## New roof is a match for its predecessor

THE Church of St Mary in Bushbury, Wolverhampton, is a Grade Two\*-listed building dating back as far as the 14th century. The building displays two different characters: the chancel and tower are of somewhat irregular medieval fabric, whereas the nave, north and south aisles and the organ chamber were rebuilt in the 1850s by the architect Edward Banks and are of a more typically precise Victorian fabric.

This year saw a major project to reroof the church carried out by Four Oaks Conservation Ltd of Sutton Coldfield. under the direction of accredited conservation architect Bryan Martin. The project involved the re-roofing of the 56° roofs on the nave, the south aisle, the chancel and the organ chamber with Staffordshire blue plain and ornamental fishtail tiles made by specialist brick manufacturer Dreadnought.

The roofs were previously covered with blue clay plain tiles, typical of the area,

fitted in the 1850s, and were in need of replacement. The tiles had been bedded in lime mortar, with no nailing whatsoever, and most of the bedding had fallen away, along with many of the tiles, which had caused considerable water ingress.

The irregularity of the chancel building, due to its age, also presented challenges for the team. The removal of the old tiles revealed old lath and plaster beneath, and fixing battens to that would have destroyed it. Fixing two-by-two counter battens and then two-by-one tile battens created a void above the old lath and plaster and that effectively raised the height of the tiles against the coping stones on the gable ends.

Architect Bryan Martin commented: "Four Oaks went to great lengths to set and pack our new counter battens, so that the very characterful undulations were preserved."

The new height of the tiles made it difficult to fix flashing beneath the tiles as well as up and beneath the coping stones. Instead, the tiling was terminated short of the gable end, leaving a small gap to create an extremely neat lead-lined secret gutter at the parapet abutment.

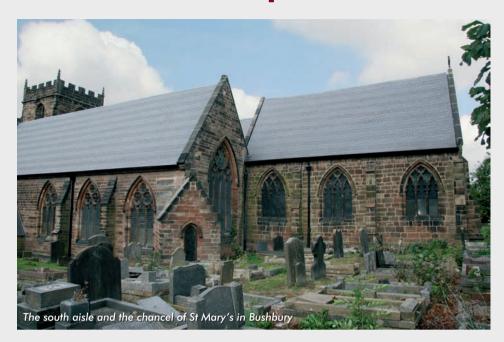
Decaying parapet coping stones were also replaced and re-bedded. Instead of nailing the new tiles, which would have damaged the old plaster inside the church, tiles were fixed to the battens using screws.

Bryan Martin decided to re-roof with tiles that matched the original as closely as possible - laid in alternating four-course bands of plain and fishtail tiles, as before. Dreadnought were able to provide tiles that were an extremely close match. It seems likely that the originals came from a very similar source, and perhaps could even have been Dreadnoughts.

The shape and colour of Dreadnought's tiles have not changed over the years and the authentic Staffordshire blue colour has always been obtained by control of the kiln atmosphere, which turns the iron content in the clay to blue. A total of 14,250 fishtail and 32,000 plain Staffordshire blue Dreadnought tiles were used, as well as two matching bat access tiles and approximately 140 300mm angle ridges. In addition, all of the old tiles were carefully sorted and the best were reused on the roof of the organ chamber. As none of the old tiles had nailing holes, each had slots carefully cut in to allow it to be fixed to the batten.

Bryan Martin explained: "Four Oaks also carried out the meticulous repair of a batch of the ornate, crested 1850s ridge tiles for the organ chamber roof, combining the best of the base tiles with the best of the cresting. Needless to say, we are all extremely pleased with this roof too.

"It is notable on the whole project that the tiles are extremely evenly laid, very carefully set out, and the coursing is nicely managed at abutments to avoid narrow cuts. However, this was by no means a straightforward job." The Rector of the Parish of Bushbury, Rev Dr Ian Poole, expressed the



satisfaction of the church with the project: "Everybody associated with the restoration is delighted with the result. It looks fantastic and we very much hope it will give a further 200 years of service to the Bushbury community."

The project has also attracted national attention. It has been shortlisted in two categories at the inaugural Pitched Roofing Awards: Commercial property application using roof tiles and Roof tile application for a heritage roof.

