

## St Bartholomew's Church, Foston, Leicestershire

Saint Bartholomew's Church goes back to the 10th Century and contains many items of historical interest. It is a Grade 2\* Listed building and is still in use as a working Anglican church, with regular services twice a month.

The church is situated in Foston, Leicestershire. It is about 7 miles south of Leicester and 100 miles north of London, midway between the larger villages of Countesthorpe and Kilby.



On 13th June 2019, John Newton and Partners Group attended site to carry out an initial non-intrusive survey, documented in a report issued 8th July 2019.

On 24th December 2019, JNP Group attended site to inspect intrusive breaking out works by others, including trial pits and removal of plaster to internal faces of walls.

Amongst their findings were the following:—

The large chancel window in the eastern wall has been formed within an arch structure. The lateral thrust of this arch is resisted by the mass of the eastern wall and buttresses to either side of the church. Due to the addition of the northern arcade, there is a larger mass of wall to the north of the window. As a result, there is a greater resistance to lateral thrust to the north of the window than to the south.

As a result of these factors, the eastern wall is being pushed eastwards, and slightly south. The north wall and arch line of the northern arcade are experiencing eastwards movement as the eastern wall is pushed outwards.

The south wall is experiencing eastwards movement as the east wall is pushed outwards by the lateral forces of the arches. The south wall is also being pushed southwards by the lateral loading from the chancel window arch. This is resulting in a general tendency for the structure to move towards the south east.

### CONCLUSIONS

The structure is experiencing south-eastern movement due to inadequate resistance to arch thrust. The extent of opening up of the cracks has not yet been confirmed but appears to be increasing.

**The Eastern wall is experiencing continuing distortion/displacement and is at risk of collapse once this movement becomes excessive. Remedial action is required to prevent collapse of the eastern wall.**

No buttressing has been provided to the eastern wall at the returns with the rows of arches. This is the only area of the church without buttressing at the ends of rows of arches

It may be possible to provide adequate mass to resist lateral thrust of the external southern arches by tying the rubble infill within the arches to the arch structure and tying the walls together at the south eastern corner.

The northern row of arches is also experiencing eastern movement. The wall over the arches should be tied to the eastern wall.



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Above: South East corner.



North Chancel joining East Wall.



Junction of East and South walls.

As a result of the findings Cintec International Ltd were invited to attend a meeting on site with the client, architect and JNP Group to examine the structure and to explore what options might be possible to stabilise the structure.

Over the following weeks a Cintec stitching anchors scheme was developed by Cintec in conjunction with the design team.

The agreed scheme was then implemented in November 2021 as illustrated in the marked up photos below.

The final meeting a year later concluded that the scheme has been successful with movement of the East wall being arrested and secure.

