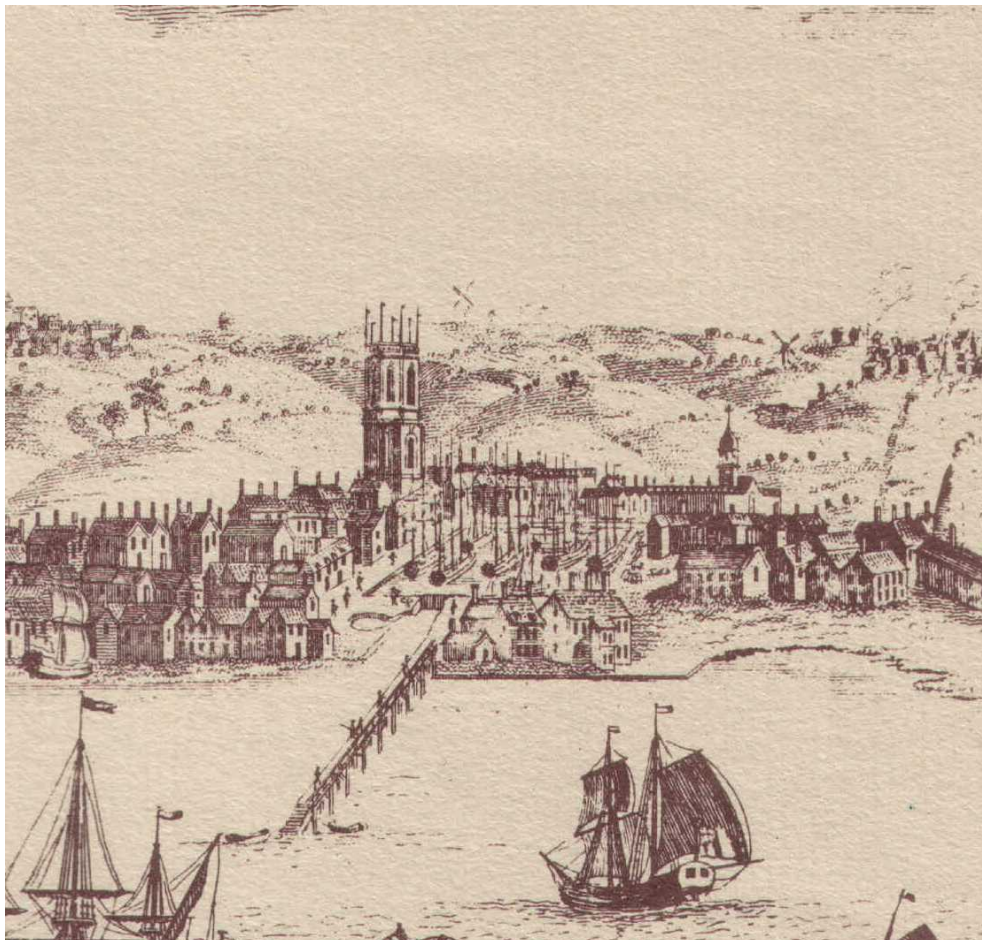


June 2001

THE OLD DOCK, CHAVASSE PARK
LIVERPOOL
Evaluation Report



Liverpool Old Dock, Chavasse Park
Merseyside

Archaeological Evaluation Report

Report no 2000-01/077/AUA8114

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SUMMARY

An archaeological evaluation was undertaken at the site of the Old Dock, Canning Place, Liverpool (centred at NGR SJ 3440 8995) (Figs 1 and 2), by Lancaster University Archaeological Unit (LUAU), between March and May 2001 on behalf of CPM Environmental Planning and Design and CGMS Consulting. The evaluation was required to inform a planning application for a mixed development.

The Old Dock was the world's first commercial enclosed wet dock, which enabled the expansion of Liverpool as a port. It was constructed over a period of five years, being completed in 1715. By 1826, it had fallen out of use and was infilled prior to the construction of the Customs House, between 1828 and 1837. This suffered severe bomb damage during the Second World War, and was demolished shortly after. In the 1960s an office block was built on the site which was demolished in 1999.

It was agreed that nine 2m x 10m evaluation trenches be excavated to a depth of 2.4m, incorporating stepping for health and safety purposes. Given the large number of services on the eastern side of the site, however, some of the trenches had to be abandoned. Furthermore, the depth at which the sensitive archaeological deposits and structures was encountered was found to be deeper than expected. It was therefore necessary to excavate three trenches on the south side of the site to a maximum depth of 3m by effectively widening the trench and adding a further step, in order to assess the archaeological deposits fully. Two trenches (Trenches 1 and 2) were re-excavated and linked to form a larger open area excavation (Trench 1/2b). Two other trenches (Trenches 3 and 5) were excavated on the north side of the site, across the pavement of the road, in the short gap between the services.

The initial phase of excavation revealed the remains of the dock in all the trenches, except for Trench 6 (the latter was excavated in the footprint of the Customs House, and only succeeded in uncovering rubble relating to the demolition of the building). The dock wall within the other trenches was essentially intact, except in the south-west corner (Trench 1/2b), where piling had destroyed sections of the wall, and in the north-east (Trench 5) where the face of the wall had been destroyed, probably during the construction of the Customs House. The dock consisted for the most part of a wall made of hand-made bricks in English bond (alternating courses of stretchers and headers), topped with a yellow sandstone coping. Despite the general consistency of construction, the wall demonstrated different construction in each trench excavated, often in different combinations of sandstone walling and brick. Remains of the quayside were also encountered in two of the trenches (Trench 4 and Trench 1/2b), consisting of large sandstone blocks laid directly upon the original silts of the former Pool upon which the dock was constructed. Well-preserved timbers were encountered in both the Pool deposits and the deposits within the dock itself. The dock had been backfilled for the most part with a pink sand deposit.

Upon completion of the first phase of work, two trenches were selected for deeper excavation, down to 5m in depth, to examine the profile of the dock wall, its construction and any backfill deposits or silts encountered within the dock itself. The excavation was undertaken primarily by machine in shallow spits under archaeological supervision. The first deeply-excavated trench, Trench 7, was excavated immediately west of Trench 4, on the south side of the dock to expose a further section of wall. On the north side, however, the presence of services meant that no new trenches could be excavated, and therefore Trench 3a was re-excavated beyond its original depth.

Trench 7 encountered the pink sand backfill of the dock. A sondage and coring at the base of the trench uncovered further backfill and hit the water-table at approximately 0.7m AOD. A 3.7m deep section of the dock wall was also uncovered; the profile consisted of a flat wall with no discernible curve to its face. In the second trench, Trench 3b, excavation was undertaken to 3.8m below present ground level (approximately 2.7m AOD), and uncovered further pink sand backfill before encountering a very organic grey and black silt deposit, interpreted as the silts deposited within the dock while it was operational. At this stage noxious gases (subsequently identified as dichloroethane) were identified in the trench, and excavation ceased. Approximately 1.8m depth of dock wall was uncovered, with a noticeable curve to the profile of its face.

The results of the evaluation suggest that the dock wall survives largely intact beneath Canning Place along the north of the site, and by implication, the east of the site is likely to survive as well, as it has been preserved beneath the successive build-up of road surfaces in these areas and is beyond any known building. The south side of the dock runs through an area formerly occupied by the Customs House and the 1960s buildings. The dock wall appears to have been partially truncated by the Customs House in the south-east corner, though the wall will almost certainly survive at a deeper depth. For the most part the footings for the 1960s buildings do not appear to have affected the dock wall directly, although isolated areas of concrete piling have had a detrimental effect on some sections of the wall. The deposits associated with the backfill of the dock, and the Pool deposits into which the dock was cut, both appear to survive very well.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Planning applications have been submitted for mixed developments in Canning Place, Liverpool, at SJ 3440 8995, within the current 'Paradise Street Development Area'. The site has been the subject of a series of desk-based assessments, which have identified the existence of the Liverpool Old Dock within the extent of the study area. This was the world's first commercial enclosed wet dock, constructed in 1715, which enabled the expansion of Liverpool as a port and as such represents a very important part of the city's maritime history (Figs 3-4). Within less than 85 years it had generated such prosperity that it had become too small to accommodate the maritime traffic, and was superseded by the construction of further docks extending out into the river channel. The site was infilled in 1826 prior to the construction, between 1828 and 1837, of a large Customs House (MacLeod 1982). This building suffered severe bomb damage during the Second World War (Plate 1), and was demolished shortly after, being replaced by 1960s office blocks which were themselves demolished in 1999.
- 1.1.2 The site of the Old Dock is of considerable archaeological significance and has the potential to inform the origins and development of the city of Liverpool. Consequently the Merseyside Archaeological Officer recommended that an archaeological evaluation be undertaken to investigate the impact of the proposed development.
- 1.1.3 The location of the Old Dock had been established from eighteenth and nineteenth century cartographic evidence (Figs 3-5), including detailed mapping of the site by architects prior to the redevelopment of the Customs House. Also, evidence of sandstone coping and stepped brickwork was identified in groundworks undertaken in 1980, at a depth of 2m below the ground surface (Philpott 1999). However, the exact location and survival had never been properly established by archaeological excavation. The objectives of the evaluation were to assess the condition and survival of the Old Dock, to establish its construction methods and to examine the relationship of the dock with the silts of the former Pool, upon which the dock was constructed. Where identified these silts would be subject to palaeoenvironmental assessment to establish the evidence for the changing coastal environment. Any evidence for waterfront activity, such as domestic occupation or industrial or commercial activity, would also be assessed.
- 1.1.4 A brief for the archaeological works (*Appendix 1*) was supplied by the Merseyside Archaeological Officer to CPM Environmental Planning and Design and CGMS Consulting. Lancaster University Archaeological Unit (LUAU) was approached by CPM to carry out the works and a project design (*Appendix 2*) for the task was submitted in March 2001. Following its formal acceptance, LUAU was contracted to carry out the evaluation with funding provided equally by Grosvenor/ Henderson and the Walton Group.

2. BACKGROUND

2.1 PHYSICAL BACKGROUND

- 2.1.1 The land at Canning Place covers an area of c1.52 ha, is about 0.5km south-west of Liverpool City Centre, and lies at c6.5m AOD. The survey area held three large office buildings (Foster House, Mulberry House and Steers House) built in the 1960s, as well as a bank, the Dolphin public house on the north side, and a fire station on the corner between Strand Street and Canning Place South. All these buildings were demolished in 1999, except the fire station which still survives. The survey area is now open ground.
- 2.1.2 The geology of this part of Liverpool consists of drift deposits of Boulder Clay in the area of Canning Place and Strand Street on the edge of the Pool, with narrow bands of alluvium along the coastal margins and within the Pool itself. The solid geology consists of Pebble Beds and Upper Mottled Sandstone (Philpott 1999).

2.2 HISTORICAL BACKGROUND

- 2.2.1 The following documentary account is taken from the desk-based assessment of the site by Rob Philpott (1999).
- 2.2.2 **Medieval Liverpool (1066-1500):** the establishment of the town of Liverpool is well documented. The name '*Liuerpol*' is first mentioned in a charter of 1190-4, the town forming a part of the hundred of West Derby (Nicholson 1981). In 1207, a further charter was granted by King John which effectively elevated the settlement from a fishing and farming village to a royal borough. Between the granting of this charter and 1296, the population of the town had increased from 150 families to 168. The town then consisted of seven streets, the names of which are mentioned in documents from about 1300. These streets survive in the modern plan of the town, though they have been much widened. Important buildings were constructed throughout this period, including the castle, the Chapel of St Mary del Key and St Nicholas, and the Tower (*op cit*, 7).
- 2.2.3 The town was positioned next to the Pool, a prominent topographical feature and natural inlet; the place-name 'Liverpool' being derived from the Pool. The Pool comprises part of a ridge of sandstone covered with Boulder clay, and part of the ancient shore-line, the Strand. It was a natural tidal inlet or creek fed by streams arising further north, and was nearly 1.5km long at high tide (Stewart-Brown 1932, 88). The study area includes the major part of the mouth of this former tidal creek.
- 2.2.4 The Pool is believed to have formed an important part in the town's life and in its maritime trade, acting as an area where cargoes would have been unloaded, and ships built and repaired. However, no medieval records survive relating to the use of the Pool (Stewart-Brown 1932, 89).
- 2.2.5 **Post-Medieval Expansion (1500-1710):** the earliest references to the Pool as an entity date to the seventeenth century; references in the Town Books in the last two decades of that century show that the 'lower pool' and the Waterside were indeed used for boat and shipbuilding. In 1683, Thomas Webster, a ships' carpenter, and Alderman William Williams were granted the right to build 'cabins' on the waste on the south side of the Pool (MacLeod 1982). Roger James petitioned for a piece

of land where he could make a dock, with grab and crane to help heave ships, in 1696; ships were set on stocks on the south and north side of the Pool, and houses were built to assist in shipbuilding (Stewart-Brown 1932, 89-92).

- 2.2.6 The earliest encroachments onto the Pool itself were undertaken by private landowners from the sixteenth century onwards. Land on the western side of the Pool, held by a series of major landowners, was also reclaimed around this time and records exist of these instances (*op cit* 103-4). In 1571 John Crosse was allowed to enclose a piece of ground below his hall on which to build a stone wall to protect his land from coastal erosion (*ibid*). The main encroachment on the Pool did not begin in earnest until the later seventeenth century, and was particularly prevalent in the first decade of the eighteenth century. The mechanism of reclamation was by granting Pool lands on cheap rentals with the obligation to reclaim adjacent areas (*ibid*). This form of infilling is recorded in the later seventeenth century in corporation leases, and enclosures were made from 1679-80 onwards on the former Pool belonging to the corporation. The extent of some of the reclamation is illustrated by the corporation who, in 1714, allowed tenants of Mersey Street, south of the Pool, to wall in 100 yards deep sections of shore (Stewart-Brown 1932, 103). Excavations on a site opposite the study area revealed clear evidence of infilling along the Pool edge, showing two major phases of levelling, both during the seventeenth century (Davey and MacNeil 1985; Philpott 1999, 4).
- 2.2.7 In the 1660s a major Liverpool landowner, Sir Edward Moore, refers to the importance of the Pool for future shipping, writing '*if ever the Pool be cut navigable*', indicating that it was not by that time (Stewart-Brown 1932, 90). By the turn of the eighteenth century, the Pool was probably shallow and unusable by anything other than relatively small ships, particularly as between the Haymarket and the site of the Old Dock there was a fall of only five feet (Stewart-Brown 1932, 105). Stewart-Brown considered that the Pool at low tide must have been '*practically empty*' (*op cit* 93).
- 2.2.8 Until the construction of the Old Dock, ships on the Mersey had a number of difficulties to contend with in order to unload their cargoes. The tidal range of the river, at 30', was exceptionally large, and rendered ships incredibly unstable in a river that was already dangerous from strong under-currents, sand spits and strong north-westerly winds (MacLeod 1982, 3). In the sixteenth century, the only form of protection for ships was a jetty or break-water at the mouth of the '*old haven*' (*ibid*). Nevertheless, the shipping was constantly plagued by freak tides and storms, which could smash ships and lose precious cargo; a particularly violent storm in 1561 destroyed the breakwater, with catastrophic implications for trade. The mayor ordered the council to provide funds for an immediate replacement, and ordered one man from every house in every street to go and work on '*the new haven*' (MacLeod 1982, 4).
- 2.2.9 With the demise of Chester's trade through the silting of the Dee by the late 1600s, Liverpool's trade began to rise in prominence, although, due to its problems, it faced competition from ships anchoring in the relatively safer waters of the Sloyne on the Cheshire side (MacLeod 1982, 4). Throughout the seventeenth century, repeated references are made to severe weather conditions in documentary sources; a letter dating to January 1697 refers to a major storm hindering navigation and '*destroying fish and fry*' (*op cit*, 5). Storms were not the only concern, however; the increase in traffic in the area meant that the ports were becoming overcrowded. The

sizes of ships were also increasing as transatlantic shipping became common, and incidents of rubbish tipping into the harbour also aggravated the problems of space (*Op cit*, 6). The upsurge of the ship-building trade on the water's edge also exacerbated the problems (*ibid*).

- 2.2.10 **The Old Dock (1710-1826) (Figs 3-5):** the combination of these factors brought increasing demand for better accommodation for ships. 'By the turn of the century, there existed an increasingly large and influential sector of people in Liverpool who were very anxious to see something done about improving the harbour facilities of the port – namely, the merchants' (MacLeod 1982, 7). In 1707, the scheme was finally mooted for an enclosed wet dock, and was greatly aided by the energetic efforts of two notable tradesmen, Thomas Johnson and Richard Norris, both MPs and later to become mayors of the town (MacLeod 1982, 7). Thomas Johnson visited George Sorrocold, the engineer who had built the Howland Dock at Rotherhithe, in London in 1708, in order to get his help; he agreed, and suggested that the stones of Liverpool castle, which stood close to the proposed dock site at the top of the then Pool Lane, could be used to reduce the cost of the construction of the dock (Stewart Brown 1932); however, it seems unclear as to whether this ever occurred (*Section 5.2*). In November 1708, the Town Council formally requested the two MPs to commission an appropriate person to 'draw a plan of the intended dock' (Ritchie-Noakes 1984). In 1709, the first Dock Act was passed, empowering the Mayor, Aldermen, Bailiffs, and Common Council as the trustees of the dock and allowing them to levy dock dues on ships entering the harbour.
- 2.2.11 The corporation gave a large piece of land forming the mouth of the Old Pool at the bottom of Pool Lane (later South Castle Street) for its construction, covering some four acres, called the 'old' or 'lower pool' (MacLeod 1982, 10). The western side of the area, however, belonged to private owners, including Moore, Cross, Atherton and Derby families, and the area was used by ship-builders; the area was quickly appropriated, however, and it is recorded that by 1718 nothing of the original Pool was left, the land having been leased entirely and built on (*Op cit*, 11). The construction of the dock was not without financial difficulties; the scheme was financed on the back of heavy borrowing, no one made a profit on the dock construction, and the dock was not fully finished until seven years after the act of 1709 (*Op cit*, 9).
- 2.2.12 The man appointed to build the dock, Thomas Steers, began work in May 1710. It is thought that he had been the chief engineer of the Howland Dock at Rotherhithe on the Thames, and the principal assistant of George Sorrocold, who had first agreed to help construct the dock (the Howland Dock, one of the first wet docks, was not, however, a commercial dock, but used for the fitting of ships after they had been launched). He was also rumoured to be Dutch, having followed William III, in whose army he served. His nationality would have given him an unparalleled knowledge of water-courses, having worked on the canals of Holland (MacLeod 1982, 12).
- 2.2.13 Stewart-Brown records that 'no satisfactory record exists of the construction of this Dock, the minute books of the Dock Trustees having been lost or destroyed' (1932, 105). Ritchie-Noakes discusses the water-encroaching design of the dock: 'the novelty of Steers' dock lay in its being formed by building within the tidal area of the Pool rather than by excavating on land (as had been Sorrocold's plan). This first dock subsequently became the prototype for most of the subsequent Liverpool

docks' (1984, 9). The construction of the dock was nevertheless a formidable task, particularly as it was built entirely by hand; the building work had to be undertaken in a sea-lake whose coffer-dam was constantly hammered by tidal currents, and from water flowing down into the Pool from the streams off the high ground of Mosslake (MacLeod 1982, 12; see Weir 1993, 61, for a description of coffer dam construction). The ground was particularly unstable as well: Picton, writing in his *Memorials of Liverpool* (1873), says '*...the site was soft mud, through which the walls had to be carried down a considerable depth to reach the rock*' (Picton 1873). The dock took seven years to complete.

- 2.2.14 The plan of the dock was '*roughly rectangular, aligned east/west, with some 3½ acres of water area and a tidal entrance basin*' (*ibid*). Although no original records or plans for the dock have survived (Philpott 1999, 8, quoting A Jarvis), some details of its construction are known. A comprehensive description is given by MacLeod (1982, 13): '*[the dock was] 195 yards long – 85 yards at the east and 95 yards at the west end with gates 33 feet wide by 25 feet three inches deep. Four acres in area, it also had a minimum depth of fourteen feet, and was capable of containing a hundred square rigged vessels at a time. The berthing space at the dock amounted to 2,106 feet.*' Moss, writing when the Old Dock was still in use, records its area as 16,832 square yards (Moss 1796).
- 2.2.15 Other elements of the dock were a 1½ acre octagonal tidal entrance basin, a graving dock off the north side and a landing stage projecting from the south side of the entrance to the entrance basin. The basin provided short-term berthing and safe access to the dock (Jarvis 1996). In 1714 a graving dock had been built by Alderman Norris and partners which was superseded by the construction of the Dry Dock (later Canning Dock) in 1740 (Ritchie-Noakes 1984). A second graving dock to replace that destroyed by construction of the Dry Dock was built in 1746 at the north end of the Dry Dock itself (*ibid*).
- 2.2.16 The opening of the dock at Liverpool occurred 53 years ahead of the first commercial wet dock at Bristol, 63 years ahead of the example at Hull, and almost 100 years prior to the establishment of London's first commercial wet dock, which opened in 1802 (MacLeod 1982, 1). The dock was completed in 1716 but had been opened the previous year. Nicholas Blundell recorded on 31 August 1715 that he had seen the first three ships in the dock; '*I went to Leverpoole and saw the Mulbury, the Batchlor & the Robert all in the Dock, they came in this Morning & were the first Ships as ever went into it; the Mulbury was the first*' (Tyrer 1970, 145). One of the major advance of the new dock was that ships could now unload in one and a half days, rather than the 12 to 14 days which it had previously taken, reducing the cost of handling cargo compared to other ports (MacLeod 1982, 13).
- 2.2.17 The impact of the opening of the Old Dock was immense; Chester, Bristol and London are all documented to have lost significant trade throughout the eighteenth century as a result of its opening (*op cit*, 14). Liverpool developed into a major city of commerce, particularly in the valuable commodity of tobacco, and became the second greatest seaport in the kingdom; the number of seamen working from the port trebled, the number of ships it owned trebled, and the tonnage of ships entering the port increased by a factor of ten (*ibid*). The city was well-placed to carry out trade with Ireland and the continent, which began to occur increasingly with the demise of Chester's trade (*op cit*, 2). The position of the port meant that Liverpool was convenient for the slave trade, forming the apex of the slave trading triangle

between Africa and the West Indies and North America; by 1792, the port possessed over half of the English slave trade, having taken the lead from Bristol and London, and just under half of the European slave trade traffic (*ibid*). With the decline of slavery in the early 1800s (the last slave-ship leaving the port in 1807 – *ibid*), Liverpool began exploitation of the next commercial venture – the cotton industry. Liverpool became an important source for cotton, located as it was adjacent to the cotton and textile mills of Lancashire; raw cotton was imported and manufactured produce was exported in equal measure. The prominence of the town led to Liverpool's continued commercial prosperity and expansion in the eighteenth and nineteenth centuries.

- 2.2.18 ***The Customs House (1826-1962)***: before the dock was 100 years old, however, an Act of Parliament, the fourth Dock Act, was passed on 10 June 1811 allowing the dock to be filled in as soon as the Queen's Dock and Prince's Dock had been enlarged. In his survey of 1810, John Rennie had recommended its closure, since the dock had become shallow from constant dumping of sewage into the dock leading to its silting up, and had become too small for the larger classes of vessels which served the ever-increasing trade of the port. Furthermore, the site of the dock was the only realistic place that a new Customs House could be constructed in the area, which was now completely over-built with warehouses and dwellings. Customs collection had increased to an unworkable state by this period, operating as it was out of a Customs House designed for much less trade, built in 1721-2 (MacLeod 1982, 26). Opposition to the backfilling by merchants, however, caused a 15 year delay, as arguments raged over the lack of space in the new docks and the distance from established businesses.
- 2.2.19 In 1826, John Foster was commissioned to prepare plans for the new Customs House, an imposing classical structure built on an 'I' plan. Some time during December 1826, the Government entrusted the site to the Dock Trustees, allowing the erection of a '*more modern and pretentious building for customs, other excise offices, post office and other public buildings*' and specifying that the buildings were to be completed within five years at a cost of not less than £175,000 (Rideout 1928). The last ship sailed out of the dock on 31 August 1826, and the Old Dock was filled in shortly after.
- 2.2.20 During the building of the Customs House, the walls of the Old Dock continued to act as retainers while the foundations and basement were built, with the gap between the walls backfilled once ground level was reached (Macleod 1982). No documents survive describing this practice, but other sites on Merseyside followed identical methods when buildings were placed inside abandoned docks (such as George's Dock, which became the site of the Port of Liverpool Building, Cunard Building and The Liver Building). Approximately 95% of the new Customs House was built inside the Old Dock, with only the south-east corner projecting beyond the dock wall. The foundation stone was laid by Mayor Thomas Colley Porter Esq on 12 August 1828 (Rideout 1928, 68).
- 2.2.21 The building was opened in August 1837 (Rideout 1928). When opened, the whole of the west wing and centre of the building was occupied by customs, the east wing housed the Dock Trustees (Mersey Docks and Harbour Board), the Post Office and other bodies. Initially the large central area beneath the dome was used as the 'Long Room'. However, declining trade saw the customs business removed from this particular area. This was then used as a sorting office by the Post Office, until

this moved to new premises in Victoria Street. Similarly the Mersey Docks and Harbour Board moved to new buildings at Pier Head.

- 2.2.22 Following the First World War, trade expanded and customs business again seems to have expanded within the building, occupying two thirds of the 'Dome Room', and the 'Long Room' residing in the west wing (Rideout 1928). The building eventually fell victim to bombing raids in the Second World War. In the last of a series of devastating air-raids on Liverpool's docks between 28 August and 1 September 1940, the dock area and the Custom House were hit. *'Foster's Custom House was badly damaged by fire, one bomb scoring a direct hit on the dome'* (Hughes 1993, 5).
- 2.2.23 ***The Present Day (1962-2001):*** the Customs House was subsequently demolished in 1947/48 and was replaced by the new building of the City Engineers' Department in 1962 (Philpott 1999, 9). Three buildings; Foster House, Mulberry House and Steers House, were placed on a car park podium which covered the entire Old Dock / Customs House site. Approvals were granted in 1966 and work was carried out in 1967. Plans for construction were prepared by J Samuely Architects of London and by the City Council's Building Control Department. Piles were used to support the podium and were bored down in groups through the basement and foundations of the Customs House into the sandstone bedrock beneath the Old Dock. Larger groups of piles were used beneath the locations of the office blocks (Foster and Steers) and warehouse (Mulberry) (B Hurley *pers comm*, Building Control Section, Liverpool city Council).
- 2.2.24 In 1999, the late 1960s development on the site of the Old Dock was demolished and the surface was levelled off with crushed stone.

2.3 PREVIOUS ARCHAEOLOGICAL EXCAVATIONS

- 2.3.1 An archaeological investigation took place on a site immediately to the north of the survey area, in the land now occupied by Chavasse Park, on the other side of Canning Place to the location of Trench 3. The work was a rescue excavation undertaken in the angle of Canning Place, Litherland Alley and South Castle Street in 1977 by Robina McNeil on behalf of the Merseyside Archaeological Society, Merseyside County Museums, the Department of the Environment and the University of Liverpool. This revealed a section of the foreshore on the west side of South Castle Street in the angle formed by that road, Canning Place, and Litherland Alley (centred at NGR SJ 3434 9039) (Philpott 1999, 4; Davey and MacNeil 1985).
- 2.3.2 These excavations showed that the Pool at that point contained two major phases of levelling, both of seventeenth date. Finds included small but well-dated groups of pottery and clay pipes of the seventeenth and early eighteenth century. The 1977 excavation produced evidence for dense nineteenth century housing on the site, some with cellars, but also, more significantly, it located the edge of what was interpreted as the original Pool of Liverpool. Archaeological deposits within the Pool were consistent with infilling by soil, crushed sandstone and stones during the mid seventeenth century (Philpott 1999, 4; Davey and MacNeil 1985).
- 2.3.3 A watching brief was undertaken in September 1980 on works concerned with the widening and re-alignment of the Dock Road and the construction of the ring road in Canning Place. Part of the wall of the Old Dock was uncovered and recorded by the Archaeological Survey of Merseyside: *'Severe time constraints prevented major*

excavation, but a yellow sandstone coping was uncovered, standing on top of a sturdy brick wall (Nicholson 1981, 3; and Jarvis 1996, 7).

3. METHODOLOGY

3.1 AIMS AND OBJECTIVES

3.1.1 **Aims:** the site is of national importance being the earliest dock of this type to be established in Britain; however, it has not been designated as a scheduled monument as until the present the survival of the dock was unknown. The wider aims of the project were as defined within the project brief (Section 8 and 9):

- to assess evidence of activity and settlement relating to the development of the town and growth of Liverpool as a port;
- to assess any remaining deposits relating to the early coastal environment.

3.1.2 **Objectives:** the principal objectives were as follows:

- to assess the condition and survival of the Old Dock, establish construction methods, and examine the relationship with Pool deposits.
- to assess evidence for waterfront activity: domestic occupation, industrial activity and commercial activity;
- to assess evidence for the Pool, looking at marine and alluvial deposits, and to examine evidence of the changing estuarine environment.

3.2 EVALUATION METHODOLOGY

3.2.1 The evaluation trenching comprised two discrete components. The first involved a number of trenches to investigate the anticipated position of the dock and was primarily intended to define the position of the dock and the survival of its uppermost part. The second component comprised two trenches intended to record the profile and fill of the dock.

3.2.2 **Trenching - Position and Extent of Dock (Fig 6):** it was defined in the project design that nine 2m x 10m evaluation trenches be excavated in the areas identified by cartographic sources as being the most likely location for the dock walls, to determine the quality, extent and importance of any archaeological remains on the site. The design was based on an understanding from earlier explorations that the top of the dock wall was likely to be at a depth of c2m below ground level, yet the maximum safe depth for an unshored excavation is 1.2m. It was therefore proposed to excavate at the outset 4m by 12m trenches and to step in by 1.2m after excavating to a depth of 1.2m. No shoring was to be used for these trenches, and excavation was therefore limited to a depth of 2.4m below the present ground surface.

3.2.3 However, due to the presence of services on the eastern side of the site, which included high-voltage electricity cables, and the presence of gas and high-voltage cables on the north side, the excavation of two trenches had to be abandoned. Furthermore, the depth of sensitive archaeological deposits and structures was found to be deeper than expected, with the top of the dock wall and associated deposits identified at average depths of 2.8m from the surface. It was therefore necessary to excavate the trenches on the south side to a maximum depth of 3m by effectively widening the trench and adding a further step, in order to assess the

archaeological deposits. The excavation of the first two trenches (Trenches 1 and 2) did not extend to sufficient depth to evaluate the archaeological deposits adequately and they were linked to form a larger open area excavation (Trench 1/2b), which was then excavated further. Trenches 4 and 6 were both excavated by double stepping to depths of over 3.2m. Two trenches (Trenches 3 and 5) were excavated on the north side of the site, across the pavement of the road, in the small space between the gas pipes and the commencement of the high-voltage cable network; despite this caution, several services were in fact encountered within these trenches, including a low-voltage electricity cable for the overhead lights, water pipes, and ducts taking telephone and traffic control cables. These were supported and excavation continued beneath the services. In the event seven of the locational trenches were excavated.

- 3.2.4 In all trenches, the modern surfaces were removed by machine (fitted with a toothless ditching bucket) under archaeological supervision. The mechanical excavation was undertaken in level spits (c150mm deep) down to the level of the uppermost significant archaeological horizon. Any features identified by the machining process, together with the immediate vicinity of any such features, were cleaned by hand and where appropriate sections through the deposits were excavated and drawn.
- 3.2.5 It had been anticipated that elements of the Customs House would be identified during the evaluation, and that these structural elements would require recording prior to removal. However, only one trench (Trench 6) was positioned in the footprint of the Customs House, and this did not yield any structural evidence, the remains of the building having been removed with the construction of Steers House in the same location.
- 3.2.6 Any investigation of intact archaeological deposits was by half-sectioning, linear features being subject to no more than a 25% sample, and extensive layers were, where possible, sampled by partial rather than complete removal. It was hoped that, in terms of the vertical stratigraphy, maximum information retrieval would be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, was undertaken with a view to avoiding damage to any archaeological features which appear worthy of preservation *in situ*.
- 3.2.7 **Trenching - Wall Profile and Dock Interior (Fig 6):** upon completion of the first phase, two trenches were selected for deeper excavation to a depth of up to 5m below the present ground surface, in order to examine the depth of the dock, the construction and profile of the walls, and any encountered backfill deposits or silts within the dock itself.
- 3.2.8 The excavation of the deep trenches necessitated shoring to stabilise the sides and this was done under the guidance of a shoring contractor to satisfy health and safety regulations. The method used was box shoring, within a 5m x 2m trench, with an open side of the box against the dock wall. The box used measured 1.5m in width by 4m in length, and was 2.5m deep. The opposite end of the trench to the wall was shored with vertical sheet piles. The depth of excavation with box shoring was limited to 4m below the base of the step in, which would mean a maximum depth of 5m below ground level. The box was placed out from the identified edge of the dock wall to allow for the slope in of the dock wall, and sheet piles were set between the edge of the box and the dock edge. All shoring operations were undertaken by an experienced and appropriately qualified shoring contractor for

such works, who acted as lead contractor with responsibility for health and safety on site.

- 3.2.9 The excavation of the dock infill was undertaken primarily by mechanical excavation under archaeological supervision. Excavation was carried out by a 13 ton 360° machine, and was undertaken in shallow spits (0.25m deep). The base of each spit was subject to manual cleaning and recording. The stratigraphy was recorded as excavation proceeded; a manual section drawing was made in horizontal bands prior to each lowering of the box shoring, as there was no opportunity for the full exposure of a trench section due to the presence of the box.
- 3.2.10 The first deep trench, Trench 7, was excavated immediately west of Trench 4, in order to expose a further section of wall in an area where services were absent. On the north side, given the presence of services it was agreed as a variation to the project design by Sarah-Jane Farr that Trench 3a was re-excavated to a greater depth, rather than any attempt be made to excavate a further trench.
- 3.2.11 Trench 7 was excavated to a depth of 5m below the surface and a 1m deep sondage was excavated to a maximum depth of 6m below the surface. At this depth (0.7m AOD) saline ground water was reached and it was not possible to excavate further into the waterlogged sand deposits.
- 3.2.12 Trench 3a was excavated to a depth of 4m, at which depth humified organic silts were identified. Following the exposure of these organic deposits in the deep trench, excavation was discontinued for health and safety reasons, as noxious gases were identified. Subsequent analysis of the organic deposits revealed relatively high concentrations of dichloroethane (27.5 ppm (Casella 2001; *Appendix 4*)), at a depth of 1m below the surface of the organic deposits. Much higher concentrations of the same chemical (224 ppm (Testconsult 2001)) were identified on the top of this deposit. The chemical is a solvent which is insoluble in water and potentially had percolated through the overlying sand deposits before collecting as a layer on top of the waterlogged organic deposits. The source of the chemical is not known but the symptoms experienced by the excavation staff, coupled with the analysis results, would indicate that it was present in high concentrations at the interface between the organic silts and the pink sand. On the recommendations of the health and safety officer for Liverpool City Council the site was backfilled and no further excavation was undertaken.

3.3 RECORDING METHODS

- 3.3.1 The recording methods employed by LUAU accord with those recommended by English Heritage's Centre for Archaeology. Recording was in the form of *pro forma* Context Sheets for each of the features identified, together with accompanying hand-drawn plans and sections where necessary. A photographic record was maintained and any finds recovered were bagged and recorded by context.
- 3.3.2 The position of each trench was recorded using a total station and data-logger. The digital survey data were transferred, via DXF file format, into a CAD system. The archaeological detail was drawn up in the field with respect to field plots of the survey data and these edits were then transferred onto the raw survey data within the CAD system. The elevation of the wall within the deep Trench 7 was recorded by rectified photography which was subject to vertical correction using Archis software. The elevation of the wall in Trench 3b was recorded by reflectorless total

station, from outside the trench, and semi-rectified photography was taken of the wall from inside the trench (by a health and safety specialist using respirator equipment). The elevation photographs were corrected using Archis software and the data were combined with the accurate digital data from the reflectorless instrument to create a final elevation drawing.

3.4 FINDS STRATEGY

- 3.4.1 All artefacts and ecofacts were recorded using the same system as the contextual information, and were handled and stored according to standard practice, following current Institute of Field Archaeologists' guidelines. The assemblage was subject to analysis by the LUAU in-house finds specialist and the results are presented in *Section 4.6*.

3.5 PLANT MACROFOSSIL ASSESSMENT

- 3.5.1 **Quantification:** a single bulk sample of 30 litres was taken from waterlogged clay deposits [223] which directly overlay the Pool deposits, [206], from Trench 1/2b. These deposits will relate to the period of construction and use immediately prior to the construction of the Old Dock. A further sample (<1 litre) was taken from the contaminated silty clay deposit in Trench 7, [237], for chemical analysis. These samples were then subsequently assessed for plant macrofossils.
- 3.5.2 **Preparation:** ten litres of the waterlogged clay, [223], directly overlying the pool deposits, was wet sieved through a series of sieves with mesh sizes of 2mm and 500 μ . The contaminated sample from the sample from Trench 7, [237], was washed twice with methanol to remove the dichloroethane contaminant, then soaked in a dilute solution of Na₂CO₃ to disperse the clay, and then finally was wet sieved. A small representative sample from each of the residues was examined with a low power Wild/ Leitz stereozoom microscope to assess for plant macrofossils; these were recorded on a scale of 1-5 (where 1 = rare; 5 = very abundant).

3.6 ARCHIVE

- 3.6.1 A full archive of the evaluation programme has been produced to a professional standard in accordance with current English Heritage guidelines (English Heritage 1991). The finds will be deposited with the Liverpool Museum (Accession No. Liv.2001.23) along with the paper archive. In addition, a copy of the report will be forwarded to the Merseyside Sites and Monuments Record.

4. EVALUATION RESULTS

4.1 INTRODUCTION

4.1.1 The programme of work consisted of several phases of trenching, which occurred at different times during the sequence of works on the site. The descriptive analysis of the trenches has been broken down into the individual areas in which they were concentrated in order to clarify the dataset. The site has been sub-divided into four areas: the South-West Area (Trenches 1, 2 and 1/2b), the South-Central Area (Trenches 4a, 4b and 7), the South-East Area (Trench 6) and the Northern Area (Trenches 3a, 3b and 5).

4.2 THE SOUTH-WEST AREA (FIG 7, 12 AND 13)

4.2.1 **Trench 1:** Trench 1 was excavated in the south-west corner of the study area and was aligned north/south. The outer trench measured 12m in length and 4m in width, and was excavated to a maximum depth of 1.25m. The inner trench was stepped in 1.2m from the edges of the outer trench, and measured 10m by 2m. This inner trench was excavated a further 1.25m in depth, giving a total trench depth of 2.5m.

4.2.2 The upper deposits uncovered in the trench consisted of approximately 2.2m of crushed concrete overburden [101], laid as hardcore for the car-park and resulting from the crushing of the rubble from the 1960s development on the site. At the very base of the inner trench, a deposit of compacted dark brown/black mixed sandy clay containing a large quantity of brick, slate, wood and pottery, [102], was uncovered; this measured at least 3m in length, 0.8m in depth and extended across the full width of the trench. This was a demolition deposit and was originally assessed as being contemporary with the demolition of the Customs House. Most of the ceramics recovered from the deposit had a twentieth century provenance, though it is now considered that the later pieces were residual from the horizon between the hardcore and the demolition deposit.

4.2.3 The deposit sealed a wall, [103], approximately 1.65m long and 1.2m wide, which ran east/west across the centre of the trench; the deposit appeared to be a result of tipping down the front of the wall, particularly as there was no clear base to the deposit. The wall was made of coarse hand-made brick bonded by degraded lime mortar, and was faced on both sides; the top of the surviving section of wall stood at 4.25m AOD. A sondage on the north side of the wall exposed the structure to seven courses in depth, before health and safety restrictions necessitated the suspension of excavation at the base of the trench. The wall was butted on the south side by a concrete surface [105], and on top of this surface had been poured a large deposit of concrete, [104], which was thought to be laid at the time of demolition as it was overlain by [102]. Most of the other deposits also overlying the wall were derived from demolition as well, and included small lenses of blue-grey plastic clay [107], attached to the wall and banding through deposit [102]; and [106], a layer of degraded yellow sandstone to the rear of the wall. It was concluded that the wall was reasonably late in the sequence of events for the site, but an assessment of the documentary evidence demonstrated that the wall lay some way outside the original Customs House complex and could not therefore have related to that structure. It

was, however, on the line of the Old Dock wall, and the possibility remained that this was still part of the original dock, though this did not solve the problem of the direct association of a concrete surface with the wall (concrete was not used on a commercial scale until the 1840s (Jones 1996)) and the fact that the wall was faced on both sides, which would suggest that it was a free standing wall. It was therefore decided to re-excavate the trench at a later date and to a deeper depth, in order to further clarify the nature of the wall and its associated deposits. This was named Trench 1/2b (*Section 4.2.7*). Trench 1 was temporarily backfilled but otherwise not reinstated.

- 4.2.5 **Trench 2:** Trench 2 was excavated in the south-west corner of the study area, immediately to the south-west of Trench 1, and was aligned east/west. The outer trench measured 13m in length and 4m in width, and was excavated to a maximum depth of 1.25m. The inner trench was stepped in 1.2m from the edges of the outer trench, and measured 10m by 2m. This inner trench was excavated a further 1.25m in depth, giving a total trench depth of 2.5m.
- 4.2.6 The first deposit uncovered consisted of 2.4m of crushed concrete, [101] identical to that uncovered in Trench 1. At the base of the trench, to the west the same brownish black clay silt demolition deposit, (here [159]), was also uncovered, measuring 2.9m in length. To the east of this the deposit abutted a soft pink sand deposit, [108], measuring 3.9m in length, which in turn abutted a soft yellow sand deposit, [109], measuring 1m. Extending further east, deposit [159] was again visible for approximately 2.6m. None of these deposits were fully investigated as the maximum depth allowed for a single stepped trench had been achieved. As the results in the south-west corner had proved largely negative, as a result of the depth of the hardcore, it was decided to re-excavate this trench, at the same time combining it with Trench 1, to produce a larger open area: Trench 1/2b (*Section 4.2.7*). Trench 2 was temporarily backfilled but otherwise not reinstated.
- 4.2.7 **Trench 1/2b:** Trench 1/2b involved opening up a considerably larger area than had been previously anticipated in the project design in order to achieve a deeper trench which could resolve the archaeological uncertainties within this area. Furthermore it was hoped that by locating the 'kink' on the south side of the dock, where it widened, the exact orientation of the dock would be established. The trench covered the area immediately north of Trench 2 and west of Trench 1, and both Trenches 1 and 2 within its overall area, and was opened by machine. However, due to the instability of the backfill in Trench 2 and its proximity to the edge of the site, the base of the trench was not excavated any deeper than previously, and Trench 1 was only excavated sufficient to relocate the wall uncovered during the initial excavation (wall [103]), however, it did allow for deeper excavation between the two trenches. The first step of the trench measured 15m by 14.5m approximately, with its north-west corner battered for safety. The trench was then stepped in 1.2m, and an area measuring 10m by 10m approximately, was machine excavated a further 1.2m deep. Further investigations were then undertaken from this level, which equated to the original depth of Trenches 1 and 2, machine excavating a further 1.2m to bring the total trench depth to 3.6m.
- 4.2.8 A series of concrete piles, [205], measuring approximately 0.38m across, was encountered in a concentration on the west side of the trench. Eleven were uncovered in total, each with steel reinforcing pins within the centre. These piles were linked by a concrete pile-cap which consisted of a thin concrete layer poured

around the piles to provide support. The area of piling covered an area of 4.4m by 3.45m, and appeared to continue to the north, south, and west beyond the trench margins. The pile-cap was removed by machine but the piles were left *in situ* as it would have been impossible to remove them. The cap measured between 0.25m and 0.6m in depth, and beneath the cap archaeological deposits were encountered. The archaeological deposits consisted of a deposit of soft pink gritty sand [207], which abutted a light bluish grey firm clay [206], containing occasional bricks and lumps of sandstone, particularly along the interface of these two deposits. The interface formed a clear line running north-north-east/south-south-west and continuing beyond the trench margins to the north and south; this appeared to correspond closely to the shape and position of the documented dock wall's 'kink'. The concrete cap had been covered over with a redeposited layer of these deposits, mixed with a demolition layer, which was the deposit initially encountered in Trench 2 as pink sand [108] and brownish black clay silt demolition deposit [159].

- 4.2.9 It was established from trenches excavated in other parts of the site, that the dock had been backfilled with pink sand in 1826, which explained the provenance of deposit [207]. In other trenches, where the dock wall had also been identified, it was also discovered that the blue-grey clay ([206] recovered in this trench) was invariably present to the rear of the wall. It was therefore concluded that the clay was in fact the original clay of the Pool into which the dock was dug around 1715, and represented the earliest deposit on site. The interface encountered in this trench, however, did not reveal an intact wall, with only a narrow line of crushed sandstone and broken brick along the interface to show where the wall would have been, it should be borne in mind, though, that the wall will almost certainly survive at some greater depth, as documentary sources indicate the original wall was 7.2m (24 feet) deep (Jarvis 1996). Based upon the evidence from Trench 1, it was decided to excavate further north of this interface, to try and pick up a surviving section of walling beyond the piling, and also to the east of the piles to highlight what deposits survived here.
- 4.2.10 To the east of the piles, a sandstone structure, [211], (Fig 13) was encountered, at approximately 4.45m AOD and directly beneath hardcore deposit [101]. This consisted of a series of large dressed yellow sandstone blocks forming an area of irregular paving approximately 1.8m square. The blocks were one course in depth, measuring approximately 0.4m, and the paving was made up of 12 blocks aligned approximately west-north-west/east-south-east (aligned roughly with the same axis as the clay-sand interface to the west). The paving had been disturbed and was fairly uneven, as it lay directly beneath crushed concrete deposit [101]; only a shallow yellow sand deposit lay between the structure and the hardcore, and it was this yellow sand, formed by the degrading of the sandstone, which had been encountered in Trench 2 as [109] (See above, *Section 4.2.6*). The structure was very similar in construction to the sandstone elements of the dock wall encountered in other parts of the site, and is interpreted as a surviving section of the quayside. The correspondence of its alignment to that of the (now destroyed) dock wall indicates that at one time this quayside would have continued up to the dock wall itself.
- 4.2.11 Beneath the quayside were two deposits, [222] and [223], which appeared to be contemporary with each other, both directly above the blue-grey clay, [206], identified as the original Pool deposits; both were seen in the west-facing section where the pile caps and piles, [205], had cut through the deposits. To the south of this section was a small lens of very clean greyish blue loose sand, [222], which is

interpreted as either a lump of degraded stone or a small dump of sand. This deposit measured 0.5m in length by 0.2m in depth, but was of uncertain width. To the north of this was a more sizeable deposit of dark grey black firm clay sand, [223], measuring 1.7m in length by 0.35m in depth and also of uncertain width. The deposit contained a number of inclusions, particularly charcoal and wood-shavings, and among the items recovered from it were flints from flint-lock pistols, leather, and caulk (horse-hair and pitch) which was used to water-proof boats. Although only a small section was uncovered, it appears to indicate an area where ship-building may have occurred, and as such complements known documentary evidence (MacLeod 1982).

- 4.2.12 To the east of the quayside, deposit [223] was visible only as a narrow strip along the edge of the trench, c0.35m wide. Fortuitously, a large timber, [212], had survived just inside the trench and within this deposit. The timber was a complete trunk, preserving some sections of bark along its length, and showed evidence of working where the small branches had been lopped or sawn off. It measured a minimum of 0.4m in diameter and 4.1m in length, and was aligned east/west, approximately parallel to the line of the dock. The timber extended beneath the surviving section of quayside to the west, and beyond the trench margin to the east, and it is likely to have been either a residual timber left behind in ship-building, and deliberately sealed beneath the quayside to give greater stability to the structure, or that it was laid down during construction of the quay and dock to provide a stable surface. In either case, the timber, and both deposits, pre-date the dock and therefore belong to a period earlier than 1715.
- 4.2.13 The survival of the timber is remarkable in that it was so close to the horizon between the hardcore and the deposit in which it was embedded; perhaps slightly more remarkable is that a large section of piling also missed the timber, only 0.35m to the north, and would have completely obliterated the wood had it been any further south. This piling was identical in structure to [205] to the west, though it seemed to consist of fewer piles in total. The piling was cleared northwards and was found to be the concrete surface which had been originally identified in Trench 1 as [105]. The engineers building the 1960's structures must have uncovered the wall and used it as a buffer for the insertion of the concrete, resulting in the earlier problem of interpretation, when it was believed that the surface was of the same date as the wall; the deposits overlying the concrete were clearly redeposited in the same way as those overlying [205]. The archaeology encountered between the two sets of piling represents, therefore, a surviving strip of undamaged deposits c3m wide and at minimum 8.5m in length.
- 4.2.14 North of the quayside, along the surviving strip of deposits, further destruction was encountered in the form of a deposit of redeposited pink sand (from the dock backfill) mixed with lumps of concrete rubble, brick and mortar fragments, [224], which clearly dated from a similar period to the insertion of the piles, and which cut into the underlying deposits of grey clay, [223]. This deposit measured approximately 2m in length by 1.5m in width, and was 0.5m in depth.
- 4.2.15 Clear evidence was also uncovered to the north of this deposit of a concerted effort to demolish the dock wall, probably at the time of the construction of the Customs House in 1826. It was evident that stone had been systematically robbed from the quayside and dock wall; a deposit corresponding in depth to that of the quayside was encountered, [221], which consisted of a yellowish-brown, stiff sandy clay

with a large percentage of sandstone fragments throughout, indicating destruction and removal of the stone. This deposit (measuring 2.4m in length, approximately 3m in width, and 0.35m in depth) appeared to dip northwards, and was overlain by further demolition deposits of a similar date and nature. Immediately overlying this was a large deposit of very compacted crushed sandstone in a gritty matrix, [225], which held within it a lens of dark black gritty ashy clay, [227], seen in the west-facing section. The crushed sandstone [225] measured 1.2m in length, 3m in width and 0.3m in depth, while the lens measured 0.8m in length, 0.2m in depth, and was of uncertain width. Overlying [225] was a further deposit of crushed sandstone within a blackish grey silty matrix, [226], measuring 1.5m in length by 3m in width and approximately 0.3m in depth.

- 4.2.16 All the demolition deposits appeared to be abutting a line of yellow sandstone blocks to the north, which were the rear of the section of the dock wall which ran east/west to meet the corner of the 'kink' of the dock. A sondage measuring 1.6m in width by 3.7m in length was excavated to the north, to assess the condition of this wall (this section of wall was numbered [208]). The sandstone blocks consisted of a series of three rectangular worked stones which appeared to have been used to line the back of the wall. The crushed sandstone demolition deposit, [106], encountered in Trench 1, to the rear of wall [103], appears to correspond to deposit [226], and both appear to have been the result of the degradation and destruction of these blocks. The top of the uppermost sandstone block lies at 4.45m AOD, directly comparable with the height of the quayside to the south; this suggests that this stone would originally have been part of the top coping of the wall.
- 4.2.17 The brick wall [208] encountered in the trench extension, was identical in alignment and construction to that uncovered in Trench 1 [103] (*Section 4.2.3*), and added weight to its interpretation as the dock wall. The wall was severely truncated in this section, with only one or two courses visible across most of the base of the trench; the original line of the wall was only visible in some sections where a deposit of mid purple pink clay-sand, [228], had settled into the recesses left by robbed stones. A small section of approximately seven courses survived within the section, stepping up to the east. The bricks were coarse and hand-made, as identified in Trench 1, and were bonded with lime mortar. It is estimated that the original wall in this section would originally have stood to around 14 courses, with the sandstone coping set along the top of the wall; this section would therefore have stood *c*1.3m to the base of the trench. The top of the wall, as seen in Trench 1, was at *c*4.25m AOD, which suggests that the uppermost of the surviving bricks in that trench were the upper courses and only the sandstone coping has been lost from the top.
- 4.2.18 To the rear of the wall the blue-grey clay of the Pool deposits, [206], was identified, into which the dock had been cut. North of the wall were two vertical timbers, [213], (Fig 18) abutting the wall itself and these seem to have been fenders to prevent ships hitting the dock sides. The timbers, made of oak, were mainly rectangular in cross-section, though they appeared to become oval further down, suggesting smoothing by water-action. The longest of the timbers measured 1.05m in length, and had a cross-section of approximately 0.3m.
- 4.2.19 All the deposits overlying the wall and surrounding the fenders apparently originating from the demolition of the Custom's House. Directly overlying the wall, and also visible in a lens over the sandstone coping stones, was a dark greyish black

gritty gravel deposit [210] which contained a large percentage of crushed sandstone, and appeared to be similar in nature to [226] south of the wall. Overlying this, and filling most of the upper dock area, was a deposit of dirty black gritty clay sand, [209], which contained a large number of inclusions, including lumps of pink clay, small brick fragments, mortar flecks, sandstone fragments, and occasional sandstone lumps. This corresponded closely to demolition deposit [102] encountered in Trench 1, and was overlain by a series of interleaving demolition deposits, consisting (from the base upwards) of: a gritty grey clay sand lens, [215], containing a large amount of mortar, brick and sandstone fragments; a series of firm pink clay lenses [214]; a series of blue-grey plastic lenses, [216], which seemed to be the same as those in Trench 1 (here numbered [107]); a gritty sandy clay silt, [217], containing brick, sandstone and mortar fragments, and pea-grit and small stones; a dark grey black gritty clay, [219], also containing a few brick and mortar fragments; and a soft brown clay sand, [220], containing much mortar within it. These were all identified in the west-facing section.

- 4.2.20 The excavation was stopped at a depth of 3.6m below surface because of health and safety restrictions for unshored trenching, however, at this depth the base of the trench was the pink gritty sand [207] that made up the backfill of the dock for the Customs House, and the wall was observed to be continuing down below the floor of the trench. On completion of the excavation, the uncovered timbers, and the sections of wall and quayside, were covered with plastic sheeting and the trench was backfilled.

4.3 THE SOUTH-CENTRAL AREA (FIGS 8, 15 AND 17)

- 4.3.1 **Trench 4a:** Trench 4a was excavated in the south-central section of the study area and was aligned north/south. It measured 13m in length and 5m in width, and was excavated to a maximum depth of 1.2m, before being stepped in 1.2m, the inner part measured 10m by 2m. This was excavated a further 1.2m in depth, giving a total trench depth of 2.4m.
- 4.3.2 The deposits encountered consisted of approximately 2.2m of crushed concrete overburden, [101], with no other deposits visible within the trench sections. This concrete was identical to that encountered in other areas, and resulted from the crushing of the demolition debris from the 1960s development on the site. At the base of the trench, a mixed deposit of dark brown sand and clay, [156], containing large amounts of brick rubble, wood and pottery, was uncovered. This was cleaned, but no other deposits were visible. The deposit was not investigated as the maximum depth for a single stepped trench had been reached.
- 4.3.3 Two sondages were excavated mechanically within the base of the trench, to assess the profile of the deposits and to attempt to locate the dock wall. The first sondage was excavated in the north of the trench, with staff observing its excavation from the trench edge for safety reasons. Deposit [156] was removed to a considerable depth, in the region of 1.2m, before a deposit of pink sand was encountered (later identified as dock backfill [158] in Trench 4b). The sondage had been excavated between two sets of piles, to the north and south, which prevented further excavation. A second sondage was therefore excavated at the southern end of the trench. This showed a similar depth for deposit [156], but also succeeded in uncovering a small section of walling, overlain by yellow sandstone rubble. Given

the depth of the sondage, it was decided to widen and deepen the existing trench to examine this structure; this enlarged trench was excavated and recorded as Trench 4b.

- 4.3.4 **Trench 4b:** Trench 4b was centred on the area originally occupied by Trench 4a, with the main deep section running east from the edge of the second sondage. It measured 10m by 15m, with a battered entry point on the west side to allow for ease of movement for the machine. The trench was stepped in 1.2m on the north, east and south sides, to give an inner area of 5.2m by 9.8m, which was further excavated for 1.2m. This was in turn stepped in by 1.2m. The deepest section of the trench was 3.6m by 5.6m in extent, and was excavated for a further 1.2m, giving a total trench depth of 3.6m.
- 4.3.5 The main material encountered in the deepest section of the trench, was deposit [156], again a mixed dark brown sandy clay, containing large amounts of brick rubble, wood and pottery. This formed a clear band across the trench, measuring between 0.5m and 1.2m in depth, and appears to have resulted from the disuse of the dock around 1826. It was similar in nature to deposits [102] and [209], in Trench 1 and Trench 1/2b (*Section 4.2.19*), and was clearly a demolition deposit. This sealed all the other archaeological deposits and structures within the trench.
- 4.3.6 The section of dock wall uncovered in this trench was numbered [155]. It measured 3.2m in length and 2.05m in width; due to depth constraints only the top two courses of the wall was exposed. It consisted of 25 horizontally laid blocks of yellow sandstone, with the dock edge faced by four large rectangular flat blocks (Plates 7 and 8). A further line of nine blocks was visible at the rear of these facing blocks, and it seems likely that these mark the back edge of the dock wall. While these blocks define a rear edge of the wall, they do not represent a dock face comparable to the opposite northern facing side of the dock wall, the implication is that this was indeed an earth retaining wall rather than constructed as a free standing wall which was then backfilled against the rear face. The blocks further south are likely to be the remains of the quayside, which would have been built directly onto the original Pool deposits. The western-most facing block projected forward from the face, and into the dock, by c0.15m, and appeared to have a small step cut into its top; the purpose of this component is unknown, but it was a deliberate structural element within the dock wall. The wall appears to have been constructed entirely of sandstone at this juncture; the second course exposed was also made of yellow sandstone, and no brick was identified within this section of wall. The top was approximately 3.7m AOD, which was approximately 0.7m lower than the wall and quayside encountered in Trench 1/2b. It had been truncated by two areas of disturbance, probably from piling, which were visible as spreads of concrete at the west end of the wall and in the middle of the south side.
- 4.3.7 To the north of the dock wall, the pinkish red sand backfill of the dock, [158], was again encountered. This was a very clean deposit containing fragments of red sandstone but no other finds, and measured 1.6m by 3.2m. Only approximately 0.2m of the deposit was removed during excavation, to show the wall-frontage. To the rear of the wall was a deposit of dark greyish brown sandy clay, [157], which was very compacted and organic in places, and contained a number of fragments of wood and some eighteenth century pottery (*Appendix 5*). The deposit measured 3.2m by 2.1m and was similar to deposits [206] and [223] exposed in Trench 1/2b. This deposit was cut by a pile in the south-west corner of the trench, and was

truncated by an area of disturbance which also truncated the dock wall. Deposit [157] is likely to be the remains of the original Pool deposits, into which the dock was dug, and therefore predates the construction of the dock.

- 4.3.8 Upon completion of the excavation, the wall and quayside were lined with plastic sheeting and the trench was backfilled.
- 4.3.9 **Trench 7:** Trench 7 was the first of the deep trenches excavated to examine the depth of the dock and its deposits (*Section 2.4*). The original intention was to re-excavate Trench 4b to follow the dock wall down; however, following a request from the Merseyside Archaeological Officer (Sara-Jane Farr *pers comm*), it was decided to excavate a new trench to the west of Trench 4, to expose a further section of wall. The deep trench was therefore excavated approximately 6.9m to the west of the central part of Trench 4b, to avoid the danger of re-excavating loose backfill from that trench.
- 4.3.10 The trench measured approximately 10m square, though an 8m long ramp was also excavated on the north side to allow the machine access to the centre. It was excavated to 1.2m in depth, then stepped in by 1.2m, to create an area aligned north/south, measuring approximately 7.5m square, again with an access ramp on the north side. This was also dug to 1.2m in depth and was again stepped in by 1.2m to create a central area measuring 5.2m by 2m, at approximately 2.4m below ground level. Box-shoring, was installed in the central area under the guidance of a shoring contractor to satisfy health and safety regulations. The box was 2.5m in depth, and thus the deepest part of the trench was 5m below ground level (in this case 1.49m AOD). A further sondage was excavated to a maximum depth of 6m below surface.
- 4.3.11 The main deposit encountered during the initial machining was the crushed concrete overburden [101], which covered the whole site and resulted from the crushing of the demolition rubble from the 1960s buildings on the site. This was excavated to a depth of 2.4m within this trench. Beneath this was a deposit of demolition debris, [229]. This was a dark brown gritty sandy clay layer containing crushed sandstone, brick fragments, mortar and lumps of grey clay and was identical to deposit [156] in Trench 4b to the east. It appears to have derived from the demolition and backfilling of the dock, since it directly overlay the dock wall, [230], at about 0.3m depth above the wall, thickening to 1m in depth to the north where it tipped into the dock.
- 4.3.12 The dock wall (Fig 15) in this section had a vertical face, which in places was mainly sandstone and in others of brick. The wall had yellow sandstone coping along its top, which had been mostly truncated by the insertion of a concrete stanchion, which was removed with the overburden. The height of the wall at the top of the coping was 4.26m AOD, which was 0.2m lower than the quayside and wall in Trench 1/2b, but was approximately 0.5m higher than the wall encountered in Trench 4b. The wall beneath the coping included sandstone in its structure, which stepped down from the top towards the west, and was interlaced with brickwork (Plate 5). The wall as was exposed comprised 32 courses of brickwork in English bond (alternating courses of stretchers and headers) on the east side of the face, the west side only showing about ten courses, due to the stepping of the trench; a further ten courses were exposed at the base of the trench through the excavation of a sondage against the wall (Plate 5). As in the other trenches, the brick was hand-made and coarse. The total walling exposed a c3.7m height of wall

face. The stepping down of the sandstone coping towards the west seems to reflect considerable irregularity in construction and may have been the result of the dismantling and rebuilding of the wall which occurred during the launching of ships into the dock, and which is recorded in documentary evidence (MacLeod 1982).

- 4.3.13 A vertical timber, [233], had been fixed to the wall in a similar manner to those identified in Trench 1/2b ([213]). This appears to have been of oak and was riveted to the top of the wall with a large iron rivet. The cross-section of the timber showed it to be roughly rectangular, though heavily smoothed by water action. It ran the full depth of the wall, measuring at least 3.4m in length and 0.3 in width and can be interpreted as a fender.
- 4.3.14 The wall was cut into a deposit of mid grey clay, [231], to the rear of the wall, which contained occasional wood fragments. Only a small section of this was exposed, measuring 0.3m by 0.75m, and it was not excavated, but it seems probable that it represents the early Pool deposits into which the dock was constructed, as identified in Trenches 4 and 1/2b.
- 4.3.15 The dock was entirely backfilled with a uniform soft pink sand, [234], which contained small fragments of pink sandstone (this backfilling is documented as having occurred in 1826). Sand [234] contained a lens of dark brownish black organic sandy silt, [232], which contained a great deal of brick fragments, roofing slate, pottery, glass, wood and clay pipe stems; the lens tipped down from the dock wall at approximately 30° and measured 0.2m in width and approximately 2.1m in length. A further lens was also encountered within [234], consisting of a loose grey gravel, [235]; this measured only 1m in length and 0.3m in width, but both appear to consist of material tipped into the dock from the quayside. The sondage excavated at the base of the trench exposed a further 1m of pink sand, with water beginning to fill the hole about 0.7m AOD. The deposits at the base were cored, but revealed only pink sand to 1.4m below the trench base (approximately 0.1m AOD). No further deposits were identified.
- 4.3.16 Upon completion of the excavation, the wall and timber was covered with plastic sheeting and the trench was backfilled.

4.4 THE SOUTH-EAST AREA (FIG 9)

- 4.4.1 **Trench 6:** Trench 6 was excavated in the south-east corner of the study area, and was aligned north/south. It was excavated within the footprint of Steers House (one of the 1960s office buildings on the site), and also the nineteenth century Customs House. The trench was intended to be a deep stepped trench from the outset, as evidence from earlier trenches clearly indicated that the carpark deposits would be at least 2.4m thick. The trench measured 16m in length and 9m in width overall, and was excavated to a maximum depth of 1.2m, before being stepped in 1.2m to create an area of 12.6m by 6m. This was excavated a further 1.2m in depth, before being stepped again to give an area 8m by 3m, which was machined to 1.2m, giving a total trench depth of 3.6m.
- 4.4.2 The first deposits uncovered in the trench consisted of approximately 2.8m of crushed concrete overburden [101], laid as hardcore for the carpark and resulting from the crushing of demolition debris from the 1960s development of the site. Beneath this was a layer of demolition rubble in a gritty brownish black matrix,

[201], which was machined to a depth of 0.8m and was seen to cover the whole of the trench. This had been cut in the south-east corner by a concrete stanchion, measuring 0.85m by 1.2m, which was inserted when Steers House was built. Contained within it were three very large, pink sandstone blocks, [203], that had been clearly tipped into the deposit, as they lay at an angled. The blocks varied in size, but the largest measured approximately 0.8m cubed. A sondage was excavated adjacent to one of these to assess whether these stones were structural, but this proved not to be the case.

- 4.4.3 Excavation of the trench failed to uncover evidence of the dock wall at the maximum trench depth. Sections of the wall may yet survive at a deeper level, however, as the wall originally measured 7.2m (24 feet) in height, according to documentary sources (Jarvis 1996). It appears that the wall has been truncated in this section by the construction of the basements for the Customs House in the nineteenth century, which are known to have extended beyond the wall-line in this south-east corner. Indeed the sandstone blocks appear to relate to the Customs House rather than the dock. No trace was found of the concrete slab that formed the floor of the Steers House car park, which was believed to be still *in situ* in the area. The trench was backfilled following recording.

4.5 THE NORTHERN AREA (FIGS 10, 14, 18 AND 19)

- 4.5.1 **Trench 3a:** Trench 3a was excavated on the north side of the study area, across the pavement, and was aligned north/south. It measured 7.2m in length and 4.85m in width overall, and was excavated to a maximum depth of 1.0m. It was then stepped in 1.2m to create an area 5m by 3.3m. This was excavated for a further 1.5m in depth, giving a total trench depth of 2.5m. The trenches were shorter than the predicted 12m (*Appendix 2*), since a concrete wall was encountered to the south. A number of services crossed the trench and these had to be supported on baulks leaving irregular areas between them that were available for excavation.
- 4.5.2 The overburden consisted of flags and sand for the pavement and a layer of tarmac forming the road surface, below which most of the trench consisted of overburden deposits associated with modern services and pipe trench cuts (numbered as fill [112] and cut [113]). These formed approximately 1.2m of the upper deposits of the 'pavement' area of the trench. Below the roadway, the overburden consisted of a series of rectangular sets, lying on top of a concrete surface [238]. These deposits formed the upper 0.4m of the 'road' area.
- 4.5.3 Beneath the concrete of the 'road' was a series of broken road deposits, the earliest of which was contemporary with the construction of the Customs House in 1828. Deposit [141] was a firm gritty black sand layer, measuring 1.5m in length by 1m in width and 0.22m in depth, and was found to interleave with deposit [142], a gritty greeny-grey clay sand, which measured 2.1m in length by 1.2m in width and 0.22m in depth. Both overlay a compacted grey gravel and gritty sand deposit, [143], measuring 1.5m in length by 1m in width and 0.13m in depth, which lay adjacent to a patch of brown green stony rubble, [144], that measured 1m square and approximately 0.15m in depth. These were found directly overlying a cobbled surface, [110], measuring 2.7m by 1.3m, and 0.2m in depth. This was curved on its south and west sides, and consisted of closely packed rounded waterworn beach pebbles, kerbed with larger stones along the edge. The cobbles appear to have been

set into a gritty yellow brown silty sand matrix, [123], which acted as a bedding deposit.

- 4.5.4 The road layers had been truncated to the east by a service trench (cut [137], filled by a dark brown gritty sand fill, [136]), measuring 1.3m in width and running the length of the trench, and to the west by a demolition episode indicated by a series of rubbly deposits ([135], [138]-[140]; all mixed deposits of clay/sand/silt containing a large percentage of building rubble); these latter deposits were possibly associated with the destruction of the Customs House during the Second World War.
- 4.5.5 Beneath the bedding for the cobble surface, and stretching the length of the trench, was a deposit of brick and bitumen, which clearly formed two layers: [116] below [115]. Both were compacted, the former, a very black deposit incorporating considerable amounts of bitumen, containing the greater number of brick inclusions, while the latter, a dark greyish black mixed silt and sand, contained far fewer inclusions. These began as a thin spread under the cobbles, becoming thicker further south (forming a combined depth of 0.53m), and directly beneath this was the backfill of the Old Dock: a series of dumps, [118], of sand, silty sand and sandy silt, with occasional humic lenses, varying in colour from reddish pink through to pinky white. The juxtaposition of the sand backfill and [116] would imply that [115] and [116], relate to the construction of the Customs House. If this material was to be interpreted as degraded tarmac, however, which was not commonly used until the first decade of the twentieth century (Hindle 1993), the stratigraphic sequence must suggest that an area had been truncated down to the level of the pink sands [118] prior to the deposition of [116] and [115], thus implying that all surfaces were later than the construction of the Customs House; this seems unlikely.
- 4.5.6 Deposits [115] and [116] formed the bulk of material to the south of the dock wall, within an area approximately 3.4m square. A series of much firmer deposits was encountered below consisting of a dump of light greyish white gritty gravel, [126], measuring 1.2m by 0.6m and 0.25m in depth, and yellowish white gritty gravel, crushed stone and slate deposit, [127], measuring 0.75m in length by 0.6m in width by 0.12m in depth. These lay beneath a thin band of gritty black stony tarry material, [130], measuring 1.8m in length by 0.25m in width and 0.03m in depth, and an irregular orangey brown gritty sandy clay and cobbled surface [132]. These seem to have been connected with tipping from the dock edge, but when the ground became too unstable, cobbles [132] were laid down to form a surface from which to tip. Beneath [130] and [132] was a dirty dark yellow mixed sand and clay deposit, [131], which would have been a difficult and unstable surface to work from.
- 4.5.7 Beneath these deposits, connected with the backfilling of the dock, and running east/west was the dock wall itself, [111], measuring 2.5m in length and 1.2m in width, and standing 0.8m in height. The wall consisted of seven massive yellow sandstone blocks, two courses in width and one in depth, acting as coping to the top of the wall. The sandstone coping sat upon a brick wall, in English Bond (alternating courses of stretchers and headers), which was very well-preserved. This was exposed to five courses in depth; as in the other trenches, the brick was hand-made and coarse. The top of the dock wall lay at approximately 4.7m AOD, which was slightly higher than the wall and quayside to the south, which lay at between 4.2m and 4.4m AOD. Directly overlying the wall were two deposits of crushed

sandstone, one consisting of pink sandstone, [129], and one of yellow crushed sandstone, [128]. These are thought to be related to the partial demolition of sections of the wall prior to backfilling, probably of a section beyond the trench, or the removal of sections of the quayside to the north. To the north of the wall, a deposit of clean pink clay, [119], was discovered, which may be the only deposit contemporary with the wall itself.

- 4.5.8 Following excavation, the wall was covered with a sheet of blue plastic, and was carefully backfilled.
- 4.5.9 **Trench 3b:** Trench 3b was excavated directly in front of wall [111] to examine the depth of the dock and its deposits (see *Section 2.4*). All work undertaken within the this deep trench was within box-shoring, which was installed under the guidance of a shoring contractor to satisfy health and safety regulations. The box was 2.5m in depth and excavation involved the removal of the backfill of Trench 3a, and the further excavation of approximately 1m of the dock backfill to insert the box beneath the services. In order to slide the box into the trench, it was necessary to extend the trench southwards by 2m (no further archaeological deposits were encountered south of the original trench as the ground had been heavily disturbed by brick and concrete structures associated with the 1960s development of the site). The final dimensions of the trench were approximately 6m in length from the dock wall, 1.5m in breadth and 3.8m in depth.
- 4.5.10 Dock wall [111] was re-exposed, to show the original sandstone coping and approximately 22 courses of brickwork (17 further courses than previously identified). Unlike the wall in Trench 7 (*Section 4.3.12*) (Fig 18), the wall in this section had a noticeable curve to its face, which fits with the projected profile of the dock wall identified in reconstructions from documentary sources, although it appears to be marginally shallower (the wall has a degree of slope at 1:3.5, whilst Weir suggests on the basis of documentary sources that the wall had a 1: 4.5 slope (Weir 1993)). The brickwork continued as English Bond for the full depth of the trench. No rebuilds, or sandstone block elements, were visible within this section of wall, of which was a depth of 1.8m was exposed.
- 4.5.10 The deposits within the dock itself, removed by machining 0.2m deep spits with a toothless bucket under archaeological supervision, consisted of the pink sand and silty sand backfill, [118], to approximately 3.6m below the ground level (approximately 3m AOD). At this depth, a deposit of mid blue-grey firm silty clay, [236], containing patches of a very black humic deposit, decomposed wood fragments, and large lumps of a mortary substance, was identified covering the entire base of the trench. A rotten timber, interpreted as another fender, was also identified in the north-west corner of the trench. The deposit was clearly an original dock silt, which predated the backfilling of the dock, originating in its use and gradual silting up. Upon recording of the deposit, approximately 0.2m was machined from its surface, taking the trench down to 3.9m below ground level (approximately 2.7m AOD). At this point noxious gaseous emissions were recognised and all further excavation and entry into the trench was stopped. Samples were taken for analysis, and the trench was backfilled as a safety precaution. In the course of the taking of chemical samples a 1m deep sondage was mechanically excavated into the floor of the trench taking it a depth of 4.9m (1.7m AOD). This revealed that the organic deposit continued to that depth and contained

considerable wood components. For safety reasons no further recording of these deposits was undertaken.

- 4.5.11 **Trench 5 (Fig 11):** Trench 5 was also excavated on the north side of the study area, approximately 21.5m east of and parallel to Trench 3a. The trench measured 6m in length by 4.5m in width overall and was aligned north/south. It had been shortened from the original 12m (*Appendix 2*) since a concrete wall was encountered to the south. Large baulks were left to support a number of services which crossed the trench, thus leaving an irregular area available for excavation. The trench was excavated to 1.2m in depth, concentrating upon the northern part of the trench containing the dock wall; the deeper area measuring 2.3m by 3.3m, was excavated here to a total depth of 2.2m, with the base of the trench at approximately 4.45m AOD.
- 4.5.12 The overburden consisted of flags and sand for the pavement and a layer of tarmac for the road surface. The southern area had further overburden deposits associated with modern services and pipe trench cuts (not numbered); these formed approximately 1.2m of the upper deposits of the main 'pavement' area of the trench. Within the roadway and the northern half of the trench, the overburden consisted of a series of rectangular sets, lying on top of a concrete surface. A tram rail, lying on wooden supports, was also encountered and ran east/west along the upper edge of the south-facing trench section (the tram rails originally ran around Canning Place to the east, then west and up South Castle Street to the north). These deposits formed the upper 0.4m of the main 'road' area. Beneath these was a deposit of pinkish red compacted sandy clay, [145], overlying a dark pinkish sand, [146]. These were considered to be levelling layers for the road, and both deposits ran the length of the trench. A large concrete stanchion, measuring 2.1m by 1.3m and approximately 0.8m in depth, was encountered in the south-east corner of the upper trench.
- 4.5.13 Beneath the road surfaces were a series of irregular and disturbed deposits directly overlying the dock wall, which was encountered running east/west, measuring 2.09m in length by 0.75m in width and a depth of 0.69m. This dock wall section, [124], comprised three massive sandstone blocks overlying six courses of exposed brick wall, facing south. As in the other trenches, the brick was of coarse hand-made construction. The sandstone blocks were only one course deep, and again formed the coping stones for the top of the wall. The top of the dock wall lay at approximately 4.85m AOD, approximately 0.15m higher than the dock wall to the west in Trench 3, and slightly higher than the dock wall and quayside in the south, which lay at between 4.2m and 4.4m AOD.
- 4.5.14 The front of the coping stones was uneven, and the bricks forming the face of the wall had been removed, with many of the surviving bricks smashed. This demonstrated that a 0.5m width of the front of the wall had been robbed and destroyed. The relatively modern (nineteenth/twentieth centuries) dating of this episode is suggested by the surviving deposits above the wall, and a brick structure, [125], which was encountered on the west side of the trench. The structure, roughly square with a further extension on its south side, measured 1.65m in length by 0.65m in width, and was at least 0.9m in depth. It was built of bricks much larger than those of the dock wall, which seemed to have been machine-made; they were roughly mortared with lime mortar. The structure had been 'tacked on' to the dock wall, removing some of the coping stones in the process, and abutted a further wall,

seen in the south-facing section, which was probably part of the same build. An iron water pipe which ran along the mid-section of the trench, appears to have truncated this structure.

- 4.5.15 Structure [125] contained a cavity, within which had fallen a large red sandstone block, with rusticated carving and beading along the edge, which probably came from the Customs House. Overlying this stone, and filling the cavity, was a series of demolition deposits, the lowest of which was a firm dark brown mixed silty backfill deposit, [150], which directly overlay the wall in the south-facing section and measured approximately 2m in length and 0.3m in depth. This was overlain by a yellowish white crushed mortar deposit, [147], which measured 3m in length and 0.2m in depth. In turn, this was overlain by a very compacted black silty clay layer containing small rounded stones, [148], possibly a section of destroyed road surface, measuring 2m in length by 0.3m in depth, and finally there was a deposit of loose reddish brown silty sand rubble, [149], containing fragments of brick, slate and stone. These deposits all appear to represent destruction of buildings, and probably the clearance of the land prior to the construction of the 1960s developments.
- 4.5.16 To the west of the dock wall in the south-facing section, and directly overlying the wall itself, were three deposits that were also destruction and demolition layers, but which probably related to the initial destruction of the dock and the building of the Customs House on the site. Directly overlying the wall was a clean greyish brown clay [152], containing small fragments of crushed sandstone, measuring 1.3m in length and 0.4m in depth. This was overlain by a deposit of pink sandy clay [153], also containing sandstone inclusions, and measuring 1.6m in length by 0.5m in depth. Finally, there was a dirty compacted pink clay layer [151] containing frequent stones, and measuring 2.1m in length by 0.6m in depth; it was this latter deposit that was cut by the later demolition episodes. Deposits [153] and [151] also abutted the front of the damaged dock wall, which suggests that the damage occurred during the building of the Customs House.
- 4.5.17 Upon completion of the excavation, the wall was covered with tarpaulin and the trench was backfilled.

4.6 THE FINDS

- 4.6.1 A total of 333 fragments of artefacts and ecofacts was recovered, of which the most were fragments of ceramic vessels. All of the material was in relatively large pieces, unabraded, and was thus unlikely to have travelled far from its original place of deposition. It appears that most material entered the deposits within the dock during backfilling after the first quarter of the nineteenth century.
- 4.6.2 All of the pottery recovered is of eighteenth and nineteenth century date, with only a single fragment of slip-decorated ware from layer [209] (Trench 1/2b) raising the possibility of earlier (pre-Dock) activity, but this is only late seventeenth century at the earliest. Similarly the two fragments of tin-glazed wares from layers [156] (Trench 4) and [223] (Trench 1/2b) could be as early as the late seventeenth century, but seem more likely to be eighteenth century in date. The pottery comprises a limited range of domestic vessels, predominantly storage vessels of the eighteenth century, but with the addition of tablewares in the later deposits. Rim fragments of three poorly made, large vessels from layer [156] (Trench 4) appear to

be syrup jars, used in sugar-refining, an industry well-known in eighteenth century Liverpool. Dark olive green wine bottles of typical later eighteenth or early nineteenth century form were recovered from [225], and [209] (Trench 4), and a fragment of a small blown green glass vessel from [223] (Trench 1/2b).

- 4.6.3 Two large iron spikes from [230] and [234] (both Trench 7) may well have been chisels or similar tools, lost or discarded in the course of backfilling the dock.
- 4.6.4 A small amount of organic material was recovered from layer [223] (Trench 1/2b), including small fragments of wood, a small fragment of leather strap, and a small bundle of animal hair. These indicate good conditions for the survival of organic material within the layer but at the present time add little to an interpretation of the site. A single poorly-made gunflint was also recovered from this layer, struck from a beach pebble; the quality of working would suggest that this was a 'home-made' example.
- 4.6.5 **Timber Analysis:** a piece of wood from fender [213] (sample 1002) against the southern section of dock wall (Trench 1/2b), was examined under the microscope and identified as oak (*Quercus*). The fender was found in a similar position to a much larger piece of timber which is assumed to have served a similar purpose. This was not subject to species identification but there is a likelihood that they were comparable.
- 4.6.7 **Spot Dates:** the following give an indication of the dates of deposition of the deposits:

102	Trench 1 and 2	Late eighteenth - nineteenth century
115	Trench 3	Nineteenth century
156	Trench 4	Late eighteenth - nineteenth century
209	Trench 1/2b	Late eighteenth century, possibly slightly earlier
223	Trench 1/2b	Late seventeenth century at the earliest - probably mid-late eighteenth century
225	Trench 1/2b	Late eighteenth - nineteenth century
229	Trench 7	Eighteenth century or later
232	Trench 7	Nineteenth century

4.7 RESULTS OF THE PLANT MACROFOSSIL ASSESSMENT

- 4.7.1 The data from both samples are presented in Table 1:

Context no		223	237
Sample no		1001	1002
Volume processed		10 litre	<1litre
Amorphous organic matter		3	3

Monocot fragments		1	1
Bryophyte fragments	Moss	1	1
Wood fragments		5	5
Leaves		0	2
Unknown flower		0	1
Charcoal fragments		1	1
Coal		4	4
Silt/clay		5	5
Sand and gravel		4	3
Brick		1	1
Industrial waste		1	2
Glass fragments		0	3
Clay pipe pieces		0	1
Animal hair		5	2
Shell fragments		1	0
Fish bone		1	0
Insect fragments		3	3
Uncarbonised seeds			
<i>Betula</i>	Birch	2	2
<i>Chenopodium/Atriplex</i> sp	Goosefoot/Oraches	1	0
<i>Chenopodium</i> sp	Goosefoot	1	1
Composite seed	Dandelion family	0	1
<i>Polygonum lapathifolium</i>	Pale Persicaria	1	0
<i>Ranunculus repens</i> -type	Creeping buttercup	1	1
<i>Rubus fruticosus</i>	Blackberry	1	0
<i>Urtica dioica</i>	Stinging nettle	1	0
Unknown		2	3

Table 1 Assessment of plant macrofossils from silty/clay [223] above Pool deposits and the silty/clay dock infill [237] at Liverpool Old Dock

Recorded quantity of macrofossils on a scale of 1 to 5; 1=rare and 5=very abundant

- 4.7.2 **Trench 1/2b, Sample 1001, [223]:** the sample from the waterlogged clay [223] overlying the Pool deposits, contained abundant wood fragments (as yet unidentified), small pieces of charcoal, coal, insect remains, amorphous organic material, some uncarbonised seeds, eg blackberries, stinging nettles, and creeping buttercups, sand and silt particles and animal hair and some evidence of industrial workings. The only indications of a possible marine influence recorded in the small sample assessed were a single fragment of a shell, a fish bone, and the record of *Chenopodium/Atriplex* seeds, which may be from a salt marsh species.
- 4.7.3 Metal fragments were recorded, possibly indicating working near the dock. Abundant animal hair was recorded, along with leather pieces, and these may indicate the processing of leather at some time prior to the construction of the dock.
- 4.7.4 **Trench 7, Sample 1002, [237]:** the sample assessed for macrofossils had initially been taken for chemical analysis (*Appendix 4*), and was consequently of less volume (<1 litre) than would normally be taken for a macrofossil sample. The assessment of the plant macrofossils from the contaminated silty/clay of the dock infill, [237], in Trench 7 demonstrated that even this very small sample contained abundant wood remains (as yet unidentified), a few well-preserved seeds from

plants of open ground and birch trees, entire leaves, and even a flower. There was no indication of any marine influence.

- 4.7.5 Some hammer scale and slag-like material was recorded, together with coal fragments. Some fragments of glass and a piece of clay pipe suggest that rubbish was thrown into the dock.

5. DISCUSSION

5.1 OVERVIEW

- 5.1.1 The evaluation succeeded in uncovering well-preserved evidence of the Old Dock walls in six out of the seven trenches excavated, with remains of the quayside encountered in at least two trenches; there was also evidence of deposits associated with the disuse of the dock and subsequent backfilling. The following serves as a brief summary of the findings from each area.
- 5.1.2 **The South-West Area:** following the initial problems with the depth of crushed concrete in the south-west area, the re-excavation of Trenches 1 and 2 as Trench 1/2b succeeded in identifying remains of the dock wall and quayside, as well as timber fenders, and clearly showed where the dock originally widened outwards on the south side, which is the 'kink' visible on the historic maps (Figs 3-5). The wall and quayside had been heavily truncated by piling for the 1960s building (Mulberry House), but sufficient evidence survived to identify its original alignment and some of the quayside sections hitherto not identified. The demolition process was not solely confined to that from the 1960s, since there was clear evidence for the systematic destruction of the wall dating from the backfilling of the dock in 1826 and the subsequent construction of the Customs House. Beneath the quayside the original Pool deposits were revealed, upon which was found possible evidence for ship-working; this would appear to confirm the documentary sources (Jarvis 1996).
- 5.1.3 **The South-Central Area:** the trenches excavated in the south-central area (Trenches 4a, 4b and 7), succeeded in uncovering a series of intact sections of dock wall, quayside, timber fenders and early Pool deposits, with a similar profile to those encountered to the south-west. The structures uncovered differed greatly in both the main trenches, even though they were only approximately 7m apart. The deep trench (Trench 7) failed to uncover any of the early dock silts which were hoped for, despite excavating down to the water table, and by coring below the water table through the base of the trench. However, the documentary evidence (MacLeod 1982) suggests that only half of the original depth of wall would have been revealed by the excavation and therefore organic deposits may be preserved at deeper levels.
- 5.1.4 **The South-East Area:** only one trench, Trench 6, was excavated within the footprint of Steers House (one of the 1960s office buildings on the site), and the footprint of the nineteenth century Customs House. The dock wall was not revealed at the maximum trench depth (3.6m), evidently as it had been truncated in this section by the construction of the basements for the Customs House in the nineteenth century, and its later demolition and the building of Steers House on the site. Sections of the wall, however, may yet survive at a deeper level, as the wall originally measured 7.2m (24 feet) in height according to documentary sources (Jarvis 1996). No trace was found of the concrete slab that had formed the carpark floor, which was believed to be still *in situ* in the area.
- 5.1.5 **The Northern Area:** excavation of Trenches 3a, 3b and 5 to the north of the site uncovered clear evidence of the dock wall, running just beyond the pavement area within the road. Trench 3a preserved the best sequence of deposits anywhere on the site, showing a clear sequence of events from the destruction of the 1960s buildings right back to the construction of the dock itself in 1715. Deposits of early dock silts

were also encountered, though only cursorily examined because of health and safety restrictions. Further excavation along the roadway would almost certainly uncover more evidence of the quayside, as well as potentially earlier deposits. Trench 5 also preserved a good section of the wall, though parts of the upper structure were partially damaged, probably during the building of the Customs House and the later installation of service ducts. It seems likely that the dock wall will survive in almost perfect condition along the entire north stretch of Canning Place, and, by implication, within the pavement and roadway of Canning Place to the east.

5.2 WALL CONSTRUCTION

- 5.2.1 Perhaps the most informative exercise within the evaluation was the collection of information regarding the hitherto-unknown construction techniques of the wall, albeit only from isolated and small sections of an otherwise massive structure. A watching brief undertaken in September 1980, on works concerned with the widening and re-alignment of the Dock Road and the construction of the ring road in Canning Place, did uncover part of the dock wall to the west. The trench was recorded by the Archaeological Survey of Merseyside, who state: '*severe time constraints prevented major excavation, but a yellow sandstone coping was uncovered, standing on top of a sturdy brick wall*' (Nicholson 1981; Jarvis 1996). This appears to be the only recorded excavation of the dock prior to the present works. Jarvis, writing in 1996, states: '*the construction of the Old Dock is still a matter of some obscurity*' (cited in Philpott 1999, 12). This present evaluation has added consistency to the evidence and provided some interesting insights into its build.
- 5.2.2 Prior to the excavation, details of the dock walls were only really available from documentary sources. The wall is described as being 7.2m (24 feet) in height and 3m (10 feet) thick at the base, with a curved profile, and constructed of brick, with a sandstone coping along the top (Jarvis 1996). The brick walls were set on wooden pilings (McCarron and Jarvis 1992). The bricks for the dock were recorded as having been made on site, and were bonded together with a special lime mortar which was found to be the best for bonding quay walls, using limestone from Halkyn, in North Wales.
- 5.2.3 The sandstone was imported from the Halton area of Runcorn (MacLeod 1982, 13). Sandstone was widely used in early dock construction as it was considered superior to brickwork and less expensive than granite; furthermore, it is silica based, making it less soluble than other stone (Weir 1993, 72). One of the myths regarding the old dock is the belief that stone from Liverpool Castle went into its construction (*viz* Philpott 1999, 7); while this could provide a provenance for the sandstone coping stones, no direct evidence for this was uncovered in any of the trenches excavated. Despite their strength and their excellent surviving condition, the walls were not without occasional problems, and one collapse is recorded - a failure of the dock wall on the north side on August 7 1799. The failure was caused by a drain behind the wall leaking and changing the properties of the retaining earth; the result was a rotational slip of the toe of the wall, carrying its foundation with it (Weir 1993). No evidence of this was uncovered during excavation, but it may yet turn up in further works on the wall, if the north side of the dock is exposed as planned.

- 5.2.3 The descriptions from documentary sources of the north side of the dock fit broadly with the results from Trench 3a, the dock wall having a marked curve, as described by Weir (1993). The wall on the southern side, in Trench 1/2b, although fairly extensively damaged by piling, seems to have had a similar construction to Trench 3a, with sandstone blocks overlying the remains of the brick wall and evidence of a sandstone quayside. This suggests that sections of the quay may also have been made of large sandstone slabs, linked into the dock wall coping.
- 5.2.4 Within Trench 4b a wide expanse of wall was identified, and a fair proportion of the sandstone south of the wall-line was in surviving remnants of the quay itself, rather than coping stones. The wall in this trench varied greatly from those in other trenches, in that it was found at a considerably lower depth than other wall sections and even the wall immediately adjacent to it in Trench 7 (7m distant and 0.5m higher than that encountered within that trench). The upper part of the wall appeared to have been constructed entirely of sandstone, down to at least two courses, although it is possible that there was also brick lower down in the unexcavated part of the wall.
- 5.2.5 The wall in Trench 7 was by no means typical, and had a different build to the walls encountered on the north side, for instance the wall face was flat, with a vertical profile, rather than the curved section recorded in Trench 3b (Fig 16). The shape of this construction might imply a dismantling and rebuild of the wall; MacLeod states that: *'the ship-building trade which had long been situated along the river shore and pool edge continued to reap the advantages of a dock side site [...]. Building the vessels was apparently far more difficult than launching them since this was facilitated by simply pulling down part of the dock wall'* (MacLeod 1982, 18). This may provide a clue to the rebuild, with a 'boat-shaped' section of sandstone blocks indicating where the wall was consistently dismantled and rebuilt to allow the launching of vessels. This may also provide a clue for the extreme differences of height noted in Trench 4b, with the wall kept deliberately low in the area of this trench, perhaps for launching or unloading smaller vessels.
- 5.2.6 A further feature of the dock walls was the presence of large oak fenders, well preserved and found in Trenches 1/2b, 3b, and 7. These fenders, part of the dock furniture, were set vertically on the face of the wall to protect it from ships running against the structure and causing damage to both the dock and the boats. Such fenders have not previously been uncovered, and no records existed of their presence within the dock prior to these excavations. Their excellent state of preservation suggests that any timbers within the dock will have survived, particularly within the organic deposits on the north side, and there could potentially be remains of ships or other wooden structures, as was found recently at Whitby (Miller forthcoming).
- 5.2.7 The height of the top of the dock wall varies across the site. The heights of the top of the dock wall are as follows:
- Trench 1/2b: quayside and wall: 4.45m AOD
 - Trench 3a: wall: 4.7m AOD
 - Trench 4b: quayside and wall: 3.7m AOD
 - Trench 5: wall: 4.85m AOD
 - Trench 7: wall: 4.26m AOD

Broadly speaking, it can be said that the dock is slightly higher on the north side than the south.

5.3 POOL DEPOSITS

- 5.3.1 The documentary sources (MacLeod 1982; Stewart-Brown 1932) provide a great deal of evidence for the landscape of the 'lower pool' prior to the construction of the dock itself. This area was a mud-flat at low tide at the time of the construction of the dock, and was probably only really accessible by shipping at high tide, being used by small ships for beaching. Evidence of ship building exists throughout this area, which appears to have been mainly used as waste, suitable for little else, until the construction of the dock: Picton, writing in his Memorials of Liverpool, says '*...the site was soft mud, through which the walls had to be carried down a considerable depth to reach the rock*' (Picton 1873). In 1683, Thomas Webster, a ships' carpenter, and Alderman William Williams were granted the right to build 'cabins' on the waste on the south side of the Pool. Roger James petitioned for a piece of land where he could make a dock, with grab and crane to help heave ships, in 1696; ships were set on stocks on the south and north side of the Pool, and houses were built to assist in ship building (MacLeod 1982, 10; Stewart-Brown 1932).
- 5.3.2 The description of the activity broadly corresponds the evidence of the Pool deposits encountered in Trenches 1/2b, 4a and 7. Each trench revealed deposits of blue-grey clay to the rear of the dock wall, clearly the deposit through which the wall had been cut in 1715. Examination of this was possible in Trench 1/2b, where it was shown that the clay consisted of an homogeneous yet firm material covering a substantial part of the trench and containing occasional lumps of brick. A deposit of dirtier clay overlay this, from which came evidence of ship-building, including a massive timber, wood-shavings, leather and caulk (horse-hair and pitch, used to waterproof boats). This latter deposit had been sealed beneath a section of sandstone quayside, providing a *terminus ante quem* of 1715 for its deposition. This is arguably one of the most exciting finds of the excavation, as it suggests that extensive deposits of seventeenth century or earlier date are likely to survive to the south of the dock.
- 5.3.3 **Macrofossil Assessment:** an assessment was undertaken of the waterlogged deposits [223] in Trench 1/2b, directly overlying the Pool deposits, but beneath the quayside, and therefore predating the construction of the dock. The assessment demonstrated that the deposit contained well-preserved organic material in the waterlogged clay. Wood and industrial debris in this would appear to support the documentary evidence of ship working in this area (Stewart-Brown 1932). However, there is also a possibility that it may result from the natural build-up of material in an estuarine situation. The comparative lack of marine macrofossils suggests that the material was derived from a freshwater environment, although, only a small subsample was assessed. The plant macrofossils recorded were from plants that, with the exception of birch seeds, are generally found on open ground.
- 5.3.4 The assessment for plant macrofossils of the contaminated silty/clay [237] of the dock silting (Trench 3b) demonstrated excellent preservation in the dock basin; entire leaves and a flower were recorded. There is therefore a great potential to identify the type of trading that may have taken place whilst the dock was in use,

with the possible importation of exotic plants into the port of Liverpool in the early nineteenth century.

- 5.3.5 The assessment of plant macrofossils from both waterlogged clay [223] and contaminated silty/clay [237] indicate that there is considerable potential for further, more detailed analysis of plant and arthropod remains. This may provide evidence for industry and land use within the area of the Pool prior to the establishment of the Old Dock and also during the working life of the dock itself.

5.4 DOCK SILTS

- 5.4.1 Only one trench, Trench 3b, encountered some of the original dock silts beneath the backfill deposits, but these could not be fully assessed for health and safety reasons. Documentary evidence, however, provides some clues to their origins:

‘in consequence...of having been made the outlet for a great deal of the sewage of the town which made an increasing nuisance, this dock was filled up in 1827’ (Baines 1869);

‘this dock has long suffered its value and usefulness, [...] by an extraordinary quantity of silt or mud always depositing there’ (Dock Trustees statement 1811, cited in MacLeod 1982, 23).

- 5.4.2 The deposit, a firm mid blue-grey silty clay, containing patches of very black humic deposit, decomposed wood fragments, and large lumps of a mortary substance, was sampled and an assessment has been undertaken of its makeup (*Section 4.6*). This has demonstrated that there is good organic preservation and established that there is good potential for further analysis.
- 5.4.3 The presence of silts in only one trench does not necessarily indicate its absence elsewhere, though it is perhaps surprising that the deposits were not encountered in more trenches. The height of the silt deposit on the north side may indicate greater dumping on this edge, adjacent to the core of the town, with the deposits sloping off to the south.
- 5.4.4 The excavation of the deep trenches only succeeded at best in uncovering half of the full depth of the dock; further evidence will therefore be encountered much deeper if further excavation is undertaken. Any surviving deposits are likely to exist in small areas not truncated by the insertion of the Customs House basement. These are as follows:
- A corridor between 8m and 9m in width between the dock wall and the Customs House on the north side, with a further area, 71m by 22m, where the gardens existed on the north side.
 - A corridor approximately 9m wide between the dock wall and the Customs House in the south-west corner, at the corner of Canning Place South and Strand Street. A further area, 15m by 74m, previously occupied by the gardens on the south side should also survive. The Customs House has probably truncated most of the wall and deposits in the south-east corner where the building was constructed through the dock walls.
 - The survival of deposits to the east and west of the Customs House is unclear at present, but they probably survive to the west, as shown by observations undertaken in 1980 (Nicholson 1981; Jarvis 1996). Only a very

narrow margin is shown to the east by reconstructions of the docks position, and therefore few if any deposits are likely to survive in this area.

5.5 DOCK BACKFILL DEPOSITS

- 5.5.1 Little documentary evidence exists regarding the backfilling of the dock, other than its date: 1826. The dock was an enormous structure and would have required a great deal of effort to backfill, not to mention several thousand tonnes of soil. It is probable that the Customs House basement and foundations were constructed within the dock, and then the void between the two sets of walls would have been backfilled. The voids between the walls appear to have been entirely backfilled with a pink silty-sand; this was clearly not a load-bearing deposit and thus seems to fit with the model of a building inserted within the dock prior to backfilling. The provenance of the sand is difficult to establish; however, the occasional presence of small lumps of pink sandstone throughout it suggests perhaps that the deposit came from sandstone quarry waste, shipped in bulk for the purpose. Despite the softness of the sand, the dock walls must have provided a good buffer to the deposits, making them stable enough to support roads and gardens on the ground above.

6. CONCLUSIONS

6.1 POTENTIAL IMPACT

- 6.1.1 The excavated trenches indicate that the dock wall survives largely intact beneath Canning Place along the north of the site, and by implication, the east of the site is also likely to survive, as it has been preserved beneath the successive build-up of road surfaces in these areas and is outside the footprint of any subsequent building development. The south side of the dock runs through an area formerly occupied by the Customs House and the 1960s buildings. The dock wall appears to have been partially truncated by the Customs House, and was not identified in the trench that lay inside the footprint of the building to the south-east (though the wall will almost certainly survive at a deeper depth). The footings for the 1960s buildings appear to have been shallow, and did not impinge on the dock walls themselves; however, isolated areas of concrete piling have had a detrimental effect on some sections of the wall, truncating the surviving remains, though there again it is important to state that where a small section of the top of the wall has been lost, a larger section will still survive at a deeper level. The deposits associated with the backfill of the dock, and the Pool deposits into which the dock was cut, both appear to survive very well.
- 6.1.2 It is understood that the options for the design of the proposed development on the site will provide for the *in-situ* preservation of the Old Dock walls; however, it should be remembered that there is a degree of uncertainty as to the line of the eastern side of the dock as trenching could not be undertaken in this area because of multiple high voltage cables and telecom cables. Although there may be opportunity to undertake trenching once the services have been removed in advance of the development, at present the predicted position of the east side of the dock is based upon a refinement of the nineteenth century mapping (eg Figs 3-5).
- 6.1.3 The archaeological potential of the quayside has not been fully investigated by the present evaluation programme, and there will need to be provision for the evaluation and recording of the quayside structures and deposits, as well as the underlying Pool deposits and also the organic deposits in the dock.

6.2 THE IMPORTANCE OF THE OLD DOCK

- 6.2.1 Philpott (1999, 12) highlights the importance of the dock within his assessment of the Chavasse Park area. He lists a number of writers who have stressed the importance of the dock as a national resource and a monument of national significance:
- *‘Liverpool’s docks are of singular historical significance; whereas the nation’s premier port, London, was a major commercial and administrative centre for many centuries before the river front was extensively developed, Liverpool was of no commercial or geographical importance until her docks were built’* (Ritchie-Noakes and Clarke 1989, 91).
 - The Old Dock was *‘the first commercial enclosed wet dock in the world and the first in the series of docks that would lay the foundations of Liverpool’s*

commercial greatness during the nineteenth century' (McCarron and Jarvis 1992, 69).

- Jarvis, writing in 1996, stated that '*the construction of the Old Dock is still a matter of some obscurity*' (1996, 7). The site has the potential to retain extensive remains of the associated tunnels which existed for cleaning out the docks of silt. Technical details of the construction of the dock are of considerable importance for the history of early dock building.
- In a major review of post-medieval Britain, David Crossley concludes '*comprehensive examination of sixteenth-eighteenth-century deposits at ports has been rare, in the face of constraints typical of urban archaeology*' (1990, 85). He goes on to lament that large-scale programmes of archaeological and documentary work have not been possible elsewhere.

6.2.2 These statements were made at a time when the actual physical survival of the dock was not known, and therefore the quality of the whole resource could not be assessed. The results of the present evaluation have demonstrated the considerable survival of the resource, confirming the significance expressed by earlier writers. The historical importance of the old dock, coupled with the level of survival identified in this evaluation makes this a unique monument in Britain.

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APPENDIX 1 PROJECT BRIEF

APPENDIX 2 PROJECT DESIGN

February 2001

**Lancaster
University
Archaeological
Unit**

LIVERPOOL OLD DOCK CANNING PLACE MERSEYSIDE

ARCHAEOLOGICAL EVALUATION

Proposals

The following project design is offered in response to a request from Ben Stephenson, of CPM Environmental Planning and Design, for an archaeological evaluation of the site of the Old Dock in Liverpool, Canning Place, Merseyside.

1. INTRODUCTION

1.1 CONTRACT BACKGROUND

- 1.1.1 A planning application has been submitted for a mixed development involving a waterfront hotel, a new bus station, and a retail development park in Canning Place, Liverpool, at SJ 3440 8995. This was the site of the Liverpool Old Dock, and represents an important part of the city's maritime history. The site is of considerable archaeological significance and has the potential to inform the origins and development of the city of Liverpool. Consequently the Merseyside Archaeological Officer has recommended that an archaeological evaluation be undertaken to investigate the impact of the proposed development.
- 1.1.2 The following document represents a project design for an archaeological evaluation of the designated area, and is in accordance with a brief for an such an evaluation supplied by the Merseyside Archaeological Officer.

1.2 HISTORICAL BACKGROUND

- 1.2.1 The site has been the subject of a series of desk-based assessments, which have examined the area, and have identified the existence of the Liverpool Old Dock within the extent of the study area. This was the world's first commercial wet dock which enabled the expansion of Liverpool as a port. It was constructed over a period of five years and completed in 1715. It is a testament to its success that within less than 85 years it had generated such prosperity that it had become too small to accommodate the maritime traffic, and was superseded by the construction of further docks extending out into the river channel. It had fallen out of use and was infilled in 1826 prior to the construction of a large Customs House built between 1828 and 1837 (MacLeod 1982). The Customs House suffered severe bomb damage during the Second World War, and was demolished shortly after. This was replaced by a 1960s office block which was demolished in 1999.
- 1.2.2 The location of the Old Dock has been established from cartographic evidence including detailed mapping of the site by architects prior to the redevelopment of the Customs House. Also, evidence of sandstone coping and stepped brickwork was identified in ground works undertaken in 1980, at a depth of 2m below surface.

1.3 LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

- 1.3.1 Lancaster University Archaeological Unit has considerable experience of the assessment, evaluation, and excavation of sites of all periods, having undertaken a great number of small and large scale projects during the past 20 years. Evaluations and assessment have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. LUAU has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. LUAU is an Institute of Field Archaeologists (IFA) registered organisation, registration number 27, and all its members of staff operate subject to the IFA Code of Conduct. LUAU has undertaken assessments, evaluations and mitigation excavations at many towns in northern England including Manchester Newcastle, Carlisle, Penrith, Appleby, Cockermouth, Kendal, Berwick, Lancaster and Preston.

2. OBJECTIVES

- 2.1 The following programme has been designed to evaluate the archaeological deposits affected by the proposed development of the site and follows on from a brief compiled by the Merseyside Archaeological Officer. The required stages to achieve these ends are as follows.

2.2 ARCHAEOLOGICAL EVALUATION

- 2.2.1 Nine 2m x 10m evaluation trenches will be excavated to determine the quality, extent and importance of any archaeological remains on the site. The positions of the trenches are defined within mapping attached to the project brief, although some variation is allowed for site conditions, such as services and modern foundations.

- 2.2.2 The evaluation is intended to establish the character and extent of the Old Dock and any deposits associated with it. It will assess the artefactual assemblage and the environmental evidence within the site.
- 2.2.3 In order to examine the depth and extent of the dock it will be necessary to excavate considerably deeper than the 2m depth of the dock. This will necessitate shoring and will need to be under the guidance of a structural engineer to satisfy health and safety regulations. It is proposed that one evaluation trench, where there is good survival of structural remains, will be undertaken to a maximum depth of 3m below the top of the dock. The excavation will be through backfill deposits and will primarily be by mechanical excavation excavating in shallow spits under archaeological supervision. Each spit will be subject to manual cleaning and the stratigraphy recorded.

2.3 POST-EXCAVATION AND REPORT PRODUCTION

- 2.3.1 An evaluation report will be produced for the client within one month of completion of the fieldwork. The report will assess the significance of the structures and stratigraphy in terms of the context of the site. A site archive will be produced to English Heritage MAP 2 guidelines (English Heritage 1991) and in accordance with the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990).

3. METHODS STATEMENT

3.1 EVALUATION

- 3.1.1 The proposed evaluation trenching will comprise two discrete components. The first will involve a number of trenches along the anticipated position of the dock and is primarily intended to define the position of the dock and the survival of its uppermost part. The second component comprises a single trench intended to record the profile and fill of the dock.

3.2 TRENCHING - POSITION AND EXTENT OF DOCK

- 3.2.1 Nine evaluation trenches will be excavated in the areas shown on the plan accompanying the brief. Each trench will measure 10m x 2m, although the dimensions may be altered to conform with local conditions or constraints, such as modern building foundations or services. It is understood from earlier explorations that the top of dock is likely to be at a depth of c2m below ground level, yet the maximum safe depth for an unshored excavation is 1.25m. It is therefore proposed to excavate at the outset 4m wide trenches and to step in by 1m after excavating to a depth of 1m. No shoring will be used for these trenches, and excavation therefore be limited to a depth of 2.25m below the present ground surface. If it proves necessary to excavate any deeper to locate the dock wall, then this will be purely mechanical means and recording will be from a safe working platform or the surface.
- 3.2.2 In all trenches, the modern surfaces will be removed by machine (fitted with a toothless ditching bucket) under archaeological supervision. The mechanical excavation will be undertaken in level spits (c150mm deep) down to the level of the highest significant archaeological horizon. Any features identified by the machining process, together with the immediate vicinity of any such features, will be cleaned by hand, using either hoes, shovel scraping, and/or trowels, depending on the subsoil conditions, and where appropriate sections will be studied and drawn.
- 3.2.3 It is anticipated that elements of the Customs House may be identified during the evaluation. In such an instance, following recording of the structural elements, the excavation will either proceed down adjacent to the remains or the foundations will be removed by machine subject to discussions with the Merseyside Archaeological Officer. As this building is constructed on the backfilled dock, it is anticipated that the excavation will be continued down to the top of the dock by means of mechanical excavation under close archaeological supervision. All eighteenth century deposits, however, will be excavated manually.
- 3.2.4 Any investigation of intact archaeological deposits will normally be by half-sectioning, linear features will be subject to no more than a 25% sample, and extensive layers will,

where possible, will be sampled by partial rather than complete removal. It is hoped that, in terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features which appear worthy of preservation *in situ*.

3.3 TRENCHING - DEPTH OF DOCK

- 3.3.1 A single trench will be further excavated to a depth of up to 5m below the present ground surface in order to record the profile and form of one side of the Old Dock and to examine the fill of the dock, unless it proves more practicable to excavate an entirely new trench adjacent to one of the earlier trenches. The selection of which trench to excavate will be subject to the results of the first phase of trenching. Because of the anticipated depth of excavation it will be necessary to place shoring around all sides of the trench in order to stabilise them. The method used will be box shoring, within a 5m x 2m trench, with an open side against the dock wall. The opposite end will be shored with vertical trench sheets. The depth of excavation with box shoring is limited to 4m below the base of the step in, which would mean a maximum depth of 5m below ground level. The box will be placed out from the identified edge of the dock wall to allow for the slope in of the dock wall, and trench sheets will be set between the edge of the box and the dock edge. All shoring operations will be undertaken by an experienced shoring contractor with an appropriate ticket for such works and under CDM regulations he will be the lead contractor and planning supervisor.
- 3.3.2 Excavation will be primarily using a 13ton 360° machine, and will be in spits (0.25m deep) followed by manual cleaning of the base of each spit. The stratigraphy will be recorded as excavation proceeds; a manual section drawing will be made in horizontal bands prior to each lowering of the box shoring, as there will be no opportunity for the full exposure of a trench section.
- 3.3.3 By virtue of the fact that the site is within the extent of the former Pool, the site is close to the wet Albert Dock, and the excavation will potentially extend to a depth of 5m below ground level, it is reasonable to assume that the trench will become waterlogged. While excavation is proceeding a pump will be in service to remove residual water from the trench bottom; however, if it proves that this is insufficient to control the inflow of water, then the maximum depth of the excavation will have to be limited.

3.4 FINDS

- 3.4.1 Archaeological exploration of a large backfilled structure such as this dock cannot ignore the potential for artefact recovery. Whilst it is likely that the methodology outlined above will not allow for the recovery of large numbers of artefacts at this stage, the following caveats must be borne in mind, and contingencies offered.
- 3.4.2 Docks are, by their nature, wet and are likely, whilst in use, to have accumulated deposits of silt. It is quite likely that a number of objects were lost or deliberately disposed of into the dock during its lifetime, many of them directly related to shipping, and many of them made from organic materials. As waterlogged silts, often anaerobic, are an excellent matrix for the preservation of organic material, this should be borne in mind if the current exploration continues to below the water level of the original dock.
- 3.4.3 It appears that the dock stood disused for some time before it was deliberately backfilled in the 1820's. During that period it would undoubtedly have been used for casual dumping, both of individual items and large accumulations of rubbish. It is not impossible that small boats, or even derelict ships, lay rotting within the dock during the period of abandonment. Whilst it is unlikely that these would have been preserved in their entirety, individual artefacts deriving from shipping, in a number of materials, could survive anywhere within the dock, but presumably mainly about the edges of the structure.
- 3.4.4 When the dock was backfilled, it is not clear from what source the fill was acquired. By the middle of the nineteenth century, the waste-disposal provisions of many of the rapidly expanding towns of the North-West were under severe stress, and it is known from

elsewhere that measures adopted included large-scale dumping of domestic waste on marginal land (eg Manchester dumped domestic rubbish on the peat bogs to the south-west of the town). Assuming that conditions were similar in Liverpool, it seems a real possibility that the dock would have been backfilled at least in part, with contemporary rubbish, or with existing midden deposits from elsewhere. Without knowledge of the local ground-water regime, it is not possible to predict whether or not these deposits could have become waterlogged, but it is possible that they could contain considerable amounts of non-organic artefacts.

- 3.4.5 Several strategies are proposed as responses to these possibilities. If the 1820s backfill is effectively dry, which has the effect of reducing the likelihood of organic survival, and the objects recovered are demonstrably contemporary with the known period of backfilling two options are available:
1. if finds are made at a level considered 'normal' for contemporary deposits within the city then a policy of total recovery would be pursued as per LUAU standard procedure;
 2. if unusually large amounts of finds are recovered, a sampling strategy will be developed in consultation with the Merseyside Archaeological Officer.
- 3.4.6 If 1820s backfill is wet or waterlogged, which has the effect of significantly increasing the likelihood of organic survival then the level of sampling will be subject to the quality and survival of the material and consultation with the Merseyside Archaeological Officer and the client. The costs for analysis are defined as a contingency and will only be brought into play with an agreement from the client and the Merseyside Archaeologist. If significant and substantial remains are identified then they should be recorded and preserved *in situ* if possible.
- 3.4.7 Except for items subject to the Treasure Act, all artefacts found during the course of the project will remain the property of the landowner, who will be encouraged to donate them to the Merseyside Museums Service. The deposition and disposal of any artefacts recovered in the evaluation will be agreed with the legal owner and an appropriate recipient museum prior to the work taking place.
- 3.4.8 **Environmental Sampling:** environmental samples (bulk samples of 30 litres volume, to be sub-sampled at a later stage) will be collected from suitable deposits (i.e. the deposits are reasonably well dated and are from contexts the derivation of which can be understood with a degree of confidence). Where such deposits are encountered, an appropriate sampling strategy will be agreed with the Merseyside Archaeological Officer. An assessment of any environmental samples will be undertaken by the inhouse palaeoecological specialist, who will examine the potential for further analysis. The environmental assessment is subject to the finding of appropriate deposits and is therefore defined as a contingency.
- 3.4.9 Samples will also be collected for technological, pedological and chronological analysis as appropriate. If necessary, access to conservation advice and facilities can be made available. LUAU maintains close relationships with Ancient Monuments Laboratory staff at the Universities of Durham and York and, in addition, employs artefact and palaeozoological specialists with considerable expertise in the investigation, excavation and finds management of sites of all periods and types, who are readily available for consultation.

3.5 RECORDING

- 3.5.1 All information identified in the course of the site works will be recorded stratigraphically, using a system adapted from that used by the Centre for Archaeology of English Heritage, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.
- 3.5.2 Results of all field investigations will be recorded on *pro forma* context sheets. The site archive will include both a photographic record and accurate large-scale plans and sections

at an appropriate scale (1:50, 1:20 and 1:10). All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration. Plans and contexts will be linked within a digital single context planning system.

- 3.5.3 **Survey:** a series of survey control points will be established by controlled traverse using a total station across the extent of the site. The control will be tied into the Ordnance Datum and will be located onto a survey control already established for the site by the client, which is already closely tied into the local topography. The survey stations will be established as clearly marked nails fixed into concrete surfaces.
- 3.5.4 Archaeological planning will be undertaken using a data-logging total station and the data will be digitally incorporated into a CAD system during the evaluation. This process will generate scaled plans which will also be subject to manual enhancement. The drawings will be generated at an accuracy appropriate for 1:20 scale but can be output at any scale required. Section drawings will for the most part be generated manually, although a total station has proved to be a cost effective tool for drawing very long sections.
- 3.5.5 A video record of the excavation will be produced showing the key aspects of the evaluation process.

3.6 POST-EXCAVATION AND REPORT PRODUCTION

- 3.6.1 **Archive:** the results of Stage 3.2-3.4 will form the basis of a full archive to professional standards, in accordance with MAP 2 guidelines (English Heritage 1991) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct.
- 3.6.2 This archive can be provided in the English Heritage Centre for Archaeology format, both as a printed document and on computer disks as ASCII files (as appropriate). The paper archive will be deposited with the Merseyside Record Office within six months of the completion of the fieldwork. The material archive (artefacts and ecofacts) will be deposited with an appropriate museum following agreement with the client. A synthesis of the archive will also be available for deposition in the National Monuments Record.
- 3.6.3 **Report:** a bound and collated copy of the report will be sent to the client within four weeks of completion of the fieldwork. In addition, two copies of the final report will be submitted to the Merseyside SMR within six months of the completion of the fieldwork. The final report will include a copy of this project design, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above, and will include recommendations for any further mitigation works and details of the final deposition of the project archive.
- 3.6.4 **Confidentiality:** the final report is designed as a document for the specific use of the client, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

3.7 OTHER MATTERS

- 3.7.1 **Health and Safety:** LUAU provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1999). A written risk assessment will be undertaken in advance of project commencement and copies will be made available on request to all interested parties.

- 3.7.2 The excavation of the deep trench will come under CDM regulations, and for this element the shoring contractor will act as lead contractor and will be planning supervisor responsible for health and safety during this excavation.
- 3.7.3 The client has provided details of the services in the vicinity of the trenches, however, the trenching will need to extend across both the road and the pavement. The service mapping shows no services in these areas, but there is a line of lamp posts along the pavement, and an assurance will need to be provided that any electrical services for these lamps has been disconnected before excavation can commence. In addition there are some services shown on the service mapping leading to buildings which no longer survive, it will therefore be necessary to ensure that these services have been disconnected. As a matter of course LUAU will undertake a CAT scan in advance of trenching. In addition, the client is requested to arrange all site access.
- 3.7.4 **Reinstatement:** the trenches will be backfilled on completion of the evaluation and after they have been inspected by the Merseyside Archaeological Officer using the material removed in their excavation. A contingency cost is provided for the reinstatement of the pavement and road surfaces that are affected by the trenching.
- 3.7.5 **Fencing:** security fencing will be established around the extent of each trench, and will include signs warning of deep excavations. It is proposed to have a security presence over night to prevent any risk to the public from climbing over the fence and to provide security for any equipment on site.
- 3.7.6 **Indemnity:** LUAU has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.
- 3.7.7 **Working Hours:** normal LUAU working hours are between 9.00 am and 5.00 pm, Monday to Friday, though adjustments to hours may be made to maximise daylight working time in winter and to meet travel requirements. It is not normal practice for LUAU staff to be asked to work weekends or bank holidays and should the client require such time to be worked during the course of a project a contract variation to cover additional costs will be necessary.
- 3.7.8 **Monitoring:** Monitoring of the project will be undertaken by the Merseyside Archaeological Officer. Access to the site for monitoring purposes will be afforded to the Merseyside Archaeological Officer at all times.

4. WORK TIMETABLE

4.1 **Trenching - Position and extent of Dock**

An 15 day period is required to excavate, record and backfill the location trenches.

4.2 **Trenching - Depth of dock**

A seven day period is required to excavate, record and backfill the deep profile trench.

4.3 **Post-Excavation and Report Production**

An evaluation report will be submitted within one month of the completion of the fieldwork, and interims will be submitted on completion of each stage of work.

- 4.4 LUAU can execute projects at very short notice once an agreement has been signed with the client. Two weeks notice would be sufficient to allow the necessary arrangements to be made to commence the task.

5. STAFFING PROPOSALS

- 5.1 Present timetabling constraints preclude detailing exactly who will be carrying out each specific task, but excavation of the evaluation trenching is likely to be supervised by an LUAU project officer or supervisor. All LUAU project officers and supervisors are

experienced field archaeologists who have undertaken supervision of numerous small and large scale evaluation and excavation projects. The evaluation will be led by **Matt Town BA MA** (LUAU Project Supervisor).

5.2 MATT TOWN (SUMMARY CV)

Academic Qualifications

BA(Hons) Archaeology and Prehistory, 1995

University of Sheffield

MA (Distinction) Landscape Archaeology, 1997

University of Sheffield

Matt has worked for a number of different units across the country including LUAU, Carlisle Archaeological Unit, the Oxford Archaeological Unit and English Heritage. This has included six seasons of excavation for English Heritage's Centre for Archaeology, at Birdoswald Roman fort on Hadrian's Wall and at Whitby Abbey, North Yorkshire; and have included the urban excavation of a medieval Friary at Blackfriar Street, and a deeply stratified Roman settlement site at Botchergate, Carlisle, for Carlisle Archaeological Unit.

Since joining the LUAU in May 1999, Matt has undertaken excavation, survey and research throughout the North of England. Major projects have included recording of an early nineteenth century cotton mill wheel-pit in Bolton, Greater Manchester, a three month landscape assessment survey of the Nidderdale AONB in North Yorkshire, and excavation of a Bronze Age burnt mound in Kendal, and excavation. He has undertaken a major urban excavation at Bottle Bank, Gateshead, which comprised complex medieval and Roman stratigraphy, and also an evaluation at Pipewellgate, Gateshead of quayside medieval deposits. He has undertaken urban excavations at the Lancaster Bus Station site and also of a Roman cemetery (King Street Excavations) within Lancaster.

- 5.3 Assessment of the finds from the evaluation will be undertaken by LUAU's in-house finds specialist **Christine Howard-Davis BA MIFA** (LUAU project officer). Christine acts as LUAU's in-house finds specialist and has extensive knowledge of all finds of all periods from archaeological sites in northern England. As well as specialist knowledge regarding Roman glass, metalwork, and leather, the recording and management of waterlogged wood, and most aspects of wetland and environmental archaeology. She also has particular knowledge of post-medieval finds.
- 5.4 Assessment of any palaeoenvironmental samples which may be taken will be undertaken by **Elizabeth Huckerby MSc** (LUAU project officer). Elizabeth has extensive knowledge of the palaeoecology of the North West through her work on the English Heritage-funded North West Wetlands Survey.
- 5.5 The project will be managed by **Jamie Quartermaine BA MIFA** (LUAU Project Manager) to whom all correspondence should be addressed.

APPENDIX 3 CONTEXT SUMMARY

Context Number	Trench Number	Category	Form
101	Trenches 1, 2 and 4	Deposit	Concrete and brick overburden
102	Trenches 1 and 2	Deposit	Dark brown-black sandy clay layer
103	Trench 1	Wall	Dock wall
104	Trench 1	Deposit	Concrete layer
105	Trench 1	Structure	Concrete floor
106	Trench 1	Deposit	Degraded sandstone layer
107	Trench 1	Deposit	Light brown clay layer
108	Trench 2	Deposit	Soft pink sand layer
109	Trench 2	Deposit	Soft yellow sand layer
110	Trench 3	Deposit	Cobble spread
111	Trench 3	Structure	Dock wall of massive sandstone blocks
112	Trench 3	Fill	Backfill of pipe trench [113]
113	Trench 3	Cut	Pipe trench backfilled by [112]
114	Trench 3	Deposit	Yellowy-green sand layer
115	Trench 3	Deposit	Greyish black silt and sand make-up layer
116	Trench 3	Deposit	Compacted tarmac layer
117	Trench 3	Fill	Layer of gravelly backfill
118	Trench 3	Deposit	Backfill of dock
119	Trench 3	Deposit	Pinkish red silty sand clay layer
120	Trench 3	Deposit	Dark brown sand layer
121	Trench 3	Deposit	Dark gritty black stony layer
122	Trench 3	Deposit	Pinkish orange 'cobble' stony sand layer
123	Trench 3	Deposit	Silty sand bedding layer for [110]
124	Trench 5	Structure	Robbed dock wall of sandstone and brick
125	Trench 5	Structure	Square structure of brick walls
126	Trench 3	Deposit	Greyish white gravel layer
127	Trench 3	Deposit	Stone, crushed slate and gravel layer
128	Trench 3	Deposit	Layer of sandstone in a silty clay matrix
129	Trench 3	Deposit	Pinkish gritty sand and sandstone layer
130	Trench 3	Deposit	Black stony layer in sandy matrix

131	Trench 3	Deposit	Dark yellowy brown sand and clay layer
132	Trench 3	Deposit	Orange gritty sandy clay layer with brick
133	Trench 3	Deposit	Pinky orange soft sandy clay layer
134	Trench 3	Deposit	Reddish brown stony sand layer
135	Trench 3	Deposit	Mixed clay/sand/silt layer, probably demolition rubble
136	Trench 3	Fill	Dark brown gritty sand, probably fill for a service cut
137	Trench 3	Cut	Possible service cut for [136]
138	Trench 3	Deposit	Greeny grey-black silty sand layer
139	Trench 3	Deposit	Soft greeny grey grit layer
140	Trench 3	Deposit	Yellow sand layer within demolition deposit [135] and [139]
141	Trench 3	Deposit	Road layer – firm gritty black sand
142	Trench 3	Deposit	Road layer – gritty green grey clay sand
143	Trench 3	Deposit	Road surface of grey gravel and gritty sand
144	Trench 3	Deposit	Brownly green stone rubble layer
145	Trench 5	Deposit	Pinkish red sandy clay road make-up layer
146	Trench 5	Deposit	Dark pinkish sandy clay layer
147	Trench 5	Deposit	Yellowish white crushed mortar layer
148	Trench 5	Deposit	Black silty clay road make-up layer
149	Trench 5	Deposit	Loose reddish brown silty sand layer
150	Trench 5	Deposit	Dark brown mixed silt layer
151	Trench 5	Deposit	Compacted pink clay layer
152	Trench 5	Deposit	Clean greyish brown clay layer
153	Trench 5	Deposit	Reddish pink sandy clay
154	Trench 5	Deposit	Brick rubble layer
155	Trench 5	Structure	Dock wall of massive sandstone blocks
156	Trench 4	Deposit	Mixed sand and clay layer with brick rubble
157	Trench 4	Deposit	Dark greyish sandy clay layer
158	Trench 4	Deposit	Loose pinkish red sand layer
159	Trench 2	Deposit	Redeposited demolition layer
200	Trench 6	Deposit	Concrete and brick overburden
201	Trench 6	Deposit	Demolition layer
202	Trench 6	Structure	Concrete stanchion
203	Trench 6	Deposit	Non-structural sandstone blocks
204	Trench 6	Cut	Sondage

205	Trench 1/2b	Structure	Concrete piles and pilecaps
206	Trench 1/2b	Deposit	Light bluish grey clay layer
207	Trench 1/2b	Deposit	Pink gritty sand dock backfill
208	Trench 1/2b	Structure	Dock wall of brick
209	Trench 1/2b	Deposit	Black gritty clay sand dock backfill
210	Trench 1/2b	Deposit	Gravel and crushed sandstone dock demolition layer
211	Trench 1/2b	Structure	Quayside of sandstone paving blocks
212	Trench 1//2b	Structure	Large timber
213	Trench 1/2b	Structure	Curved wooden fenders
214	Trench 1/2b	Deposit	Interlaced firm pink clay lenses
215	Trench 1/2b	Deposit	Mid grey gritty clay sand backfill
216	Trench 1/2b	Deposit	Interlaced bluey grey clay lenses
217	Trench 1/2b	Deposit	Gritty sandy clay silt demolition layer
218	Trench 1/2b	Deposit	Greyish black clay sand lens
219	Trench 1/2b	Deposit	Dark grey black gritty clay layer
220	Trench 1/2b	Deposit	Soft brown clay sand demolition lens
221	Trench 1/2b	Deposit	Yellowish brown sandy clay lens
222	Trench 1/2b	Deposit	Greyish blue sand lens
223	Trench 1/2b	Deposit	Blackish grey clay layer
224	Trench 1/2b	Deposit	Pinkish sand demolition layer
225	Trench 1/2b	Deposit	Yellow-brown crushed sandstone lens
226	Trench 1/2b	Deposit	Crushed sandstone and dirty clay lens
227	Trench 1/2b	Deposit	Black gritty ash lens
228	Trench 1/2b	Deposit	Purple-pink sandy clay demolition layer
229	Trench 7	Deposit	Dark brown gritty sand demolition layer
230	Trench 7	Structure	Brick and sandstone dock wall
231	Trench 7	Deposit	Grey clay layer
232	Trench 7	Deposit	Dark brownish black layer

233	Trench 7	Structure	Timber fender with iron e rivet
234	Trench 7	Deposit	Pink sand dock backfill
235	Trench 7	Deposit	Loose gravel backfill
236	Trench 7	Deposit	Grey silty clay
237	Trench 7	Deposit	Black silty clay with organic material
238	Trench 3a	Deposit	Concrete Surface

APPENDIX 4
SILTS ANALYSIS REPORT

APPENDIX 5 FINDS CATALOGUE

Context	Material/Category/Type	No./Description	Period
102	Bone Animal	1 Scapula	
102	Ceramic Clay pipe Stem	3 Plain stem fragments	Post medieval-Modern
102	Ceramic Tile	1 -	
102	Ceramic Vessel Whiteware	2 Plain whitewares	Nineteenth century or later
102	Ceramic Vessel	1 Body fragment, red fabric with white slip and brownish glaze	Post medieval-Modern
102	Ceramic Vessel	1 Body fragment, orange sandy fabric, yellow-brown glaze	Post medieval-Modern
102	Ceramic Vessel Black-glazed	5 Three body and two rim redware fragments/ Large storage vessels	Nineteenth century?
102	Ceramic Vessel Slip	4 Fragments of a single decorated slip-trailed press-moulded dish	Eighteenth century
102	Ceramic Vessel Pearlware?	1 Base fragment, blue and white - pearlware?	Late eighteenth century
102	Ceramic Vessel	1 Body fragment, unglazed redware	Post medieval-Modern
102	Glass Vessel	2 Body fragments, dark olive green wine bottle	Later eighteenth century?
115	Ceramic Clay pipe Bowl	28 Seven fragments of plain bowls, 21 of decorated bowls in three designs. Several are deformed and presumably wasters (all the same design) one incorporates TD in the design, presumably the maker	Nineteenth century
115	Ceramic Clay pipe Stem	156 Plain stem fragments	Post medieval-Modern
156	Bone Animal	1 -	
156	Ceramic Clay pipe Stem	2 Plain stem fragments	Post medieval-Modern
156	Ceramic Tile	2 -	
156	Ceramic Vessel Manganese	1 Rim fragment dish or plate, hard and very coarse cream fabric with manganese speckled glaze	Eighteenth century?
156	Ceramic Vessel Self-glazed	1 Strap handle fragment, soft redware salmon pink fabric with yellowish self glaze	Eighteenth century?
156	Ceramic Vessel	4 Rim fragments, Internal	Post medieval-Modern

					black glaze and distinctive very heavy but small-diameter rims, probably very globular bodies. All poorly glazed and possibly wasters - Sugar refining Syrup jars	
156	Ceramic	Vessel	Black-glazed	7	Body fragments - black glazed redware	Later eighteenth-nineteenth century
156	Ceramic	Vessel		1	Body and base fragment, cast vessel, blue painted decoration	Nineteenth century?
156	Ceramic	Vessel	Tin-glaze	1	Strap handle fragment, plain tin-glazed fabric	Eighteenth century?
156	Ceramic	Vessel		4	Body fragments, thick fine reduced fabric, large vessels but no other indication of form	Not dated
156	Copper alloy	Nail		1	Small clenched nail - Ship's nail?	Not dated
156	Glass	Vessel	Wine bottle	4	Body and base fragments, cylindrical form	Late eighteenth century
201	Bone	Animal		2	-	
209	Ceramic	Clay pipe	Stem	2	Joining fragments of stem stamped W McEuan, Liverpool	Post medieval-Modern
209	Ceramic	Vessel	Black-glazed redware	3	Two body and one rim fragment, soft orange fabric	Eighteenth century
209	Ceramic	Vessel		1	Body fragment, reversed slip-decorated follow ware	Late seventeenth century
209	Glass	Vessel	Wine bottle	1	Body fragment, later eighteenth century form?	Later eighteenth century
223	Bone	Animal	Rib	2	Rib fragments, one sawn	
223	Ceramic	Clay pipe	Stem	1	Plain stem fragment	Post medieval-Modern
223	Ceramic	Vessel	Stoneware	1	Handle fixing, iron-slipped stoneware with simple rouletted decoration - Tankard?	Eighteenth century?
223	Ceramic	Vessel	Tin-glaze	1	Body fragment	Eighteenth century?
223	Ceramic	Vessel		2	Body fragments, cream/white fine fabric, an external opaque slip (?) possibly in imitation of salt-glazed	Not closely dated

				stoneware		
223	Ceramic	Vessel		1	Base fragment, very hard-fired cream fabric with thick brown glaze, possibly a tankard base	Later eighteenth century?
223	Glass	Vessel		1	Small body fragment olive green, blown vessel	Post medieval
223	Hair	Animal?		1	Coiled short stape animal hair, relatively fine but might be horse.	
223	Organic	Leather		1	Small parallel-sided fragment thick, stiff leather, probably from a strap.	Not dated
223	Stone	Flint	Gunflint	1	Crudely made rectangular gunflint. Struck from a beach pebble	Eighteenth century?
225	Bone	Animal		2		
225	Ceramic	Clay pipe	Stem	1	Plain stem fragment	
225	Ceramic	Roof tile?		1	Sand-cast tile fragment with curved edge, very light cream fabric	Post medieval-Modern
225	Ceramic	Roof tile?		5	Thrown tile fragments? very light orange terracotta fabric	Post medieval-Modern
225	Ceramic	Vessel		2	One body one rim, cream fabric with black glaze, possibly chamber pot	Eighteenth century or later
225	Ceramic	Vessel	Black-glazed 3 redware	3	Two body and one rim in streaky laminated fabric. The rim is that of a heavy storage jar and may be a slight waster	Eighteenth century or later
225	Glass	Vessel	Wine bottle	3	Body fragments	Eighteenth century
225	Stone	Flint	Natural	1	Water-worn fragment of flint, probably natural	
229	Ceramic	Vessel	Black-glazed 2 redware	2	One body fragment, very hard fired, one body fragment, considerably softer orange fabric	Eighteenth-nineteenth century
229	Ceramic	Vessel	Terra cotta	1	One body fragment	Not closely dated
230	Iron	Spike		1	Large square-sectioned tapering iron spike with chisel end	Not dated
232	Ceramic	Brick		1	Small fragment	
232	Ceramic	Clay pipe	Stem	6	Plain stem fragments	Post medieval-Modern
232	Ceramic	Tile			Very coarse fabric	
232	Ceramic	Vessel	Stoneware	4	Body fragments, late brown Stonewares	Nineteenth century
232	Ceramic	Vessel	Black-glazed 2 redware	2	Body fragments, coarse fabrics, large vessels	Nineteenth century?

232	Ceramic	Vessel	Whiteware	25	Plain and transfer-printed whitewares, various tea and tableware forms	Nineteenth century or later
232	Glass	Window		3	Colourless midpane fragments, all small	Nineteenth century
232	Iron	Nail		1	Drawn nail	Modern
234	Ceramic	Vessel	Black-glazed redware	1	Body fragment, badly over-fired	Post medieval-Modern
234	Iron	Spike		1	Large round-sectioned spike with slightly domed round head, slightly burred from use	Not dated

ILLUSTRATIONS

- Figure 1 Site location map
- Figure 2 Detailed site location plan
- Figure 3 Plan of Town of Liverpool by James Chadwick (1725) (Hf 912 POR)
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- Figure 7 Plan of Trenches 1, 2b and 1/2b
- Figure 8 Plan of Trenches 4 and 7
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Figure 1 : Location Map

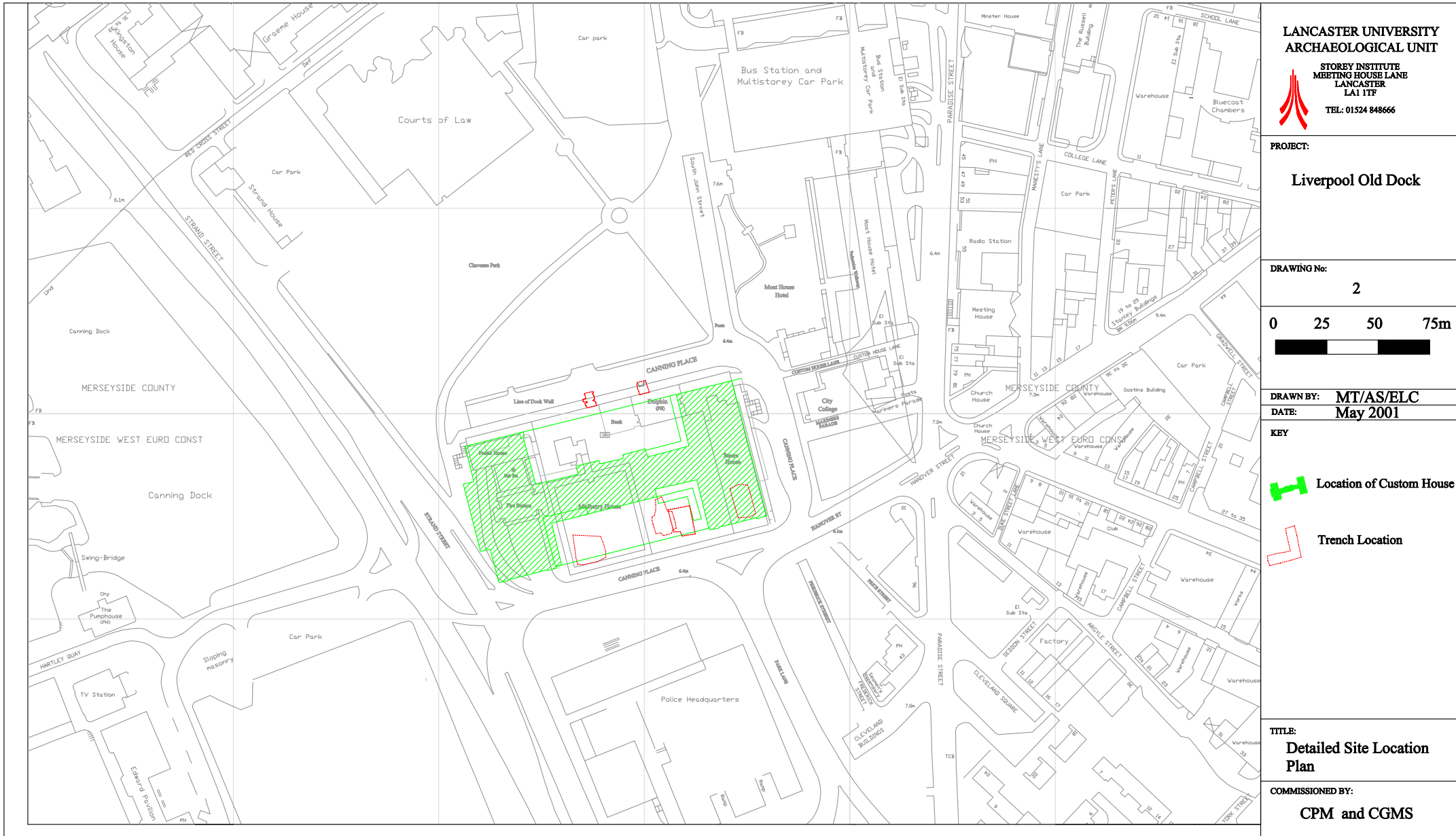


Figure 2: Detailed Site Location Plan

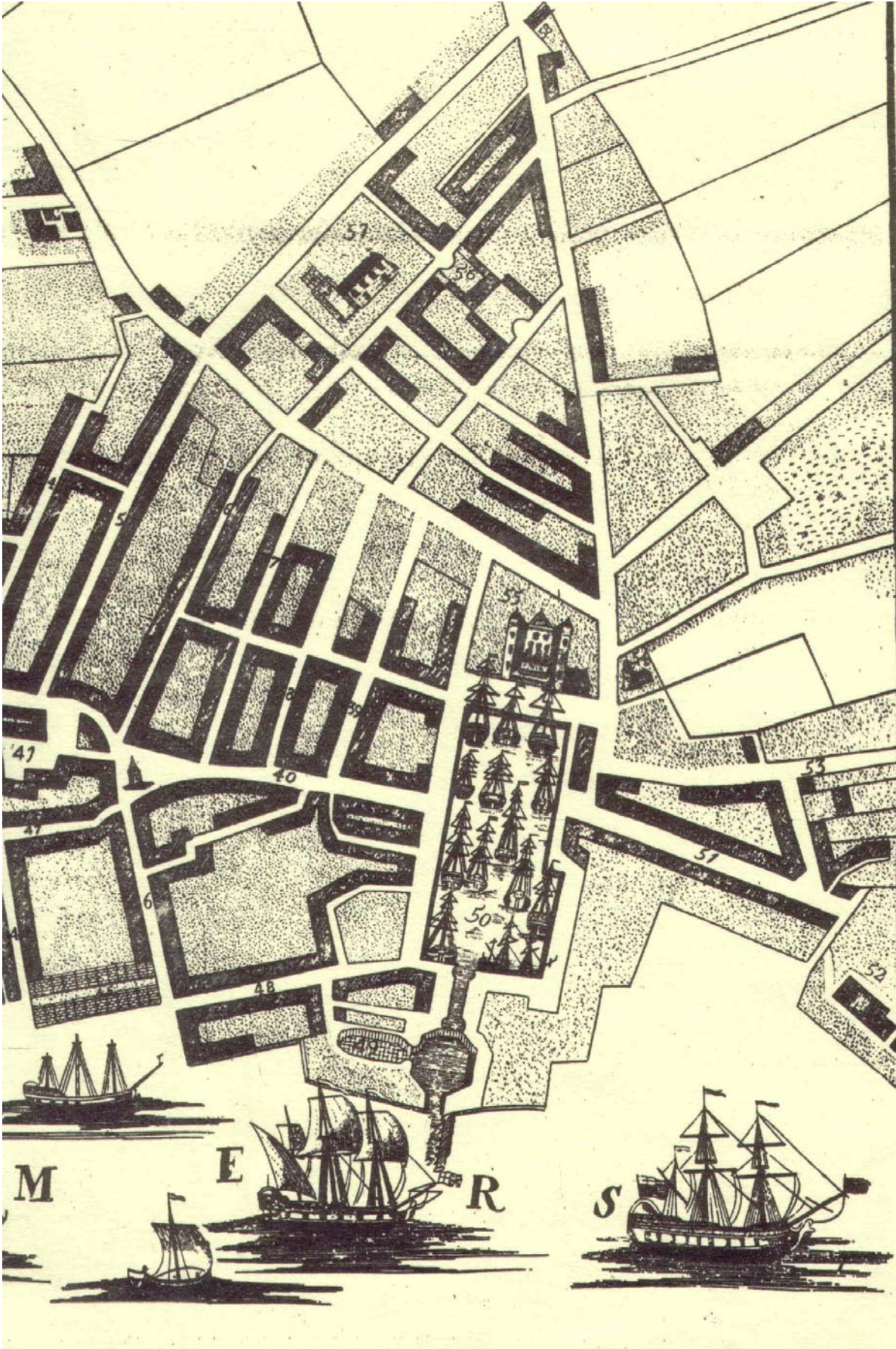


Figure 3 Plan of Town of Liverpool by James Chadwick (1725) (Hf 912.POR)

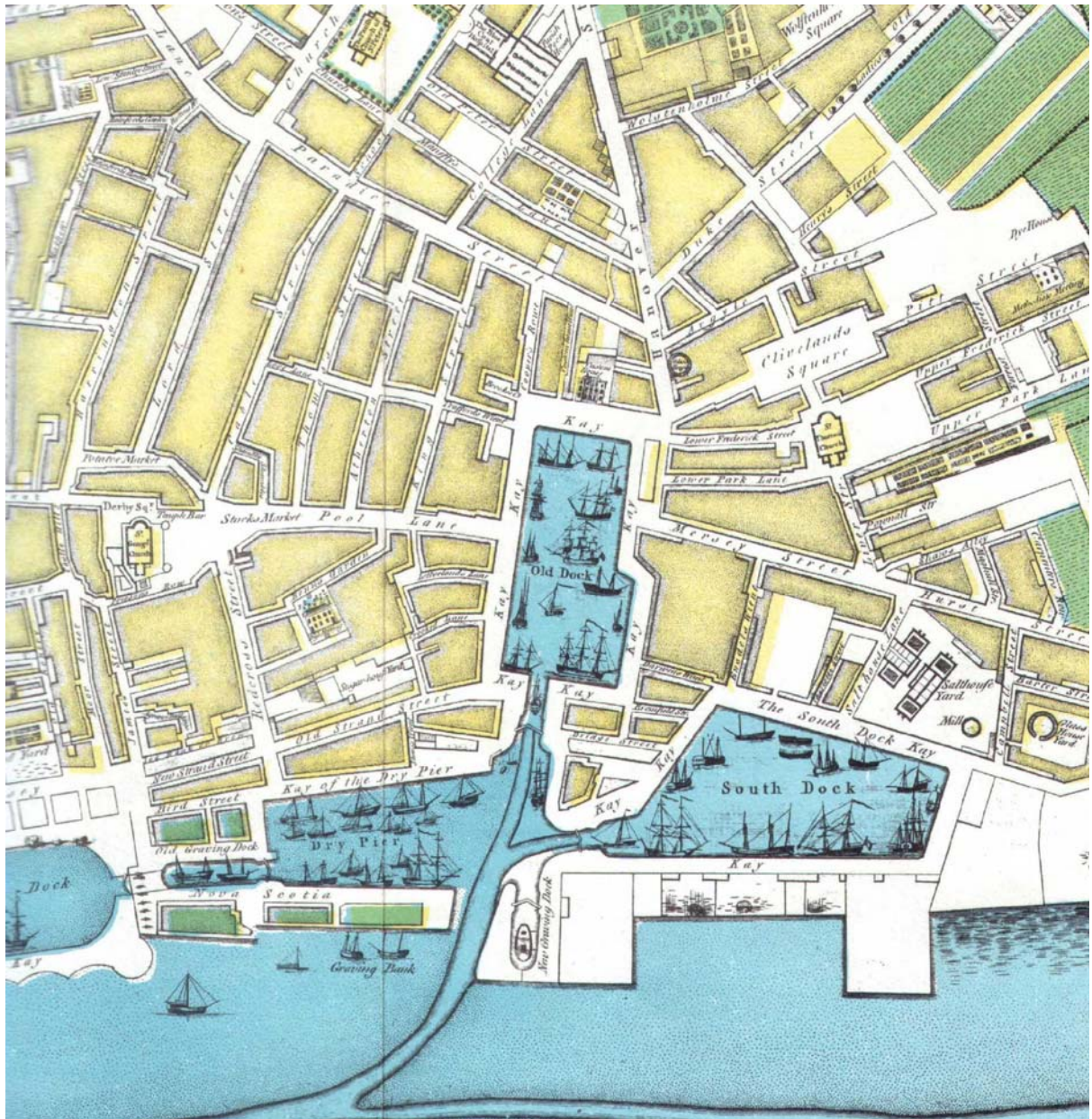


Figure 4 Plan of Liverpool by John Eyes (1765) (Hf 912.1765)

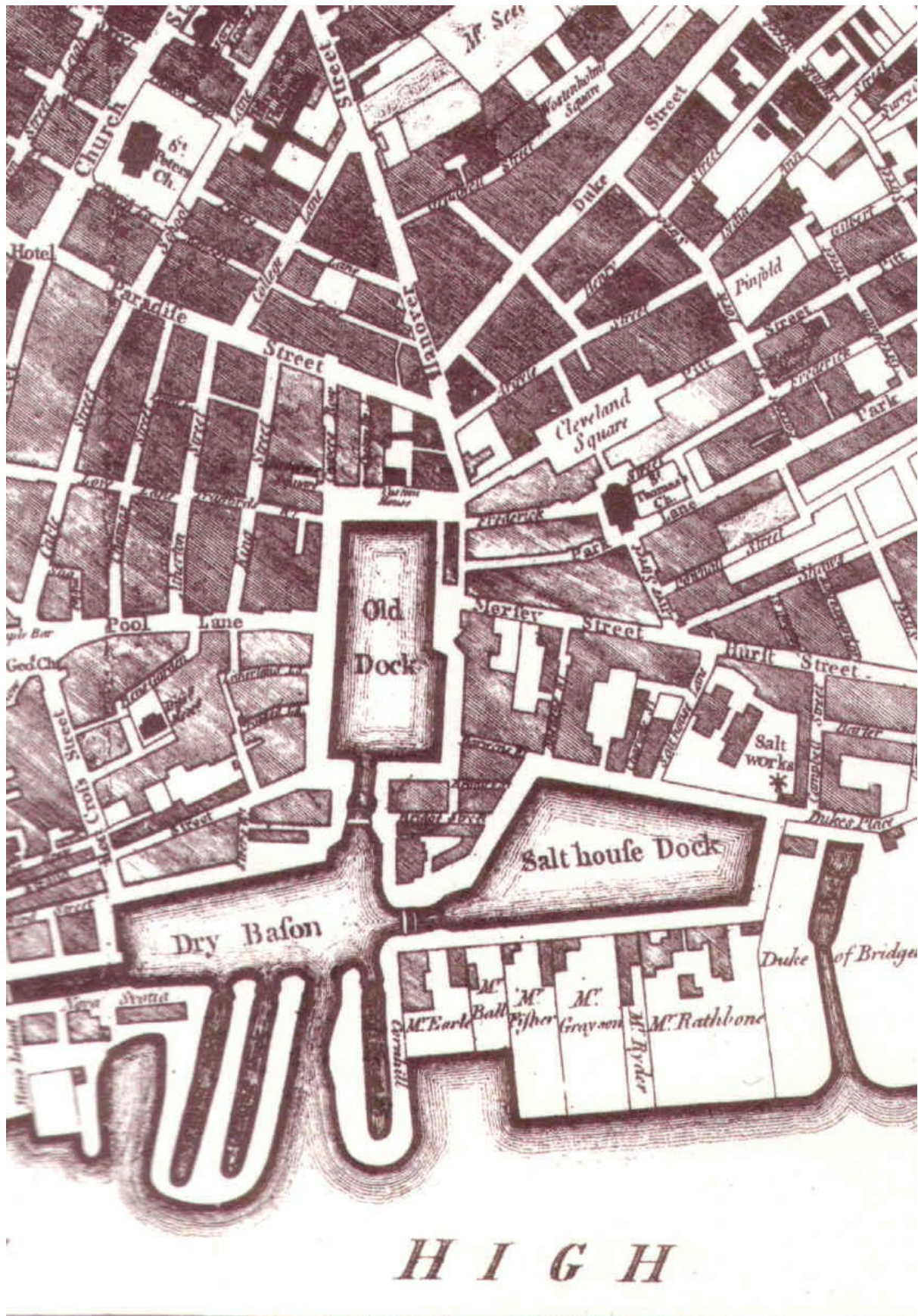
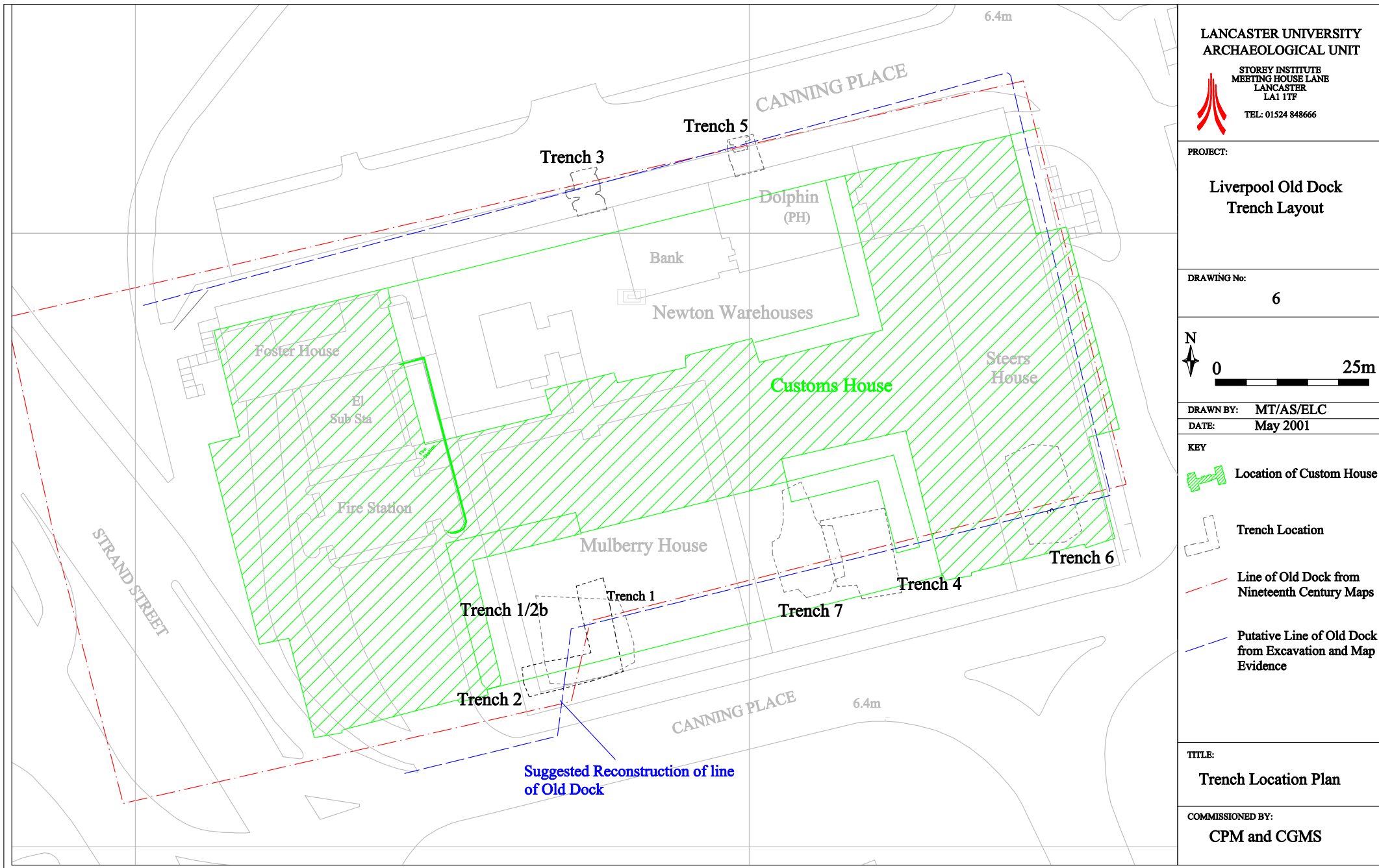


Figure 5 Plan of the Town and Township of Liverpool by Charles Eyes (1785) (Hf 912.1785)



LANCASTER UNIVERSITY
ARCHAEOLOGICAL UNIT





STOREY INSTITUTE
MEETING HOUSE LANE
LANCASTER
LA1 1TF
TEL: 01524 848666

PROJECT:
**Liverpool Old Dock
Trench Layout**

DRAWING No:
6

N
0 25m

DRAWN BY: MT/AS/ELC
DATE: May 2001

KEY
 Location of Custom House
 Trench Location
 Line of Old Dock from Nineteenth Century Maps
 Putative Line of Old Dock from Excavation and Map Evidence

TITLE:
Trench Location Plan

COMMISSIONED BY:
CPM and CGMS

Figure 6 Trench Location Plan and Putative Line of the Old Dock

PROJECT:

Liverpool Old Dock

DRAWING No:

7



DRAWN BY: ELC

DATE: March 2001

KEY

--- projected line of wall

■ sandstone

■ brick

- - - limit of excavation

TITLE:

Trench 1/2b

COMMISSIONED BY:

CPM and CGMS



Trench 1

Trench 1/2b

Trench 2b

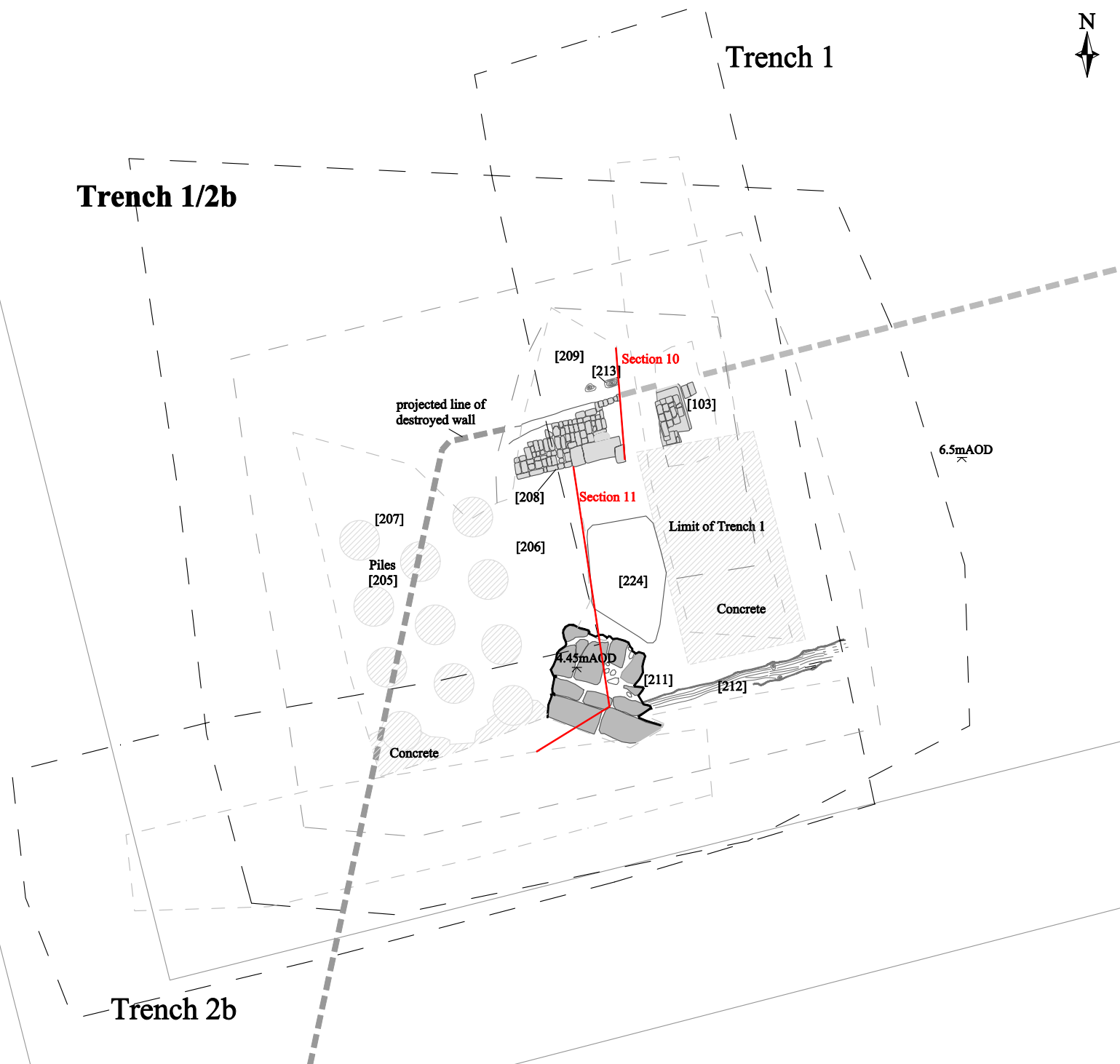


Figure 7 Plan of Trenches 1, 2b and 1/2b



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ARCHAEOLOGICAL UNIT

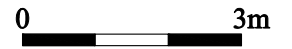
STOREY INSTITUTE
MEETING HOUSE LANE
LANCASTER
LA1 1TF
TEL: 01524 848666

PROJECT:

Liverpool Old Dock

DRAWING No:




8



DRAWN BY: ELC

DATE: March 2001

KEY

-  projected line of wall
-  limit of excavation
-  sandstone

TITLE:

Trenches 7 and 4

COMMISSIONED BY:

CPM and CGMS



Figure 8 Plan of Trenches 4 and 7



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PROJECT:

Liverpool Old Dock

DRAWING No:

9



DRAWN BY:

ELC

DATE:

March 2001

KEY



limit of excavation



projected line of wall

TITLE:

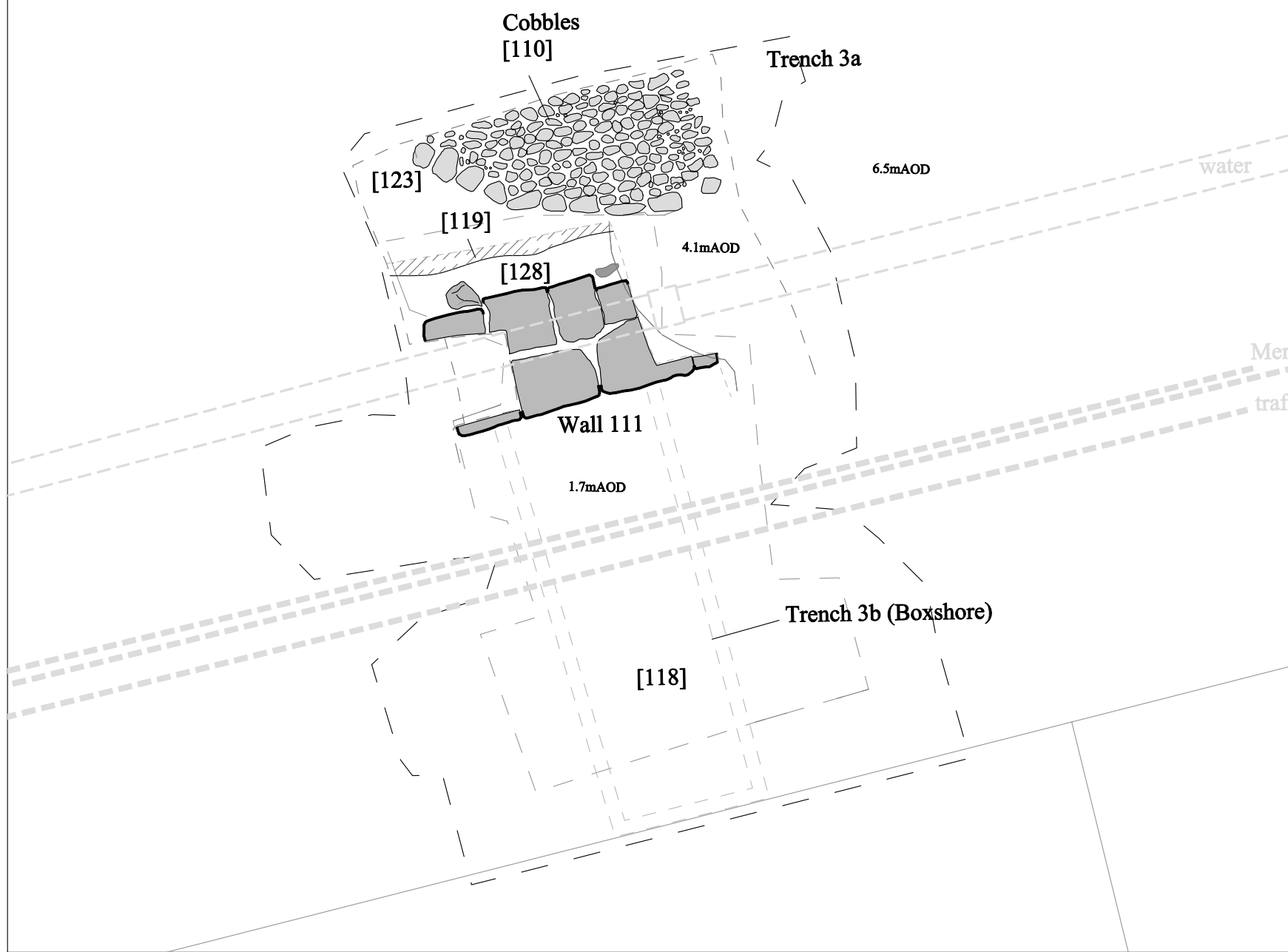
Trench 6

COMMISSIONED BY:

CPM and CGMS

Figure 9 Plan of Trench 6

Trench 3



PROJECT:
Liverpool Old Dock

DRAWING No:
10

DRAWN BY: **ELC**
DATE: **March 2001**

KEY

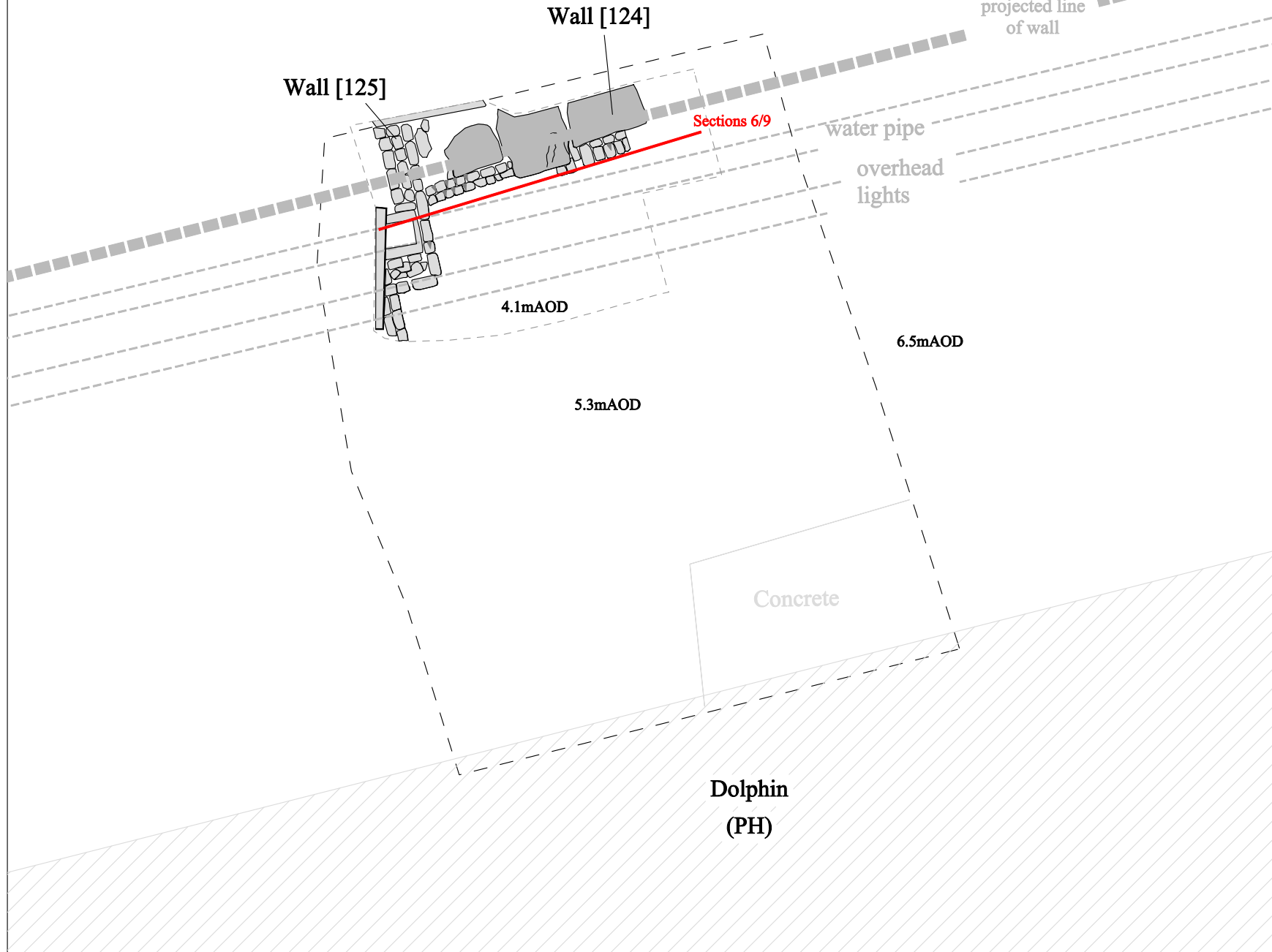
- services
- limit of excavation
- sandstone
- cobbles

TITLE:
Trench 3

COMMISSIONED BY:
CPM and CGMS

Figure 10 Plan of Trenches 3a and 3b

Trench 5



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PROJECT:
Liverpool Old Dock

DRAWING No:
11



DRAWN BY: **ELC**
DATE: **March 2001**

- KEY
- projected line of wall
 - services
 - sandstone
 - limit of excavation

TITLE:
Trench 5

COMMISSIONED BY:
CPM and CGMS

Figure 11 Plan of Trench 5

PROJECT:

Liverpool Old Dock

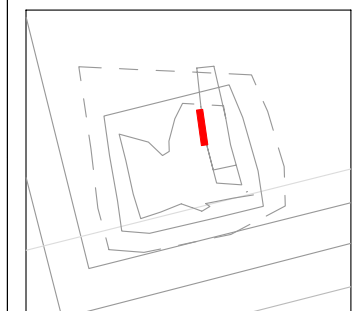
DRAWING No:

12

DRAWN BY: ELC

DATE: March 2001

KEY
sandstone
brick
timber



TITLE:

Trench 1/2b Section 10

COMMISSIONED BY:

CPM and CGMS

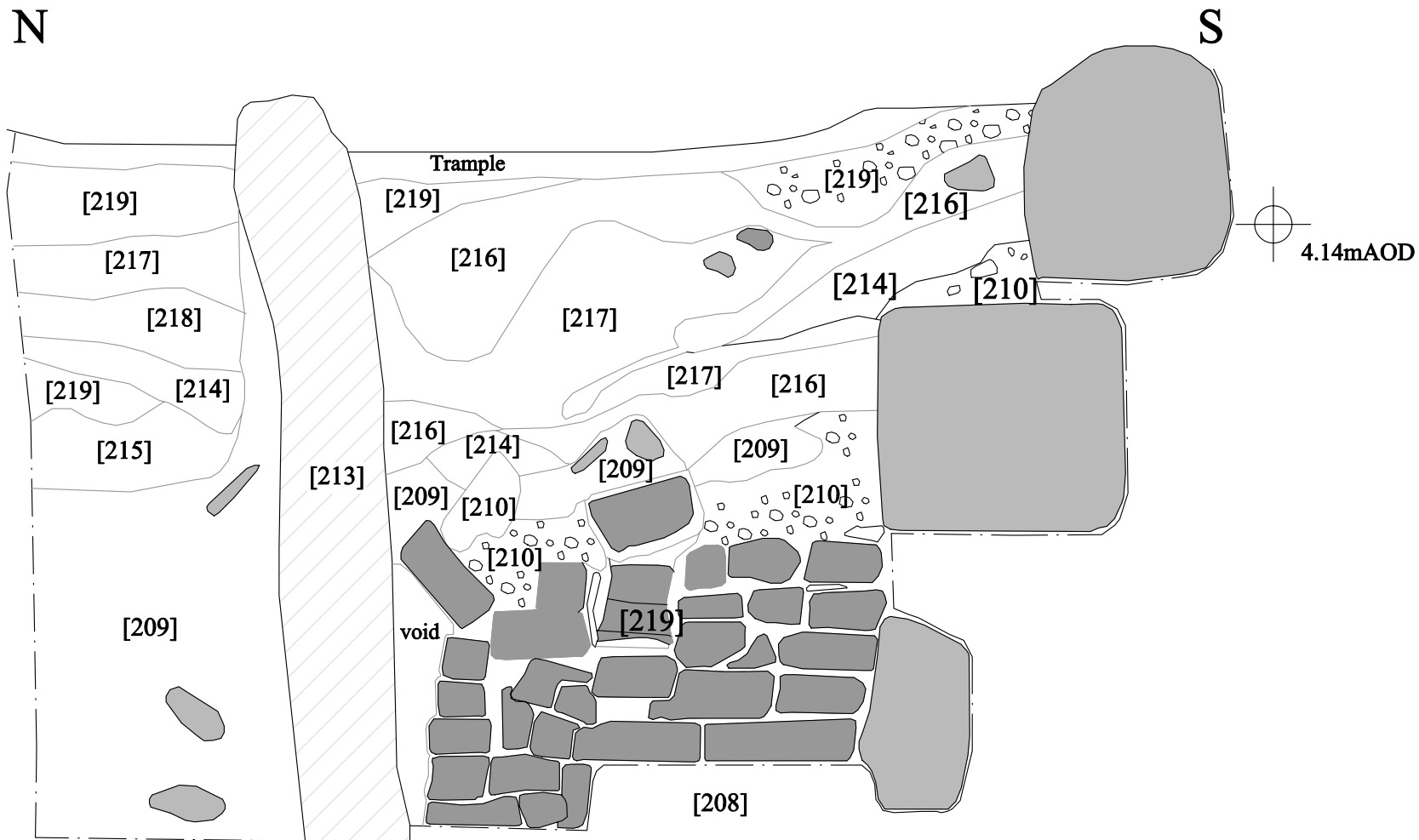



Figure 12 West-Facing Section Through Dock Wall, Trench 1/2b (Section 10)

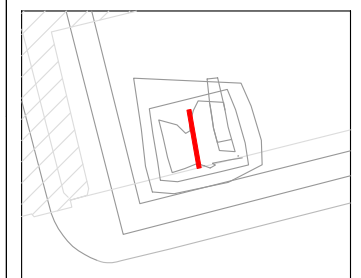
PROJECT:
Liverpool Old Dock

DRAWING No:
13

0 250mm


DRAWN BY: ELC
DATE: March 2001

KEY
 sandstone



TITLE:
Section 11, Trench 1/2b

COMMISSIONED BY:
CPM and CGMS

N

S

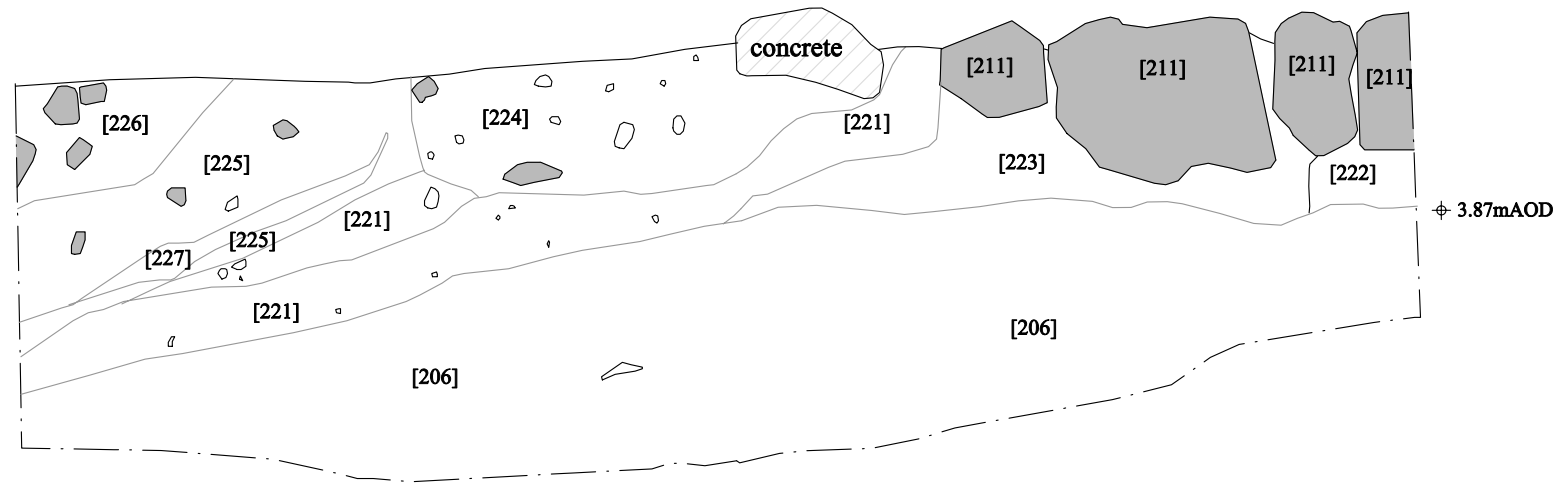


Figure 13 West-Facing Section Through Trench 1/2b (Section 11)

PROJECT:

Liverpool Old Dock

DRAWING No:













14

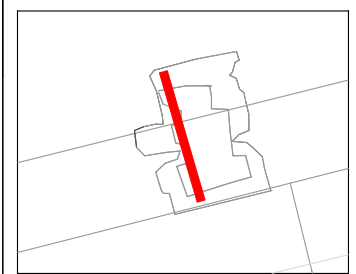
0 1m

DRAWN BY: ELC

DATE: June 2001

KEY TO DEPOSIT [118]

-  white sand
-  pink-orange sand with small stones
-  orange-red silty sand with small stones
-  stony red-brown silty sand
-  pink sand
-  stony red sand
-  pale pink-white stony sand
-  pale green sand
-  pale green gravelly sand
-  stony red silty sand
-  red sandy gravel
-  black humic silt



TITLE: Section 3, Trench 3a

COMMISSIONED BY:

CPM and CGMS

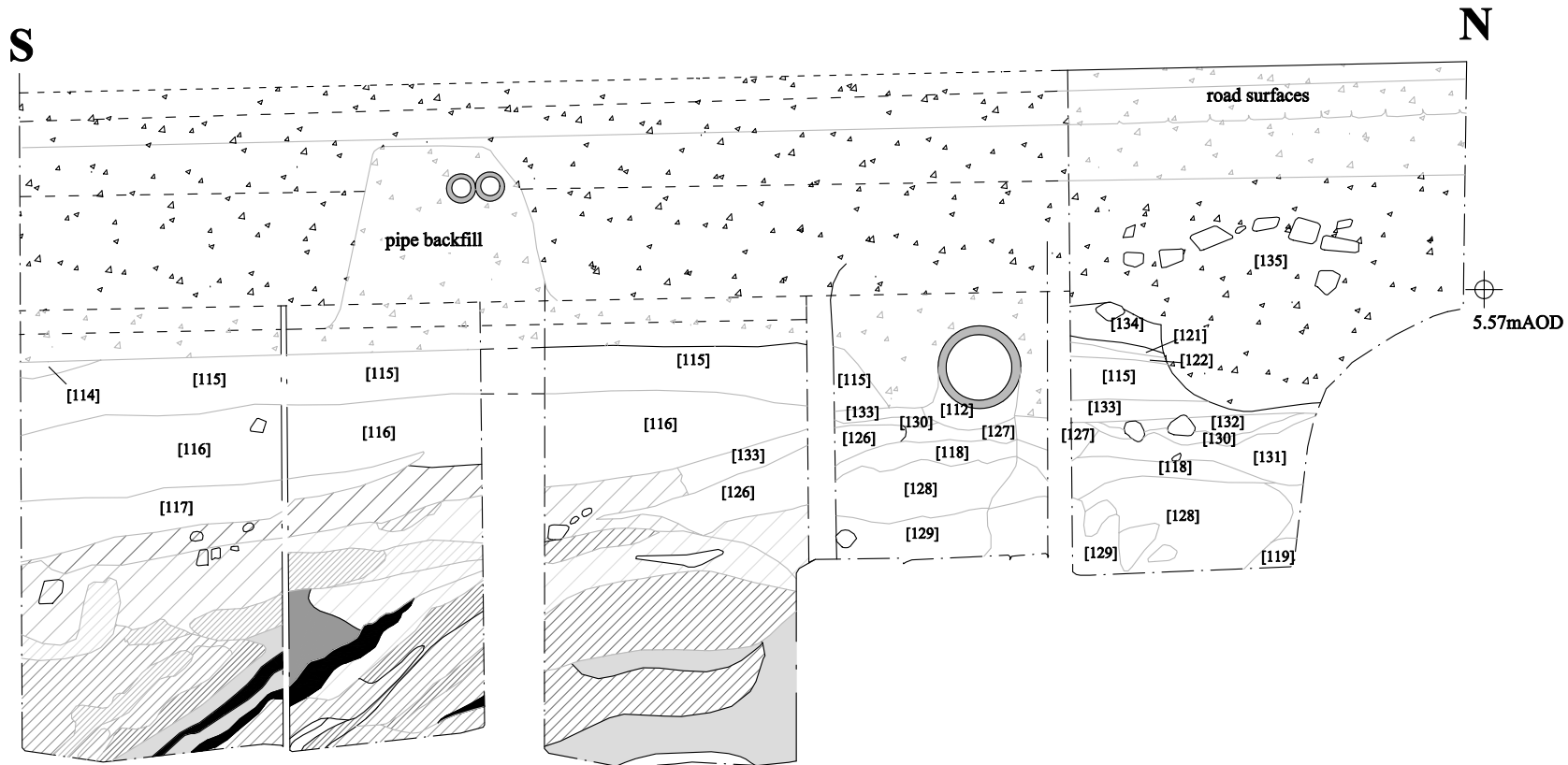


Figure 14 East-Facing Section Through Trench 3a (Section 3)

PROJECT:

Liverpool Old Dock

DRAWING No:

15

0 1.5m



DRAWN BY: ELC

DATE: May 2001

KEY



timber



TITLE:

North-facing elevation of
Trench 7

COMMISSIONED BY:

CPM and CGMS



Figure 15 North-Facing Elevation of Dock Wall in Trench 7



PROJECT:

Liverpool Old Dock

DRAWING No:

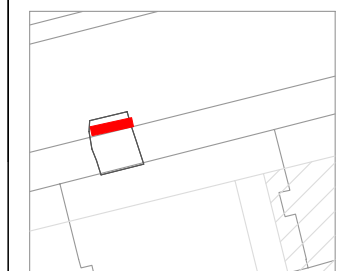
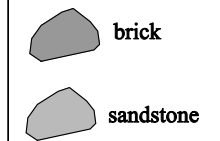
16



DRAWN BY: ELC

DATE: May 2001

KEY



TITLE:
Sections 6 and 9,
Trench 5

COMMISSIONED BY:
CPM and CGMS

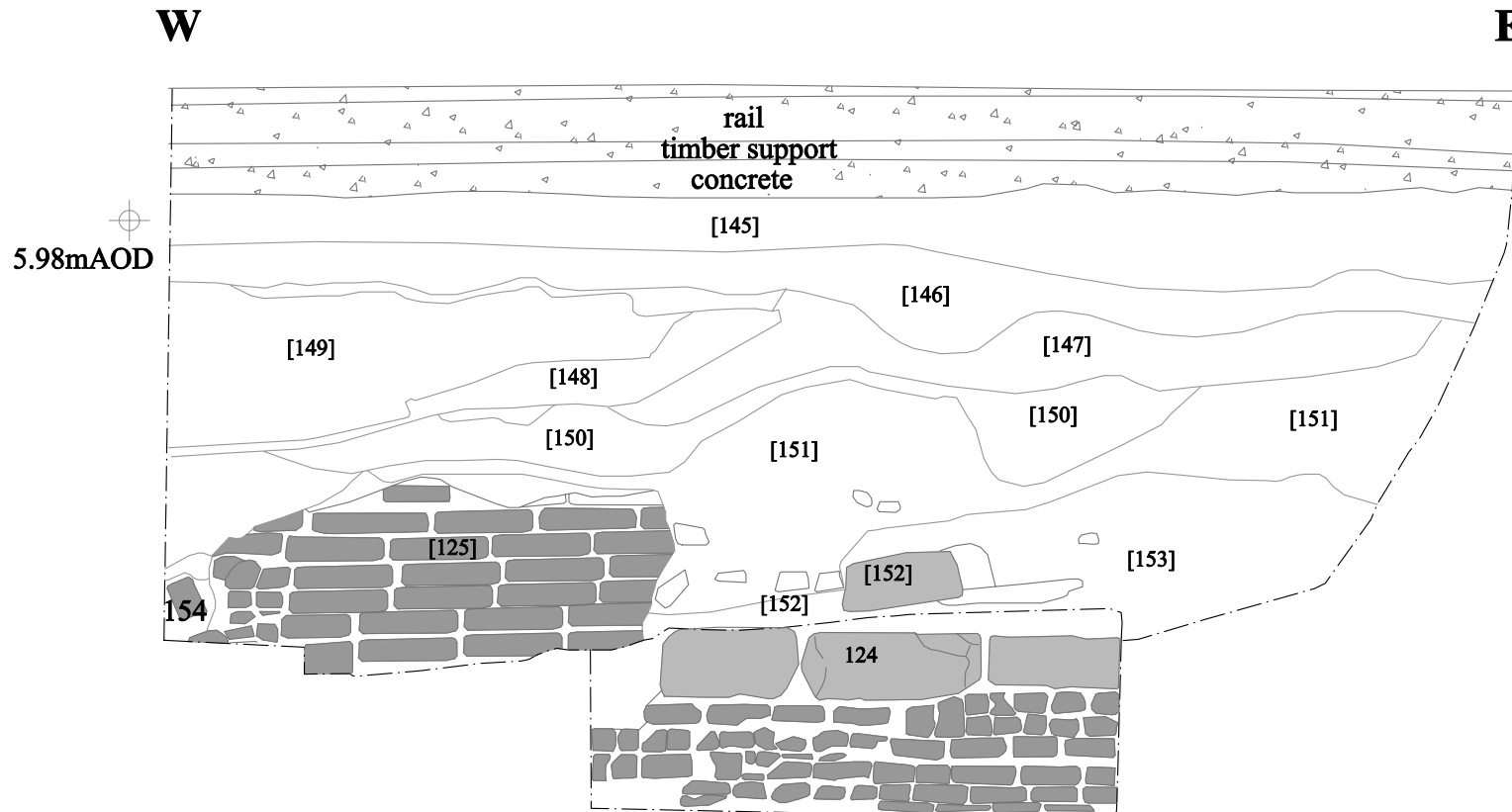


Figure 16 South-Facing Section Across Dock Wall in Trench 5 (Section 6/9)

PROJECT:

Liverpool Old Dock

DRAWING No:

17

0 1m

DRAWN BY: ELC

DATE: March 2001

KEY



TITLE: Section 12, Trench 7

COMMISSIONED BY:
CPM and CGMS



Figure 17 East-Facing Section of Trench 7 (Section 12)

PROJECT:

Liverpool Old Dock

DRAWING No:

18

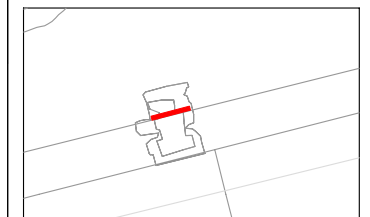
0 0.5m



DRAWN BY: ELC

DATE: May 2001

KEY



TITLE:

Elevation 7, Trench 3

COMMISSIONED BY:

CPM and CGMS

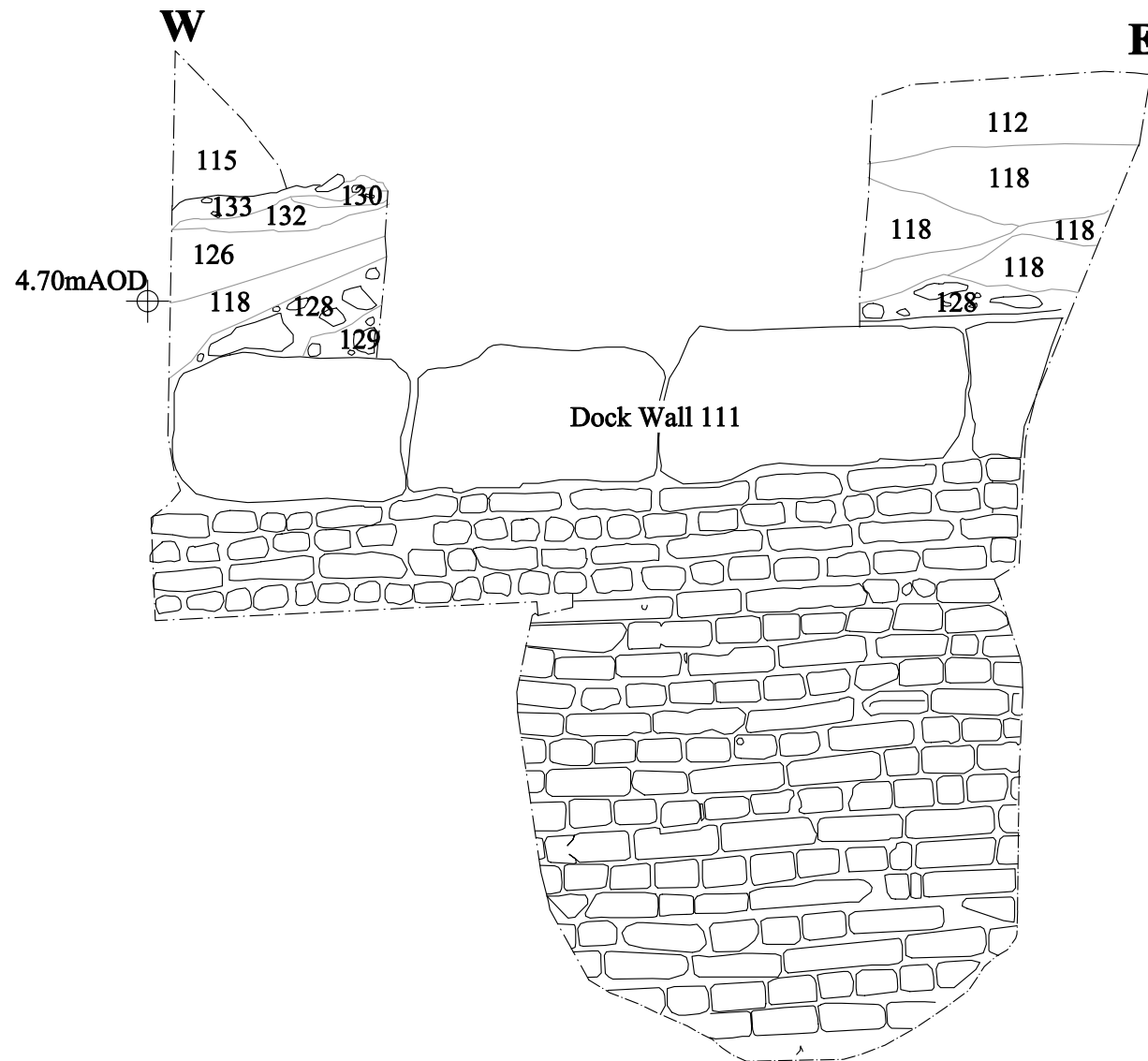


Figure 18 South-Facing Elevation of the Old Dock Wall, Trench 3a/3b

PROJECT:

Liverpool Old Dock

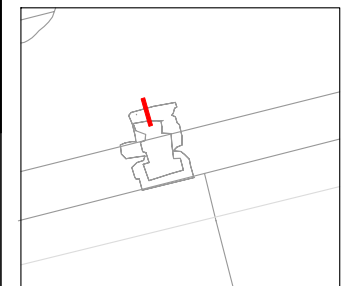
DRAWING No:

19

DRAWN BY: DWE/ELC

DATE: May 2001

KEY



TITLE:
Profile through Dock
Wall, Trench 3b

COMMISSIONED BY:

CPM and CGMS

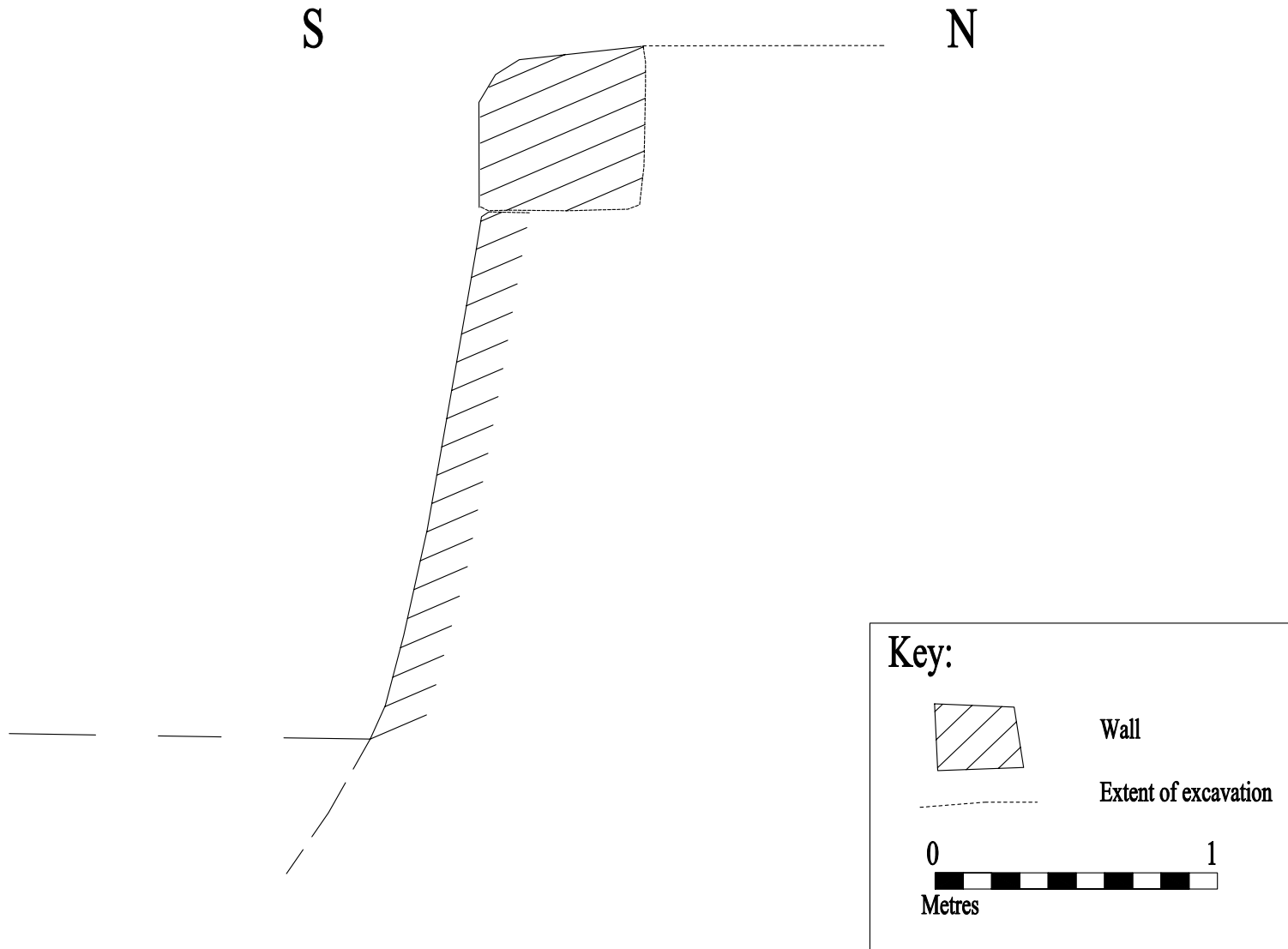


Figure 19 Profile Through North Side of Dock Wall (Trench 3b)



Plate 3 General view of Dock Wall and quayside in Trench 1/2b – looking north-west



Plate 4 Surviving section of quayside [211] in Trench 1/2b

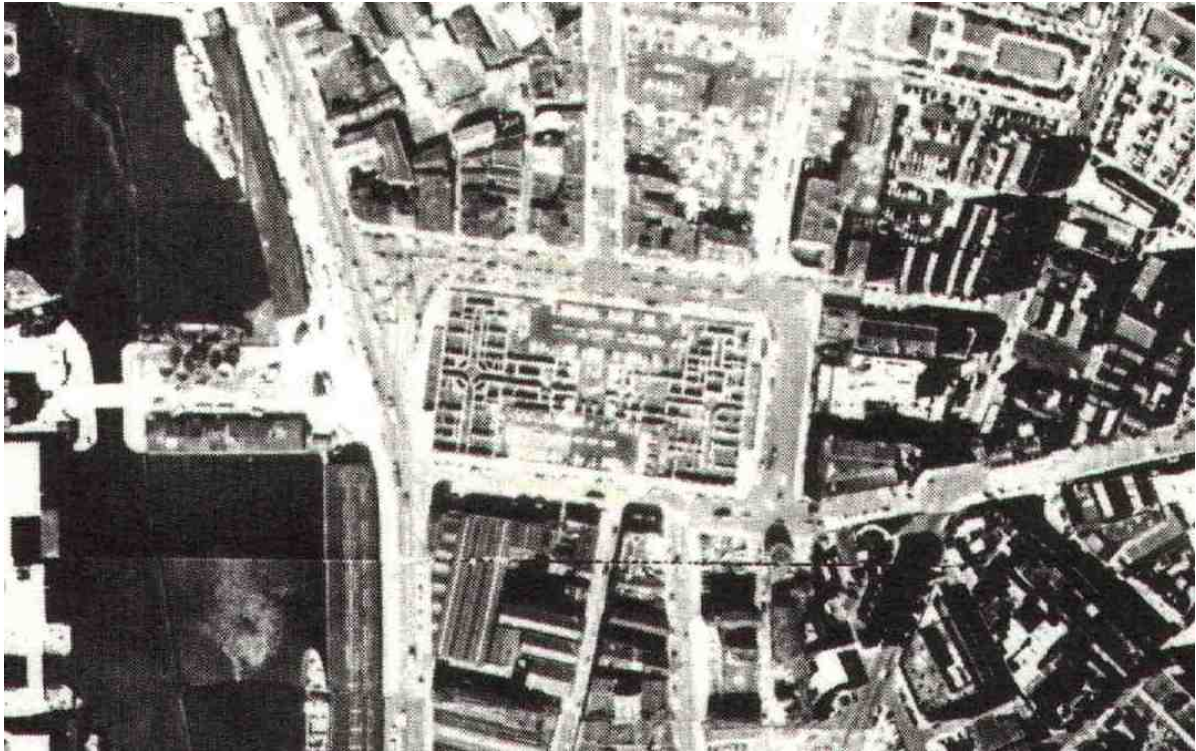


Plate 1 Vertical Aerial Photograph of the site prior to construction of the 1960s building, showing the bombed out Customs House



Plate 2 General view of Canning Place from the north-west



Plate 5 Section 10 (Trench 1/2b), showing fender [213] against the Dock Wall – looking east



Plate 6 General view of stepped Trench 4 showing Dock Wall – looking south



Plate 7 Oblique view of Dock Wall [155] in Trench 4 – looking south-west



Plate 8 Dock Wall [155] in Trench 4 – looking south



Plate 9 Elevation of Dock Wall in Trench 7, facing north



Plate 10 Large sandstone blocks in Trench 6, not *in situ* – looking east



Plate 11 South facing elevation of the old Dock Wall in Trench 3a



Plate 12 Cobbled Surface [110] in Trench 3a – looking east

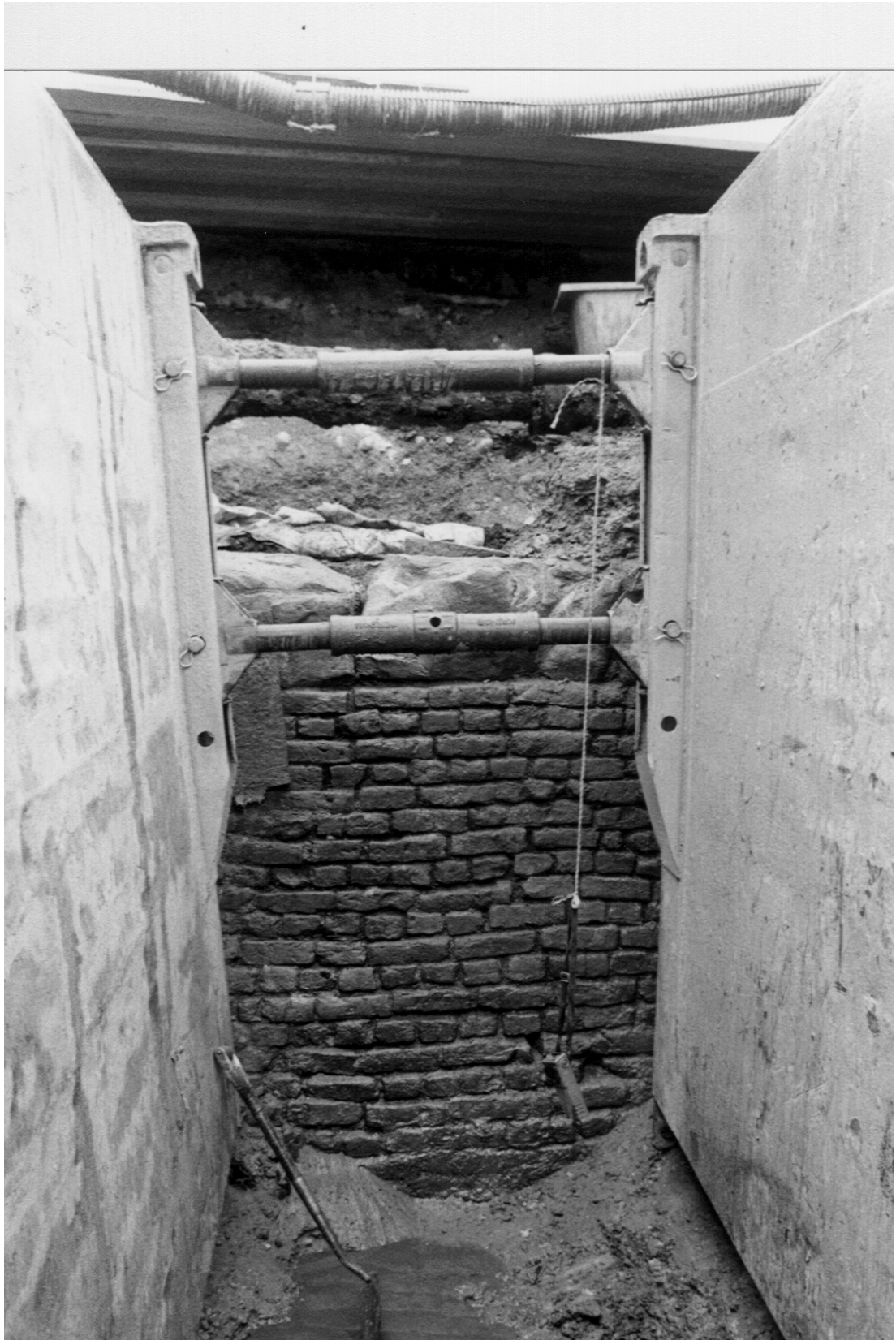


Plate 13 South facing elevation of Dock Wall in Trench 3b