

V: Investigating Crane Bases at Crane Wharf, Chester

by Leigh Dodd

Introduction

In 2003, as part of repair and flood defence work in the Old Port area, three small trenches were excavated with the specific aim of finding the remains of the Old and New Cranes (Ill. I.1). The Old Crane was located to the south of New Crane Street and the two New Cranes to the north west of the street that bears their name. The two New Cranes, positioned on either side of Crane Wharf, are clearly shown on the vignette on Thomas Boydell's plan of Chester (1772) and on an early nineteenth century print (Ills I.8 and I.9). The sites of these cranes were accurately recorded by the Ordnance Survey (1875; 1911).

Excavation results

Trench 1

This trench, approximately 3.4m by 4.2m, was excavated to expose the base of the New Crane immediately to the south of Crane Wharf. Part of the base of the structure was visible at ground level and the removal of a thin topsoil/vegetation layer (1) enabled virtually the whole of its extent to be revealed (Ills V.1 and V.2).

The upper part of the crane base comprised a roughly square area of level concrete, 3.2m² in extent (6), from which four iron fixing bolts, each c.40mm in diameter, protruded (Ill. V.2). The bolts were set an equal distance (c.800mm) apart. At the centre, between the four iron fixing bolts, was a circular, vertical-sided pivot-hole measuring c.200mm deep and with a diameter of c.400mm. From the circumference of the pivot-hole radiated four shallow linear channels set within the concrete surface. Each channel measured c.40mm in width and c.300mm in length and terminated in a circular depression c.160mm in diameter, which surrounded one of the fixing bolts (Ill. V.3). The concrete immediately surrounding the iron fixing bolts and pivot-hole had been chipped away in the past, presumably to facilitate removal of the crane mechanism from its base.

Set into the riverside wall, adjacent to the crane base, is an iron ring. This ring may have been associated with the crane, and was perhaps used to secure the crane's lifting hook when not in use.

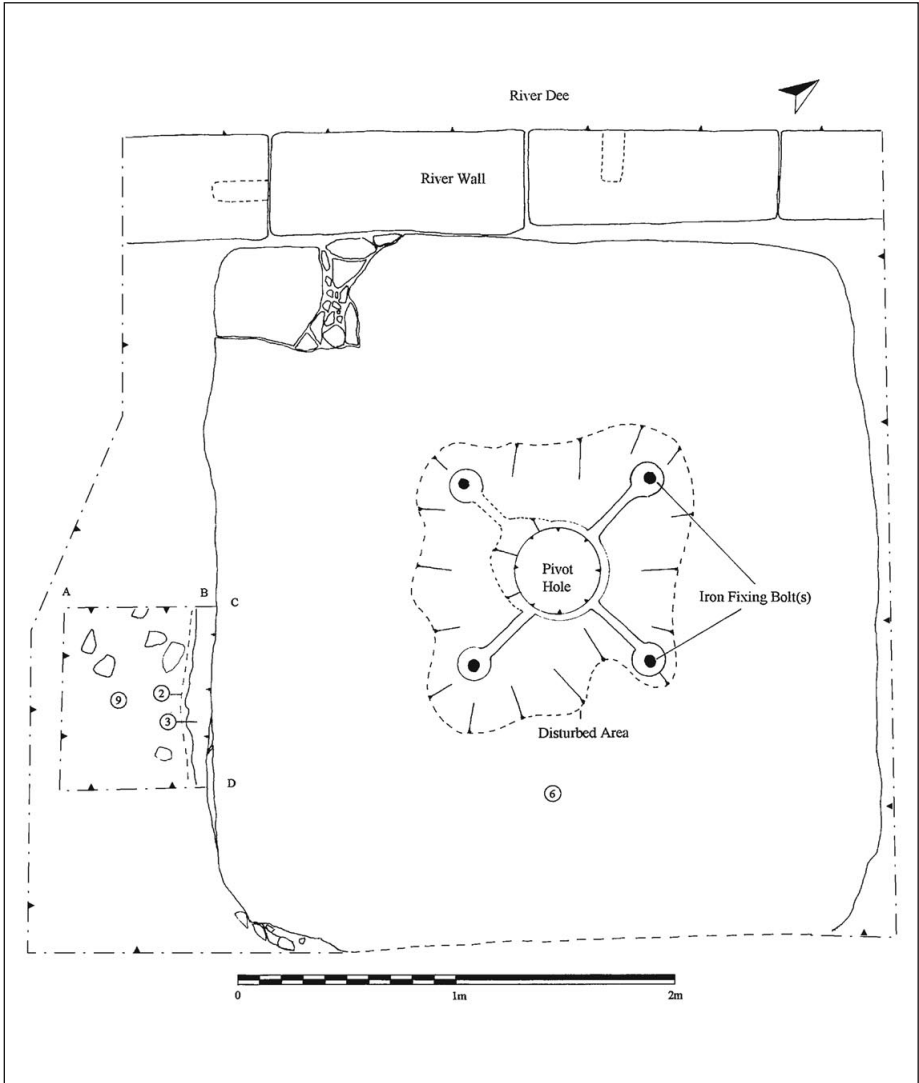
To examine the foundations of the crane base, a small slot, measuring 0.7m by 0.9m, was excavated (Ill. V.4). This slot revealed that the concrete layer was thin, about 0.12m thick,



III. V.1: Concrete crane base with central pivot-hole, surrounded by *in-situ* fixing bolts. Looking southwest. Two metre scale



III. V.2: Detail of concrete crane base showing central pivot-hole and crane fixing bolts



III. V.3: Plan view of the crane base, as excavated, and location of slot

and overlay a foundation consisting of large red dressed sandstone blocks (4). The block unearthed in the slot measured up to 1.1m in length and 0.37m in height; although, its width could not be ascertained due to the presence of the overlying concrete. The sandstone block was set upon a 0.16m thick bed of lime-based, greyish white mortar (3), containing angular fragments of red sandstone. The mortar bed and sandstone blocks had been positioned within a 0.45m deep cut (2). This cut displayed steeply sloping sides, clearly visible within the south-east facing section of the slot. The overall width of this cut could not be ascertained within the scope of the site investigation, but it is likely to have exceeded 3.5m in order to accommodate the foundation of the crane base. Beneath the topsoil excavated in the slot was a layer of firm, yellowish brown silty sand (7), 0.27m thick, and



III. V.4: Slot up against south side of concrete base, showing large sandstone foundation (4). Looking northeast. 0.5m scale

containing patches of red clay and fragments of red and grey sandstone. This deposit had been cut by the steep-sided hole created for the crane base. Underlying layer (7) two further deposits were examined: a 0.15m thick layer of soft, buff coloured silt (8) containing some angular grey and red sandstone fragments; below which was a layer of buff/pink silt and pink clay (9), containing abundant, angular grey sandstone fragments. Excavation of the slot was halted at 0.65m below current ground level.

After the investigation of this crane base, its remains were left *in-situ* and they currently lie beneath the newly constructed riverside walkway.

Trench 2

Trench 2 was located about 15m north of Trench 1, next to the riverside wall. Removal of the topsoil revealed a heavily disturbed spread of red sandstone blocks, some of which were large, up to 0.8m long. Associated with these blocks was a deposit of weathered and decomposed sandstone. Protruding from this deposit were several steel bars, which were T-shaped in section. These remains could represent the surviving base of the other New Crane.

Trench 3

This trench, about 80m south of Trench 1, was positioned in order to examine the remains of the Old Crane. Beneath an accumulation of mainly sandy deposits, a probable surface consisting of angular red sandstone and occasional cobbles was found at a depth of 0.85m below the present surface. No remains of the crane base were discovered.

Conclusions

The excavations have successfully demonstrated that remains associated with two of the New Crane bases survive within the locations recorded by the Ordnance Survey. Remains of the third crane, the Old Crane, were not located but an archaeological horizon, in the form of a sandstone and cobbled surface, was encountered in this trench suggesting the survival of further riverside features within this area of the Old Port. To conclude, the excavations have allowed the brief examination of the physical remains and construction characteristics associated with these everyday, but nevertheless essential, riverside installations; installations that are otherwise simply recorded on contemporary cartographic sources as *Crane*.

Bibliography

- Boydell, T 1772 *A plan of so much of the lands & premises belonging to the River Dee Company*. Chester: Cheshire Record Office Ref: PM 11/7
- Ordnance Survey *City and county of the city of Chester*. Edition of 1875. Sheets
1875 38.11.11, 38.11.16, 38.11.21. Scale 1:500. Surveyed 1872
- Ordnance Survey *County Series. Cheshire*. Sheet 38.11. Scale 1:2500 (revised 1908)
1911

