

The Civil War defences of East London reviewed: preliminary results

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This article presents a summary of research undertaken by Mills Whipp Projects (MWP), and funded by Historic England (HE), to re-examine the location of the Civil War Defences on the eastern side of the City of London.

A detailed report will be issued in due course, but HE feels the results are so significant that a preliminary summary needs to be in the public domain, not only to provide the interested public with the latest discoveries, but also to assist planning archaeologists, consultants and developers in central London.

Background

Late October 1642 saw a series of defences erected to defend London during the English Civil War. The first phase seems to have been built *ad hoc* in a panicky anticipation of the King

attacking London after the Battle of Edgehill on 23 October. As the threat subsided, more organised and better designed defences were erected from February 1643 onwards.¹ It appears the early defences consisted of small forts and adjacent slit trenches combined with guard houses (Courts de guard), turnpikes and chains across roads.

The second phase was a development of the first, comprising a series of forts linked by trenches and ramparts which were referred to as the Lines of Communication. This second phase was designed, at least in part, by professional military architects.

In the latter part of 1647, the New Model Army, under General Fairfax, occupied London and ordered the slighting of the defences ostensibly to save money, but in fact to prevent independent action by London.

Where were the defences?

Locating these defences has been a problem for many years. No detailed contemporary map of the circuit has been found and contemporary views were rather fanciful (Fig 1). A map produced by George Vertue in 1738, supposedly based on earlier information, has been the mainstay for locating the Civil War Defences (Fig 2). The sparse contemporary written sources have been used to supplement the later Vertue map rather than being used for critical cross-referencing.

So, on the basis of the Vertue map, numerous excavations have been undertaken during the past 50 years looking for the defences. However, the defences have remained stubbornly elusive with only two successful instances, one near the British Museum (MBP09)² and another near City University (SEN16), where excavations revealed unequivocal elements of the Civil War Defences. In both cases, their locations were confirmed by contemporary local maps, rather than Vertue's map.

Vertue's map (Fig 2)

The reason for this lack of archaeological evidence corroborating Vertue's map is simple – Vertue's map is a deliberate forgery. It was falsely claimed to be based on a Hollar map. He misread contemporary sources and collaborated with a quack doctor (who also reported seeing a UFO) to identify the then visible lumps and bumps in fields (some real Civil War Defences, some not), and used his vivid imagination to produce a bogus but plausible map.

However, as a forger he was surprisingly slipshod (to modern eyes) in the finer points of the map. Details on Vertue's map clearly demonstrate

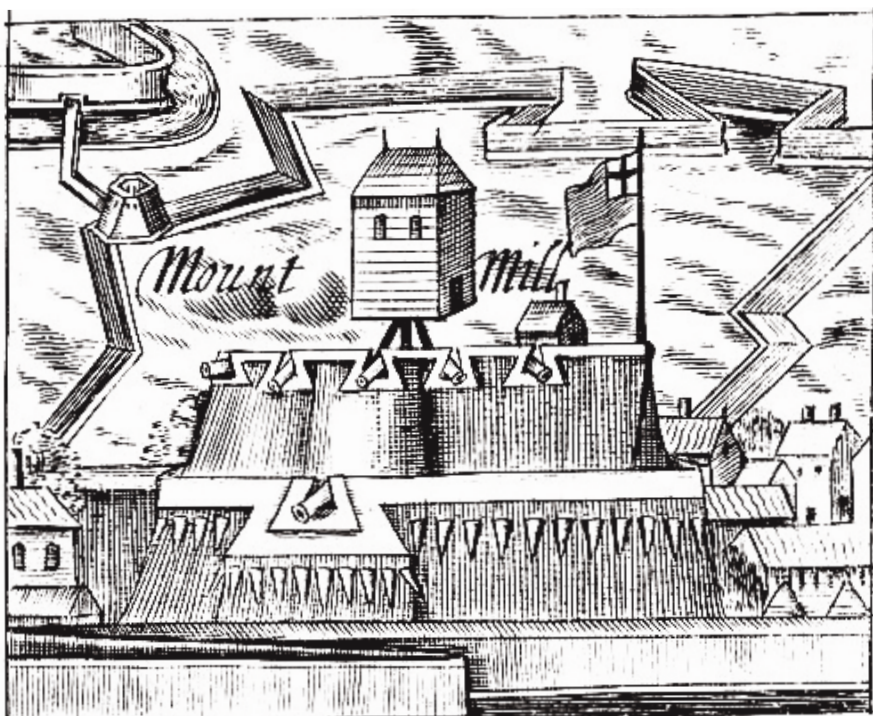


Fig 1: a rare example of a contemporary view of a Civil War fort: Mount Mill Fort stood on the Goswell Road, west of the study area (reproduced under CC Licence)

that it was created later than the Civil War. For example, the map shows St James's Square, St James's Street and Piccadilly as fully developed, but that whole area was open ground until the 1660s. Furthermore, the list of forts given by Vertue agrees neither with the Orders of Common Council nor with the description of William Lithgow, a Scots traveller who explored the defences and published his account in a pamphlet in May 1643.³ Vertue's identification of Whitechapel Mount as the Whitechapel Fort has caused immense confusion.

For the sake of plausibility, the artistic style of the Vertue map is deliberately coarse, mimicking a rough woodcut map. This is the equivalent of producing 'distressed' antique furniture for the unwary. The bogus stylistic presentation means there can be no charitable interpretation of the forgery – it was a deliberate hoax.

This was not Vertue's only forgery. He has been implicated in a fake portrait of Shakespeare, while another of his forgeries – the supposed interior of St Thomas' Chapel London Bridge – has recently re-appeared in print.⁴ He faked several panels of the Agas map when only incomplete versions were known, leading historians astray for 150

years until unmasked in the late 19th century. His fake Civil War Defences map has been even more successful – he has misled everybody for almost 300 years. Once Vertue's impudent forgery is removed from the research framework, then the true locations of the Civil War Defences can be considered.

The pilot study area: Wapping to Hoxton

While researching a site in the Whitechapel area it became clear that there was a major discrepancy between the suggested Civil War Defence locations indicated by the Historic Environment Record (HER), based on Vertue's map, and the other documentary evidence. In particular, the description of the location of the Whitechapel Fort, ordered by the City in 1643, did not match the HER location.

The City Fort was located at the Whitechapel 'windmills'. Whitechapel, in the 17th century, was a small, extramural linear suburb with a windmill (the plural is a scribal error)⁵ clustered around St Mary Matfelon Church. The fort location given by the HER stood 300m further east in the hamlet of Mile End where no windmill is shown on any maps. This presented a problem.

The key was the discovery of a map produced⁶ in the aftermath of the Great Fire in 1666. The map itself is of no great consequence or originality, but somebody between 1666 and about 1680 drew a sketch line on the map showing the Lines of Communication to the east and north of the City with rough squiggles for a few forts. This line is too faint to be reproduced here.

In the latter part of the 17th century, the remnants of the Lines were used as a local tax boundary for London, being a simple physical definition of monetary liabilities. Presumably, the annotator wanted to provide a visual aid for tax purposes. What the Great Fire map did demonstrate was the wide difference between the Lines visible in the last quarter of the 17th century and the fictitious defences shown by Vertue.

HE was approached with the basic information gleaned up to that point. On the basis of the map's discrepancy and initial indications that archaeological site records could also help, MWP were commissioned by HE to undertake research in a Pilot Study Area (Fig 3) to establish whether the location of the Lines and Forts could be identified with any greater certainty. This area, east of the City,



Fig 2: the Vertue map of 1738 (reproduced under CC Licence)

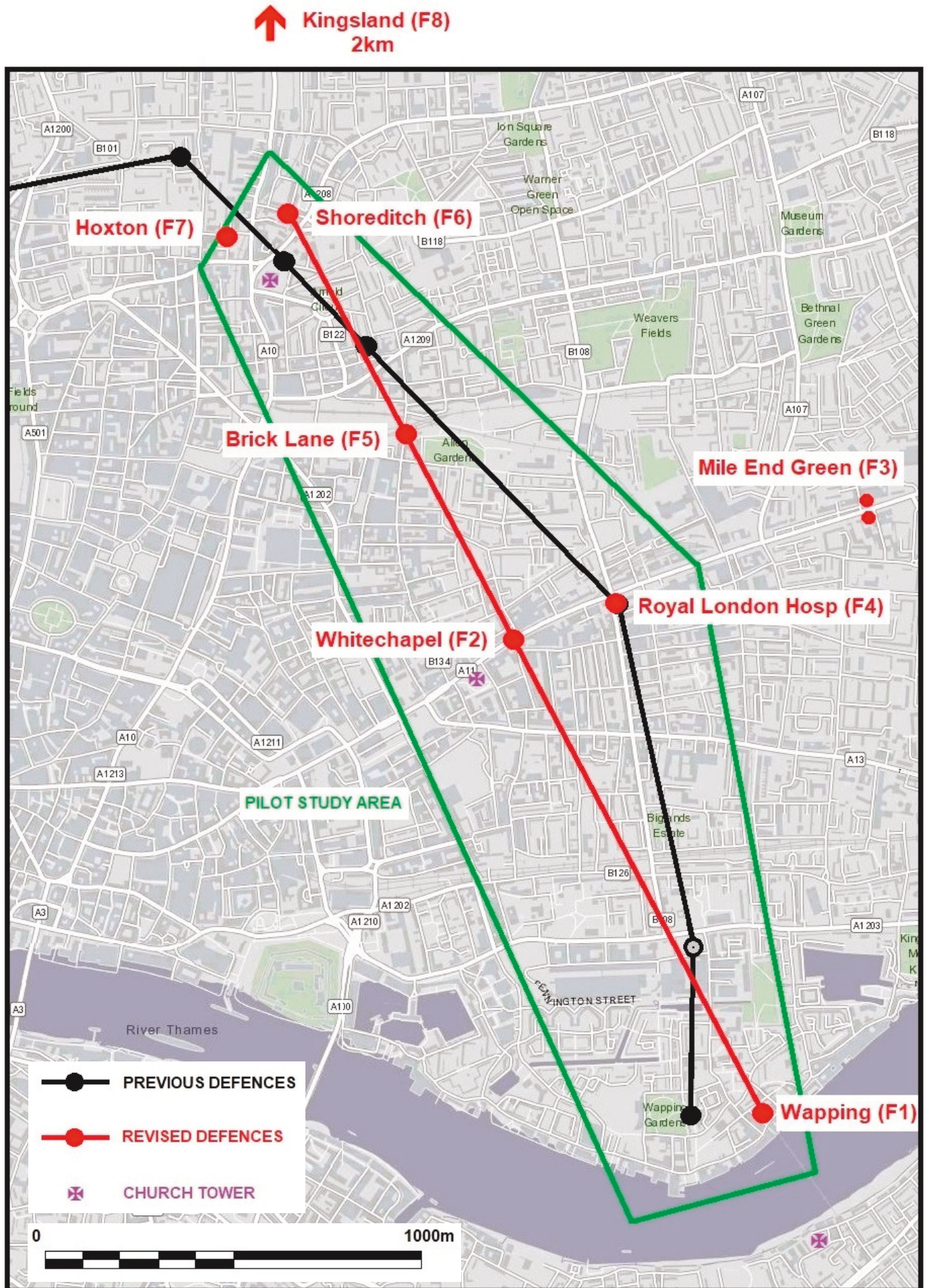


Fig 3: the Pilot Study Area depicting the revised defences discovered during the project © Crown copyright (Licence No.10049264)

was chosen purely because of the chance anomaly noticed while researching the Whitechapel site.

The focal point of the research has been straightforward: where are the forts? Other aspects of the Civil War Defences have tangentially come to light which have coincidentally upended conventional thinking.

Combining a careful reading of the contemporary documents and a re-examination of the archaeological records of excavations within the Pilot Study Area, the project began to try and identify the location of the Lines and the Forts. We have also tentatively quantified possible archaeological survival in the locations of the Civil War Defences.

The results have been dramatic. The research has radically revised the location of the Forts and the Lines first proposed in the 18th century (Fig 3). Archaeological evidence for a number of forts has been identified for the first time. Unfortunately, there is only space here to outline the conclusions, not the detailed research evidence behind them, which fills four substantial volumes. As noted above, the purpose of this article is to provide a planning tool rather than a full academic study. Also the number of illustrations is limited. It is assumed readers will have access to online copies of the maps of Chassereau, Rocque, Horwood, etc.

The numbers of the forts and the Lines of Communication (F1, LoC1 and following) in this article are

preliminary ones given by MWP. The numbering may be revised as and when the full circuit has been re-examined, perhaps reflecting the construction sequence.

Main sources and sequence

The principal sources for the location of the defences are the City records and a pamphlet produced by William Lithgow, the Scots traveller.⁷ The description of the defences given here follows the anti-clockwise order of the defences, as issued by the City in February 1643.

Within the Pilot Study Area, on 23 February 1643, the City Orders of the Common Council of the City resolved:

That a small Fort conteyning one bulwarke and halfe and a battery in the rear of the flanke to be made at **Gravel [Wapping] lane end**. A hornworke with two flankers to be placed at **Whitechappell** windmills. One redoubt with two flankers **betwixt Whitechappell Church and Shoreditch**. Two redoubts with flankers **neere Shoreditch Church** with battery.⁸

The same anti-clockwise route was followed by Lithgow. His account has been regarded as highly unreliable, but in combination with other sources indicates that, while he may have exaggerated the strength of the defences (he was publishing with the tacit approval of the City during the Civil War after all), his observations on locations were sound (Fig 3).

Locations of the forts

Wapping Fort (F1)

The first fort in the circuit lay in Wapping, facing east and south to guard the approaches to the City by river. On the other side of the Thames, another fort stood near Rotherhithe church. The crossfire from Wapping and Rotherhithe would present a major obstacle to any incursion by ships. There are two contemporary references to the fort:

That a small Fort conteyning one bulwarke and halfe and a battery in the rear of the flanke to be made at **Gravell lane [Wapping Lane] end** (City Order 1643);

Wapping, ... here close by the houses and the River Thames, I found a seven angled Fort...⁹

It is clear from these descriptions that the fort stood in the midst of the housing in Wapping.¹⁰ The sketch of the Lines of Communication on the Great Fire map in 1666 leads to an island of buildings on the east side at the end of Wapping Lane.

Excavations at Cinnamon Street (WPO08) revealed ditches, one with a wooden revetment and traces of a brick building of the mid-17th century. These may well be the remnants of Wapping Fort. A 'hump' about midway down Wapping Dock Street may represent a visible trace of the fort. There is still a reasonable area of undisturbed land around the excavated area, so more of the possible fort may yet be found.

Lines of Communication:

Wapping to Whitechapel (LoC1):

From Wapping, the Lines of Communication led to the fort at Whitechapel at the end of that suburb.

Advancing thence along the trench dyke (for all the Trenches are deep ditched about) which runneth **through Wappinge Fields, to the further end of Whitechappell**, a great way without Aldgate...¹¹

An excavation at Tobacco Dock (TOC02), on the Highway, revealed a flat-bottomed ditch. There was no dating material (it is thought to be Roman on stratigraphic grounds), but the excavation at least demonstrated reasonable archaeological survival in the area. The Lines are shown on the Great Fire map of 1666 leading northwards from Wapping to the Whitechapel Fort.

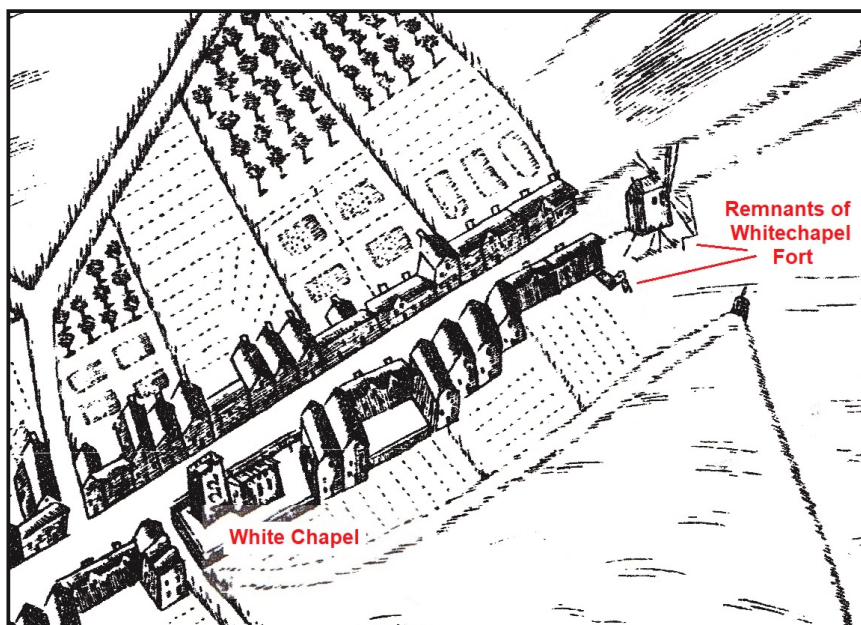


Fig 4: the Faithorne & Newcourt map of 1658, showing the remains of the Whitechapel Fort

Whitechapel Fort (F2)

In the mid-17th century, the name 'Whitechapel'¹² referred to the linear suburb between Aldgate and Plumbers Row. A windmill stood at the end of the houses, near the junction of Plumbers Row and Whitechapel Road.¹³

Two contemporary descriptions of the fort have been located:

A hornworke with two flankers be placed at **Whitechappell** windmills. (City Orders Feb 1643);

Advancing ... to the further end of **Whitechappell**, a great way without Aldgate, and on the road way to Essex, I saw a nine angled Fort....¹⁴

Traces of the fort are visible on the Faithorne and Newcourt map of 1658 (Fig 4), but these have not been recognised previously by modern historians. The sharp angles forming part of the defences can be clearly seen. When Newcourt was surveying in the 1640s, all the Lines would have been visible, but for many reasons it was not politic to show the defences by 1658. However, it looks as if details of the fort were accidentally included when Faithorne engraved the map plates.¹⁵

Whitechapel Fort, according to the Great Fire map, possibly straddled the main road, its southern defences standing roughly on the site of the former Whitechapel Bell Foundry at Whitechapel High Street and Plumbers Row.¹⁶ Nearby stood a windmill. To the west lay St Mary Matfelon, the White Chapel (a chapel of ease to Stepney). The spurious location given by Vertue at the Royal London Hospital lay considerably further to the east (Fig 3). On the Rocque map of 1746, the Horwood map of 1799 and on the early OS maps, the site boundaries depicted are irregular, perhaps reflecting vestiges of the fort surviving as property lines.

The site of the Whitechapel Bell Foundry has been archaeologically examined by an evaluation in 2019 (WBF19). Deep 17th-century features were found indicating excellent archaeological survival.¹⁷ Redevelopment is planned for the site.

Mile End Green Forts (F3)

This area was the common attached to the hamlet of Mile End on the main road to Essex. These fortifications were part of the first phase of 1642 defences and did not form part of the 1643

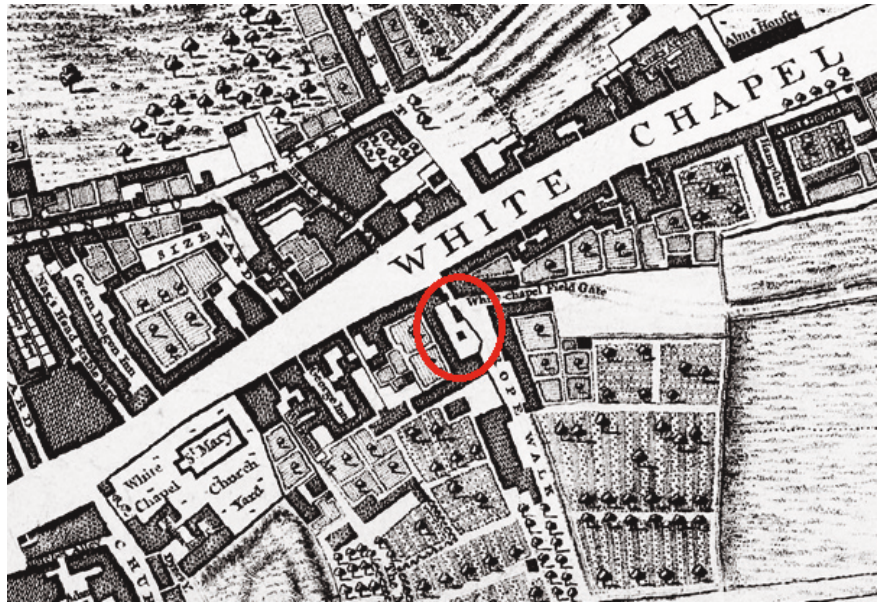


Fig 5: Rocque's map of Whitechapel with the possible remnants of the Whitechapel Fort (ringed in red) visible at the western end of Whitechapel Field Gate

enceinte. Documentary sources stated: the Saylor's are raising of a Mount and Trenches at **Mile-end Green** neere Stepney, where women of good fashion and others, as also children, labour hard at the worke....¹⁸

When Lithgow visited Whitechapel, he looked eastwards, but apparently did not bother with a detour:

Where [from Whitechapel] towards **Myle-end green** I beheld there two pettie [small] Forts or Redoubts ... that secure the passage way.¹⁹

Little can be said about these forts at Mile End Green, roughly where Stepney Green Underground Station now lies. With Lithgow's reference, it seems reasonable to assume they lay either side of the main road.

In November 1642, Sir Kenelm Digby, a Royalist, was arrested at Mile End while viewing the defences in disguise.²⁰ This suggests the forts provided a roadblock to check traffic.

Royal London Hospital Fort (F4)

There is no mention of a fort in 1643 either in the City Orders or in Lithgow where the Royal London Hospital now stands. However, a massive fort is shown in the background of Hollar's panorama of London 1647 (Fig 6) on the site of the Royal London Hospital. Surprisingly, this fort has not been noticed by previous researchers in this subject, although the panorama has been publicly available for many years.²¹ Furthermore, the presence of

this fort was confirmed in 1673 when Christopher Wren applied for planning permission:

The plot represents a parcel of land called Westheath, through which the great road leads from Aldgate to Mile-end; bounded on the west with a brick wall and a mud wall called **the Fort**.²²

Wren also produced a map, which has survived only as a rough woodcut copy, showing the fort as a significant earthwork (Fig 7) on the south side of the main road.

This is a major puzzle. The City did not order a fort at this location; there was apparently no fort in 1643 when Lithgow was exploring;²³ but there was clearly a substantial fort in 1647. Furthermore, in August 1647, General Fairfax with the New Model Army captured London and immediately ordered the slighting of the Lines of Communications and Forts. No major fortifications should have been visible.

The answer may be provided by the Venetian Ambassador, who reported in October 1647:

Parliament has decided to maintain 18,000 foot and 8,000 horse for the security of the realm. But this depends upon **Gen. Fairfax** who, now the Fortifications of London are demolished, is laying the foundations of three Forts in different places which will be **three citadels to bridle the city** and all the people.²⁴

It is possible that the Royal London

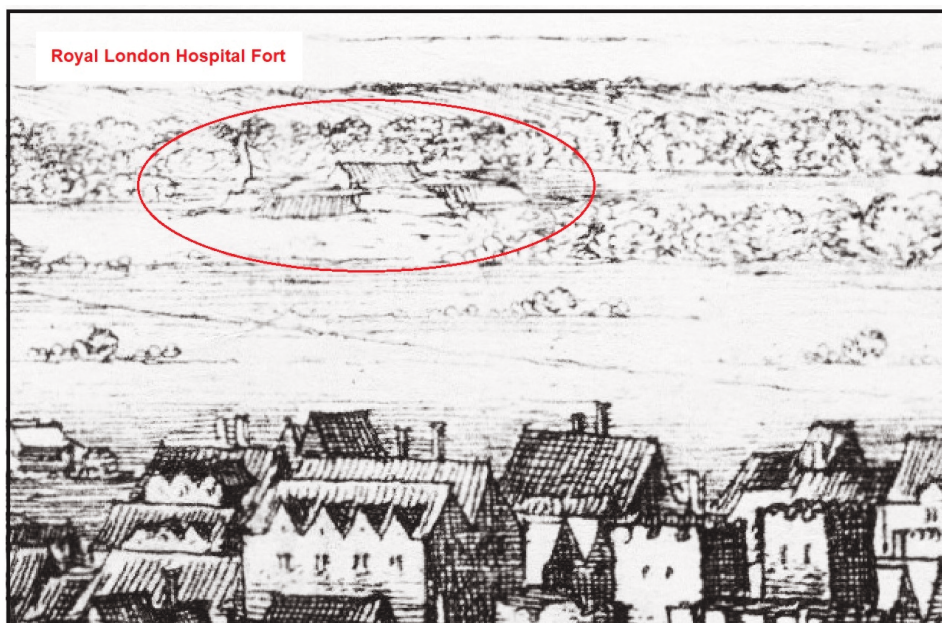


Fig 6: detail from the Hollar map (1647) with the Royal London Hospital Fort in the background

Hospital fort is one of these citadels. In building citadels, Fairfax was following recommended military practice:

Now having the Fortresse surrendered upon composition, the Generall must consider, whether he be able to maintain it, and whether the profit of it will be answerable to the charge: which if it be, he must **rase downe all the out-Trenches which the Enemy made** ... and then to **draw his Army into convenient Garrisons**, that they may be fit for the next employment of the Prince.²⁵

Anyway, the fort was a major landmark and features in 18th-century engravings of the hospital (Fig 8). By that time, the City used the area as a rubbish dump, possibly a use dating back to 1666 for Great Fire debris, hence the Mount had been considerably augmented.

Most of the Mount was cleared in the early 19th century. The remnants of the fort are still visible as a rise in the road at the junction of New Road and Whitechapel Road and the adjacent Royal London Hospital car park.

If this is one of the Fairfax citadels, then this represents a significant new area of research for military history and sheds new light on the complex relationship between the New Model Army, Parliament and the City. Archaeological survival on this site is likely to be reasonably good.

Lines of Communication:

Whitechapel Fort to Brick Lane Fort (LoC2)
The description of the Lines of

Communication from the Whitechapel Fort (F2) to Shoreditch Fort (F6) was given by Lithgow:

From **White chappell Fort** Northwestward, I trenched along the Trenches to **Shoarditch Fort**.²⁶

The Great Fire map shows the approximate position of the Lines of Communication, but no fort between Whitechapel and Shoreditch is marked.

Archaeological evidence from a watching brief at Spelman Street (SPE95), just north of the old Bell Foundry, may indicate a linear feature on the same alignment as the projected Lines. Even if that feature is not part of the Lines, there is enough evidence to demonstrate that archaeological survival is generally good and suitable for considering investigations into the broad line of the defences.

Brick Lane Fort (F5)

In February 1643, a Resolution of Common Council required the building of: 'One redoubt with two flankers **betwix Whitechappell Church and Shoreditch**'.²⁷ This fort would have stood on Brick Lane in open countryside, which may seem odd given the other forts were in key strategic positions. Perhaps with open terrain it may have seemed sensible to provide defences to pre-empt a Royalist attack from the north through the countryside.²⁸

In early May 1643, Lithgow made no mention of this fort (called Brick Lane Fort by later sources). However, it is possible that this fairly minor fort was

not built by the time he visited. It does not appear on the Great Fire map, but it should have been flattened by order of Fairfax in 1647.²⁹

However, archaeological investigations (GIM09) for a new railway bridge on the east side of Brick Lane uncovered 17th-century features. These included double ditches, a curved ditch and re-used medieval masonry, perhaps from Holywell Priory. Double ditches are a feature of military defences and were mentioned by David Papillon, a military engineer living in London in 1645. When giving advice on building the defences of a fort, he was openly dismissive of London's Civil War Defences:

Your great ditch being twenty foot broad ... is farre safer than these **small double ditches**, having a bank of earth some two foot broad left between them, used and erected about the **London Redouts**.³⁰

The documentary reference and archaeological evidence give a reasonable indication of the location of the fort and survival seems good.

Brick Lane to Shoreditch Lines (LoC3)

Lithgow noted:

From **White chappell Fort** Northwestward, I trenched along the Trenches to **Shoarditch Fort**.³¹

In addition, the Great Fire map shows the broad course of the Lines of Communication but does not show any detail. The approximate route of the Lines between the two forts is, therefore, known. As noted, archaeological investigations around the Brick Lane Fort (F5) area have demonstrated that there is reasonable archaeological survival in some areas, so traces of the Lines may survive.

Shoreditch Fort (F6)

The Resolution of Common Council in February 1643 ordered the construction of: 'Two redoubts with flankers **neere Shoreditch Church** with a battery'.³²

In May 1643, Lithgow wrote:

Shoarditch Fort, standing mainly quadrangled, single pallosaded, and single ditched, carrying on three corners of the four, eight Demicanons and a royall Court du guard within.³³

This was one of a pair of redoubts ordered by the City which lay either side of Kingsland Road – the other is

now called Hoxton Fort (see below). The armaments described by Lithgow were substantial and would have required major supporting defences, perhaps including bastions (D Flintham, pers comm).

On the Great Fire map, the sketch of the fort lies east of Kingsland Road and north of Hackney Road behind buildings. In 1746, Chassereau depicted a bank and sharply angled property lines, which may indicate remnants of the fort. On Rocque's map of 1746, an east-west bank and ditch is shown roughly where the Great Fire map marks a fort (just north of the junction of Kingsland Road and Hackney Road). Further north, an angled range of buildings may reflect the line of a south-eastern bastion of the fort.

It is possible that the towers of Shoreditch Church, Whitechapel Church and Rotherhithe Church were used as simple surveying points for the forts, and subsequently the Lines (Fig 3). Shoreditch Fort, Whitechapel Fort and Wapping Fort all lie, more or less, in a straight line.

The area currently has buildings on the street frontage with a series of yards to the rear. It is possible the archaeological survival could be good behind the street frontages.

Hoxton Fort (F7)

This was the second fort mentioned in the Resolution of Common Council in February 1643 (see above). In May 1643, Lithgow (who had walked north to Kingsland, Dalston first) recorded:

Thence returned [from Kingsland];
I followed along the champaine

breastworkes to **Hogston**, where I found a quadrat Fort, well pallosaded and planted with five Cannons at the two field corners: The strength is double ditched, and betweene the two it is strongly barocaded, with wooden stakes, everie stake neare the top being fenced with three iron hookes of a span long.³⁴

The Great Fire map of 1666 shows a quadrangled fort west of Kingsland Road forming a pair with the Shoreditch Fort. On Chassereau's map of 1746, a strangely angled alleyway in the south-east of the building block may reflect a vestige of the fort.

Excavations at Drysdale Street (DYL01), just north of Shoreditch Town Hall on Old Street, uncovered a number of mid-17th-century features including double ditches. These features have the characteristics and date of Civil War features and are situated at the proposed location of the Hoxton Fort.

It is also noteworthy that Lithgow mentions double ditches at Hoxton Fort. The archaeological investigations demonstrate that there is archaeological survival in the area. It is not clear what Lithgow meant by 'champaine breastworks'. He may be referring to an early phase of defences running parallel to the main road from Kingsland, possibly shown on the Rocque map.

Kingsland Ramparts (F8)

Lithgow also described a detour he took northwards from Shoreditch Fort to view the defences at Kingsland, Dalston:

And without which and at
Kingsland (being the old post

way for Scotland) there stands two earthen Rampires [ramparts], with two Courts du guard. Thence returned [to Hoxton].³⁵

The ramparts presumably stood at the crossroads at Kingsland, but the location is very approximate. The only reference to these defences is by Lithgow. The two ramparts and Courts de guard possibly lay either side of Kingsland Road, south of the junction with Balls Pond Road and Dalston Lane. Little is likely to survive due to modern basementing.

These ramparts were part of the first phase of defences erected in October 1642. There is no mention of these defences in the Parliamentary or City Records, which would tend to suggest they formed part of the emergency defences erected in Autumn 1642, along with the forts at Mile End Green (F3) and others on the Holloway Road and old St Pancras Church to the west.

Result of supplementary research

Morphology of the Lines

Coincidentally, one of the aspects of the Civil War Defences project which came under consideration was the actual physical design of the Civil War Defences, particularly the Lines of Communication. The research has resulted in a radical re-appraisal of the current military model.

Currently the general assumption is that the Lines of Communication, as with defences elsewhere in England, consisted of a bank and an outer defensive ditch. A sort of enormous unvallate hillfort sweeping around London, bisected by the Thames.

The research indicates that, in fact, the Lines in the Pilot Study Area consisted of a trench with a parapet on the hostile side to provide protection from enemy fire. This allowed men to patrol and move between the forts, much as communication trenches in the First World War functioned. The defences elsewhere in the circuit, particularly in the swampy ground of Westminster, were undoubtedly quite different.

In fact, the term 'Lines of Communication' was not used until July 1643, after the defences were built (D Flintham, pers comm). Contemporary Civil War Defence documents refer to 'trenches' being excavated in both 1642 and 1643.

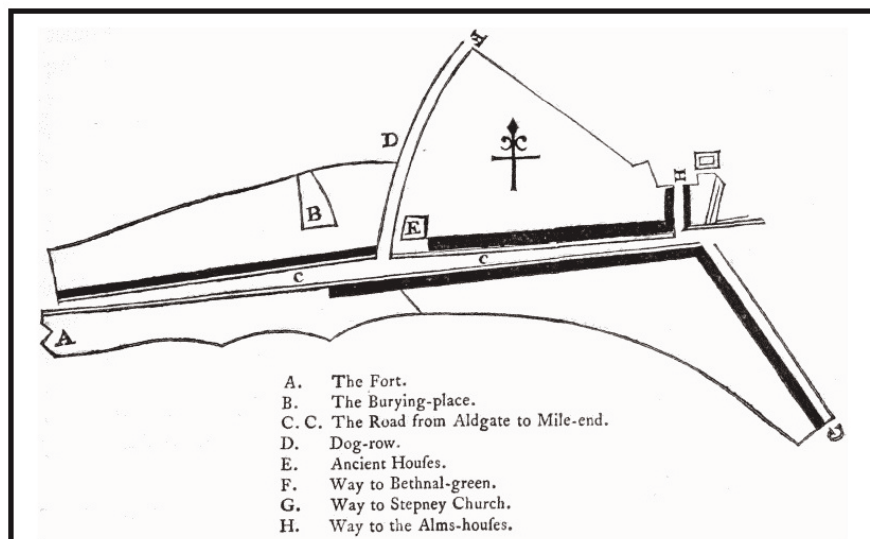


Fig 7: Sir Christopher Wren's map of 1673

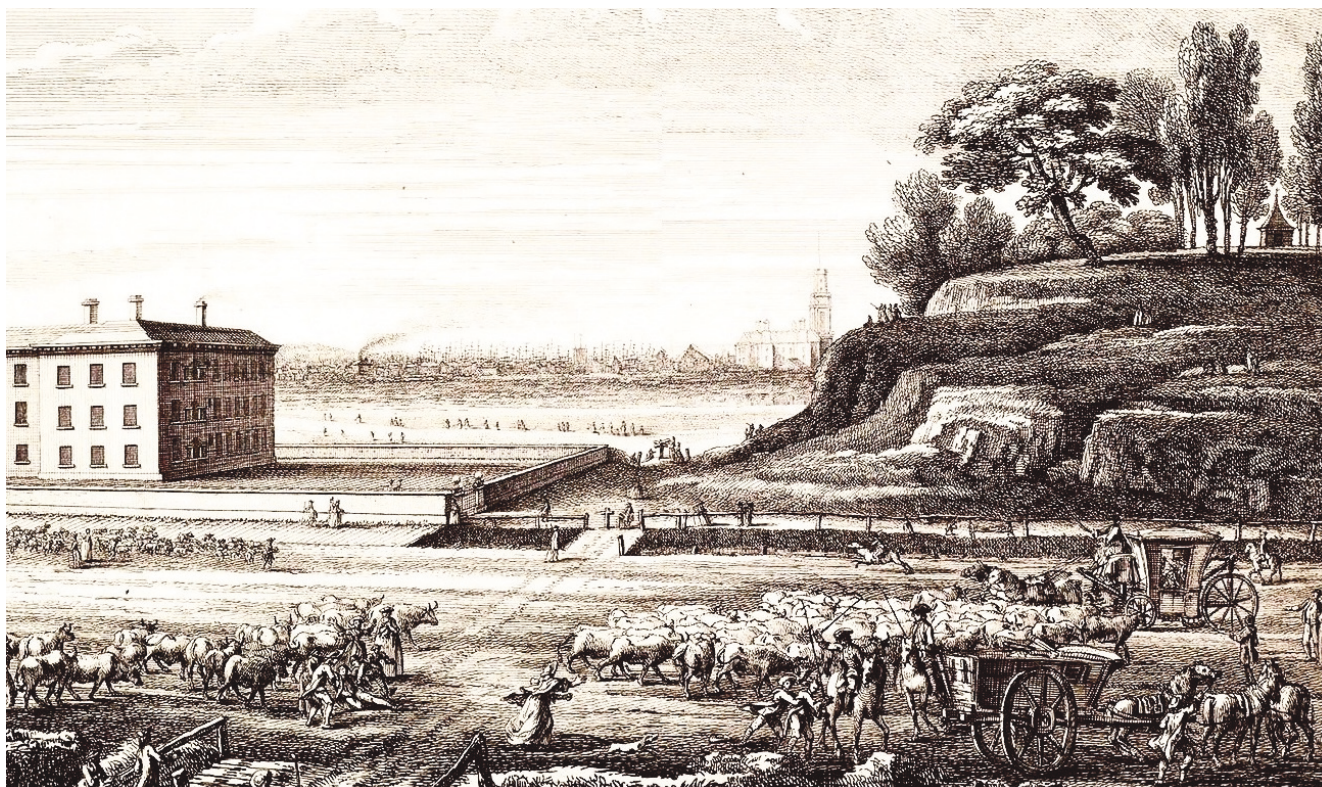


Fig 8: engraving by Chatelain and Toms, showing a view of the London Hospital in Whitechapel Road in 1753

In 1642, these were possibly slot trenches near roads to provide cover for musketeers. By 1643, the trenches were being excavated to link the forts. For example, in 1642, there were references to: 'trenches and ramparts near all the roads';³⁶ 'they are putting up trenches and small Forts';³⁷ as well as 'to acquaint them...with the Neglect of Watches in the Trenches'; and 'Volunteers...into the Trenches'; and 'shall have Power to trench and stop all such High-ways'.³⁸

Tellingly in 1643, there were further references, such as: 'for digging of **trenches and casting up brest-works** from one Fort to another';³⁹ and 'the Forts round this city are now completed ... they are now beginning the **connecting lines**'.⁴⁰

In addition, Lithgow noted in May 1643: 'advancing thence along the **trench dyke**' and 'I **trenched** along the **Trenches**'.⁴¹ He also said: 'I marched through Fineberry [Finsbury] fields along the **Trench**'; and 'the **Trench** dyke (which is three yards thick, and on the ditch side twice as high)'.⁴²

Although not complying with the general pattern of English Civil War fortifications elsewhere (a rampart fronted by a ditch), the Lines do follow standard mid-17th century practice. A military manual states:

Then you must begin to raise your Trenches ... and they are to cast the earth always towards the Enemies Workes, the better to secure their own bodies ... Not forgetting to cast up the earth for your safeguard alwaies towards the Enemies Workes....⁴³

Future excavation research strategies should be designed with a multiplicity of defensive models in mind.

Conclusions

As a result of Historic England's sponsorship, this research has uncovered significant issues which will re-write the history of the Civil War Defences in London. All books written before the present on these defences will be in need of revision.

The impetus behind the Pilot Study has been the acknowledged inaccuracy of the current model of the Civil War Defences around London. The Pilot Study, through a mixture of the re-examination of the published sources, a detailed scrutiny of archaeological investigations, the uncovering of overlooked documents and a rigorous interrogation of previous assumptions, has re-written the previous assumptions about the nature and location of the Civil War Defences.

Uncovering the falsehood of Vertue's

map has been a major breakthrough. His dishonesty has resulted in almost 300 years of confusion regarding the Civil War Defences. The sad truth is that time and money have been wasted chasing false locations, while the actual Civil War Defences locations have been destroyed virtually without record.

Re-assessment of the eastern Defences

The discovery of a sketch showing the Civil War Defences triggered a detailed review of the existing historical and archaeological records, which has enabled the eastern defences around the City to be totally re-assessed and re-aligned. A preliminary scan across the rest of the circuit indicates a similar pattern of error promulgated by Vertue, which needs to be addressed in the future.

It has been suggested since the 1930s⁴⁴ that there were two phases of forts. This research has identified some of the early phase forts – Mile End Green and Kingsland – but others, mentioned elsewhere in passing by contemporaries, seem to have received little historical attention. As a result, these first phase forts do not appear in the HER, so no archaeological investigations have targeted these fortifications. This gap in the research coverage should be remedied.

The morphology of the Lines has been examined and redefined. In this eastern section of the defences, it appears that the form was a trench with a parapet rather than a bank and ditch. This will radically affect the paradigm for the Civil War Defences.

Locating a large fort of 1647, possibly one of Fairfax's 'Citadels', is of immense importance. The site, with relatively little modern disturbance, is under consideration for development. Restricted access has meant that useful but only limited archaeological investigations have taken place.

The Pilot Study has been extraordinarily successful. It now provides an evidentially secure model for future historical studies, archaeological investigations and planning advice in the area involved. However, the Pilot Study has also highlighted the defective nature of the current thinking in the remainder of the defensive circuit. It is suggested that, given the development surge within the area of the predicted Civil War Defences elsewhere in London, the remaining circuit of the defences should be addressed in a similar manner as a matter of urgency.

Acknowledgements

On the basis of a tentative research outline, Historic England took a chance and has provided unstinting support. Particular thanks must be given to Brian Kerr of HE who has supervised MWP in this project. His colleagues have been particularly helpful in comments on the early drafts of the Pilot Study text.

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Especial thanks are due to David Flintham who has been kind enough to discuss the ideas in detail, advise on numerous aspects of the Civil War

Defences and comment on the draft of this article. His encyclopaedic knowledge of the English Civil War fortifications and the Civil War Defences of London,⁴⁵ in particular, has been invaluable.

Peter Mills started in archaeology in Colchester (with Philip Crummy as his supervisor), then York before going to the University of Liverpool. After graduating, he worked in Hampshire and Nottinghamshire before coming to work for ILAU in London (which became part of the Museum of London's DGLA). His excavations have included sites at the Houses of Parliament, Westminster Abbey, the old Royal Mint by the Tower of London and a number of small excavations, many monastic, around north London.

He co-founded Mills Whipp Partnership (now Projects), an archaeological consultancy advising developers across the UK. Particularly interested in the medieval religious houses of the London area, he is also pursuing research into the post-medieval growth of inner London from a backwater city to an imperial capital.

1. Dates are given using the Gregorian calendar, although the Julian calendar was still in use in England.

2. R Haslam & V Ridgeway *Excavations at the British Museum: An Archaeological and Social History of Bloomsbury* (2017), 190–204.

3. W Lithgow *The present surveigh of London and Englands state* (1643) EETS / Early English Text Society. The Lithgow pamphlet has no page numbers, so the numerical order from the EETS version is used.

4. D Gerhold (S O'Connell, ed) *London Bridge and its Houses, c. 1209–1761* London Topographical Soc (2019), 27.

5. Admittedly not plural as mentioned in the City Orders. However, no maps show more than one windmill east of the City, the only multiple windmills at this time being at Finsbury Fields north of the City. Therefore, the plural is undoubtedly a scribal error. Incidentally, no windmill/s are depicted to the east of Plumbers Row.

6. In the text, the term 'Great Fire map' is used as shorthand rather than referring repeatedly to 'the anonymous annotator's sketch lines on the map produced in 1666 showing the extent of damage in the Great Fire'.

7. *Op cit* fn 3.

8. N G Brett-James *The Growth of Stuart London* (1935), 271; S Porter *London and the Civil War* (1996), 121.

9. *Op cit* fn 3, 10.

10. Not at the north of Wapping Lane as shown by Vertue, who misunderstood 'end' in the City Order.

11. *Op cit* fn 3, 10.

12. The area further east (now called 'Whitechapel'), near the Royal London Hospital was called Mile End in the 17th century, having its own common: Mile End

Green. This migration of the placenames is in large part a fairly recent result of the underground stations being named from areas not necessarily immediately adjacent. It is also found elsewhere in London.

13. See fn 3.

14. *Op cit* fn 3, 10.

15. The survey field notes must have included the Civil War Defences, but are pointedly omitted on the published map.

16. Much confusion has been caused by Vertue's mistaken identification of Whitechapel Mount, near the Royal London Hospital, with Whitechapel Fort.

17. Many thanks are due to Geoff Potter (Compass Archaeology) for arranging a site visit in late 2019. Intriguingly, one of the finds made was a small decorative pipeclay cannon (c. 125mm long) which may have been a heraldic supporter of the City coat of arms on a gateway. Or maybe not – the subject of the Civil War Defences has been plagued by speculation.

18. Tract, England's Memorable Occurrences 24 Oct 1642; Brett-James *op cit* fn 8, 293; Porter *op cit* fn 8, 83–4.

19. *Op cit* fn 3, 10.

20. Tract 14 Nov 1642; Brett-James *op cit* fn 8, 293.

21. Another major fort is shown on the Panorama at the Angel. It is hoped this will be considered in future research.

22. D Lysons *Environs of London* (1795), 444.

23. Equally Lithgow does not mention Brick Lane Fort (qv), but that was a minor defensive work unlike the Royal London Hospital Fort.

24. Venetian Ambassador Calendar of State Papers, 10 October 1647.

25. R Ward *Animadversions of Warre* (1639), 82.

26. *Op cit* fn 3, 10.

27. Brett-James *op cit* fn 24, 271.

28. It was recorded that Elizabeth I and Charles I both left the main road into north London, due to its appalling condition, and crossed open fields to reach the City.

29. Equally, if the Lines shown on the Great Fire map were to define tax liabilities, the forts were largely irrelevant except as general location markers.

30. D Papillon *A practical abstract of the Arts of Fortification and Assailing* (1645), 29.

31. *Op cit* fn 3, 10.

32. Brett-James *op cit* fn 8, 271.

33. *Op cit* fn 3, 10–11.

34. *Op cit* fn 3, 11.

35. *Op cit* fn 3, 11.

36. Tract 25 Oct 1642; Porter *op cit* fn 8, 83–4.

37. 28 Oct 1642 in *op cit* fn 24.

38. Journal of the House of Commons, 1802, 10 Nov; 12 Nov 1642 and 7 Mar 1643.

39. Tract 3 May 1643; Brett-James *op cit* fn 8, 275

40. Venetian Ambassador Calendar of State Papers, 15 May 1643.

41. *Op cit* fn 3, 10.

42. *Op cit* fn 3, 11.

43. *Op cit* fn 25, 76.

44. Brett-James *op cit* fn 8, 269.

45. D Flintham *The English Civil War Defences of London* (2014); D Flintham *Civil War London* (2017).