified.

RENEWABLE SOURCES

The proposed dwelling will benefit from a full 18 panel photovoltaic array to the south east pitch of the roof which will produce approximately 7.29kWh.

The photovoltaic installation will be combined with a 10.1kWh battery storage located within the proposed plant room which will provide electricity for the proposed dwelling and provide all of the hot water requirements via a pressurised hot water cylinder with electric immersion.

The stored electricity will also provide power to a 7.2kW EV charging point within the garage.

The design SAP calculation and rating has been prepared assuming that the heating of the proposed dwelling will be achieved used a separate small gas fired boiler located in the plant room. However, the proposed occupant / applicant and self builder is looking into the use of an air source heat pump as an alternative for the central heating. If this is deemed viable a revised design SAP calculation will be prepared which would further improve the rating and reduce the design CO₂ for the dwelling.

APPENDICES

Appendix A Design SAP Calculation

Appendix B Accredited timber frame details

Appendix C Drawing BR001 ~ Building Regulations Application plans