



Elamin Design Consultancy

## Barn Conversion Structural Assessment Report

**Address:** Paradise Nursery, Lower Hartlip Road

**Client:** Mr & Mrs Love



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## 1. Introduction

- a. Elamin Design Consultancy was commissioned by Mr Love to undertake a visual inspection of the existing barn structure at Paradise Nursery, Lower Hartlip Road.
- b. Give recommendations with regards to the structural stability of the structure in accordance with the structural engineering design, the conversion and provide a report to conclude details of any faulty work.
- c. The inspection was undertaken on 31<sup>st</sup> October 2022
- d. The structure was exposed except the foundation.

## 2. Description & Observation

- a) The structure consists of roof timber trusses, purlins and timber walls with external timber cladding sit on the Structural Slab.
- b) The frame Comprises 50x100 walls at 450 c/c supporting Easi joists that sit directly on top of the walls
- c) The 150mm deep Easi joists consist of parallel chord trusses plated together and connected to the roof trusses at the bottom and top chord. The Easi Joists are supported directly by the timber walls along their span.
- d) The roof is supported via purlins connected to King Post Trusses that span between the two side walls of the structure and are connected via the Easi joists and Knee brace at each side to the wall.
- e) The bottom chord of the truss is 50x225 deep with knee bracing connected to the double stud.

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### 3. Conclusion & Recommendations

- a. The frame`s structural elements will be stable and sufficient to resist a load for its intended design purpose as per the enclosed calculations.
- b. Having the new walls will further strengthen the structure.
- c. 9mm OSB to be provided along all load-bearing walls.
- d. Add extra studs on each side at bearing locations across the walls.
- e. To expose and check the foundation size.



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## Appendix 1 - Photos



Photo 1



Photo 2



Photo 3



Photo 4

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