

**ARCHAEOLOGICAL RECORDING AT  
STARK'S BRIDGE, WHIXALL, SHROPSHIRE 2017**

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A Report for

**BRIDGES AND STRUCTURES TEAM  
SHROPSHIRE COUNCIL**

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## SUMMARY

In 2017 the Archaeology Service, Shropshire Council carried out archaeological recording at Stark's Canal Bridge, Whixall, Shropshire. The purpose of the exercise was to record the remains of the bridge superstructure prior to its being taken away, rebuilt, and replaced.

## **1 INTRODUCTION**

**1.1** Stark's Bridge is a timber canal lift bridge of late 18th-century date. The bridge carries a lane, Malkiln Lane, across the Prees Branch of the Shropshire Union Canal (originally the Ellesmere Canal) at Dobson's Bridge, Whixall, near Wem in north Shropshire (NGR: SJ 491 346). Stark's Bridge is a scheduled ancient monument as defined by the Ancient Monuments and Archaeological Areas Act 1979 (National Ref: 1003675), and is also a Grade II\* Listed Building (National Ref: 1244333).

**1.2** In May 2017 work began to repair and re-erect the timber canal lift-bridge, following a strike by a boat in 2016. The work involved the replacement of all of the above ground timber with new timber. The existing metal work was reused where possible. The base timbers were also replaced with a reinforced concrete base slab sitting below ground level with 100mm high plinths to replicate the position of the existing base timbers.

**1.3** There have been a number of previous repairs to the bridge, involving the replacement of decayed timbers, repairs resulting from impact damage from a boat, which twisted the deck and dis-aligned part of the superstructure, and repairs to the bridge abutments and deck-seating.

**1.4** The recent damage to the bridge's supporting timber frame had also highlighted inadequacies in the repairs that had taken place over the years, including splice joints, timber of insufficient durability and inappropriate painting. In April 2016 emergency works were undertaken to remove the lifting frame and deck from the structure to allow continued use of the canal.

**1.5** Because of the potential significance of the site it was made a condition of the Scheduled Monument Consent for the works that they should be accompanied by a programme of archaeological work to comprise a Level 3 record (to include a measured drawn record and a photographic record) before and/or during the repairs, and a watching brief on ground disturbance works associated with the repairs.

**1.6** Measured drawings had been made by Mouchel Ltd on behalf of Shropshire Council prior to the work commencing. The Archaeology Service, Shropshire Council, was commissioned to undertake a Level 3 photographic record and a watching brief, which was carried out between April and June 2017.

## **2 THE CANAL**

**2.1** The Ellesmere Canal was built during the Canal Mania of the 1790s. In 1791 a committee to promote the construction of a canal linking the Rivers Severn and Mersey was formed, a route was chosen by the engineer, William Jessop, who was appointed by the canal committee in 1792 (Morriss, 1991), and an Act of Parliament was passed in 1793 for the construction of the Ellesmere Canal. In October 1793 Thomas Telford, then Surveyor of Public Works for the County of Shropshire, was also appointed to assist Jessop as part-time General Agent, Surveyor, Engineer, Architect and Overlooker of the Works. Work on the canal began in 1794, and continued until c. 1806, although the link

between the Rivers Severn and Mersey was never completed. The Prees Branch, one of many branches on the canal, was originally intended to reach Prees Higher Heath, but by 1806 had only reached Quina Brook, and it was decided to terminate it here.

**2.2** In 1845 the Ellesmere and Chester and the Birmingham and Liverpool Junction Canal Cos. merged and became part of the Shropshire Union Railways and Canal Company. By the 1930s lack of revenue had made it uneconomic to repair and maintain the canal and the canal fell into disuse. An Act of Parliament for its formal abandonment was obtained in 1944. The canal has slowly deteriorated since its abandonment, and a number of its associated features have disappeared in recent years (Deamer, 1993, pp3-6).

### **3 THE BRIDGE**

**3.1** Stark's Bridge (County Historic Environment Record [SMR] No. PRN 01009) crosses the Prees Branch of the Shropshire Union Canal (PRN 03414) at Dobson's Bridge. The bridge is a timber bascule bridge operated by a counterweight and chain system, and is set between brick abutments and wing walls with buff (probably Grinshill) sandstone copings. The bridge crosses the canal at a skew angle, and thus both the bridge deck and lifting gear have a parallelogram shape (Blackwell, 1985, p58). The bridge is thought to date to c. 1800-06 and to have been designed by William Jessop and Thomas Telford, the engineers for the Ellesmere Canal.

### **4 PREVIOUS WORK**

**4.1** In c. 1979/80 hydraulic lifting gear was added to the bridge. The HER has a photograph taken in 1979 prior to this addition being made (see Photo 1), showing the rope attached to the ballast box by which the bridge deck was originally raised.

**4.2** In 1985 Scheduled Monument Consent was granted for the modification of the parapets on Starks Bridge, using tubular steel rails with a wooden top boom on both parapets.

**4.3** In 1985/6 repairs were carried out on a cracked hinge on the lifting frame of the bridge. During the inspection for these repairs a previous welding repair to the other hinge was noted. It was also noted that some of the timbers were rotting and a programme of - repairs was proposed to include the replacement and treatment of the affected timbers. Scheduled Monument Consent was obtained in 1986 for the repair of hinges and the replacement of rotten timbers. A lack of reports on this work was noted in later email correspondence (27/12/2001). (HER DRF file PRN 01009)

**4.4** In 1998 Scheduled Monument Consent was sought and obtained for repairs to the bridge following a boat strike. In February 2002 a further phase of repairs (also resulting from the previous boat-strike) were undertaken to the bridge abutments and deck-seating. These repairs were to involve the draining of a short section of the canal in order to repair, underpin and/or rebuild sections of the wing walls and abutments. A condition of the

Scheduled Monument Consent for these repair works was that there should be arrangements for archaeological recording; it was considered appropriate that this recording should comprise a scaled photographic record and brief description. The Archaeology Service, Shropshire County Council, carried out this recording exercise in February 2003, taking a series of colour slide and black and white photographs of the bridge after the section of the canal at the bridge had been drained and before the repair works commenced (Hannaford, 2003).

**4.5** In 2010 Scheduled Monument Consent was again granted for the replacement of a holding down bolt and plate washer and repairs to the ballast box on the lifting frame.

## **5 THE RECORDING**

**5.1** A site visit was made at the end of April 2017 at the beginning of the current phase of repair works, in order to photograph and record the bridge prior to the current repairs. The bridge deck and lifting gear had been removed following the boat strike in 2016, the deck being placed on the towpath to the northwest of the bridge, the lifting gear on the approach road to the west. The site was cordoned off with plastic fencing. The aim of the archaeological record was to produce a Level 3 record of the existing structure (as defined in Historic England's "Understanding Historic Buildings: A guide to good recording practice", 2016).

**5.2** A full set of scaled and dimensioned drawings of the bridge structure had been produced by Shropshire Council's engineering consultants Mouchel Ltd (Sherriff, 2016). These drawings are considered to provide an adequate drawn record. A full indexed Level 3 photographic record was made on site of the bridge structure and components. A selection of these photographs are reproduced in this report (Photos 3 – 11), the whole form part of the site archive.

**5.3** The base timbers were removed at the beginning of May 2017 and the new concrete base poured shortly thereafter (Photo 12).

## **6 DISCUSSION**

**6.1** The timber structure of the bridge has needed replacing on a regular basis as a result of rot and boat strikes, and it is likely that all or most of the timber components have been replaced at one time or another. Equally, much of the ironwork appeared on inspection to be modern – for example, the saddles and end plates on the lifting frame are of welded steel. The tie bars and top brace bars on the lifting frame may be older, though again it is possible (probable even) that they are not the original fittings. The hinges between the base and bridge deck and the portal shoes may be original, although the thickness of the paint on the latter makes this difficult to confirm.

**6.2** The timber parts of the structure have now been entirely replaced again, and the timber base replaced with concrete. The canal side walls were substantially rebuilt in 2003. It would now appear that there is little if any of the original fabric remaining, and a

strong case could be made for the de-scheduling of this monument, whilst maintaining its status as a Grade II\* Listed Building.

## **7 REFERENCES AND SOURCES CONSULTED**

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**Blackwell, A**, 1985: *Historic Bridges of Shropshire*, Shrewsbury, p58

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**Sherriff, R**, 2016: *Drawing Nos 1068275-032-P-002 Lifting Frame; 1068275-032-P-003 General Arrangement Deck; 1068275-032-P-004 Portal Frame; 1068275-032-P-005 Existing General Arrangement Base; & 1068275-032-P-006 Proposed General Arrangement Base*; **Mouchel Ltd**,

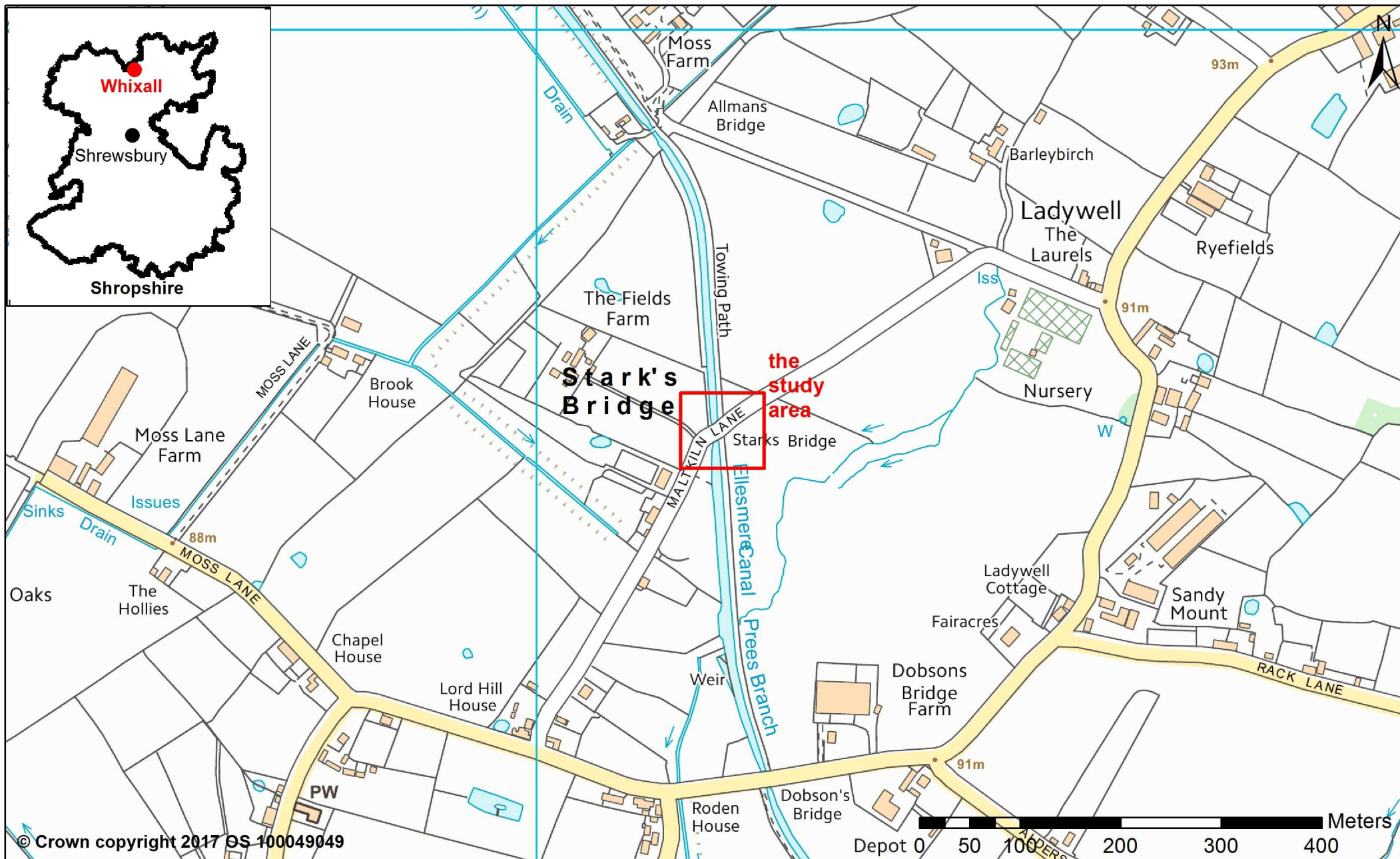






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## **STARK'S BRIDGE 2017**





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