YORK ARCHAEOLOGICAL TRUST

SOUTH AISLE ROOF, RIPON CATHEDRAL,

RIPON, NORTH YORKSHIRE

BUILDING RECORDING REPORT

by Mark Johnson

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YORK ARCHAEOLOGICAL TRUST

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ABSTRACT

In October 2008 York Archaeological Trust carried out a programme of building recording at Ripon Cathedral, before the existing modern flat roof above the nave south aisle was altered to a mono-pitch roof. Evidence was found for the original mono-pitch roof-line of the roof cover, together with the cut-off remnants of a series of corbels that supported the northern side of this structure. A number of incidental observations were made regarding the characteristics and sequence of adjacent and related fabric in this area.

1. INTRODUCTION

A programme of small-scale building recording was carried out in the area above the nave south aisle roof of Ripon Cathedral (NGR SE314 711) by York Archaeological Trust on 16th October 2008. The recording was commissioned by the Cathedral Archaeologist, Dr Richard Hall, on behalf of the Dean and Chapter of Ripon Cathedral. This work was carried out in advance of proposed re-roofing of the south aisle. The architectural history of the cathedral has been discussed at length in a number of accounts. For an in-depth account of this the reader is referred to the bibliography at the end of this report.

2. METHODOLOGY

Recording was via a series of hand written notes of observations, EDM survey of elevations and roof plan, and closely overlapping elevation photographs of all related stonework. The photographs were subsequently digitally rectified in relation to the elevation surveys. These are presented in Appendix 1 at the end of this report. The archive relating to the building recording works is stored by York Archaeological Trust under the project code 5184.

Figure 1 *Site Location map.*

3. RESULTS

3.1 THE EXISTING AISLE ROOF AND ADJACENT ELEMENTS

The existing roof of the nave south aisle is of a 'flat' type with a very slight fall to the south. Composed of an asphalt-like substance, the north, west and east sides of the roof are sealed to the adjacent areas of stonework with lead flashings. The southern side of the roof falls vertically into a channel, some 0.42m deep by 0.73m wide, which is bounded by a crenellated parapet wall, this forming the uppermost part of the south aisle wall. This roof was put in place during a restoration programme in the 1930s. Judging by date stamps on rainwater hoppers that feed onto the roof, this is likely to have been in 1937.

The nave south aisle dates to the early years of the 16th century and butts up to earlier structural elements of the cathedral. These include the west face of the 12th-century south transept, the nave (stylistically of later 15th-century perpendicular, but containing work probably originating in the 12th century) and the west front and western towers complex that originates in the 13th century. All these elements have been subject to a variety of alterations and restorations in the later medieval and post-medieval periods. This is apparent in the spatial arrangement of different stone types and in a number of building irregularities. The precise sequence of events in this area is not fully understood and lies beyond the remit of this report. However, in this regard, a number of basic observations noted during the roof survey can be detailed here.

The exterior stonework of the nave (excluding the shallow pilaster-like buttresses which are predominantly of limestone) up to a height of around 1m above the line of the flat roof is exclusively of sandstone that is heavily weathered. Above this level, i.e. around sill level of the triforium windows and upwards, the stonework is more variable and contains some limestone. At the eastern end of the nave the exterior of the easternmost bay of the south side of the nave (at the level of the flat roof) projects around 50mm beyond the line of the remainder of the nave walling to the west. Whilst closer internal and external scrutiny in this area in the future may help to clarify the picture, it does appear clear that from the level of the triforium upwards the nave has been subject to re-ordering/reconstruction. This may have been at the time that the south aisle was added to what had previously been an aisle-less nave. This could account for other discontinuities such as stringcourses to the south transept and west end complex that do not extend into the nave walling. It may be that at the time the nave fenestration was re-ordered, the shallow buttresses were also added. The offset noted at the easternmost bay may even point towards a sequence of works in the lower part of the nave walling.

3.2 THE EVIDENCE FOR AN EARLIER ROOF

The most obvious evidence for an earlier roof of mono-pitch form to the nave south aisle is preserved within the fabric of the nave, south transept and west end complex. This takes the form of mortar-filled scars, typically between 20–50mm wide. Those at the east and west each consisted of a single scar that sloped downwards from the north to south at an angle of approximately 13.5 degrees; this represents the pitch of the original roof. That to the eastern side of the roof (on the west face of the south transept) was of a stepped plan-form owing to the necessity of following the buttressing of the transept. The evidence for the former roof-line against the nave wall was of two parallel mortar-filled scars separated by a gap generally around 0.10m wide (Plate 1). Both scars were cut into stonework above the level of weathered nave walling (i.e. into stonework thought to relate to a re-ordering of the nave), as discussed in 3.1 above. These scars represent linear slots cut into the stonework to accommodate the ends of lead sheeting that will have covered the original roof. It has been noted that whereas there is only a single scar at the east and west sides, there are two scars to the nave walling. This suggests that the upper scar held a lead flashing that masked the upper end of the sheet lead roof covering.

There is also some evidence for the structure of the roof below its lead covering. This takes the form of 18 corbels (3 per bay), or rather stubs of corbels that have subsequently been cut away, within the nave walling. All the corbels were of square or rectangular cross-section (between 0.21 x 0.27m and 0.48 x 0.27m in size), and set with their upper surfaces all at the same height. It was observed that the flat upper surface of the projecting part of the corbel was stepped down around 50-70mm from that part that was embedded within the nave walling (Plate 2). This flat upper surface was itself between 0.41-0.43m below the lower of the two roof scars on the nave wall. Given that all the corbels have been cut back to within around 50mm of flush with the nave walling, the extent of their original projection to the south cannot be determined, though this is likely to have been in the region of around 0.30m.

Plate 1 *Scars of the original roof-line on the south face of the nave walling, behind the scale.* *Scale in 0.10m units*

Plate 2 *One of the cut-away corbels on the south face of the nave walling.*

At the eastern end of the roof it was noted that a vertical order on the southern side of the northern buttress of the transept had been cut away at a point immediately above the former roof-line, possibly at the time when the aisle and this roof were added (Plate 3). Such cutting away to this level is also likely to have occurred to two identical orders on the north side of the same buttress (see Plate 4 – to either side of inserted doorway). This is suggested by the stonework of both orders below the level of the former aisle roof-line being replacements in newer stone. Truncation at these points may have served to ease the articulation between roof and transept? Curiously, the base of the partially cut away order on the south side of the buttress had been re-carved in a cushion style, entirely in keeping with the 12th-century work of the transept.

Plate 3 *Cushion moulding to base of vertical order. This order appears to have been truncated in order to ease fitting of the roof to the south aisle at the time of its construction.*

Around the time the south aisle and its roof were constructed, a low doorway was inserted into the northern part of the west face of the south transept to provide direct access onto the roof. The sill of this doorway lies some 1.5m above the existing roof, and a set of 20th-century wooden steps now provides the access between these. Like the windows at triforium level in the nave, the surround to this doorway is of limestone.

3.3 INTERPRETATION OF THE EVIDENCE

The scars at the east and west ends and on the nave walling provide unambiguous evidence of a former mono-pitch roof-line with a slope to the south of around 13.5 degrees, that was covered with sheet lead. The single scars at the east and west ends suggest that this roof-line remained unchanged until the 20th-century re-roofing. The corbels will have served, directly or indirectly, to support the principal rafters of the roof structure. There would appear to be two means by which the principal rafters could have been articulated with the corbels. In the first case this could have been by an east – west wall plate (or more likely by a series of wall plates, 1 per bay, between the shallow buttresses), running along the sets of corbels. In the second case this could have been achieved by the northern ends of the principal rafters resting on, or lipping over, the corbels. Any evidence for the point of junction between the south end of the original nave roof and the top of the south aisle wall, assuming it survives at all, is presently masked the southern end of the existing roof. It is probable, however, that the junction in this area was one of rafters connected to a wall plate.

4. ACKNOWLEDGEMENTS

Recording and author	Mark Johnson
Photographs and digital rectification	Mike Andrews
Illustrations	Mark Johnson
Editor	Martin Stockwell

5. BIBLIOGRAPHY

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APPENDIX 1: DIGITALLY RECTIFIED PHOTOGRAPHS

Plate 4 *View of the W side of the south transept showing roof scar of original south aisle roof, the contemporary inserted doorway and cushion moulding to vertical order – immediately to right of buttress.* *Scale in 0.5m units*

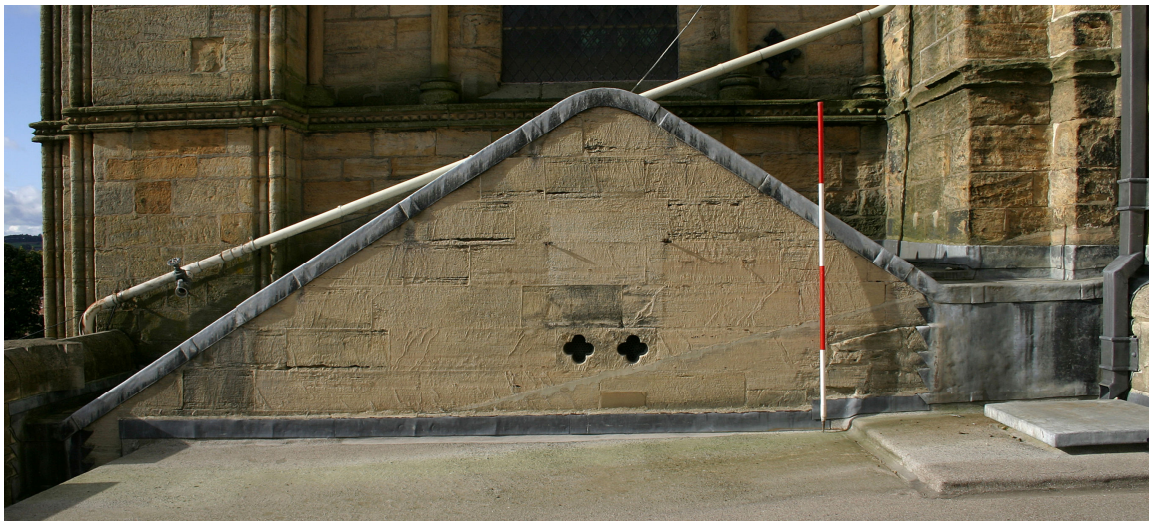
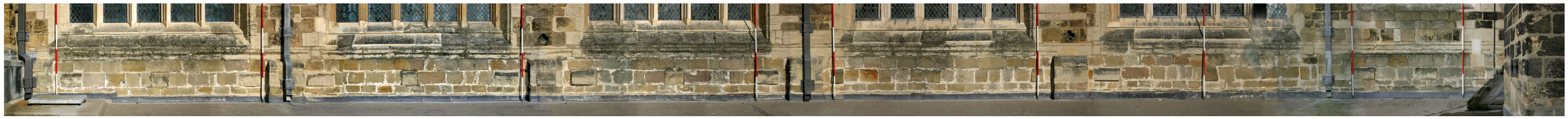


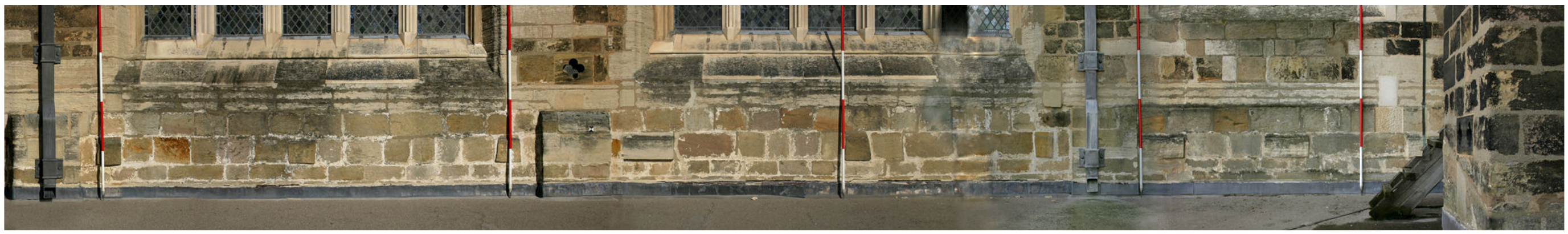
Plate 5 *View of west end of south aisle roof showing roof scar of original roof-line.*

Scale in 0.5m units



View of entirety of nave walling at level of south aisle roof, compiled from a composite of digitally rectified photographs. Scale in 0.5m units

View of western part of top photograph, showing roof scar of original roof-line (immediately below window surround) and cut-away corbels (three per bay).



View of eastern part of top photograph.

Plate 6 Views of south wall of nave, from a composite of digitally rectified photographs. Upper photograph (A) of entirety of nave wall at level of south aisle roof, (B) detail of western part, (C) detail of eastern part.