

12659



## **Structural Report**

**The Lodge  
Over Norton Park  
Chipping Norton**

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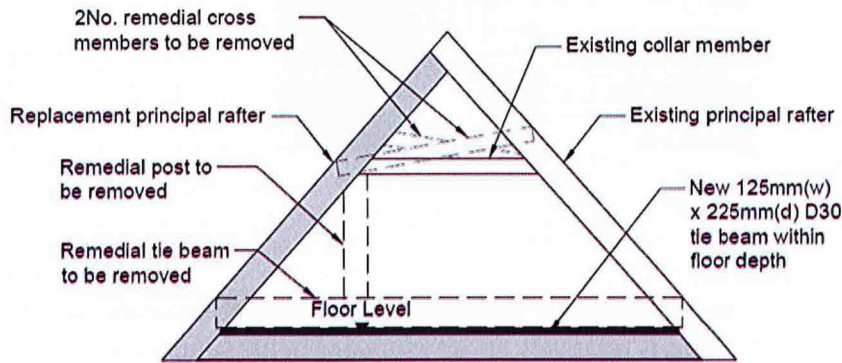
May, 2023

## **1.0. Introduction**

The Consultants were appointed by Hilda Whiting, c/o The Lodge, Over Norton Park, Chipping Norton, to carry out a survey on the property which there is a proposal to renovate.

The property is Grade II Listed and therefore Listed Building Consent will be required, and this report is to comment on the three areas where structural intervention is required. The survey deals with these areas of the property only and no other part was inspected. We also have not inspected any area which was covered, inaccessible or unexposed and we are therefore unable to report that any such part is free from defect.

Based on the external condition of the stone tiles and the fact that there is such a distinct bow, then it is considered that the roof does need to be re-covered and at this time, this is the ideal opportunity to repair the truss by letting in a new principal rafter and attaching the new tie beam



### 2.3 North West First Floor

The second area is on the first floor underneath the truss where there is a plan to remove the wall between the toilet and the bedroom which is shown on both sides on photographs No. 7 and 8. What can be seen is that there is a downstand beam within the bedroom which supports the attic floor, however this does not correlate to the truss above and is a separate entity.



Photograph No.7



Photograph No.8

There is generally a bow to the ceiling in the corridor space outside of the bathroom, as shown on photograph No. 9, and potentially the introduction of the new tie beam to the truss can also be utilised to provide additional support to the floor joists. What should also be noted is that the plasterwork is all in the deformed shape of the ceiling, however prior to works being carried out, then the attic floor will be exposed to fully check out the floor joists and determine the detail with the new beam.



Photograph No.9

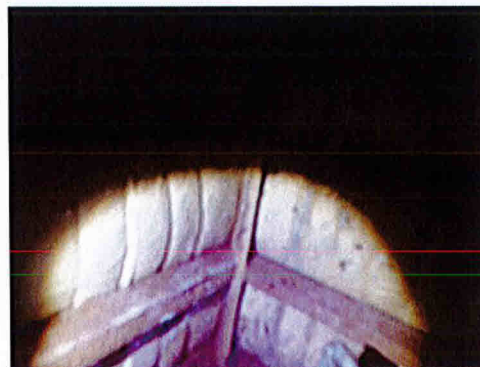
## 2.4 Southern Extension

The proposal is to move the wall between the end bedroom next to the gable and the bathroom. The roof in this area is relatively straightforward being supported by a cased purlin which will span over the wall to be removed as shown on photograph No. 10.



Photograph No.10

The wall in itself is clearly a later intervention as this would appear to cut across the window and halfway across the dormer. There is a very small loft hatch and from what could be seen there are modern rafters and ridge board as shown on photograph No. 11.



Photograph No.11

On the ground floor, the first-floor wall above is not present as this is one open space, as shown on photograph No. 12, and therefore it is felt that the purlin spans the length of this part of the building.



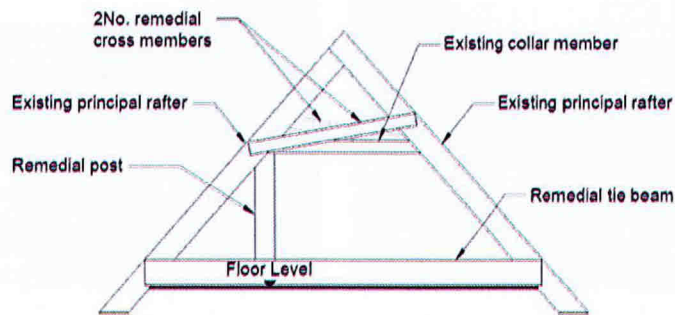


Photograph No.5



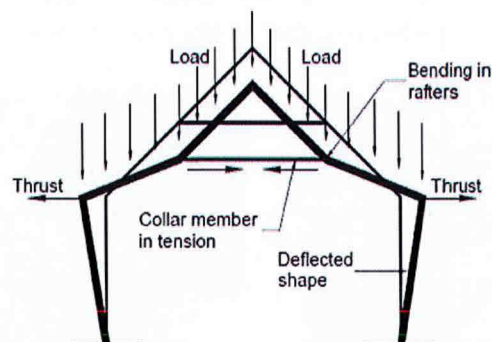
Photograph No.6

A general layout of the truss, as existing, is shown on the sketch below.



## 2.2. Discussions and Recommendations

The truss has clearly failed and this will be due to the spreading of the principal rafters as there is a distinct lack of horizontal tie at floor level, therefore the rafter will bend about the collar due to the weight of the stone tiled roof. This has therefore caused a fracture at this position which has subsequently been propped.



An analysis shows that the principal rafter will fail under the current configuration but is satisfactory if a tie beam is inserted. Placing the new tie above the attic floor as currently found, means that the room is basically not useable. The proposal therefore is that a tie beam is inserted within the floor depth which will be jointed into the ends of the principal rafter and in this way, this will hold the feet in position, prevent further spread and ensure that the truss works satisfactorily.

## 2.0. Survey

The building is L-shaped on plan and according to the listing dates from the late 17<sup>th</sup>/early 18<sup>th</sup> Century but has been altered in the 20<sup>th</sup> Century. It is constructed with coursed rubblework with a pitched stone-tiled roof. It is orientated so that the north-western gable elevation faces onto the roadway.

### 2.1 North Western Roof

The first area of inspection was the north-western end, as shown on photograph No. 1, where there is a distinct dip in the roof as can be seen on photograph No. 2.



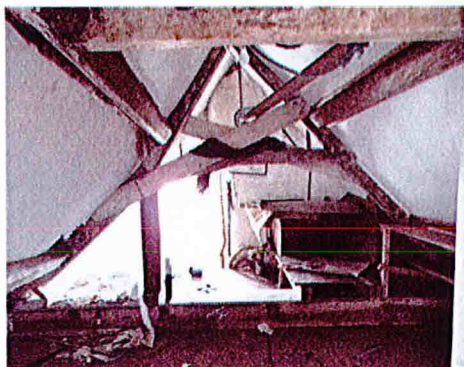
Photograph No.1



Photograph No.2

When viewing internally from the attic storey, the dip in the roof is quite apparent and there is an A-framed truss which has failed where the southern principal rafter has fractured. This has now been supplemented with additional horizontal tie beams above the floor level, a post under the failed principal rafter and then two cross braces to supplement the collar.

The truss supports two purlins to each pitch over which are rafters. A general view of the roof looking towards the north-west is shown on photograph No. 3, the fractured south-western purlin on photograph No. 4, the later cross bracing on photograph No. 5 and then the relationship of the new tie beam with the floor on photograph No. 6.



Photograph No.3



Photograph No.4





Photograph No.12

Prior to construction, then the cased purlin will be partially exposed to check the span and also a small area of the plasterboard ceiling in the sitting room. It is noted that this is severely damaged, as shown on photograph No. 13 and in more detail on photograph No. 14. The trial investigation will check that there is no beam within the floor depth under the wall, however based on the measurements, this is thought unlikely. The existing construction will also be checked to ensure it is suitable to support the proposed partition between the proposed dressing room and ensuite .



Photograph No.13



Photograph No.14

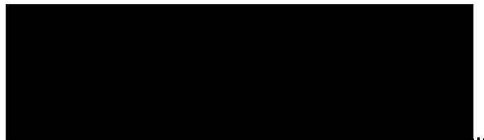
### **3.0. Conclusions**

Overall, it is felt that the proposed works will only be beneficial for the building especially in terms of repairing the truss in the north-western wing which has clearly failed and is held with quite crude repairs. This can be reinstated with the addition of a tie beam which will prevent further spread and failure and make the attic room useable.

On the first floor underneath this area, the partition is considered to be non-loadbearing between the bathroom and the bedroom and does not extend to the ground floor below and therefore it is felt this can be removed. Prior to this being carried out, a check on the first floor will be made and if necessary, the new tie beam can be utilised to provide additional support.

At the southern extension, the proposal is that the wall within the first-floor bedroom is moved as currently this cuts across the dormer. It is felt that this is a non-loadbearing partition as it does not appear on the ground floor below and the purlins are cased and are thought to span the length of this part of the building. Prior to any works being carried out, the ground floor ceiling would be partially removed as it is only plasterboard and significantly damaged, at which time the support for the partition will be checked. Similarly, the casing will be locally removed from the purlin to check that this is sufficient for the span and if necessary, strengthening works introduced.

Overall, the repairs will significantly enhance the building as it will ensure that the roof is fully supported and has been checked and likewise with the first floor.



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**Date:** 31<sup>st</sup> May 2023