

Fig. 1: Site location plan.

Miles Lane: the early Roman waterfront

LOUISE MILLER

THIS SITE LIES on the north side of Upper Thames Street (Fig. 1) about 100m (110 yds) north of the present river frontage and is bounded on the east side by the approaches to London Bridge. During the construction of the building on the east side of Miles Lane and of King William Street House on the west side in the 1920's timber structures were found which were interpreted as a first century Roman quay, together with a large Roman building to the east of the Lane.

In 1979, prior to destruction of Miles Lane and of King William Street House, Land Securities (Management) Ltd allowed the Department of Urban Archaeology, Museum of London, access to the vacant site next to King William Street in order to investigate the timber structures and determine their stratigraphic relationship to the building, and also to collect firm dating evidence by sampling for den-

drochronology.

During this controlled excavation a portion of timber structure was found that bore no resemblance to the structure found in 1920, and indeed projected south of the supposed quay wall. Although the stratigraphic relationship of this structure to the building was examined in detail, and dating evidence collected, it was not until the watching brief over the whole site from London Bridge to Arthur Street (3000 sqm or $\frac{3}{4}$ acre) that the true position of the waterfront was established. In all, 62m (200ft) of quay front, aligned east-west was found; about 200 timbers were recorded. Discrepancies and inaccuracies in the 1920's plans could be put right and a thorough re-examination made.

The building of the quay was not the first phase

1. R.C.H.M. 1928, London III, *Roman London* 133-4.

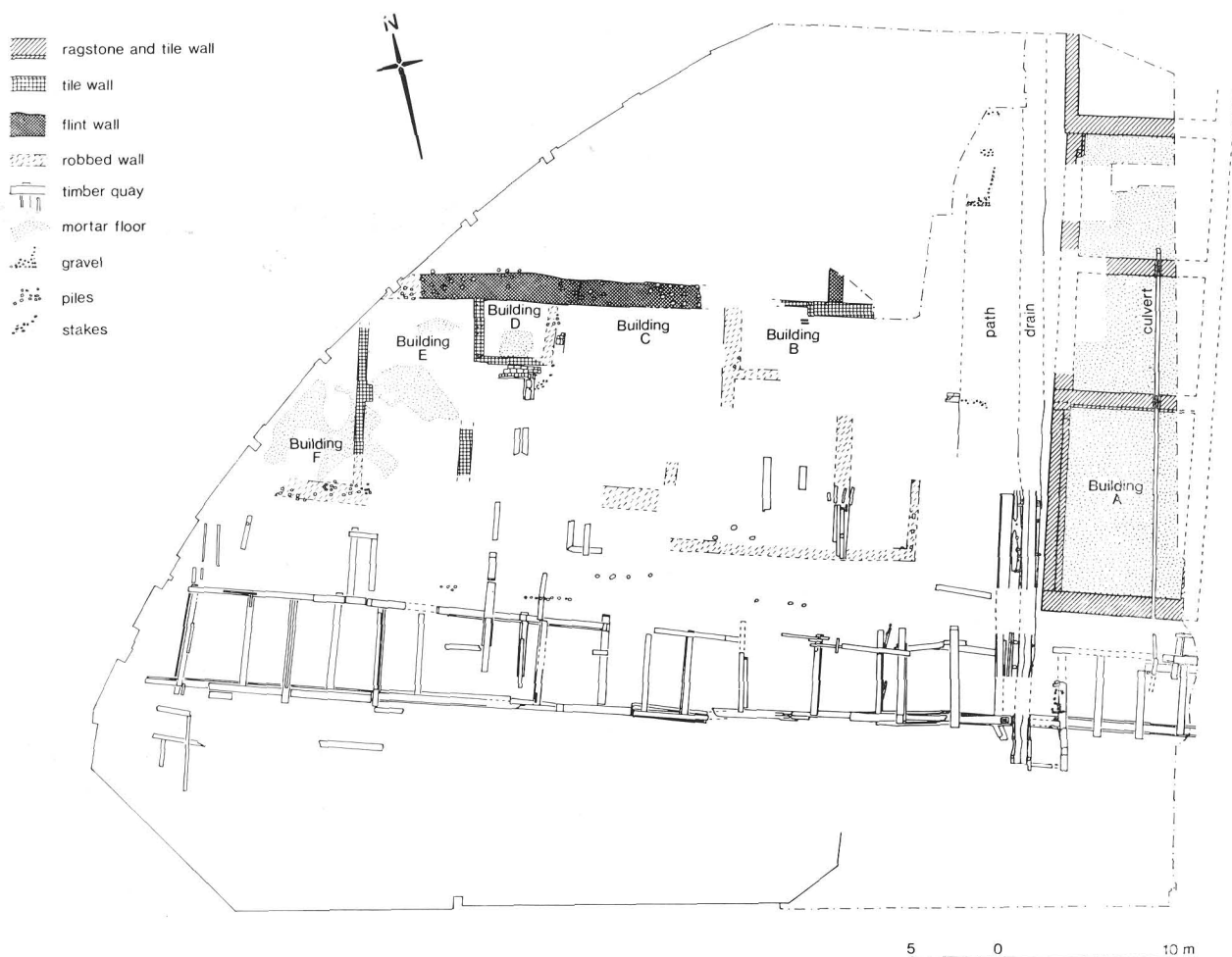


Fig. 2: Plan of 1st century Roman quay and buildings.

of activity on the site, for there were several large quarry pits cut into the natural gravel and London clay on the west side of Miles Lane, even on the foreshore. There were also traces of postholes and gullies in the north part of the site and rows of posts along the river bank, probably of early Roman date.

The quay appeared to be built in sections from east to west, and although each section differed in detail (Fig. 3) they shared common characteristics. Cuts were made in the old foreshore so that the level of the base beams of the quay front wall was more or less constant at OD. The base beams were all massive timbers with cross-sections ranging from 460 x 450mm (18 x 17 $\frac{3}{4}$ in) to 730 x 480mm (28 $\frac{1}{4}$ x 19in). Three of these timbers were 8.85m (29ft) long but the nine other base beams found were between 2.5 and 5.6m (8 and 18 $\frac{1}{2}$ ft) long. They were jointed end to end by a type of mortice and tenon.

In the first phase of construction there were four or five other horizontal beams in the front quay wall bringing the top of the quay to 2m (6 $\frac{1}{2}$ ft) O.D. In the second phase of construction more quay front beams were added, raising the level to about 2.8m (9ft) O.D. There was no standard size for these timbers though they were generally 400 to 460mm (15 $\frac{3}{4}$ to 18in) wide; their thickness ranged from 200 to 400mm (8 to 15 $\frac{3}{4}$ in). They were jointed end to end but were otherwise held in position by their own weight and braced by tiebacks which ran north towards the old river bank. The lowest tieback was sometimes cut into the river bank, and sometimes supported the back wall of the quay. At its front or south end it either had a mortice cut in its base so that it rested on the projected lip of the base beam, or it was jointed to the front quay wall above the base beam by means of a trench joint. The upper tiebacks were trenched to fit in further trench joints in the front

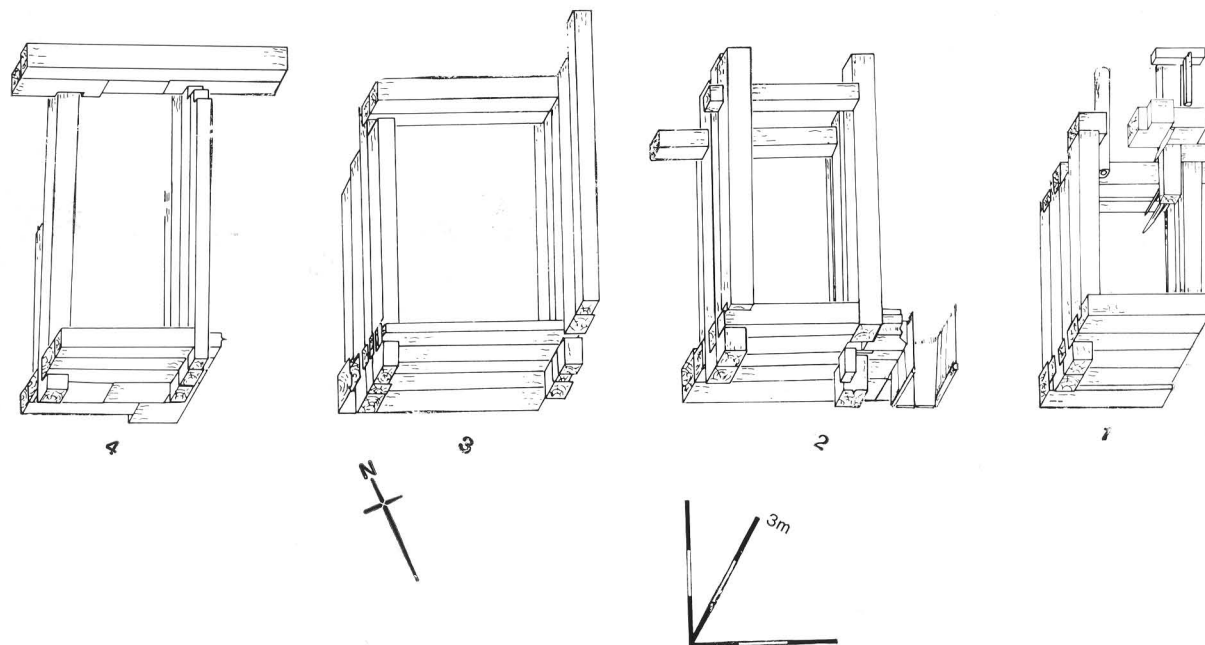


Fig. 3: Axonometric of 1st century Roman quay showing differences in construction from east to west.

quay wall. In some cases they projected south of the quay wall by 0.3 to 0.5m (12 to 20in), resuming their original depth after the trench joint.

The numbers of tiebacks differ in each section. In the eastern section, next to King William Street (Figs 2 and 3.1) the rows of tiebacks were 1.98m (6ft 6in) apart and there were three or four in each row. In this case they ran north to a back wall of timbers, 3m (10ft) north of the quay front, to which they then were jointed by trench joints. There were three beams in the back wall of the quay, varying in size from 230 x 300mm to 380 x 520mm (9 x 12in to 15 x 20½in). After the lowest two beams were in position the ground to the north was consolidated in preparation for building. The third beam was then added to the back wall of the quay and dumped material was then laid to the north and south forming a surface.

The front wall of Building A (Fig. 2) lay 2m (6½ft) north of the back wall of the quay with a river frontage 9m (30ft) wide from east to west. It was at least 36m (118ft) long with four rooms rising in terraces up the hillside. The foundations were 1m (3ft 3in) wide and 1 to 1.5m (3ft 3in to 5ft) deep depending on ground level, and consisted of coursed Roman tile. The walls above were of ragstone with tile bonding courses surviving up to 1m (3ft 3in) high. They were 0.62m (24in) wide with an offset on the interior. In places foundation and wall together

had an elevation 2.5m (8ft) high (Fig. 4). The front wall did not survive above floor level and was sealed, by a layer of mortar. This suggests that either the wall had been robbed out or that it never existed above this level and that the building was open fronted or colonnaded.

The front room was 11m (36ft) long compared with 7m (23ft) for the northern rooms. The make-up for the floor consisted of layers of large flint nodules 1m (3ft 3in) deep which formed a heavy sub-base upon which a load bearing slab of concrete 300mm (12in) thick was placed. Although the other rooms had similar make-up the floors were less strong, generally being made of mortar rather than concrete.

Under the floor of the two southern rooms a brick-lined culvert (Fig. 5) ran south towards the front of the building with small drainage channels leading into it. The terrace walls dividing the rooms were vaulted to allow the passage of this culvert and it came out through the front foundation of the building to empty into a sumpbox from which a wooden drain pipe carried the water out over the quay.

On the west side of Building A an open timber-lined drain formed a channel 1m (3ft 3in) square in profile (Fig. 6), and over 40m (130ft) long. No channel led to it from Building A and it is thought to be a public drain. Where the drain came through the front quay wall there was a special tieback on its



Fig. 4: Building A, elevation of foundation and wall.

(Photo: Trevor Hurst)

east side (Fig. 7) which continued at least 2.5m (8ft) south of the quay wall. Between the drain and this beam there were small box compartments 2.1m (7ft) long and 1.7m (5½ft) wide filled with dumped material. This projection was found in the controlled excavation and while the drain was constructed after Building A (sealing the foundation trench) its dating was Flavian which suggests it was incorporated into the design of the quay not long after its construction.

Building B lay 5m (16½ft) west of the drain and in this space the character of the quay changed. There was no back wall to the quay as such but short lengths of timber bracing the north end of individual tiebacks (Fig. 3.2). At the north end of the site were gravel surfaces and some cobbling traced to 3m (10ft) west of the drain, but this was not traced immediately north of the quay where there were mortar surfaces at about 2.58m (8ft 5in) O.D. The first phase of the construction of the quay, which was probably earlier than the second phase, had a surface of flint, rag and tile rubble and the

second phase was probably planked. There were four rows of tiebacks 2.4, 2.8 and 0.97m (7¾, 9¼ and 3ft 2in) apart and there were three to five tiebacks in each row, 3.65 to 5.9m (12 to 19½ft) long.

The 'double' tiebacks 0.97m (3ft 2in) apart lay south of the east wall of Building B (Fig. 2) and this section of the quay extended westwards for 19.5m (64ft) to another pair of tieback rows which were 0.93m (3ft) apart, in line with the east wall of Building D (Fig. 2). The northern terrace wall, of flint faced with tiles and 0.88m (2ft 11in) wide, was the only wall of Building B that had not been robbed out. Robber trenches for the other walls could be seen so that the total size of the building was 16.2 x 15.2m (53 x 50ft) with apparently two corridors on each side of a large area and a smaller room at the top just south of the terrace wall (Fig. 2). Apart from a small portion of plank at 4.01m (13ft 1in) O.D. little survived of any floor but gravel make-up suggests that the rooms were terraced down to the front wall of the building which lay 4.8m (15½ft) north of the back of the quay. Unlike the section of quay to the west of the timber drain (Fig. 3.2) the quay to the south of Building B did have a back wall of two horizontal timbers, running east-west, 'cradled' by trench joints cut in the northern ends of the tiebacks (Fig. 3.3). The quay back lay 4.5m (14¾ft) north of the front — a greater distance than the eastern section. The five rows of tiebacks were all at irregular intervals of between 2 and 3.9m (6½ and 12¾ft) apart, and there were four or five tiebacks in each row.

The most westerly section of the quay, which was over 23m (75ft) long, extended to the western limit of excavation, south of Buildings D, E and F (Fig. 2). The back of the quay again consisted of a wall of two horizontal beams to which the north ends of

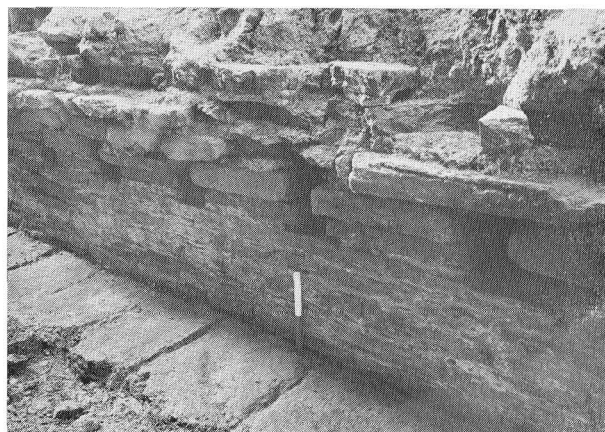


Fig. 5: Brick-lined culvert under floor of Building A.

(Photo: Jon Bailey)

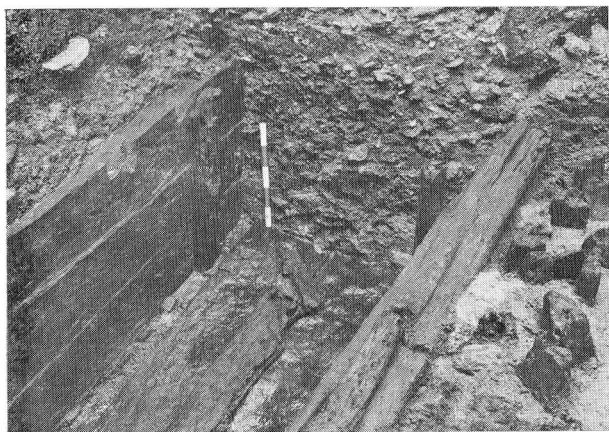


Fig. 6: Timber-lined public drain to west of Building A.

(Photo: Trevor Hurst)

the tiebacks were attached (Fig. 3.4). The distance between the front and back walls of the quay expanded from 4.5 to 5.35m ($14\frac{3}{4}$ to $17\frac{1}{2}$ ft) towards the west, and the rows of tiebacks were again at irregular intervals of 2.06m to 3.5m ($6\frac{3}{4}$ to $11\frac{1}{2}$ ft). There were two to four tiebacks in each row, with the extreme west wall of tiebacks containing seven timbers altogether; this represented two phases of quay construction, which eventually reached 3.04m (10ft) O.D. A small jetty at least 5m (16ft) long north-south and apparently contemporary, projected south of the front quay wall.

Terrace walls of flint based on piles, and flint on a chalk raft based on piles ran east-west across the northern part of the site in line with Building B's terrace wall (Fig. 2). These both lay at 18m (59ft) north of the back of the quay. In the first of two phases of construction rows of piles marked the south wall of Building F at 5.6m ($18\frac{1}{4}$ ft) north of the back of the quay and these were subsequently sealed by gravel terracing which provided a base for Buildings D, E and F. These all had narrow walls 0.46m to 0.62m (18 to 24in) wide built of coursed tile and Roman bricks, and had no foundations apart from a brickearth slab beneath the walls. Mortar floors were recorded in three of the rooms (Fig. 2) and the interior walls of Building E were plastered. A brick-lined gully ran round the east and south walls of Building D.

In several places two phases of construction of quay and buildings were noted but where these phases could be dated by pottery both would appear to be Flavian, with perhaps the second phase being very early second century. These dates are provisional and even from the first controlled excavation there was a dearth of dateable pottery from construc-

tion layers of the quay and building. Dates from dendrochronological analysis should resolve this problem. Nevertheless there was plenty of dating evidence from the material dumped at a later date against the front wall of the quay and this would appear to be Flavian/Trajanic. The quay structure shown in Fig. 2 was then probably redundant by the early decades of the second century.

The buildings on the west side of Miles Lane ceased occupation in their original form by the mid-second century. The building on the east side of the Lane continued in use, with changes in floor level, till at least the late fourth century. Building A was clearly much more substantial than those on the west side of Miles Lane and it may have had an official function. The long front room which opened almost directly on the quay, and the load-bearing capacity of its floor suggest it was a warehouse although the other rooms may have been residential or offices. There was a greater distance between the buildings and the quay on the west side of the site, between 4.8 and 5.6m ($15\frac{3}{4}$ and $18\frac{1}{4}$ ft), and possibly this area, rather than the building to the north, was used as working surface for storage.

This is the longest continuous length of early Roman quay that has been found in the City and shows that even in a presumably public work there were significant differences in design for each section, possibly related to function or status. The early Roman quay found at Peninsular House in 1980 and in the recent excavations at Pudding Lane² shows differences in construction again, emphasising the importance of examining several areas of the early Roman waterfront.

2. Supervisor G. Milne.

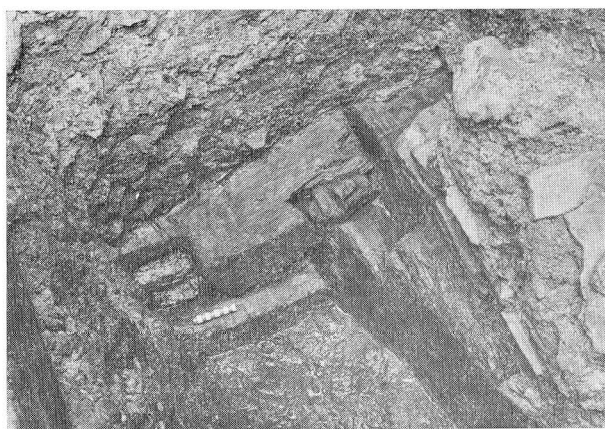


Fig. 7: Tieback of 1st century Roman quay projecting south of quay wall to the east of the timber-lined drain.

(Photo: Jon Bailey)