

**Structural Appraisal**  
**of**  
**The Shambles, Hexham**  
**for**  
**Countryside Consultants**

**Ref: X17**

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**Blackett-Ord Conservation Engineering**  
33 Chapel Street  
Appleby-in-Westmorland,  
Cumbria, CA16 6QR  
Tel: 017683 52572  
Email: [engineering@blackett-ordconservation.co.uk](mailto:engineering@blackett-ordconservation.co.uk)

## **1. Introduction**

This appraisal of The Shambles in Hexham follows on from a Condition Report prepared by Countryside Consultants in 2021. It contributes to a budget costing exercise for repairs.

## **2. General Description**

The Shambles is a Grade II\* Listed peripteral covered market structure, comprising a timber and slate roof supported on external columns. It is open on all four sides. The structure is approximately 24m x 5m on plan, nine bays by three. The ends and the north long side has stone columns, but on the south side there are eight timber columns. The roof is carried on ten queen post trusses carrying slate on the sloping sides and lead on the flat top. There are eight full size trusses and two at the ends truncated to carry the hips.

The floor is concrete.

## **3. Structural Defects**

### **3.1 Floor and Foundations**

The site slopes down towards the east, so the floor of the Shambles is at street level at the west end, and two steps above street level at the east end.

The stone columns stand on square stone bases, with curb stones laid between.

The internal floor level has been made up in concrete to the level of the curbs.

The timber columns also stand on square stone bases level with the curbs and the concrete, but some of the columns have been offset so they do not stand centrally on the base stones.

The lower ends of the timber columns are therefore sitting at the same level as the adjoining stone and concrete and so they will tend to sit in water, particularly in the western part of the structure, contributing to rot in the base of the timber.

There is no signs of any foundation failure.

### **3.2 Columns**

The stone columns have various defects in the way of chips and spalling. Some of this has resulted from mechanical vehicle damage. The stability of the structure is not threatened by these defects. There are no signs of damage from iron dowels. Column E2 has a possible diagonal fracture crack which should be stitched, but there is a mortar repair in the same area which needs investigation first.

The timber columns have some splits, shakes and holes, all of which should be filled with carefully fitted pieces of timber and linseed oil putty.

Some of the timber columns have been affected by wet rot in their bases. This will in time show as settlement when the rotten timber compresses. A more detailed survey is required to establish how extensive the rot is in each column base.

The rotten bases should be cut off to allow for a stone base to be inserted, to take the end of the timber above the level of the adjacent stone and concrete.

### **3.3 Roof**

The roof trusses are carried on a wall plate that spans between the column heads. A higher level wall plate carries the rafters, sitting on, and spanning between, the ends of the truss tie beams. This upper wall plate is blocked off from the lower one at intervals to give additional support. Some of the blocking is missing.

Three of the roof trusses (Nos. 3, 4 and 8) have been affected by wet rot so that the south side principal rafter has moved outwards relative to the tie beam. This has led to deflection in the tie beam because the roof load has been transferred to the queen posts. Truss No. 3 has had steel plates fixed to each side of the tie, but this has not addressed, or solved, the problem.

There are no signs of detrimental ferrous fixings.

## **4. Discussion**

The ground levels outside and inside are such that the timber columns in the western part of the building do not have the protection of being raised up, above the general street level, and so the bases of the timber columns are susceptible to wet rot, and stone column bases stay saturated.

## **5. Conclusions**

The building is structurally sound in the short-term, but three of the roof trusses need attention in the next year or so, and the rot in the timber column bases should be attended to within the next couple of years as well.

