



Planning Application Submission document:

## **Ecological Enhancement**

### **‘Orchard Barn’**

...on land adjacent to:  
Langstone Court Barn, Llangarron, Ross-on-Wye, HR9 6NR

Mrs J Hewson

Rev. v1.0 January 2021





Surrounding area and Approach





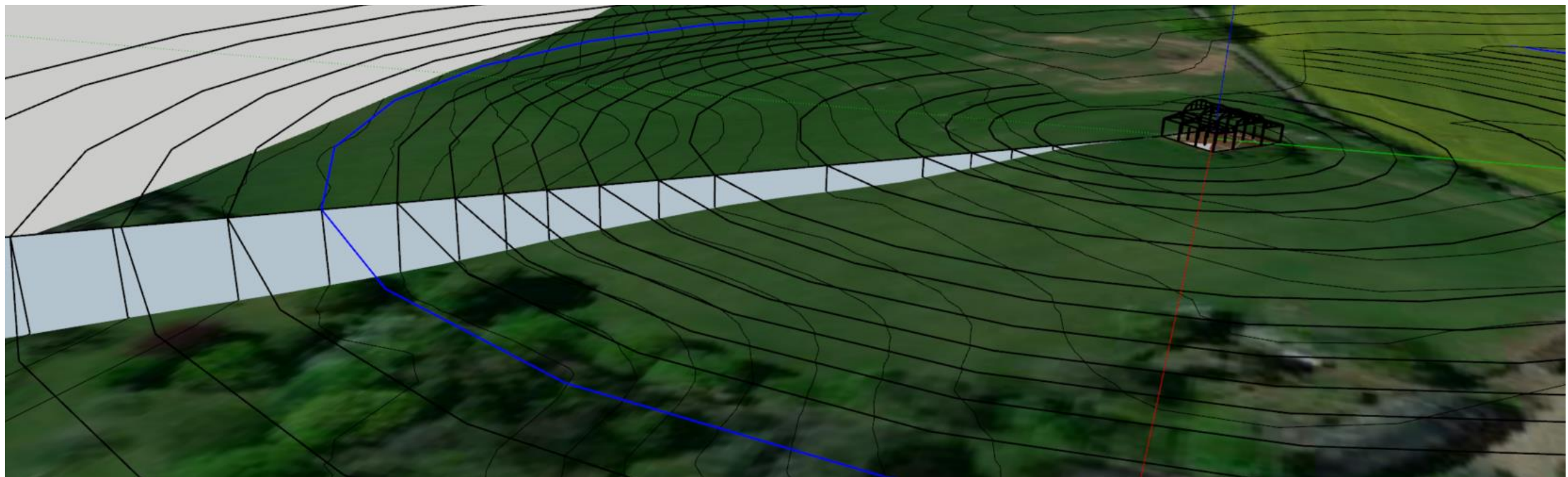
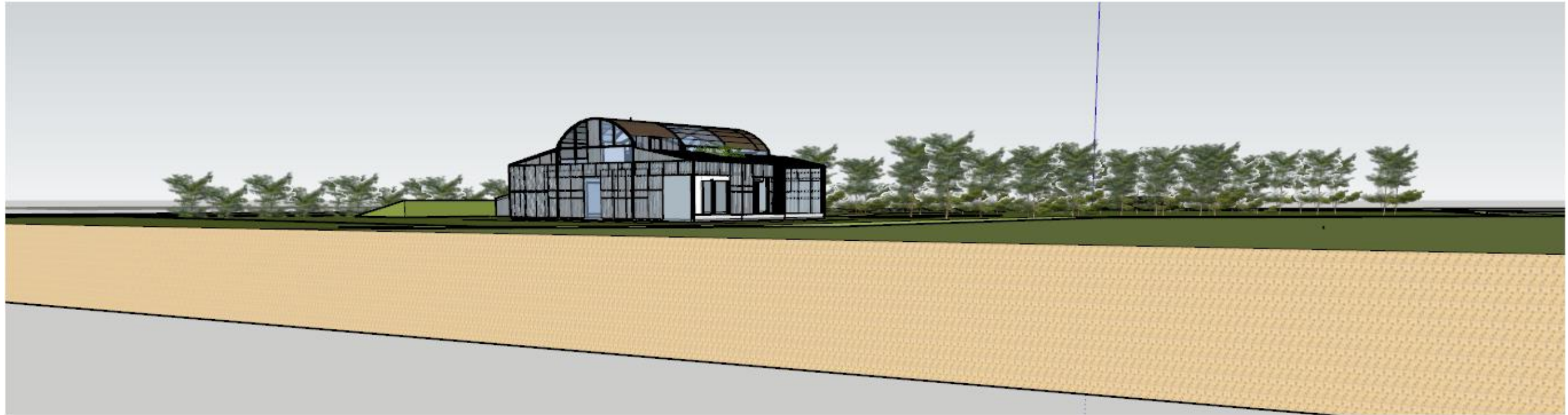


Location



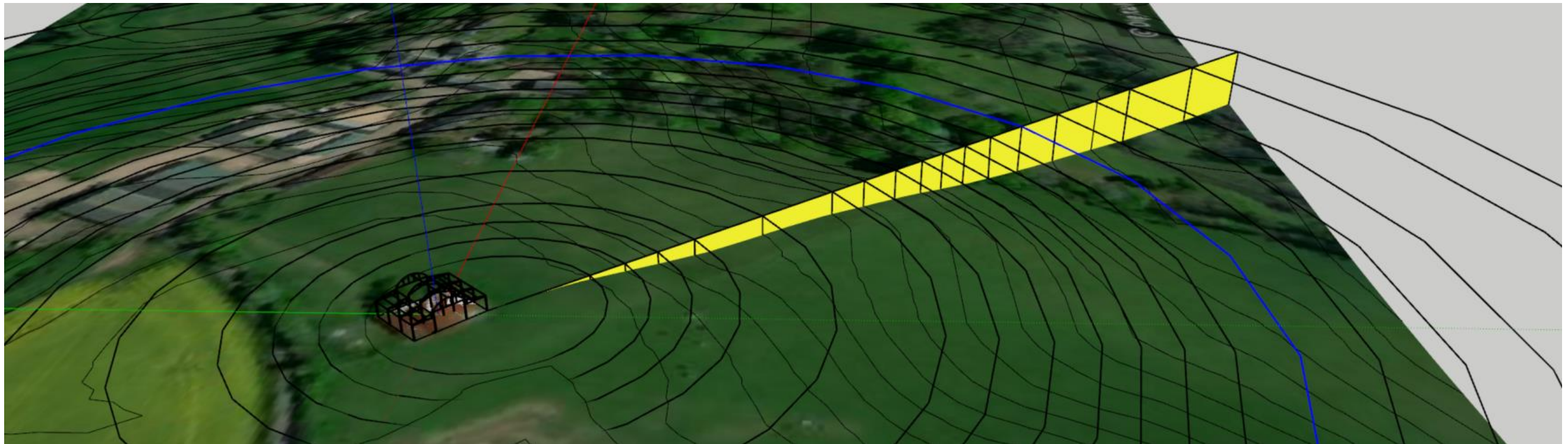


## Visual and environmental integration





**Topography - 1m contours. Blue line from barn = 159m. Average angle 4.645 degrees**



## Reed bed

Orchard Barn's impact on the environment will be minimal. From material use and specification to emitted carbon, the focus of the design is to enhance rather than blemish the building's natural surrounds.

*Ecological enhancement will be achieved through a combination of actions centred on improving and re-vitalising the variety of planting and wildlife habitats. Carbon dioxide loving plants and trees will help to reduce pollution in the air, via oxygenic photosynthesis and will assist in improving the local environment. The planting of native species will reduce the amount of pesticides and fertilisers required on site, and also reduce maintenance levels.*

*Most residential developments play lip service to Ecology with many sites stripped of value before residents try to encourage wildlife back into their gardens at a later stage. The proposal is quite the opposite in the case of Orchard Barn.*

*Our intention is to create the conditions and habitats on site for numerous species to thrive by focusing on: Appropriately designed new landscape areas and managed wildlife areas, such as the introduction of wild flower meadows, and pollen and nectar mixes, that will promote species rich grassland for birds, insects and vertebrates, together with the enhancement of the existing hedgerows.*



*It is our intention to approach the design process with environmental sustainability principles at its heart. It will avoid retrofitting renewable technologies so that the style of the building remains natural in context. The buildings will be upgraded with enhanced levels of insulation to minimise energy consumption and reduce the site's carbon footprint. With regards to on-site generation we will examine the potential for installing appropriate renewable technologies in an effort to reduce reliance on the National Grid.*

*Design and Access Statement – Orchard Barn*

The use of a reed bed will enhance the building's environmental performance considerably. By creating a constructed wetland natural ecological processes will be used to break down organic matter and produce uncontaminated waste water.



The intention will be to create a horizontal or vertical flow reed bed, which will be subject to detailed design. The bed will be planted with reeds and wetland plants that de-nitrify the treated effluent 'converting the nitrogenous compounds into free nitrogen gas which escapes to atmosphere'.

The installation of a reed bed will contribute significantly to the building's sustainable credentials whilst at the same time enhancing the natural environment both practically and visually. This natural filtration process will enhance the setting of the barn and encourage increased bio-diversity and improved wildlife habitat.

