



Dear Barry,

Re: Woodlands Farm Ringshall IP14 2LY

As instructed on behalf of your Client, I visited the property of Woodlands Farm Ringshall to carry out a visual structural inspection of the existing roof on Monday 14th August 2023, in support of the renovation and Listed Building Consent.

At the time of my inspection the roof tiles, battens and bituminous felt had been removed, and the weather was cloudy with sunny spells and intermittent rain showers.

The existing rafters, sprockets and purlins were visible together with both lathe and plaster and local areas of plaster boarded ceilings.

The original roof was thatched and at a later date the thatch removed and replaced with clay tiles, incorporating timber plates running up the rafters with packing timber to reduce the bowing effect and straighten the pitch for the tiles. The roof timbers have suffered from creep (permanent deflection/sagging) from the heavier tile loading.

The timber plates are decaying and the fixings rusted through. The original rafters are also decaying with rot due to condensation from a lack of ventilation created by the bituminous felt and water ingress. There are also holes from wood boring insects but it is not possible to say whether this is active.

The roof requires strengthening to prevent further distortion and stabilise the structure and improvements to reduce the risk of timber decay.

New 47x170C24 rafters are to be provided adjacent to the existing timbers, cut onto the large head/wall plate, and extend up to the ridge in one length. It will be necessary to introduce a notched ridge timber to hold the existing rafters and prop the new rafters, and new 47x147 C24 ceiling collars positioned above the existing ceiling within the apex area.

To improve the rigidity of the roof where historically some traditional roofs lack bracing it is recommended that MS galvanised coiled straps (min 0.9 mm galvanised mild steel-Z275) are provided across the top of the new rafters to form diagonal rafter bracing in 3 rows to form "V's" from ridge to headplate on both pitches.

The rafters around the large chimney must be isolated from the brickwork and supported by timber trimmers tied into the main roof structure.

Should you have any queries please do not hesitate to call.

Yours sincerely

Stephen Staines BEng (Hons) CEng MStructE
Structural Engineer



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