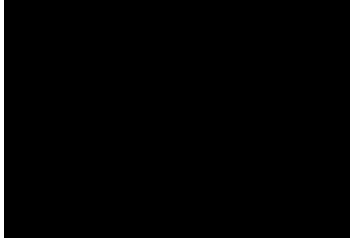


Robert J. Pragnell
BEng(Hons) MSc CEng FStructE FICE FRICS
Chartered Structural and Civil Engineer
Chartered Building Surveyor

OUR REF: RJP/632



30th March 2026

Dear Lara

9 Sandy Brow, Widley
Loft conversion

Further to my recent visit to your property, I write with the findings of my structural review of the works towards a loft conversion that has already been carried out in the roof.

I measured the structure that is already in place and prepared structural calculations to see if this can be used to complete the loft conversion. The structure that is already in place includes the introduction of floor joists between the original ceiling joists, and ashlar walls parallel to the front and rear walls of the property. These 1.1m high ashlar walls included 2 No. 50 x 200mm deep timbers at the top and bottom and were built into the side walls of the property. The ashlar walls were supporting the roof rafters.

Five calculations were carried out as follows . . .

Option 1

Checking the floor joists to see if they could support the ashlar wall and a dormer flat roof.

Option 2

Checking the floor joists to see if they could support the ashlar wall and the existing pitched roof (with Velux roof lights).

Option 3

Checking the floor joists to see if they could support the floor loading only.

Option 4

Turning the ashlar wall into a ply web beam and checking to see if it can support a dormer flat roof.

Option 5

Turning the ashlar wall into a ply web beam and checking to see if it can support the existing pitched roof (with Velux roof lights).

The results of the calculations were as follows . . .

Option	Result
1	No
2	No
3	Yes
4	Yes
5	Yes

Conclusion

From the results of the calculations, it appears that the work in the roof was designed for a loft conversion. The ashlar walls appear to have been designed to span across the width of the building as ply web beams. This explains why they have large timbers top and bottom and why they are built into the wall at each end. This was extra work and cost that would not have been required if they were just to be a studwork wall to sit on the joists.

In order to convert the ashlar walls into plyweb beams, 9mm plywood would need to be glued and screwed to the ashlar wall on both sides. It may be possible to leave holes in the plyweb beams where the studs have been omitted to gain storage access into the eaves. This would form part of the detailed design.

If a full length dormer were to be constructed on the rear elevation, a ridge beam would need to be installed to support the front rafters and the flat dormer rafters. A smaller dormer may be able to be supported on doubled or tripled rafters. Velux windows in the roof slope would be much easier to form.

I trust the above makes sense and is suitable for your current needs, but please contact me if you want to go through any points.

Kind Regards

Yours sincerely



ROBERT J. PRAGNELL

Enc. Structural calculations