ENERGY STATEMENT

JANUARY 2024

PROPOSED EXTENSION AND RE-MODELLING

OLD ORCHARD, CULVERLAND ROAD, LISKEARD, PL14 6RD

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Further to the Planning Application - Portal Reference ***PP-12716260*** the following "Brief" Energy Statement has been provided to accompany the proposals.

The Climate Emergency DPD (Development Plan Document) encourages better development, that uses less energy. Developing both new and existing buildings that are likely to survive future climate change and that help protect the planet.

The proposals put forward for the **Old Orchard** project have been conceived around the above ethos and the need to provide an environmentally friendly, sustainable yet contemporary family home.

A fundamental principle of the National Planning Policy Framework's (NPPF) environmental ambition is supporting a transition to the low carbon economy, by encouraging energy reduction. This will be done by using renewable resources and energy, reusing existing resources and helping people to live more sustainable lives to minimise our impact on climate change.

Cornwall Council intends a programme of investment in whole-house retrofitting (e.g. energy efficiency improvements) for existing buildings, however planning can't require this to happen unless buildings are being converted. It therefore falls upon the "Applicant" to bring forward proposals that can ultimately improve their property in line with emerging guidance supporting sustainable and efficient development…

Planning is a vital part of the solution, making positive changes to policies around building and the natural environment. Positive Planning will bring forward directives to help deliver greener growth with new policies on how the existing housing stock can be improved to survive future climate change. As individuals we all need to take responsibility and make changes in the way we live so that we can move towards a more sustainable future.

The intention of the Applicant is to secure planning permission for the highly efficient extension and renovation/re-modelling of the existing structure, thus providing a family home suitable for today's needs. During these uncertain times and the unprecedented situation with Coronavirus (COVID-19), the applicant also recognises the importance of providing a property with the flexibility to allow for later living as well as the ability to work from home.

Furthermore, in light of the **"energy emergency"** the proposals to be provided will aim to achieve a minimal carbon footprint, with the development carried out in line with the principles outlined within Cornwall Council's "Sustainable Building Guide". The New Building Regulations [June 2022] now demand even higher levels of performance as standard and developments in modern construction methods now enable higher levels of energy efficiency to be achieved.

Sustainable construction methods in 2023 and beyond

Sustainable and energy efficient materials are a super important aspect when it comes to building construction going forward. The methods used can help save construction time and property owners/developers money. The industry is now realising the value of green building methods. New advances in materials, technology and practice allows companies to use environmentally friendly processes that lead to better efficiency. Many of the innovations now considered unsightly by many within todays construction industry are likely to be viewed as innovative and indeed form standard design choices going forward…

"We must embrace new technologies and building techniques if we are to provide environmentally friendly, sustainable and future proof homes"…

BUILDING REGULATIONS

PART L – EXTENSIONS 2022

The new and improved Building Regulations were implemented 15 June 2022 for use in England.

Extensions to existing properties must now adhere to the SAP method of compliance for metrics of fabric energy efficiency and primary energy, namely:
• An uplift of fabric standards for new thermal elements for work on an existing home.
• The introduction of a primary energy and fabric energy efficiency metric for the whole house calculation method for new extensions

PART L – RENOVATION/ CONVERSIONS 2022
The thresholds remain the same for upgrading thermal elements. However, the extent of the renovation works has changed. Regulation 23 states

23. (2) Where the whole or any part of an individual thermal element is proposed to be replaced and the replacement:
(a) constitutes a major renovation; or
(b) (in the case of part replacement) amounts to the replacement of more than 50% of the thermal element's surface area;
the whole of the thermal element must be replaced so as to ensure that it complies with paragraph L1(a)(i) of Schedule 1, in so far as that is technically, functionally and economically feasible.

Section 4.13 states *if achieving the U-value in Table 4.3, column (b) either:*
a. is not technically or functionally feasible or
b. would not achieve a simple payback of 15 years or less then the element should be upgraded to the lowest U-value that both:
a. is technically and functionally feasible and
b. can achieve a simple payback not exceeding 15 years

All extensions, renovations and conversions constructed in the UK must now meet the minimum requirements of the UK Building Regulations. Specifically, with regards to energy and carbon compliance.

Projects must aim to achieve a minimal heat load due to the extremely high levels of insulation and airtight construction to be implemented. Passive solar gains are to be achieved by use of highly efficient double/triple-glazed windows and doors provided within the South and East elevations of the properties to maximise on solar gains where the ambient air temperature is required to be beyond the normal comfort zone of 18 to 22 degrees. This supplement of heat energy will have a direct impact in reducing the space heating requirements of the proposed properties. Passive cooling techniques may be used via the opening of low-level windows providing cooler air and expelling the hot air via upper storey windows/vents. Highly efficient windows will provide ample natural lighting and passive ventilation.

Projects are likely to be constructed implementing exceptional insulation standards, whilst combining sustainable and where possible renewable energy alternatives such as solar photovoltaic (PV) panels with air-source heat pumps to provide both heating and hot water. On average, an air source heat pump can output in excess of 4 times the energy it takes to run. Not only does this provide a saving on ever increasing energy bills but will also reduce a home's carbon emissions by several tonnes per year.

Energy saving efficient lighting is to be implemented throughout the property. Where possible, new materials will be carefully selected for their reduced carbon footprint. Materials will be sourced from sustainable sources and where at all possible from local manufacturers, works should aim to use locally sourced labour whilst incorporating sustainable waste, energy and water management. Further measures to reduce the impact on the environment can be achieved by selecting timber from traceable and well-managed forest sources, and the timber independently certified by PEFC certification schemes.

Extensions, Renovations and Conversions will be highly insulated with a wide range of energy loss mechanisms, making it cheaper to heat, and cutting the emissions it will generate from heating in its lifetime. Superior insulation and airtight construction detailing will provide properties that not only meet but exceed the current government targets for emissions.

We have all faced incredible challenges over the last year or so with the pandemic and the climate emergency impacting on our daily lives. It is vital that we continue with work to address climate change and get on a track to recovery with a green and sustainable economy.

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