Observations of a waterfront site in Staines

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STAINES HAS BEEN an important river crossing point since Roman times, and has been the site of at least seven separately documented bridges, all built along a short stretch of the river frontage, over the last 2,000 years. (TQ 0335 7145).

The exact sites of only the four most recent bridges, dated 1683, 1795, 1803 and 1832, are known. The sequence of bridge building which was undertaken in the late 18th and early 19th centuries, has come down to us in several confused accounts, and when the site of two of these ill fated bridges (the abutments of which can still be seen in the banks) was to be developed we saw this as an opportunity to unravel this intriguing aspect of Staines' past.

As the plans for the development showed that no deep excavation was envisaged, only a watching brief was initiated, but during preliminary piling, the remains of the foundations the 18th and 19th century bridges were located. As the depth of these foundations and the area affected by them was unknown, deep trenching by machine was carried out by the developer, in lines parallel, and at right angles, to the river frontage. In these trenches we were able to observe the medieval waterfront and the post medieval bridge foundations.

With the assistance of the site manager we were able to take measurements and notes of the archaeological material and retrieve artifacts.

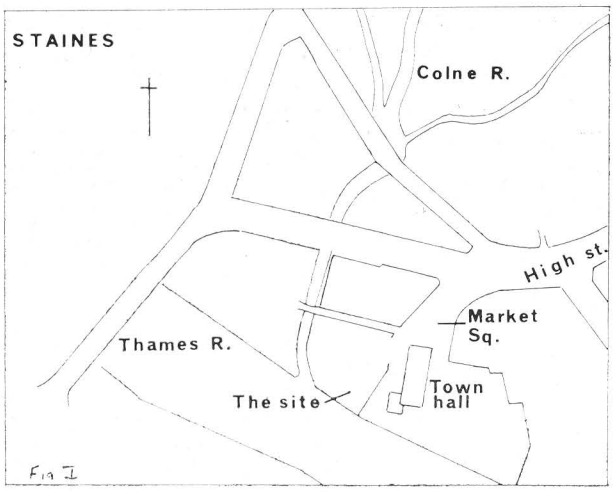

Fig. 1: Location Map, showing the Bridgehead site 1978, Staines, Middlesex.

The Site (TQ 0333 7146)

The site lies on the south-west side of the Town Hall and Market Place. To the west lies the River Colne, and to the south the River Thames (Fig. 1).

At the northern end of the site the ground was much disturbed by the cellars of the Bush Inn, a 16th century Coaching Inn (Fig. 2), and later buildings. All the natural subsoils were silts and water lain clays; nowhere were the natural gravels encountered, although the trenches reached, in places, a depth in excess of 4 metres (13ft).

The First Medieval Waterfront

Sealed beneath a layer of grey/green silt (Fig. 4) was a group of wooden beams and posts at a depth of 2.50m below top surface. (Nos. 1, 2, 5, 21, 21a). (Fig. 3).

1. A roughly squared oak beam which still re-

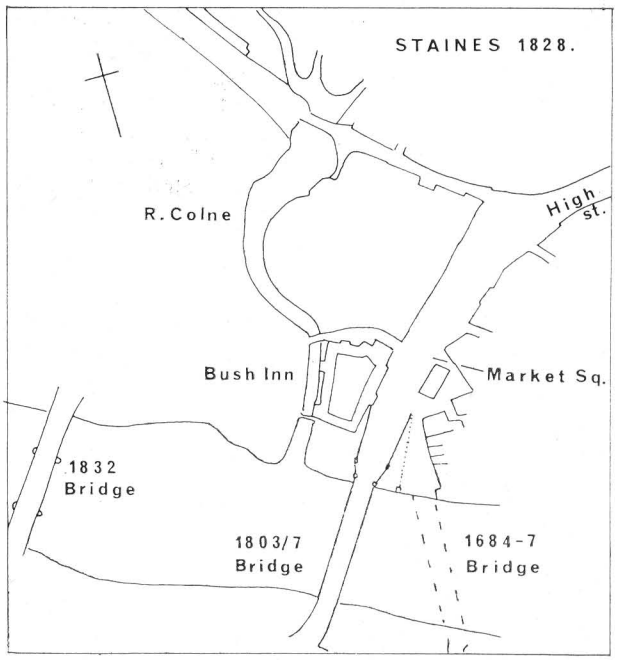

Fig. 2: Map of Staines in 1828.

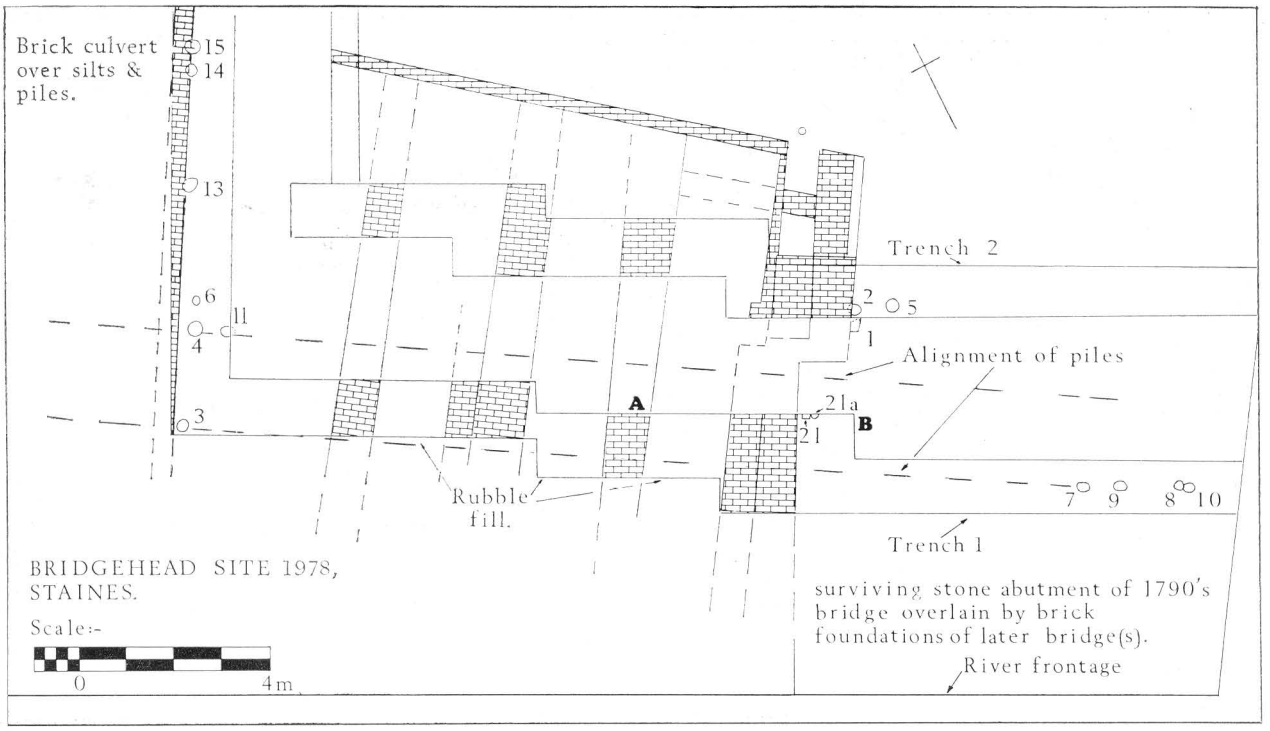

Fig. 3: Bridgehead Site 1978, Staines, Middlesex. Plan of trenches and position of wooden piles.

tained its chase-tenon joint indicating that it was originally a diagonal bracing strut (Fig. 5a).

2. A complete oak stake; a half sectioned split branch, probably part of the base plate retaining pile system.
5. A complete section of an oak tree trunk, also part of the base plate retaining pile system. 21 & 21a. 21 was a square cut subsidiary base plate, with a simple cut tenon joint. This was braced by a stake, 21a, which had been packed around with chalk blocks.

It is possible that piles 4, 6 and 11 are contemporary to those described above, as they are of similar alignment and workmanship.

4. An incomplete tree trunk, worked to a point with 6 facets, maximum circumference 1.20m.
6. Plotted *in situ*, not removed from position in ground for comparison.
11. Quarter section of a tree trunk, one end faceted to a point, circumference 0.56m.

All these piles seem to form part of a revetment similar to those excavated from London, at the Customs House, phase 1[1] and Trig Lane G3[2]. Dating of this structure, at present, is reliant upon the pottery fragments (see below) and several daub bricks retreived from associated levels, and taken together give a date of *c* 12th century.

The Second Medieval Waterfront

By the late 12/13th century the waterfront was advanced by some 3.50m, with the construction of revetment II comprising a series of wooden piles, only five of which could be plotted *in situ*, others having been removed by machine, before accurate measuresments could be taken (Fig. 3).

All the piles were of oak, two of which (8 and 10) were joined by a pegged half lap joint, the peg being of iron. The cross member (10) formed the cruciform of a scissor brace.

8. A whole tree trunk, with branches roughly trimmed back to the trunk.
10. A half section of a small tree or large branch. No evidence of faceting.

Lying to the west of 8 and 10 were Nos. 9, 7 and 3.

7. An oak pile (Fig. 5b) with seven facets, 0.50m in diameter.

1 T. Tatton-Brown, "Excavations at the Customs House Site, City of London, 1973", *Trans London and Middlesex Archaeol. Soc.* **25** (1974) 117-129.

2 G. Milne & C. Milne, "Excavations on the Thames Waterfront at Trig Lane, London, 1974-76", *Medieval Archaeol* **22** (1978) 84-104.

9. Roughly trimmed whole section of a small tree or large branch. Top of the pile had been squared off. Retrieved length 0.80m, circumference 0.57m.
3. Oak pile fragment, whole section of tree, including the cortex, with branches roughly trimmed. The base was trimmed with one clear facet. Maximum circumference 0.95m, the greatest surviving length was 0.50m.

This group of piles was seen to be embedded in a grey/green silt which had occasional lenses of clay and inclusions of medium sized river pebbles, frequently flecked with small fragments of wood and vegetation. A jug rim and handle were found on the upper surface of the silt (Fig. 6. No. 1) which is dated to the 12th/13th century. The exact level from which the posts were driven was impossible to establish owing to the method of recovery. It is hoped, however, that the results of the dendrochronology will supply a firmer date. Between piles Nos. 7 and 21a were a further four all of which had been removed by machine, but the alignment would appear to be as indicated on Fig. 3, running between Nos. 3 and 7. These four piles were similar to Nos. 7 and 9, being small trees or large branches roughly trimmed.

Due to the selective pattern of trenching undertaken by the developer no evidence of further advancements for this part of the waterfront was uncovered.

By the 16th century the land was part of the garden of the Bush Inn, and it is possible that the elm piles 13, 14 and 15, with their iron sheathing are part of a simple revetment along the original water edge of the River Colne (Figs. 3 and 2).

The Bridges

By the end of the 18th century the wooden bridge built in 1683, which lay to the west of the site (Fig. 2), was found to be in such a bad state of repair that an Act of Parliament was passed in 1791 for the construction of a new, substantial, bridge at Staines.

Mr. Thomas Sandby was commissioned to design this new bridge, which was to be of stone. The site of the Bush Inn gardens was chosen for the new bridge and the work commenced in 1792, upstream

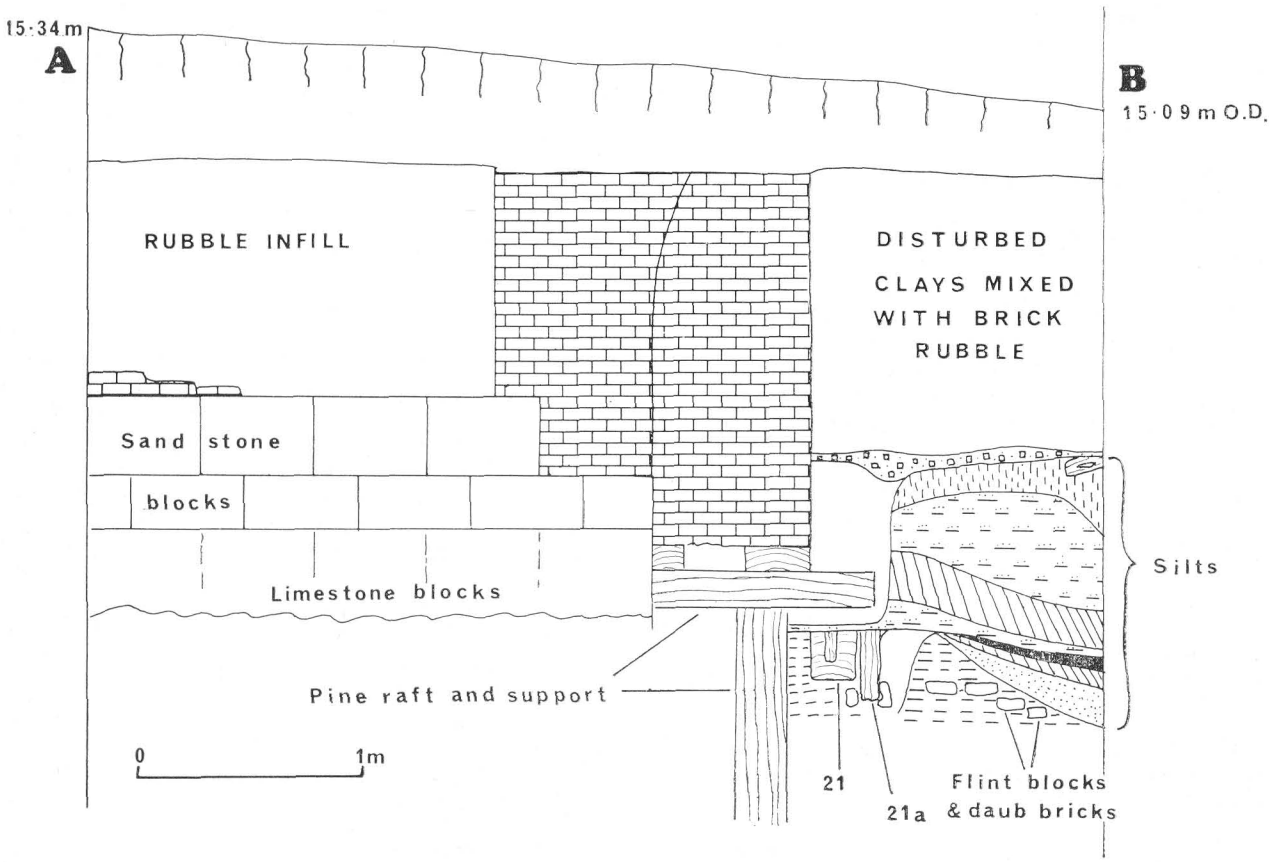

Fig. 4: Bridgehead Site, Staines, Middlesex. Section A-B.

of the old bridge. His 'tasteful' design was for an elegant bridge with 3 semi-circular stone arches, the whole structure to be built of dressed Portland stone. This bridge was opened in 1797. Within a short period, however, the centre arch cracked (having been built on a sand bank), the bridge was deemed unsafe and closed, and the old wooden bridge was reopened.

The surviving archaeological evidence for Sandby's bridge, as seen in the developers' trenches was as follows: Onto an initial layer of Oolitic Limestone blocks, with a top surface measurement at 13.24m O.D., was laid at least two courses of Portland sandstone blocks, surviving to a height of 13.93m O.D., the present day ground surface lying at 15.09m O.D. (Fig. 4).

The Sandby bridge was eventually demolished, the sandstone and limestone foundations were retained and a single span cast iron bridge, 180 feet wide, 'a wonder of modern engineering,' designed by Thomas Payne, was thrown across the river, supported on additional brick and stone abutments. The remains of these abutments were observed in the developers' trenches as a series of four brick piers which ran back from the river for some 12m, the brick having been laid over the sandstone foundations and the gaps between the piers filled with loose rubble.

This bridge was opened in 1803, but within one month movement of the Middlesex bank abutment caused severe cracking of the cast iron span, and it was immediately closed, the old wooden bridge once again reopened.

In 1804, Sir John Rennie was consulted and after an inspection in 1805, he recommended that the iron bridge be demolished. This suggestion was turned down due to lack of funds, the bridge commissioners having spent the sum of £13,300 with no usable bridge to show for it. Rennie then suggested a number of structural improvements; these included the shoring up the iron span with 48 wooden piles, which seriously impeded traffic under the bridge. Evidence was seen for other repairs suggested by Rennie. Pine piles had been driven into the silts down from 12.88m O.D., the average length of these piles being 4m; on to the piles had been laid a double raft of pine beams which in turn supported the brick buttresses built to support the iron bridge.

The repairs to Payne's iron bridge were completed by Messrs. Wynes and Kimble (two local carpenters) by 1808, when the faithful wooden bridge was finally dismantled. This may be seen as an act of faith by the bridge commissioners after their previous experiences with the bridge. This now cumbersome wood and iron bridge, with its makeshift repairs survived until 1832, when the new granite bridge some 122m (400ft) upstream was opened by

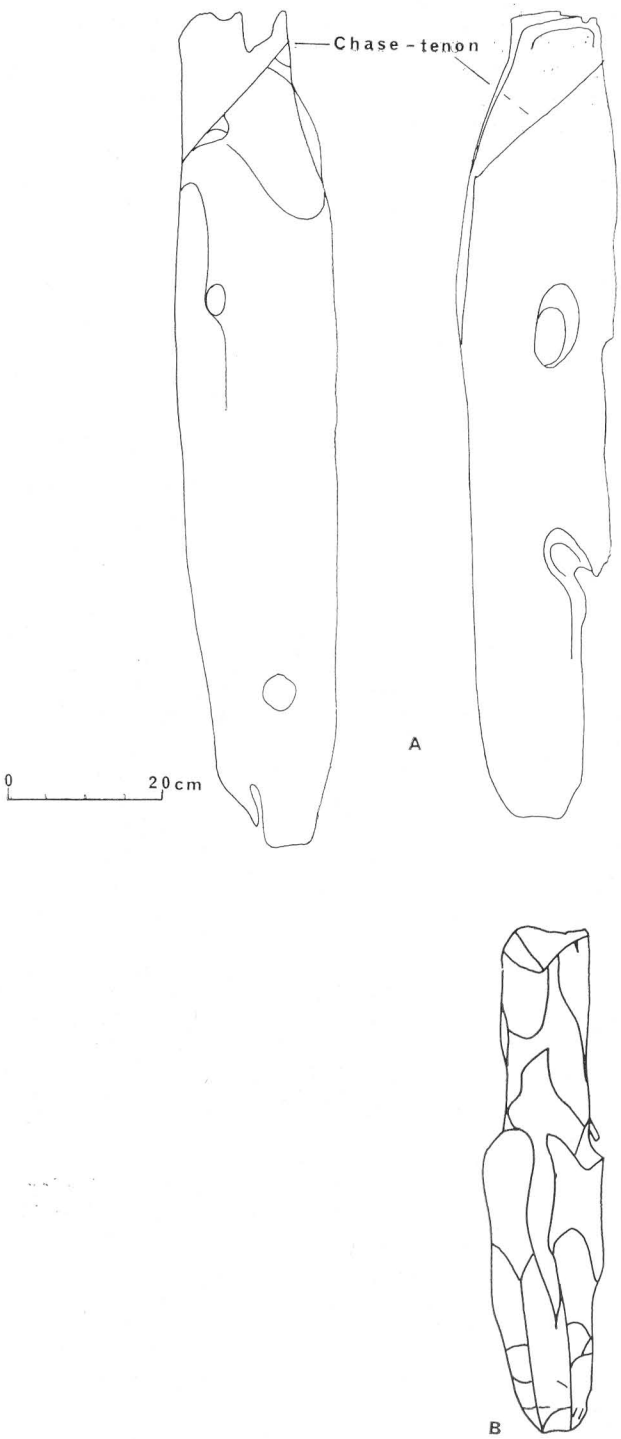

Fig. 5: Bridgehead Site 1978, Staines, Middlesex. (A) wooden piles with chase tenon. (B) wooden pile with facetting.

King William IV and Queen Adelaide (Fig. 2).

Whilst the bridge was under construction in 1828-32, the River Colne was partially diverted, to make way for the access road to the new bridge; and the brick culvert (Fig. 3) was constructed along the line of the old river course, presumably to carry off any overflow from the diverted river. The fill of the culvert was a clean sand with occasional thin layers of silty sand.

The Pottery (Fig. 6)

1. A bulbous jug with a grooved rod handle, incised wavy line decoration and a patchy green slip. Early white ware (Surrey). Cream fabric with inclusions of pink and white quartz, 0.5-1.0mm and red iron 0.1-0.5mm. 13th century. (C.N.34).

2. Cooking pot in light pink/grey fabric fired off white on all surfaces. Well thrown pot with hard fabric and laminar fracture. Inclusions of grey/white quartz 0.2-1.5mm and sparse black ironstone 0.1-0.2m. 12th century. (C. N. Unst).

3. Cooking pot in dark grey, very hard, illsorted granular fabric with very pimply surface texture and irregular fracture. Roughly wheel made, with inclusions of white and pink quartz 0.3-3.0mm, red and black ironstone 0.2-1.0mm. 12th century. (C.N. 32).

4. Sag base of a large cooking pot with very granular chalky fabric (highly reactive to HCl). Thin fragments of aragonite shell. Grey/white quartz 0.2mm, grog sub-round, 0.2mm. 12th century. (C.N. 5).

5. Fifteen body sherds of a slipped glazed jug, with mid-grey core and orange/red margins and surfaces. Very ill sorted, granular fabric with irregular fracture. Decorated with lattice of cream slip under a patchy green glaze. Inclusions of sand, white and clear quartz 0.2-1.8mm, burnt white flint 1.0-4.5mm, black ironstone 0.2-1.0mm and sparse mica 0.1-0.2mm. 12/13th century (C.N. 34). Not illustrated.

Daub Bricks

Four fragments of three bricks were found, along with several flint blocks, in a layer associated with piles 21 and 21a. The bricks, which resemble blocks of squared fired daub, were 35-45mm thick, orange-red in colour with a black core, and have a coarse textured body. Manufacture appears to be by the pastry method (Harley 1974)[3], whereby a slab of clay was spread as evenly as possible on to grass, then divided into bricks with a spade.

The bricks all exhibit grass markings one one flat side and rough smoothing, probably with a board, on the other.

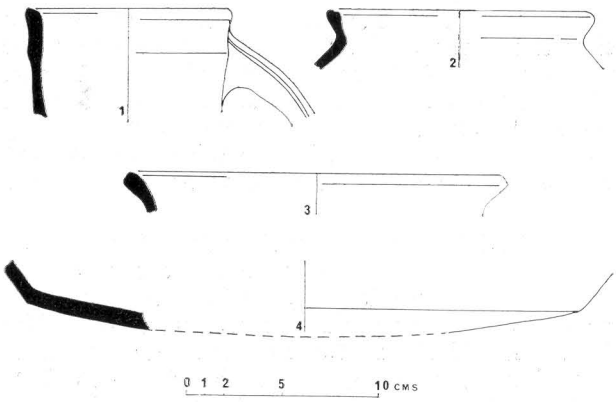

Fig. 6: Bridgehead Site, Staines, Middlesex. Medieval Pottery.

Harley describes this type of brick in his *Typology of Brick* and dates them to the 12th/13th century, calling them Early English or Norman.

Conclusions

Though the archaeological evidence is still limited, documentary sources, as early as Late Saxon, show that there were a number of wharves along the Staines bank and that wharfing was continued on the Egham bank due to lack of space.

It is probable that the majority of the wharves would have lain downstream of the bridges as the proximity of the River Colne would have hindered safe docking, although the extra flow of water would have helped heavily laden vessels.

In the 14th century one Thomas of Oxenford[4] was bringing his merchandise of raw wool to Staines for shipment to London and Flanders, Staines at that time being one of the main centres for the wool and corn trade.

Later references to wharves in Staines are innumerable[5]; throughout the 15th, 16th and 17th centuries documents refer to the wharves at Staines, which confirm the importance of Staines as a market town and trading centre.

Through this watching brief we have gained and clarified, to some extent, much of the information regarding the bridges of Staines. The presence of the wharves needs further archaeological and documentary research, and it is now felt that any threat to the river frontage sites at Staines demands full archaeological excavation prior to development.

3 L. S. Harley, "A Typology of Brick: with Numerical Coding of Brick Characteristics", *Journ. of the British Archaeol. Assoc. 3rd series,* **38** (1974) 63-87.

4 *Victoria County History, Surrey* III 419.

5 *Victoria County History, Middlesex* 22-24.