

III: Archaeological Investigations at Tilston's Yard, New Crane Street, Chester

by George Nash, Pete Owen and Gerry Martin

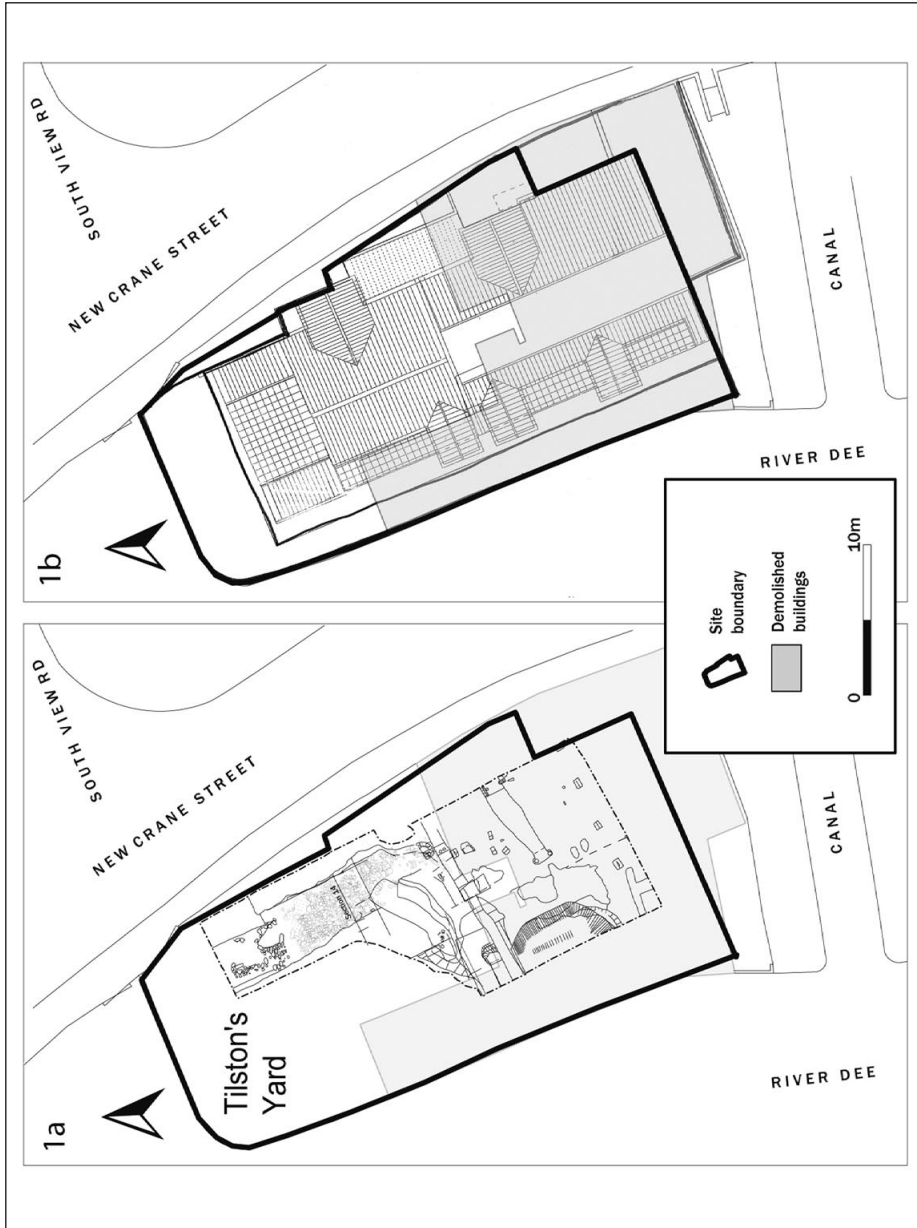
Introduction: A Very Busy Place

An archaeological excavation and building recording were undertaken by Gifford on a former boat builder's yard, known as Tilston's Yard, on behalf of Dorbcrest Homes, Wigan. The site contained a small complex of three timber workshop buildings and an area of hard standing. The building recording was undertaken in November 2003, followed by an archaeological excavation in late 2004. The excavation examined an area 30m by 16m. The results from both phases of work are included within this paper.

Based on the archaeological evidence from this and neighbouring sites, the River Dee has been substantially harnessed with the construction of an eighteenth century Cop as well as later navigation projects. During medieval times the water's edge would have extended to a series of wharfs along the City Walls, some several hundred metres to the east of the current eastern bank of the Dee.

During Roman times the area around the racecourse would have been utilised as a permanent harbour constructed of stone and timber. Up until the early fourteenth century the port's defences were considered adequate; however, by the 1320s, a large parcel of land stood between the old defences and the then current line of the river, the result of continuous silting. By 1322 the Water Tower was constructed to deal with the new line of the river. This structure was connected to the City Walls and lay close to the eastern extent of the canal basin. The siltation of the river was still causing serious problems with navigation during the sixteenth and seventeenth centuries and as a result Chester lost its status as a principal northern seaport.

By the 1730s the Dee had become canalised. Along the eastern bank new quays, wharfs and boat/shipyards became established, especially along New Crane Street. The archaeology recorded beneath the standing buildings within Tilston's Yard bears testament to this bygone age. This renaissance in seafaring trade and industry was, however, short-lived. The problem of siltation and the prominence of Liverpool as a (slave) port saw Chester slump into slow decline. However, small businesses along the Dee continued until the latter part of the twentieth century. Due to the inevitable gentrification of the area with exclusive residential development much of the light industry along this stretch of the Dee has now disappeared.



III. III.1a & 1b: Site location

Tilston's Yard (SJ 3982 6655) lay adjacent to the River Dee and was bounded to the east by New Crane Street, to the south by the Dee Lock and to the north by a recreational ground incorporating the upstanding remains of the (stone) Cop (Ils III.1a and III.1b). The site and neighbouring boatyard and dock activity form part of the early post-medieval development of the city.

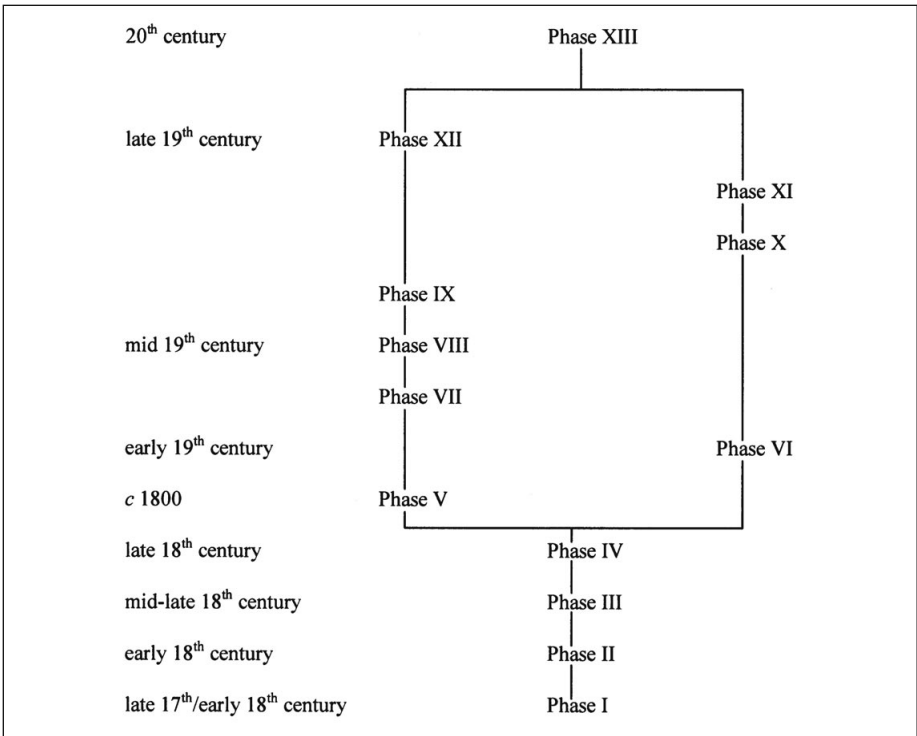
Aims of the Investigation

Identified from the excavation were a number of significant archaeological deposits, features and structures that could be chronologically phased. Several of these including the Cop formed the focus of the investigation. Based on this and other associated structures, the specific aims of the investigation were:

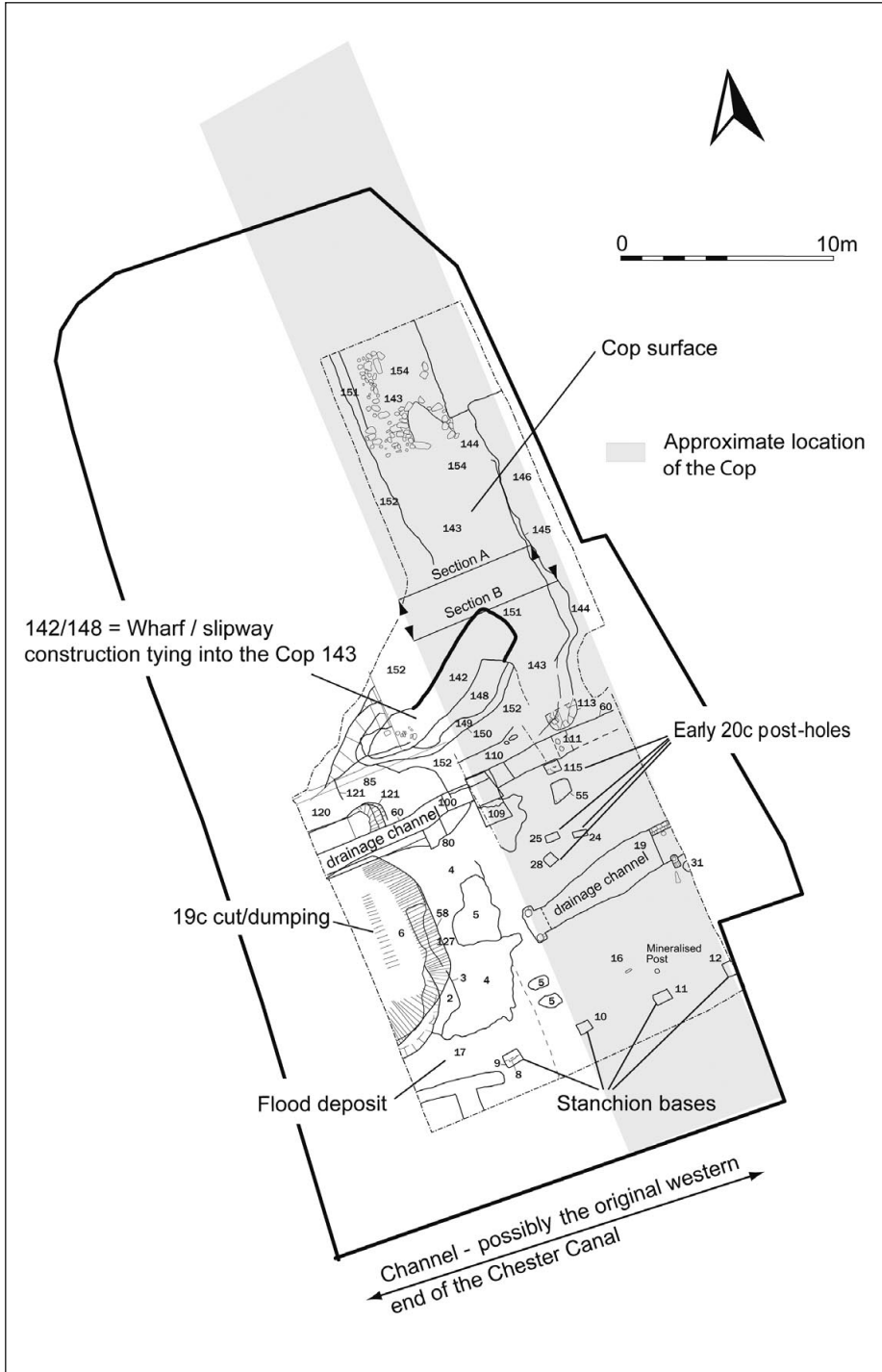
- To record the remains of a stone Cop and any contemporary structures associated with the seventeenth and eighteenth century development of the western line of the riverbank;
- To record the original western end of the Chester Canal (predating the Dee Lock);
- To record the remains of a nineteenth century wharf/slipway and any associated structures; and
- To record the buildings forming the boat builder's yard prior to their demolition.

Site Development

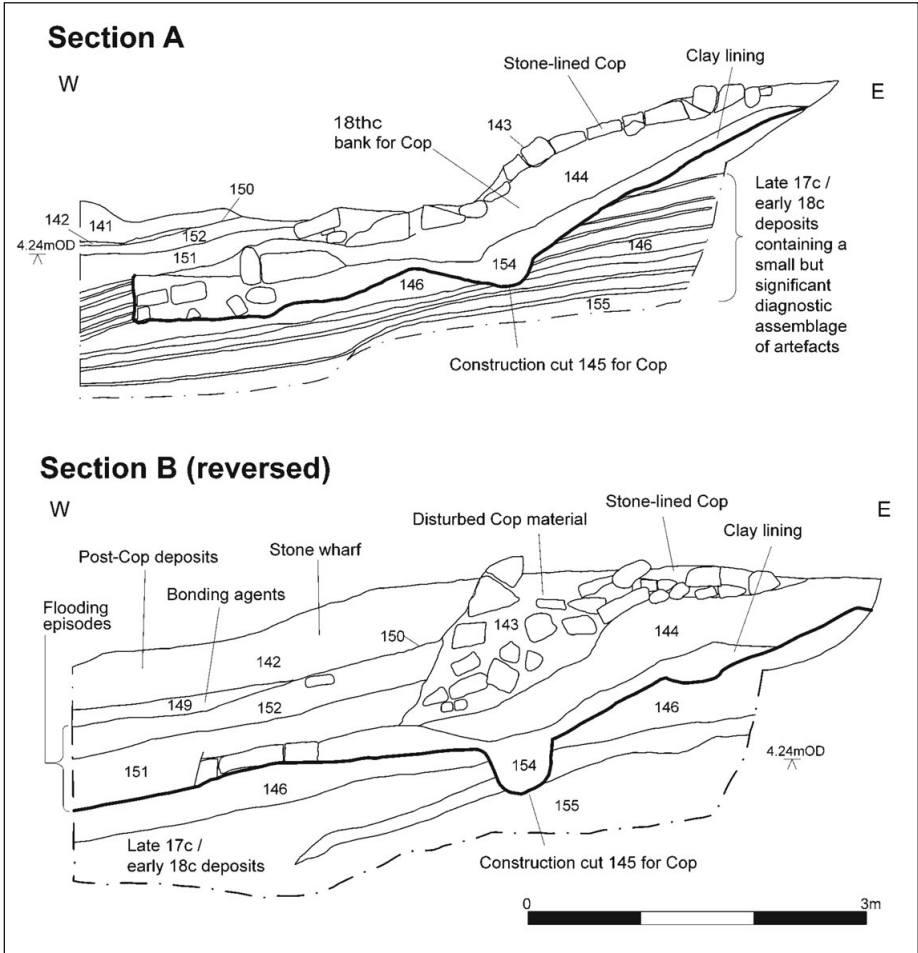
It was clear from the archaeological deposits, features and structures recorded within the bounds of the site that a complex stratigraphic sequence of construction and refurbishment events was present. Thirteen phases relating to the use and occupation of the site were revealed by the excavation, starting in the late seventeenth/early eighteenth century (III. III.2). Complementing this sequence was a small, but significant, artefact assemblage.



III III. 2: Development of the site from the late seventeenth/early eighteenth century (Phase I) to the twentieth century (Phase XIII)



III. III.3: Plan of the site showing all major features and structures



III. III.4: Two sections cut through the Cop, showing the pre-construction deposits, the construction of the Cop and subsequent riverine deposition

The main features and structures recorded by this excavation are shown in III. III.3.

As expected with most industrial sites, development witnessed through the archaeological record is dynamic and Tilston's Yard is no exception to this rule. The business of the boat building appears to occur within the later development of the site, whilst the earliest history of the site is centred on the construction and development of the Cop and the inlet to the Chester Canal basin. In addition, dispersed within this development are periods of industrial stagnation and decline.

Phase I: Pre-Cop activity, late seventeenth/early eighteenth century

The pre-Cop deposits overlay natural sand, (100), and were located directly beneath the Cop (Phase II) (III III.4). This activity consisted of three deposits: (75) a silt; (146) a sandy silt; and (155) a coarse sand and gravel. They were associated with silting of the River Dee

and its periodic flooding. Artefacts recovered from these deposits, including ship's nails, may indicate that informal boat repairs and off-loading of small craft were undertaken here during low tides.

Phase II: Cop construction, early eighteenth century

The remains of the Cop were uncovered in the northern part of the excavation, where two sections of this substantial flood defence structure were examined.

In the northern section (Ill. III.4) a sandstone facing (143), consisting of roughly hewn interlocking sandstone blocks, up to 0.9m long, at a pitch of approximately 40 degrees was revealed (Ills III.5 and III.6). The blocks were grouted into a clay membrane (144) and (154). The existing river bank had been partially excavated (145) in order to accommodate this defensive work. The sandstone facing stood to a height of 5.8m OD and at its lowest reach was 4m OD, accommodating the tidal range. The clay membrane, (144) and (154), probably formed a water-proof lining and prevented the undermining of the structure. The stone facing (143) was incorporated into the wharf construction (Phase VIII), which helps to explain its preservation. In the southern section the Cop consisted of an earthen bank with only vestigial traces of a sandstone casing. A capping membrane of clay, forming a dome above up-cast silts and sands (67), (87) and (90), stood to a height of approximately 5.8m OD.

About 5m to the west of the Cop was a linear north-south aligned spread of un-bonded sandstone blocks. These stones probably formed a breakwater in front of the Cop in order to protect its fabric. Some of the stones may have been removed as a result of storm damage or the breach occurring during Phase IV when a channel was created.



Ill. III.5: View of the Cop and sub-surface deposits in the northern section (see Ill. III.4, Section A)



III. III.6: View of the Cop and sub-surface deposits looking east

Phase III: Silting, land reclamation and foreshore activity, mid to late eighteenth century

With the construction of the Cop, the river margin became formalised and was followed by periodic riverine inundations, which deposited a series of silts and sands along the foreshore — (72), (73), (74), (151) and (152) ((151) and (152) are shown in Ill. III.4). Subsequently there was an attempt to reclaim land with the construction of a spur immediately west of the Cop. This spur comprised a consolidating skin of pinkish clay (86), (109) and (122). This possibly maintained a series of artificial dumps of sand, (82) and (85), and clay (81), which may have been deposited in a single event. The small spur was partially truncated by an east-west aligned cut (80). The physical definition of the spur was poor, but contained at least two post holes, (126) and (84), possibly forming a small informal jetty that protruded into the river at this vantage point.

The evidence recovered here suggests that reclamation of land adjacent to the Cop at this time was localised and sporadic. It was not until 1833–8 that the bulk of the waterfront was in-filled behind a newly-erected riverside wall, probably built by the River Dee Company when commercial activity along the waterfront became highly developed (Fletcher 2001).

At the end of this phase an inlet had developed immediately to the north west of the excavation area. From the depictions of the inlet by Neele (1809) and Wood (1833) it is likely to have formed naturally.

Phase IV: Channel, late eighteenth century

From the complex stratigraphic sequence adjacent to the Cop at the southern end of the site it would appear that a severe flood breached the Cop sometime during the late eighteenth century. This breach was formalised by a steep-sided cut of an east-west channel (71) and lined with clay (70) up to 0.3m thick, recorded in a sondage a short distance to

the south of the main excavated area. The channel appears to have been short-lived and contained naturally lain sands and silts, (62)–(66), (68), (69) and (153), rather than intentionally deposited material. The form and infilling of this feature may suggest it was the initial western end of the Chester Canal, where it connected with the Dee. The canal was constructed between 1776 and 1779, but shortly afterwards the western section was enlarged to form the Dee Basin, opened in 1801 (see Reid in this volume). Entrance into the basin from the Dee was *via* the Dee Lock, located to the south of the original western end of the canal. When the locations of these two inlets are compared using contemporary maps, it would appear that the original line of the Chester Canal was further north than the excavated evidence suggests.

Phase V: Silting, circa 1800

Following the demise of channel (71) (Phase IV), the whole area appears to have suffered a widespread inundation of sand: (10), (16)–(18), (76) and (127). This may have been caused by heavy periodic flooding or probably an alteration to the fluid dynamics of the river, thereby producing a substantial deposition on its eastern bank.

Phase VI: Wharf/slipway construction, early nineteenth century

A small stone-lined wharf was built next to, and incorporated, the stone facing of the Cop (143). It was roughly semi-circular in plan and was defined by a construction cut (150), which appears to have followed the natural inlet formed during Phase III (shown in section in Ill. III.4). The stone surface of the wharf/slipway (142) was crudely built with sandstone blocks up to 0.3m in length and was in poor condition. The stones forming the surface of the slipway were embedded into black gritty sand (148), which overlay sandy silt (149), a primary construction deposit. The enclosed area was at least 6m in width and 16m in length with fairly gentle gradients from the contemporary ground surface to the water's edge. This wharf/slipway measured approximately 8.5m in length and had a maximum width of 2.5m where it was keyed into the stone facing of the Cop (Phase II), reducing to approximately 1m in width as it protruded into the river. It thus provided an area to load or unload shallow draught vessels.

Phase VII: Flooding and debris, mid nineteenth century

A succession of deposits, sands and silts, often mixed with clay, (36), (37), (38), (48), (110) and (111), indicates that periodic and flash floods continued to occur at this time. A layer of dark grey silt (49), perhaps a garden soil, and a thin spread of charcoal (50) also formed part of this sequence.

Phase VIII: Putative building, mid nineteenth century

Located within the southern area of the site were the slight remains of a possible structure. It was represented by a clay layer (35) measuring at least 7m by 11m, with its long axis orientated east-west, and a single remaining post hole (40). The full extent of this structure within the excavated area could not be established as the clay layer was partially removed during the site clearance by a mechanical digger. The clay surface appeared to respect the line of a later trench (19) (Phase IX) and probably continued to the edge of Dee Lock, just beyond the limit of excavation. This structure was probably destroyed by a flood, represented by a deposit of silty sand (34) and a spread of slate debris (33). This layer of slate



III. III.7: View of trench section looking east with post hole (12) and contexts (33) – (38) showing mid to late nineteenth century building activity

was cut by post-holes (12) and (31) (both from Phase XIII) and trench (19) (from Phase IX) (III. III.7).

Phase IX: Drains, mid to late nineteenth century

Located in the southern part of the site was an east-west aligned trench (19), considered to be a drain, which had probably been timber-lined (revetted by planking and fastened by upright timber posts) and an open feature. Its course terminated at, rather than running directly into, the river. Any wood lining had been removed when the feature was backfilled in the mid nineteenth century. A large assemblage of pottery was found in one of the fills, comprised of black gritty sand (23) (III. III.8).

Another trench, (121), to the north west of trench (19), also possibly represented a drain. It would appear to have discharged water directly into the river and to have emanated from the eastern part of the site. The exact course of this feature is not certain because of its destruction by later activity.

Phase X: Wharf/slipway use, early to late nineteenth century (pre 1872)

The wharf/slipway (Phase VI) perhaps continued in use for up to fifty years providing a berth parallel to the river frontage to unload or load small craft at low tide.

Phase XI: Wharf/slipway disuse, late nineteenth century (pre 1872)

Beneath the site demolition clearance level (1) (Phase XIII) evidence was found of the systematic infilling of the wharf/slipway, represented by layers (128)–(140). These deposits consisted mainly of dumps of building rubble from neighbouring slate yards and demol-



III. III.8: East facing view of (23) showing an extensive pottery deposit



III. III.9: The build-up of debris over the wharf/slipway

ished brick buildings, together with a deposit of coal and ash (136) (III. III.9). Much of this material was dumped from the road to the east. Some of the building rubble appears to have come from elsewhere in the city because of the inclusion of Roman pottery.

The large scale Ordnance Survey map of 1875 (1:500 scale, surveyed in 1872) indicates that by this date the section of riverside wall opposite the site had been built. As the earlier

wharf/slipway is not depicted, it can be inferred that it had been in-filled prior to the construction of the riverside wall. Whilst it is clear that the process of infilling this feature was undertaken in the nineteenth century, C. Tilston (*pers comm*) has suggested that material was deliberately dumped during the 1950s to raise the ground level.

Phase XII: Drain/sewer, late nineteenth century

A near vertical-sided trench (60) ran east-west across the site. It was not fully excavated, but was at least 1.8m in depth. Its form and extent strongly suggest it was a drain or sewer trench. This feature cut the fill of an existing drain (121) (Phase IX).

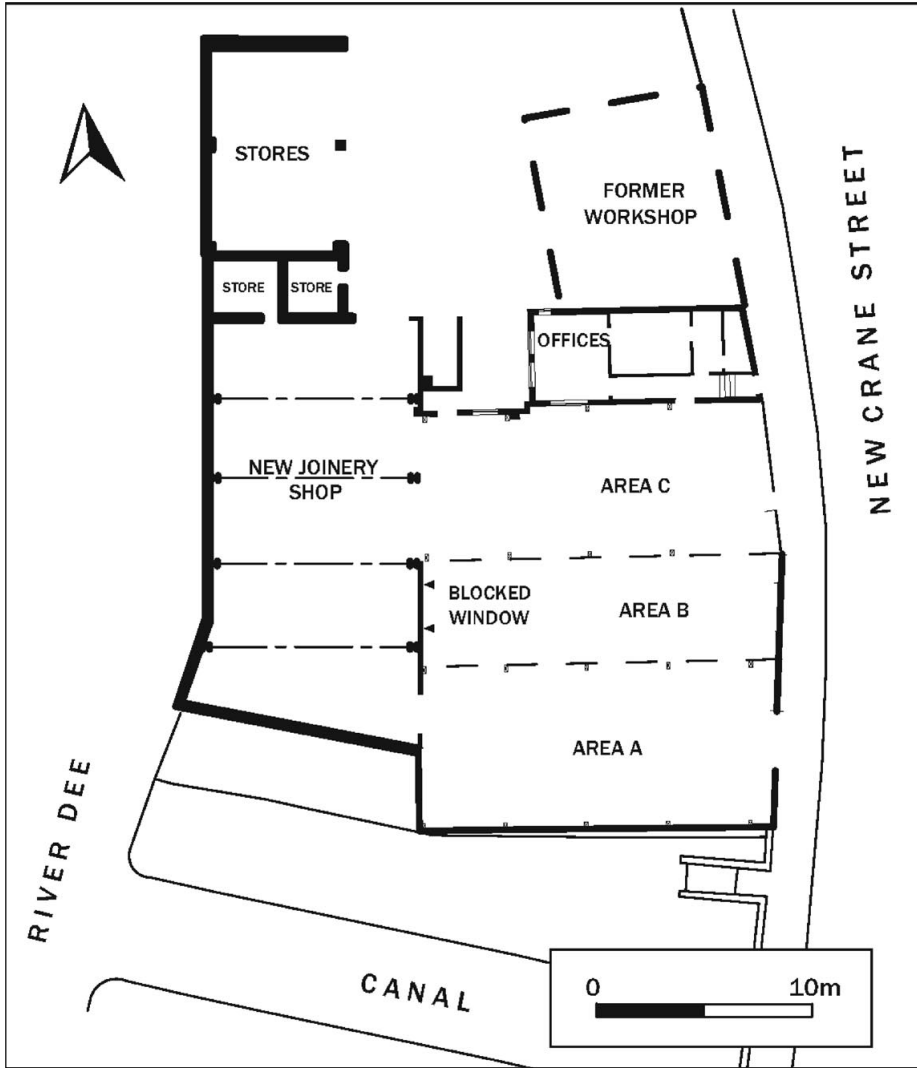
Phase XIII: Tilston's boat builder's yard, twentieth century

The final phase of activity recorded during the excavation relates to the buildings of Tilston's Yard that were demolished in 2004. At the southern end of the site a line of regularly spaced post holes, running east-west, were found, (9)–(12). They represented stanchion bases supporting timber-framed sheds (see below). Other post holes attributed to this phase included a cluster a short distance to the north — (24), (25), (28), (55) and (115) — plus two isolated post holes (31) and (52). Overlying these features, but deriving from the same chronological phase, were dumped deposits and overburden, (1), (2), (4) and (5).

The buildings forming Tilston's Yard were recorded by Fletcher (2001) and Owen (2004) (Ill. III.10). The earliest surviving buildings at Tilston's Yard comprised a contiguous group of three timber-framed sheds. These sheds were first depicted on the Ordnance Survey map published in 1911 (revision of 1908). The east elevation of the three sheds was truncated in 1964 during the replacement of the canal swing bridge and widening of New Crane Street. As a result of this alteration, the timber-frame of the northernmost two sheds had been underpinned by reinforced concrete beams. The stanchion bases of these beams were recorded within the southern section of the site during the 2004 excavation (post holes (9)–(12)).

The timber-framing of these sheds largely consisted of re-used upright posts in-filled with vertical timber planking, except the north wall, which had been replaced with breezeblock. The exterior elevations were clad with weatherboarding (Ill. III.11) and corrugated iron sheeting. The roof was supported by timber collared trusses, which sat on timber scarf-lapped wall plates. All the principal posts and roof members were machine cut. Many of these timbers also displayed evidence of re-use in the form of redundant peg holes and tongue and grooves jointing. All window frames, door frames and doors were timber and appear to have been replaced as necessary. A modern breezeblock and steel frame extension incorporating a joiner's shop and stores had been added to the west elevation of the timber sheds, and a flat-roofed brick extension of a similar date had been added to the northern elevation.

To the north of the buildings lay the boat yard area, which was surfaced with patches of hardcore, asphalt and slate chippings. This surface was removed by a mechanical excavator prior to the 2004 excavation. Within this yard area, adjacent to the eastern boundary fence, were the remains of a timber-framed extension, constructed between 1908 and 1960 (according to the Ordnance Survey mapping) and demolished some years ago. This building had



III. III.10: Plan of the buildings within the site boundary

a ceiling mounted flywheel, which would have been driven by an engine or motor supplying power to woodworking equipment such as lathes (C. Tilston *pers comm.*). The floor of the old machine shop was constructed of concrete and was at the same level as other workshop areas to the south (which also had concrete floors) and the yard area to the north. The area level with the road surface of New Crane Street had an opening with a timber double door in the western gable-end. It has been suggested that this area was used for mast and sail storage; although, there is no evidence to support this.

Boat-building at the yard by the Tilston family continued up until 2003, seventy-five years after William Tilston took over the lease of the premises (in 1928) from Mr Roberts.



III. III.11: The New Crane Street frontage of Tilston's Boat Yard

The Artefacts

Artefacts retrieved from the excavation phase comprised animal bone, building materials, clay tobacco pipes, glass, metal objects, shell and pottery. The assemblage dates from the late eighteenth century to the twentieth century. Pottery was by far the largest assemblage and includes a small collection of late eighteenth century pottery that came from *in-situ* deposition and was directly and indirectly associated with the construction and use of the Cop. There was a small collection of Roman pottery from Phase XI which was regarded as residual.

Although a large assemblage of artefacts was recovered, a significant amount derived from unstratified or intrusive deposition and was therefore dismissed during the post-excavation assessment as having insufficient integrity or significance; so further analysis of this would not be of benefit to the research questions posed for this site. There are, however, several assemblages that did require further analysis in order to further understand and determine each of the chronological phases recognised within the site stratigraphy. These included a selected sample of stratigraphically secure pottery, clay tobacco pipes and an unusual assemblage of wig curlers.

Finds have been ordered into eight generic groups (Table III.1) and assessed in order to establish their nature and value for interpretation of site economy and chronological development.

Building material

This assemblage, with a combined weight of 17.32 kg consisted of brick, tile and slate and ranged in date from the late eighteenth to the late nineteenth centuries. The earliest type of brick recovered was handmade and unfroged.

Generic group	Stratigraphic phases	Contexts	Date range	Total weight (kg)
Animal bone	I, II, V, IX, X, XI, XIII	(6), (16), (20), (23), (29), (53), (67), (137), (146)	c.1780–late C19	3.27
Animal horn	III, X	(6), (152)	c.1780–late C19	0.29
Building material	V, IX, XI, XII, XIII	(16), (20), (22), (23), (53), (59), (67), (137), (140)	c.1780–late C19	17.32
Pipeclay tobacco pipes	III, IX, X, XI	(6), (22), (23), (74), (140), (152)	Mid–late C19	0.12
Glass	V, IX, X, XI, XIII	(1), (6), (7), (16), (20), (22), (23), (27), (102), (140)	Late C18–late C19	8.38
Metal (iron)	III, IX, X, XI, XIII	(1), (6), (20), (22), (23), (26), (41), (57), (137), (140), (146), (152)	Mid–late C19	10.95
Pottery	IX, X, XI, XIII	(1), (6), (7), (20), (22), (23), (26), (27), (29), (53), (57), (102), (137), (140)	Late C18–C20	28.3
Shell	II, IX, X, XI, XIII	(1), (6), (20), (22), (23), (27), (57), (67), (137), (140)	c.1780–late C19	2.39

Table III.I: Generic groups of finds, their stratigraphic phase and date

Pipeclay

The clay tobacco pipe assemblage dates mainly from the mid to late nineteenth century and consists of both stems and undecorated bowls.

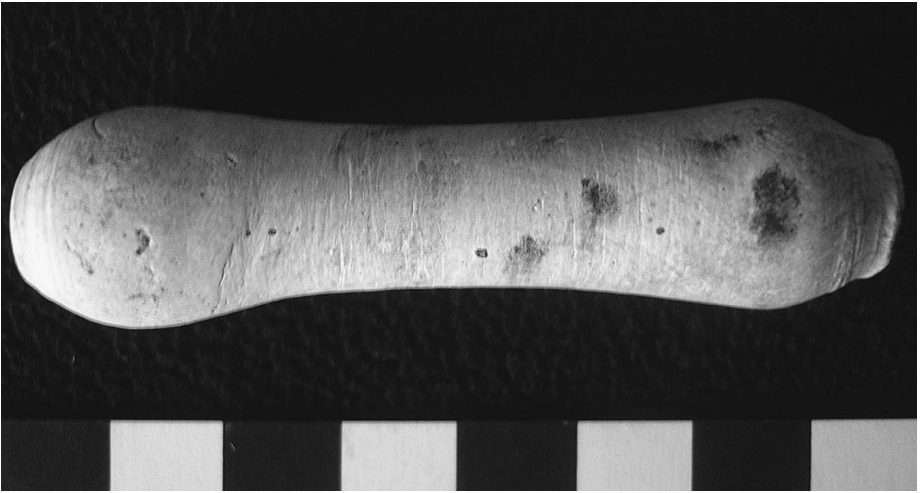
The other notable element of the assemblage was a group of eleven complete wig curlers from context (6). All of these curlers were of ‘dumb-bell’ shape, but none bore makers’ marks or stamps. By analogy with previous finds from Chester they are likely to date to c.1750–80 (Rutter & Davey 1980, 263–266). It is possible that all of these curlers are derived from a single wig, which did not survive in the archaeological record (III. III.12).

Metal

The metal finds consist solely of iron products and derive from deposits which also contained pottery and glass. The majority of finds from this group are primarily associated with boat building and include hooks, bolts, screws and ballast weights.

Pottery

A total of 28.3kg of pottery was recovered ranging in date from late eighteenth to the twentieth century. The majority of the material (c.90%) was from Phases IX to XIII, which were later nineteenth and twentieth century deposits removed mechanically during site stripping and initial hand excavation. As such, this material was derived from a mixture of unstratified



III. III.12: Mid to late eighteenth century ceramic wig curler

or insecure contexts, in particular, the assemblage from context (23), which derives from a dumping deposit and is, therefore, not within a primary *in-situ* layer (III. III.8). A small number of residual Roman sherds were also recovered.

The earlier phases of the excavation produced only relatively un-diagnostic sherds of post-medieval pottery that broadly corroborate the chronological framework provided by the cartographic evidence. The sherds included utilitarian slipware and black and brown glazed earthenware vessels, as well as pearl glazed earthenware and creamware. The assemblage was typical of domestic waste occurring in Chester during the eighteenth century.

The most prolific ware was the Staffordshire-type black and brown glazed earthenware cooking and table wares. This ware dates from the late eighteenth to late nineteenth centuries and was recovered from nearly all of the domestic deposits (sixteen deposits in total) and is not uncommon from sites with a history of landfill dumping and levelling.

Blue transfer decoration, usually found on cream and white paste wares, account for the second largest type and possesses a similar date range to that of the Staffordshire-type earthenwares. This ceramic type is usually associated with table wares such as cups, saucers and plates. The majority of this group came from deposits dating from the mid to late nineteenth century.

Salt-glaze wares account for the third largest group and are essentially categorised as earthenware types. The majority of this group derived from flagon-type vessels, and date mainly from the mid to late nineteenth century.

Fine table wares such as kaolin and bone china wares were found as unstratified and within the late deposits and are probably associated with the blue transfer wares, dating from the mid to late nineteenth century.

Particularly noteworthy were a group of complete and partially reconstructable stoneware bottles. Several of these were stamped ‘... *wine merchant. Bridge Street*’. It is of interest that they were deposited outside of the city walls in the area of the new port and may indicate either that the bottles were being imported as part of a bespoke commission or that wine was being exported by a merchant on Bridge Street.

Animal bone and horn

This assemblage was directly associated with other artefact groups and clearly derived from a domestic origin, usually as a dumped deposit within the later stratigraphic sequence of the site. Animal bone was recovered from nine archaeological contexts with a combined weight of 3.56 kg. All bone derives from domesticates such as bovines and ungulates and is typical for sites of this period and use.

Shell

The mollusc assemblage consisted mainly of edible bivalves and gastropods. These were recovered from domestic dumped deposits along with animal bone and horn. These varieties are typical of shell fish from this type of estuarine river edge site. The most abundant species was *Ostrea edulis* (freshwater oyster).

Summary

The excavation revealed important information concerning the changing nature of this area since the late seventeenth century. Although it is difficult to articulate a sophisticated internal layout of the site, some general traits are apparent, in particular the construction (and subsequent repair) of the Cop and the development of the Chester Canal and associated basin. It is clear from the phasing that this section of the Dee defences was constantly reviewed with repairs and alterations being made to the superstructure. During this time though, the port authorities were continuously battling the siltation of the river. Certainly by the early part of the nineteenth century, siltation had probably covered much of the Cop. Indeed, based on the stratigraphy of the site, silt deposits extended some way from the line of the Cop, towards the river. Nevertheless, small boat-building businesses continued along this stretch of the river until recently.

Based on the results of the excavation the following significant events include:

- The presence of a continuous flood defence — the Cop — from the early eighteenth century;
- Land reclamation and related foreshore activity in the early to mid eighteenth century;
- The construction of a channel in the late eighteenth century, which was possibly the western end of the Chester Canal, superseded by the Dee Lock to the south of the site;
- The construction of a wharf/slipway in the early nineteenth century adjacent to, and incorporating the Cop; and
- Substantial dumping of building rubble associated with the construction of the late nineteenth century riverside wall.

Acknowledgements

The authors would like to acknowledge the assistance of the following during the excavation, and also during the preparation of this report: Brian Walsh of Dorbcrest Homes; Mike Morris of Cheshire West and Chester Council (previously Chester City Council), and Mr Chris Tilston, previous owner of the boatyard. Thanks also to Gill Reaney, Caroline Malim and Cheryl Quinn for work on the illustrations, Dan Garner for the ceramic artefact report and to Tim Malim who commented on the initial draft of this report.

Bibliography

- | | |
|--------------------------------|---|
| Fletcher, M 2001 | <i>Buildings at Dee Lock, Old Port Chester; Historic Buildings Assessment</i> . Unpublished report No. 2001-01. Manchester: Matrix Archaeology Report |
| Neele, S M 1809 | Plan of Chester. In: Dugdale, J. (1819), <i>The New British Traveller</i> . London: J & J Cundee |
| Ordnance Survey
1875 | <i>City and county of the city of Chester</i> . Edition of 1875. Sheets 38.11.11, 38.11.16, 38.11.21. Scale 1:500. Surveyed 1872 |
| Ordnance Survey
1911 | <i>County Series. Cheshire</i> . Sheet 38.11. Scale 1:2500 (revised 1908) |
| Ordnance Survey
1961 | <i>County Series. Cheshire</i> . Scale 1:2500 (part surveyed 1958 and revised 1960) |
| Owen, P 2004 | <i>Tilston's Yard. A Record of the Buildings of William Tilston Ltd</i> . Unpublished report No. 11344.R02. Chester: Gifford |
| Rutter, J A &
Davey, P 1980 | Clay pipes from Chester. In: <i>The archaeology of the clay tobacco pipe vol. 3</i> . BAR Brit Ser 78 . Oxford: British Archaeological Reports, 41-272 |
| Wood, J 1833 | <i>Plan of the city of Chester</i> . Chester: Cheshire Record Office Ref: PM 18/5 |

