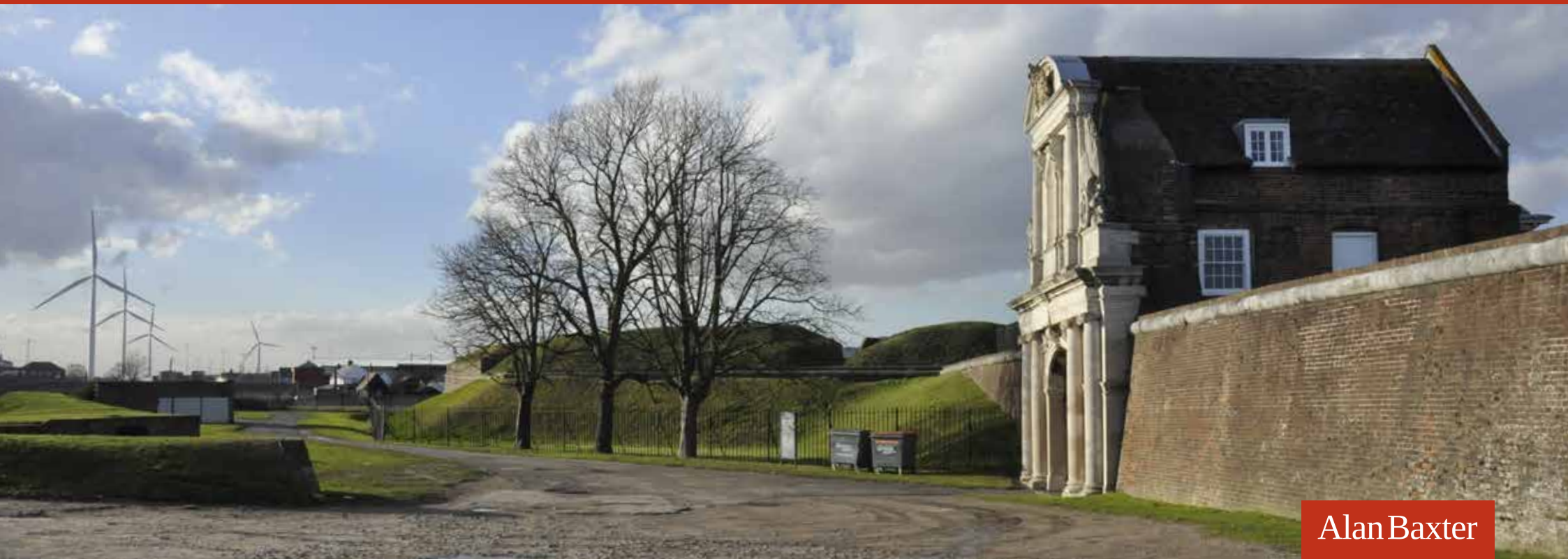


Tilbury Fort
Conservation Plan *Draft v1*
Prepared for English Heritage
March 2018




How to use this document

This document has been designed to be viewed digitally. It will work best on Adobe Reader or Adobe Acrobat Pro versions X or DC or later on a PC or laptop.

Navigation

The document can be navigated in several ways:

- Via the bookmarks panel on the left hand side of the screen (revealed by clicking .
- Clicking on hyperlinks in the contents page or embedded in the text (identified by blue text).
- Using the search function (press Ctrl + F on your keyboard to bring up the search box).
- Using buttons at the bottom of each page:



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Previous view



Forward and back



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Part 1: Conservation Plan

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Part 2: Gazetteer and Supporting
Information (to follow)

Comments

The document can be annotated with comments and amendments using the standard Adobe commenting tools. The comments tools will differ depending on your reader – here are instructions for Acrobat X and Adobe DC Reader:

- Acrobat X: <https://www.adobe.com/content/dam/Adobe/en/feature-details/acrobatpro/pdfs/adding-comments-to-a-pdf-document.pdf>
- Adobe DC Reader: <https://helpx.adobe.com/reader/using/share-comment-review.html>

Gazetteer (to follow)

If you are interested in one specific part of site you can go straight to the Gazetteer (Location of Gazetteer). It opens with navigation plans; clicking the label for each area will take you to the relevant details. To access the navigation plans at any time, click the ** button.

Tilbury Fort Conservation Plan *Draft v1* Prepared for English Heritage March 2018

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Executive Summary

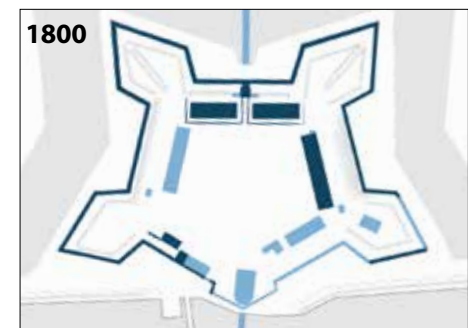
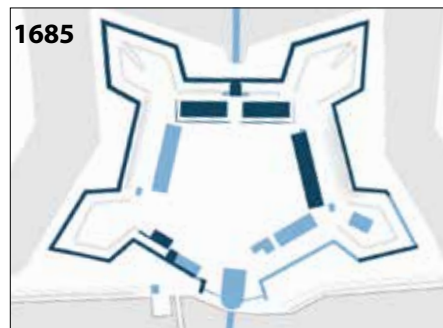
This Conservation Plan was commissioned by English Heritage to inform the management and future direction of Tilbury Fort, Essex. Tilbury is an exceptionally interesting place, with a highly distinctive sense of place, but it faces great challenges stemming from its location and its nature. This Plan was prepared in 2017-18 by Alan Baxter Ltd in close collaboration with English Heritage staff, to help them address these challenges, and unlock what is so special about the Fort.

Summary of the site

Tilbury Fort is largely late seventeenth-century in layout, with standing fabric from the seventeenth to the twentieth century and earlier buried remains of a sixteenth-century blockhouse. Its original purpose was to protect London from enemy ships sailing up the Thames, and to secure the strategic river crossing from Tilbury to Gravesend. Due to the continuing strategic importance of its site, it was periodically improved and re-armed up until the beginning of the twentieth century, although no shot was ever fired in anger from its guns. In the eighteenth-century the Fort gained an additional role as an ordnance depot and the storage and distribution of guns, ammunition and other military equipment continued to be its main activity up to the end of the Second World War. For the last seventy years it has been in care of the state as an historic monument.

The history of the Fort has been marked by long periods of little or no change, punctuated by bursts of development stimulated by threats, or perceived threats, of invasion. The defences and armaments were repeatedly altered and updated over time because of the changing nature of weaponry and tactics. New buildings were added and old ones removed over time to meet the military requirements of the day. Six key phases can be identified in the historical development of the Fort and are mapped in the drawings here:

- 1539–40 A small fort, or blockhouse, is built as part of Henry VIII's scheme of national defence following the break from Rome
- 1670–85 A large and powerful new artillery fort is designed on the bastion system by Sir Bernard de Gomme, for Charles II; the waterside entrance is given an impressive stone façade.
- 1715–50 The Fort becomes an ordnance depot; new gunpowder magazines are built, existing buildings adapted and some of the original buildings are rebuilt.
- 1868–76 New gun emplacements are built in the West, North-east and East Bastions, served by underground magazines; the bastion walls are earthed up to protect them from naval bombardment.



- 1900–04 New concrete gun emplacements are constructed on top of the East Bastion and South-east Curtain.
- 1948–82 Most of the nineteenth-century buildings are removed and the remaining structures repaired and restored under the Ministry of Works and its successors; opened to the public for the first time in 1958; the River Wall is built, 1981–82, cutting off the Fort from the river.

Summary of significance

The most important aspects of Tilbury Fort's significance can be summarised as follows:

- Tilbury Fort is a rare surviving example of a well-preserved seventeenth-century fortification, with even rarer surviving outworks;
- It has associations with the story of national defence from the mid-sixteenth century to the twentieth century and illustrates military responses to external threats over time; the continual re-use and adaptation of the site for the same purpose is an important part of its history;
- Surviving structures, earthworks and the fragmentary survival of fixtures illustrate the development of military technology and theory, in particular in relation to land-based defence against naval attack;

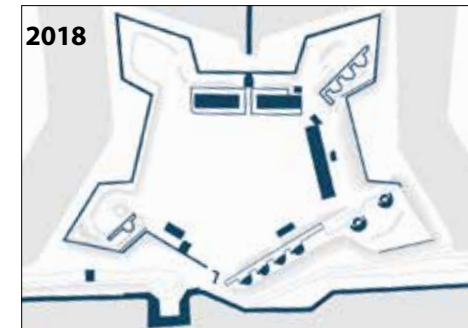
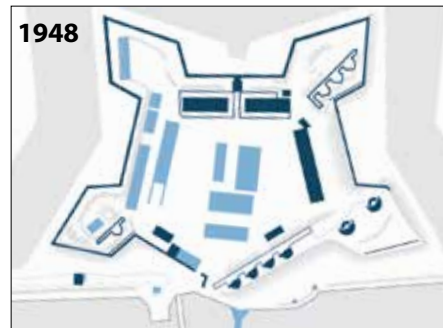
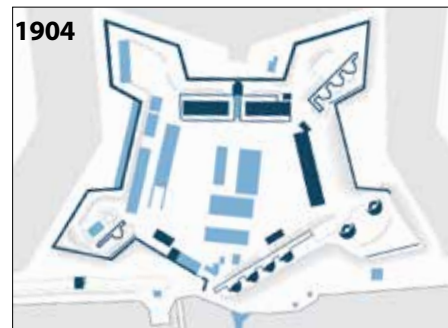
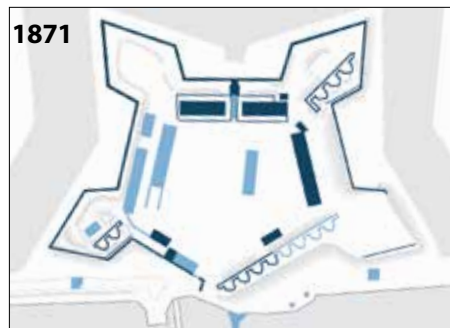
- In its setting, the underlying topography is legible despite modern development, enabling an understanding of the Fort's historic character and the reasons for its creation;
- The surviving buildings in the Fort have architectural and artistic interest, in particular the Water Gate, a superb seventeenth-century gatehouse, and the Gunpowder Magazines, rare early examples of this building type.
- The striking image of the Fort walls and moats when seen from the air, the curious landscape of the nineteenth-century earthworks, the strange beauty of the riverside and marshland setting and the sights and sounds of the working river, give the Fort outstanding aesthetic interest.

The only feature of the Fort that can meaningfully be said to detract is the River Wall, which has severed the important visual and physical relationship between the Fort and the River Thames. It is excluded from the scheduled area, but is within the site boundary.

Main management findings

Five main issues stand out that need to be addressed as priorities:

Setting: it is crucially important to decide what matters most about the setting and how its contribution to the significance of the Fort can be sustained, working in close partnership with Historic England;



Access and circulation: the closure of the bridges over the Inner Moat access to the site has had an impact on access and parking and has restricted the amount of the Fort that is accessible to visitors; a long term solution to access and circulation issues would benefit the site;

Presentation: the way the Fort is presented and interpreted could be improved both on site and online; new and better presentation which better reveals the outstanding significance of the Fort would have potential to increase visitor numbers;

Condition: the maintenance and repair of the site is a challenge due to the Fort's size and location; it is crucial that basic maintenance is not neglected and condition is regularly monitored and resources prioritised appropriately.

Future vision: above all, Tilbury Fort needs a clear vision for the future of the site, and a direction of travel. If it continues as it is, income will never come close to the repair and maintenance liabilities inherent in a large and complex site in a demanding environment. This will threaten its significance, and impair its presentation. The Fort is a magical and fascinating place, so its future may be as an enhanced, but conventionally presented and managed site. But the location is also immensely challenging as a visitor attraction. Perhaps its future may therefore lie in a less conventional mixture of uses and functions. This deserves further exploration and thought.

Summary list of conservation management policies

To address these and other risks and opportunities, the Plan concludes with a series of conservation management policies. Together, these form a framework for the future conservation, exploitation and celebration of the exceptional significance of the Fort. These policies are reproduced here. In pdf versions of this report, each of the policies is also hyperlink to the relevant section of the Risks, Opportunities and Policies chapter, where the background to and reasons for the policy can be found.

POLICIES TO FOLLOW once finalised

POLICIES TO FOLLOW once finalised

1.0 Introduction

1.1 Purpose and context

In November 2017, English Heritage (EH) commissioned Alan Baxter Ltd to prepare a Conservation Plan for Tilbury Fort in Essex. The Fort is located on the Thames Estuary opposite Gravesend, Kent (figure 1).

The purpose of the Conservation Plan is to analyse the history, fabric and setting of the site, identify its significance, and from this establish a policy framework for the strategic management of risks to significance and opportunities for better revealing and celebrating it. Alan Baxter has worked closely with EH staff to prepare this draft of the Plan, drawing extensively on their knowledge and experience.

Of particular relevance to the context of this Plan is the proposed redevelopment of the redundant neighbouring Tilbury Power Station site. Planned uses include an extension of the Port of Tilbury (called 'Tilbury 2') and a new gas fired power station.

1.2 Scope and limitations

The scope of this study is shown by the red line on the accompanying site plan (figure 2). This includes both the Fort itself and its outer defences.

It is the nature of existing buildings that details of their construction and development may be hidden or may not be apparent from a visual inspection. The conclusions and any advice contained in our reports – particularly relating to the dating and nature of the fabric – are based on our research, and on observations and interpretations of what was visible at the time of our site visits. Further research, investigations or opening up works may reveal new information which may require such conclusions and advice to be revised.

1.3 Consultation

V1 of this report will be reviewed by EH. Later versions will be subject to consultation with:

- Historic England
- Thurrock Borough Council

1.4 Structure

The process of preparing this Plan followed the industry standard methodology promoted by the Heritage Lottery Fund (HLF) and Historic England, following the idea of a 'golden thread' derived ultimately from the Burra Charter:

- | | |
|--------------|--|
| Chapter 2: | A rounded Understanding of Tilbury Fort, derived from archive research, secondary sources, site visits and interviews. |
| Chapter 3: | An Assessment of Significance, developed from this understanding, and considering the site in its wider context. |
| Chapter 4: | An evaluation of the Risks to the conservation of that significance and Opportunities for its better care and celebrations. Recommended responses are codified in a series of conservation policies. |
| Chapter 5-7: | Supporting information including a bibliography, an area-by-area gazetteer, the list and scheduling entries for the Fort, a selection of historic plans and drawings and other useful documents. |

1.5 Sources

The information contained in this Plan is drawn from a number of sources including:

- Site visits during 2018
- The National Archives
- The British Library
- The Historic England Archive
- The Essex Record Office
- Previous reports
- Literature on fort development and architecture
- Correspondence with Victor Smith and Paul Pattison

A full list of sources is given as part of the bibliography in chapter xx.

1.6 Authors

This report was written by Nicolas Chapple, Richard Pollard and Victoria Bellamy of Alan Baxter Ltd.

1.7 Acknowledgements and credits

The authors would like to thank the following for their help in preparing this report:

- Victor Smith,
- Paul Pattison,
- Kate North,
- Deborah Priddy
- Daniel Collard

All photographs are the copyright of Alan Baxter Ltd unless otherwise credited.



Fig. 1: Location plan.

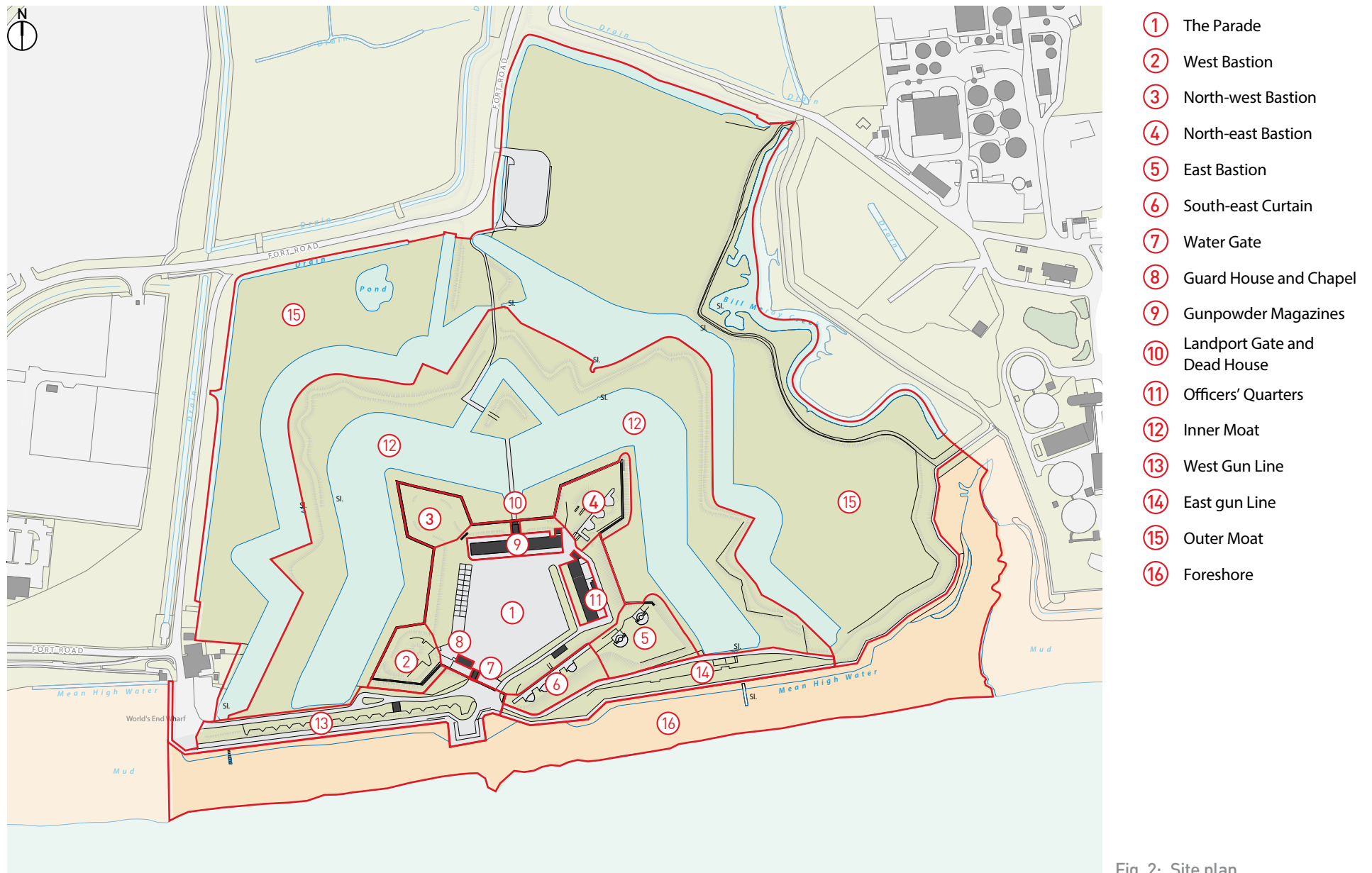


Fig. 2: Site plan.

2.0 Understanding Tilbury Fort

2.1 Site description

Tilbury Fort is situated on the north bank of the River Thames, 33km east of London, in the Thurrock district of the county of Essex (Fig. 1). The surrounding area is marshland, long used as pasture but now much encroached by docks, roads, a power station and a sewage works. Across the Thames from the fort lies the town of Gravesend, Kent, with a ferry service linking the north and south sides of the river in this location since at least the fourteenth century. The strategic importance of the Fort's location means that the site has been in military occupation almost continuously from 1539 to 1948.

It takes the form of a bastioned fort on a regular pentagonal plan, with inner and outer moats and a range of military and domestic buildings. As it exists today the Fort and its outworks are late seventeenth-century in layout, with some nineteenth-century alterations; the standing buildings and structures range from the seventeenth to the late twentieth century in date. Since it was taken into the care of the state for preservation as an historic monument in 1948 much of the Fort has been cleared of buildings and the remaining buildings and structures have been extensively repaired and restored.

The component parts of the site are identified on the site plan (Fig. 2).

Geology

Tilbury Fort lies on the edge of a large bed of alluvium (a deposit of soft clay, silt and sand, which was originally deposited by the River Thames (Fig. 3).

Alluvium is common along the length of each bank of the River Thames. However, at Tilbury the alluvium extends a substantial distance inland until just south of Chadwell St Mary. This settlement and nearby East Tilbury are situated on a bed comprised largely of a mixture of Thanet sand, Boyn Hill Gravel or Brickearth.

On the opposite side of the river, whilst the eastern part of Gravesend nearest the river also lives on alluvium, the rest of the town lies on a mixture of upper chalk and a bed of Thanet sand.

Topography

The geology of the area surrounding Tilbury Fort outlined in the previous section also goes a long way to explaining the areas' topography.

The alluvium underneath and surrounding the Fort is either at or close to sea level (Fig. 4). This is not surprising given that the alluvium itself is comprised of clay, sands and silt deposited by the River Thames.

This low-lying, topography extends a substantial distance inland until the land suddenly begins to rise up towards Chadwell St Mary. This change in topography can again be explained by the change in geology as this is where the alluvium meets the beds of Thanet sand, Boyn Hill Gravel and Brickearth. These deposits form a ridge line.

There are some areas in figure x that seem incongruous when compared with a description of the areas' geology (Fig. 3). For example, some areas of alluvium both to the east and west of the Fort appear to be as high above sea level as Chadwell St Mary. These areas correspond to Tilbury Docks to the west of the Fort, the power station and East Tilbury to the east. It is likely that these developments necessitated artificial changes in topography in order to mitigate the risk of flooding.



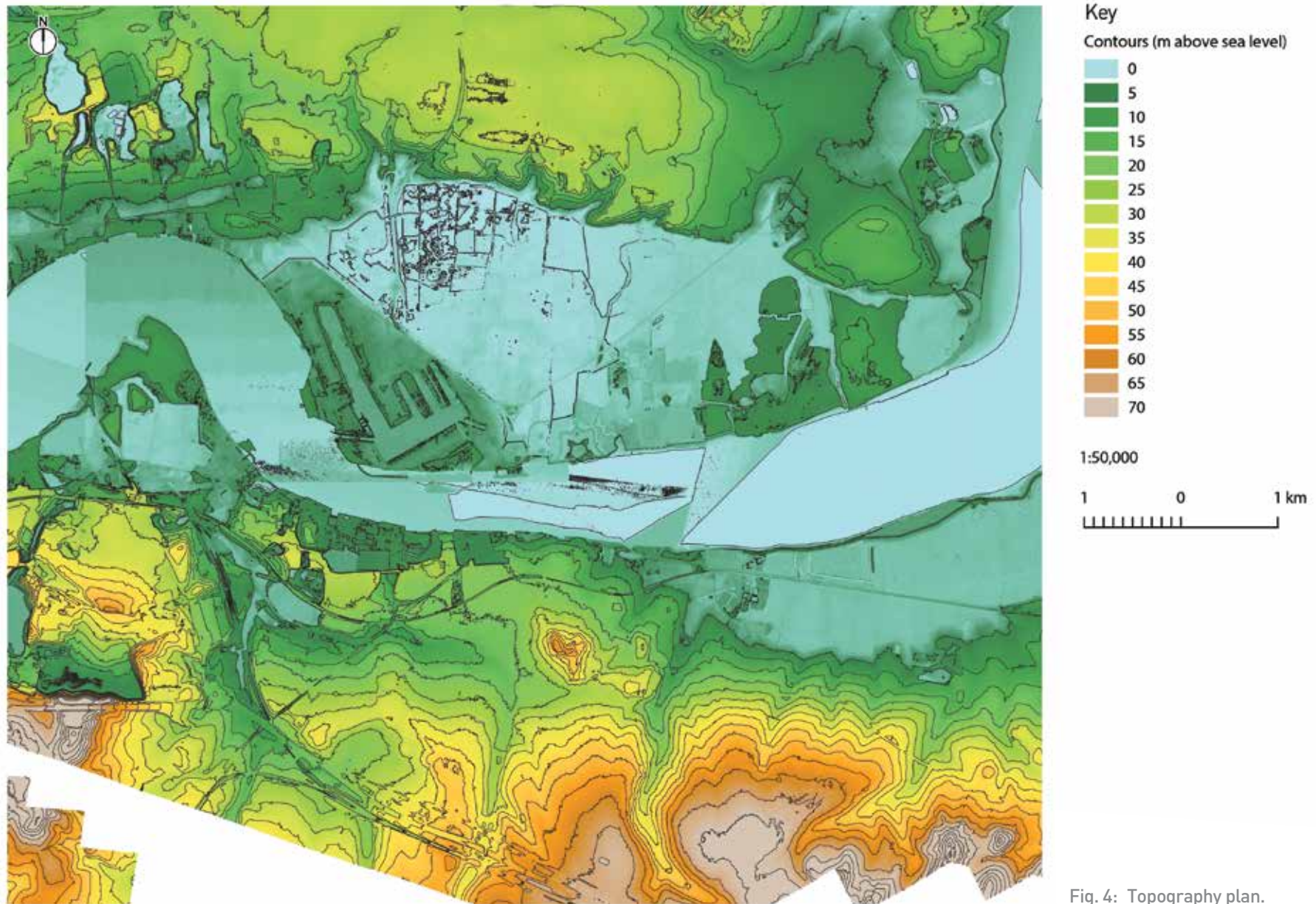


Fig. 4: Topography plan.

2.1.1 Designation

Heritage designations

Tilbury Fort is designated as a Scheduled Monument (List Entry 1021092; see appendix for the full text), meaning that it is of national importance. It was first scheduled in 1973, although it had been in the care of Ministry of Works and subsequently the Department of the Environment since 1948, so it already enjoyed a high level of protection.

The scheduled area is shown in Fig. 5. Several features within the scheduled area are excluded from the scheduling:

- The River Wall
- The Officer's Quarters and attached stable
- The Store on the south-east side of the Parade
- The replica bridges over the inner moat
- Public toilets behind the Officers' Quarters
- All fences, fenceposts and signposts
- Modern surfaces of all roads and car parks
- All guns within the fort
- All modern fixtures such as light fittings and flagpoles
- Replica sentry boxes flanking the passage between the Gunpowder Magazines [no longer *in-situ*]

However, the ground beneath these features and the structures to which they are attached are included in the scheduling, with the exception of the River Wall which is totally excluded both above and below ground.

The only listed building on the site is the Officers' Quarters (List Entry 1375568; see appendix for full text), which is listed at grade II* for its special architectural or historic interest. It was first listed in 1998.

Adjacent to the Fort, and part of its setting, is another listed building, the World's End Inn (List Entry 1111632), which was listed at grade II in 1974.

Other designations

In addition to the heritage designations discussed in the previous section, there are also other, additional designations that apply to Tilbury Fort and the surrounding area. These are outlined in Thurrock Borough Council's Core Strategy Local Plan. This document, originally adopted on 21 December 2011 was subsequently updated on 28 January 2015. Thurrock Borough Council is currently in the process of drafting a new Local Plan.

The additional planning designations contained in this document that apply to Tilbury Fort and the surrounding area are shown in Fig. 6.



Fig. 5: Heritage designations.

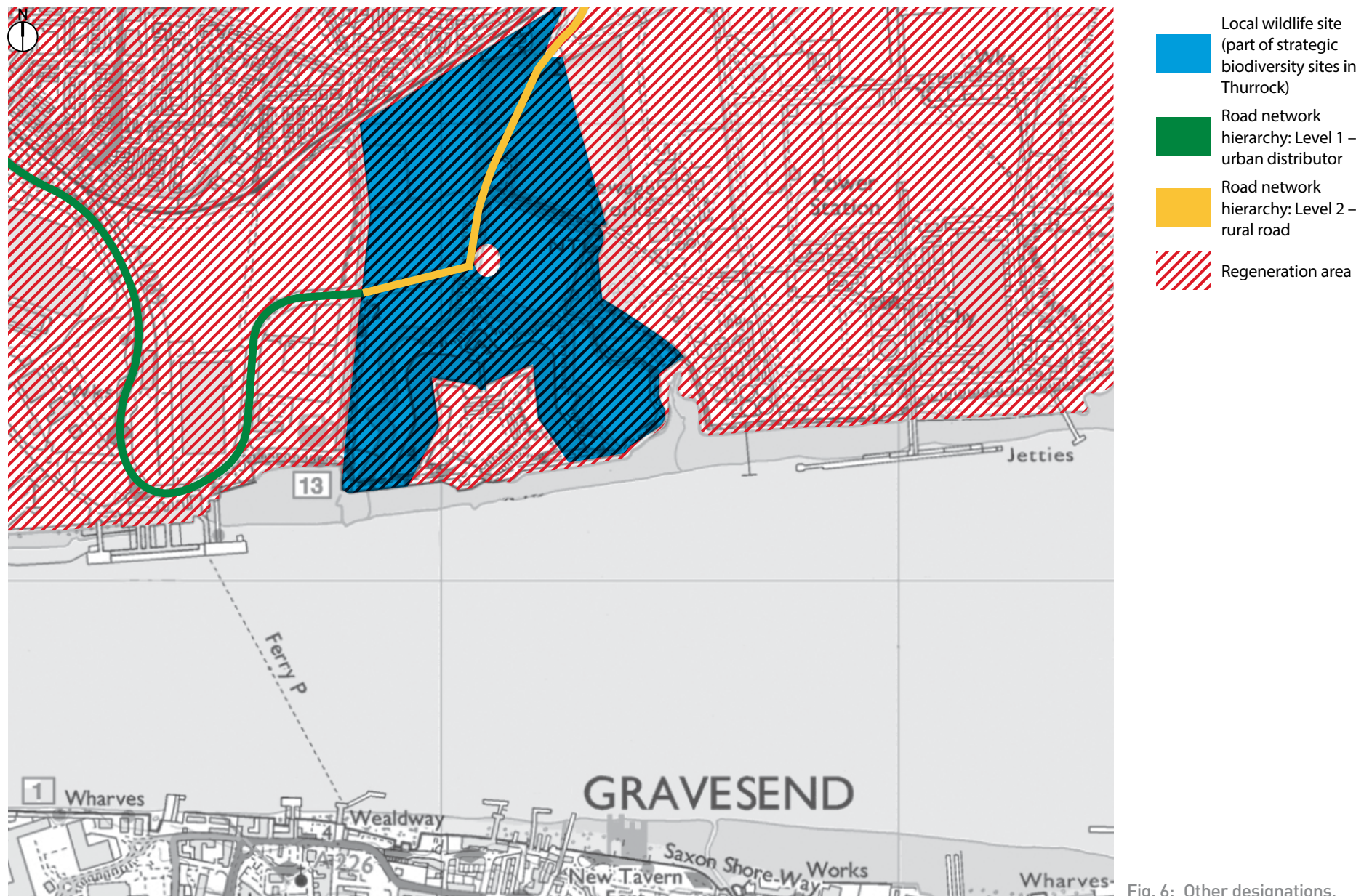


Fig. 6: Other designations.

2.1.2 Setting and views

Introduction

This section analysis the setting of the site by considering its historical and present character, taking into account landscape, land use and the function of the Fort.

Historic character

The historic character of the area surrounding Tilbury Fort is given in Fig. 7, which is an amalgamation of OS maps of Essex dating between 1888 and 1913.

It demonstrates that even at the end of the nineteenth century the area of marshland surrounding the Fort is very large. Also, excluding the railway and the docks, there is little development or infrastructure on the north side of the river. A string of small settlements are situated on the ridge line above the marsh along a meandering road.

The south side of the river, particularly Gravesend, is much more developed. Here the extent of the marshland is less and development has spread from historic centres out into the surrounding landscape and along the riverbank. There is a substantial proportion of industrial sites located here, particularly adjacent to the river.

Modern character

Over the last century the area surrounding the Fort has undergone dramatic change and its character today is given in Fig. 8.

The most recognisable difference with Fig. 7, is the substantial extension of twentieth and twenty-first century development and infrastructure. Small villages on the north side of the river such as Grays and Chadwell St Mary, as well as Tilbury itself, have undergone rapid development. Consequently there has been a reduction, particularly in the north-east, of open, green space. This is also true south of the river with extensive development at Gravesend and also at historically smaller settlements such as Swanscombe, Shorne and Southfleet.

Industrial activity has also expanded, particularly on the northern bank of the Thames. The construction of the docks, power station and various factories at Grays mean that much of the riverbank east of Tilbury Fort is now developed. In contrast to the west, past the power station, much of the historic marshes still survive.

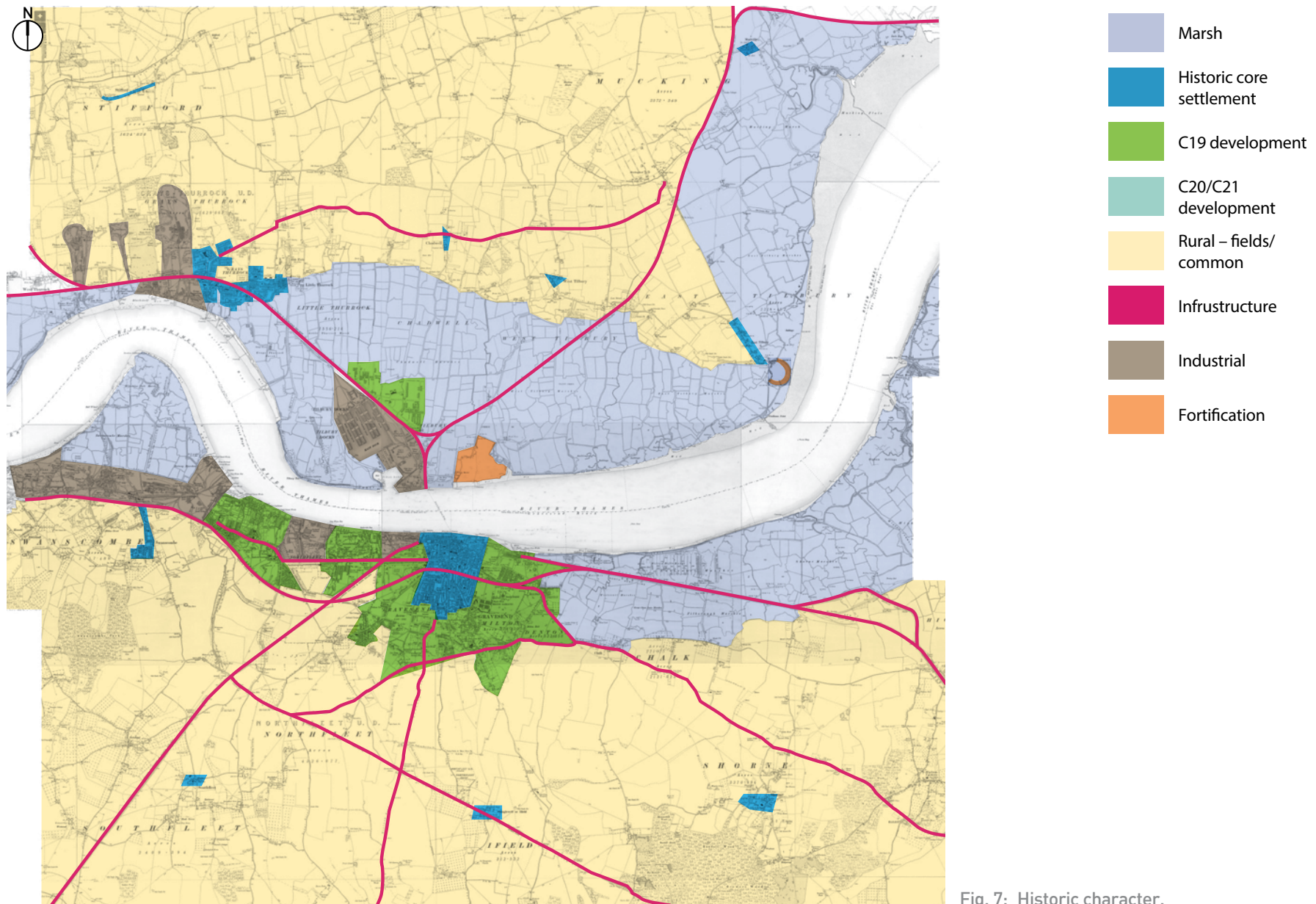


Fig. 7: Historic character.

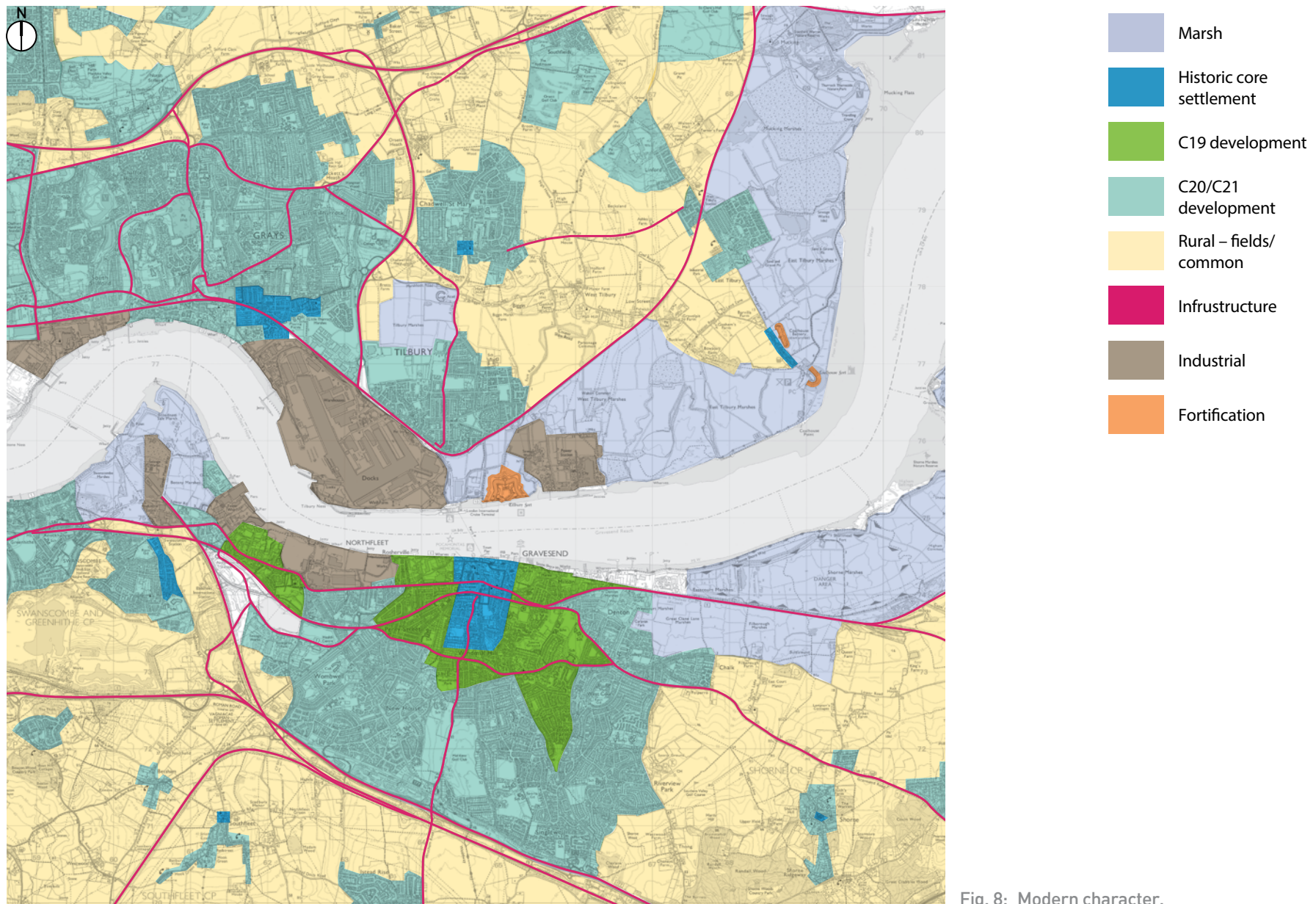


Fig. 8: Modern character.

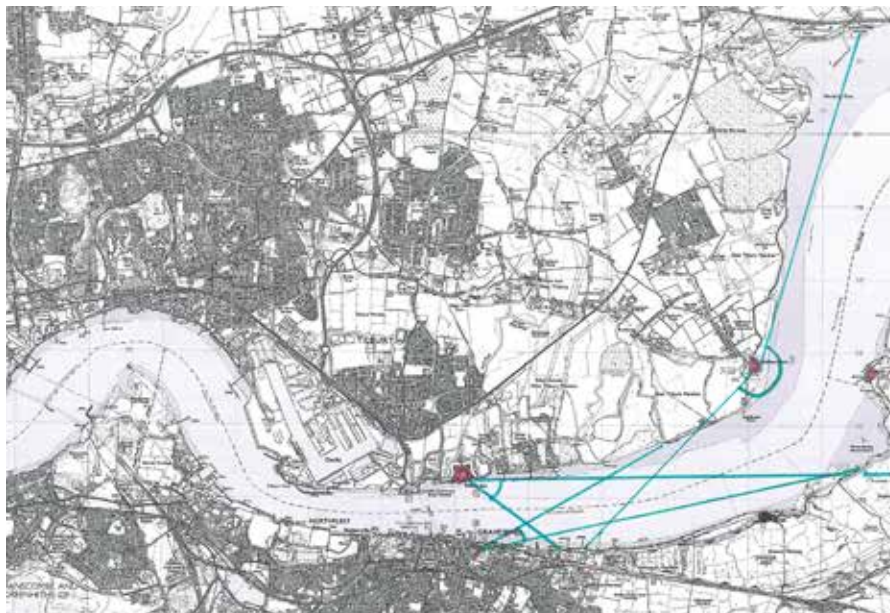
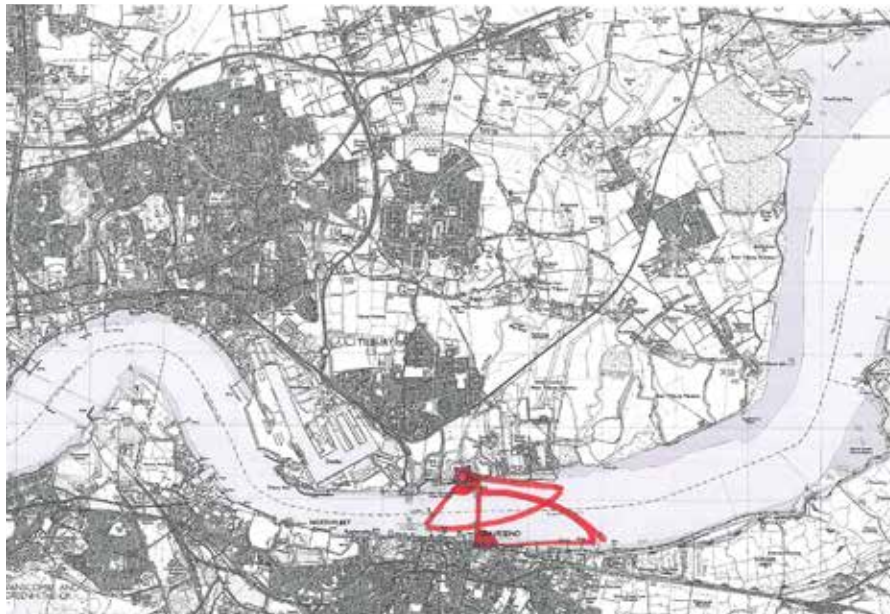


Fig. 9: Fields of fire. These three plans show diagrammatically the fields of fire of the upper Thames forts with three successive types of artillery: 18th-century muzzle loading canon (top left), 1860s rifled muzzle loaders (top right), and 1904 6-inch breach loaders (bottom left). Temporary drawing – final drawings with shaded cones for clarity.

2.1.3 Views

Introduction

Views are fundamental to ways in which a place is understood and experienced by visitors, and those who live and work there.

This section will look at different types of views of the Fort, including

- historic views,
- views of the Fort today, and
- aerial views,

before outlining key views, which are considered fundamental to the understanding and appreciation of the significance of the Fort.

2.1.4 Historic views

Tilbury Fort has been well represented in paintings, illustrations and drawings throughout its history. These views tend to be more formal compared with the social media views from today (see section 2.1.5).

This is partly due to the nature of the medium; paintings, engravings and drawings took longer to produce than a photograph. It is also due to their purpose. Whilst modern photographs that visitors take of the Fort are usually leisure snaps to record personal memories, historic views, for the most part, had to be commercially viable. This means that they were carefully considered and often had a distinct purpose.

An overview of the most common historic views is given in Fig. 11. This demonstrates that the majority of historic views of Tilbury Fort articulated its function and purpose by representing its relationship with the river, with the most views of the Fort from the northern bank, from the river itself or across the river from Gravesend (Fig. 10).

Similarly, the front elevation of the Water Gate was by far the most commonly depicted element of the Fort (Fig. 30). This imposing yet attractive building was, like today, one of the most photogenic elements of the Fort and, because of this was more likely to sell than a view of another structure.

It is important to evaluate these historic views as, in most cases, they have shaped the way that the Fort has been and is still being experienced.



© British Library [ref Maps K.Top.13.57.f.]

Fig. 10: View of Tilbury Fort from Gravesend (n.d.).

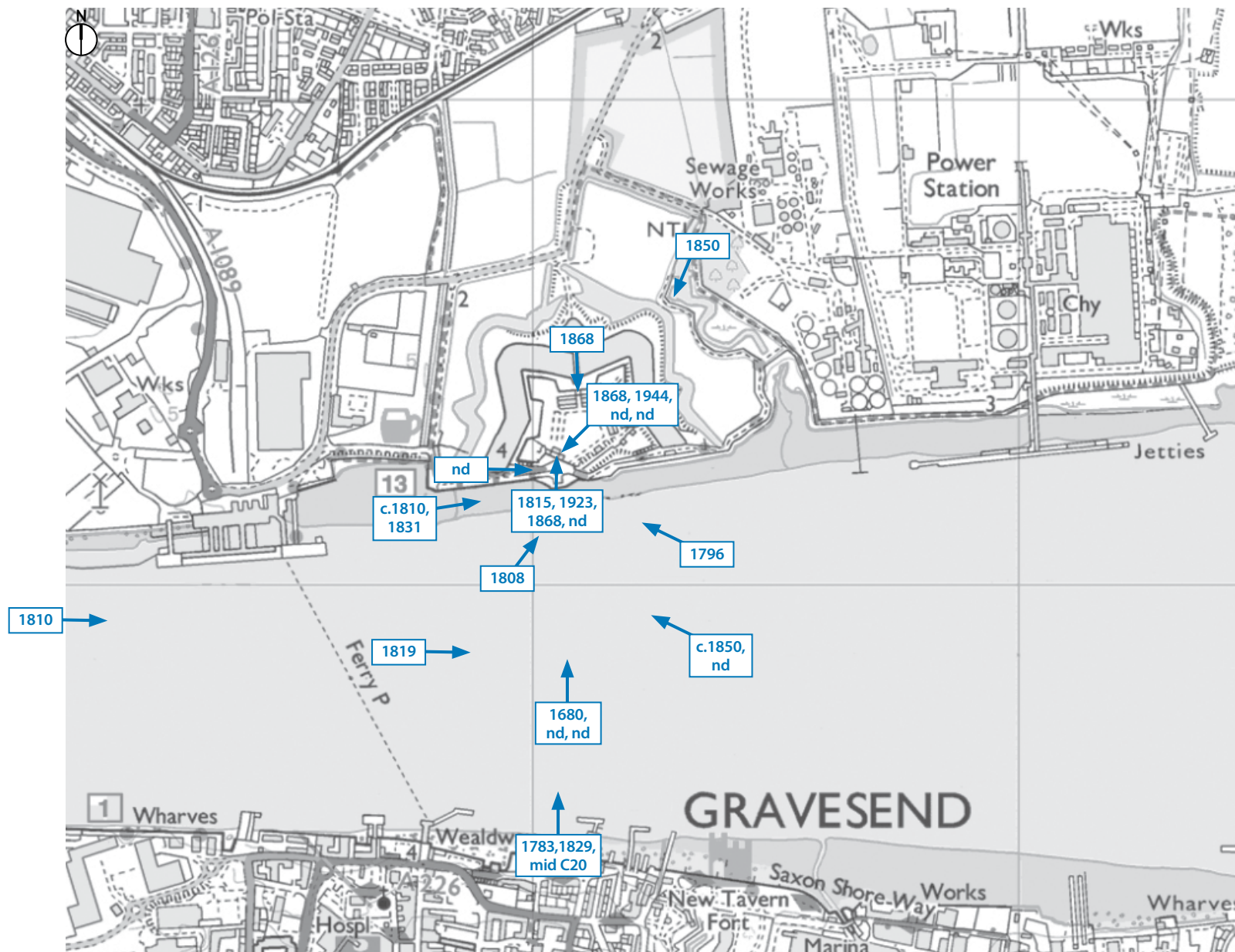


Fig. 11: Historic views.

2.1.5 Views of the Fort today

As discussed in the previous section, historic views have influenced how visitors today experience and understand Tilbury Fort. In order to assess this, a search for photos of the Fort was conducted on a range of image-sharing websites including Flickr, TripAdvisor and Photobucket.

A plan showing some of the most commonly taken photographs by recent visitors of Tilbury Fort is shown in Fig. 14. This shows that there are some similarities with the historic views shown in Fig. 11. For example, the Water Gate remains one of the most recognisable and popular photographs of the Fort.

However, there are substantial differences. There are hardly any views which show the Fort in conjunction with the river, particularly from Gravesend. Instead, many of the modern views focus on structures on the landward side of the Fort, in particular the two bridges across the inner and outer moat (Fig. 12). This could be due partly to their dramatic nature and also because in the recent past this route was the main entrance to the Fort.

Another difference between historic and modern views of the Fort is that today visitors' photographs are often more insular, focusing on views inside the Fort, even inside some of the buildings. Photographs of gunpowder barrels inside the magazines are common, as are photographs of the guns around the Fort (Fig. 13).

This demonstrates a shift in the Fort's purpose and the way in which visitor's think of the Fort. Historically, the Fort was an intimidating and active military base. It would have been unacceptable to reproduce images of the interior of the Fort or its defences in case this should fall into the wrong hands. Today the Fort's military architecture and history is a fundamental part of its visitor appeal. In this light it is not surprising that some of the most popular modern views of the Fort articulate this through images of the guns and recreated interiors.



Fig. 12: View of bridges, looking south from outer defences, 2016.



Fig. 13: View of gun on South-east Curtain, 2010.



Fig. 14: Views of the Fort today.

2.1.6 Aerial views

One of the most striking differences between historic and modern views of Tilbury Fort is the lack of views from the river today. Historically this was the most popular representations of the Fort.

This change can be attributed to many reasons including:

- Britain's national character/image is no longer maritime
- the historical, military link between Tilbury Fort and Gravesend is less strong;
- the sea wall constructed in c.1982 has severely obscured views of the Fort from the river and Gravesend, and;
- fewer visitors travel by river to visit the Fort, therefore the river is not as fundamental to the experience of the Fort as it was historically.

Whilst the historically important view of the Fort from the river has been badly compromised, another viewpoint has emerged to replace it and has become just as important for its portrayal of the Fort; the aerial photo.

Figures x, x and x show early to recent aerial photos of Tilbury Fort. They offer a striking new viewpoint that enables visitors to understand the design of the Fort, and therefore its purpose, arguably better than ever before. As such, it is one of the most popular viewpoints used by English Heritage to promote the Fort (Fig. 15).

It is also capable of selling the site in a way that historic river views may once have done. Figure x is an aerial photograph from the image-sharing site Flickr and was taken from the window of a plane coming into land at London City Airport. The photographer did not know what the Fort was until he looked it up and realised it was possible to visit.

Therefore, aerial views of the Fort are one of, if not the most important view of the Fort today, both in interpreting the site and for generating new visitors, although ironically it cannot be experienced by visitors when they come to site.

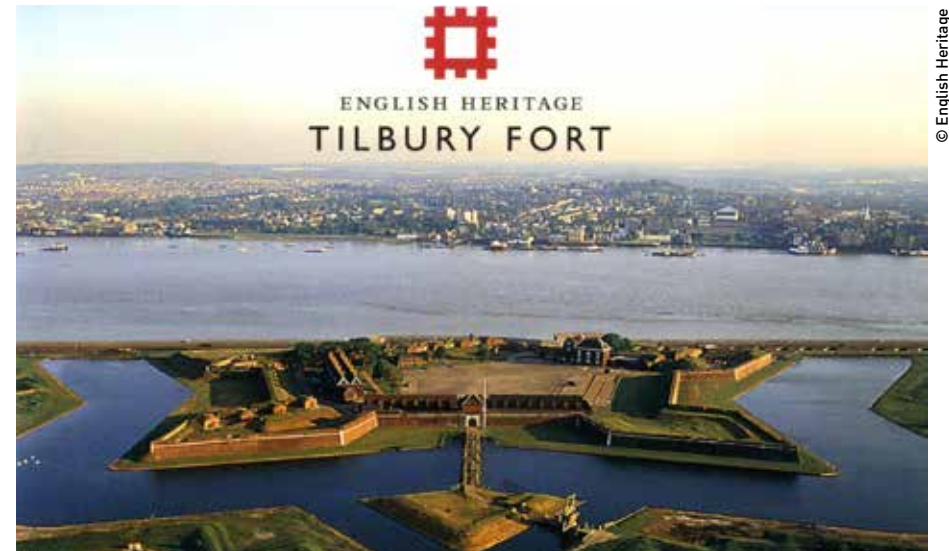


Fig. 15: Cover of the current Tilbury Fort guidebook.



Fig. 16: Aerial photo of Tilbury Fort looking west, 2010, taken from the window of a plane coming into land at London City Airport.

2.1.7 Important views

Methodology

Aerial photos are not the only important view of the Fort today. This section will outline other views deemed to be important to the experience and understanding of Tilbury Fort.

These important views have been chosen through a consideration of:

- historic views (section 2.1.4)
- views of the Fort today (section 2.1.5)
- PEIR views identified as part of the Tilbury2 development, and;
- site visits to the Fort in 2018.

These views have been chosen because they contribute in some way to understanding the history, significance or context of the Fort.

Figure x shows the location of these important views. The pages following this plan give an overview of these views and as well as the justification for their inclusion.

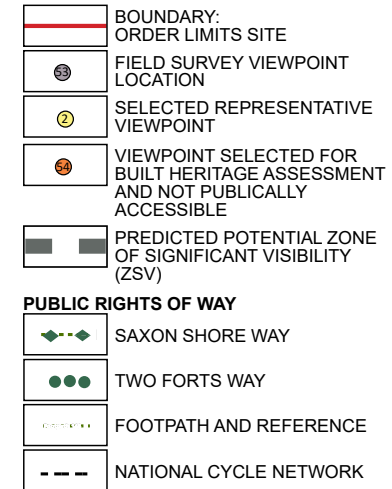
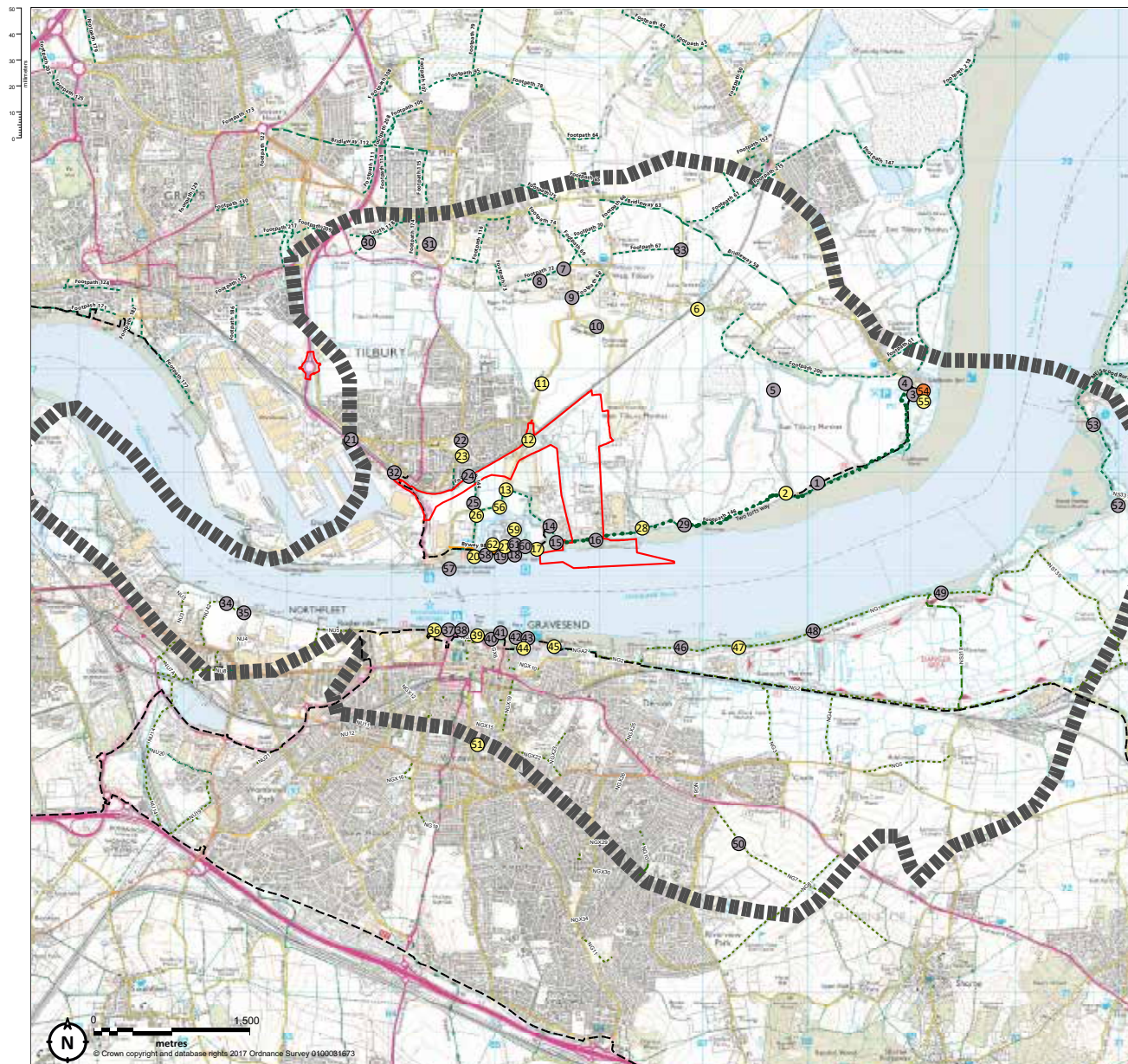
Tilbury2 and PEIR views

The Port of Tilbury is currently seeking to construct a new port terminal at the site of the former power station east of Tilbury Fort. This development scheme is called Tilbury2.

As part of this application, a range of viewpoints (PEIR views) have been identified to aid an assessment of the visual impact of the development. The location of these 'selected representative viewpoints' is shown in Fig. 17.

These views were considered as part of the views analysis contained in this report and evaluated during site visits and desktop research. Whilst most were not deemed important to the experience and understanding of the Fort, they are useful to measure the impact of the proposed Tilbury2 development on the setting of the Fort.

However, a few of the PEIR views, particularly those inside the Fort are considered important to the experience and understanding Tilbury Fort. These have been included in the analysis presented on the following pages.



REV	DATE	DESCRIPTION
DRAWING TITLE		
Sensitive Receptor Viewpoints and Zone of Significant Visibility		

SCALE 1:25000 @ A2	DRAWN JL	DRAWING N°
DATE MAY 2017	CHECKED JM	FIGURE 9.8



Fig. 17: Plan of PEIR views.

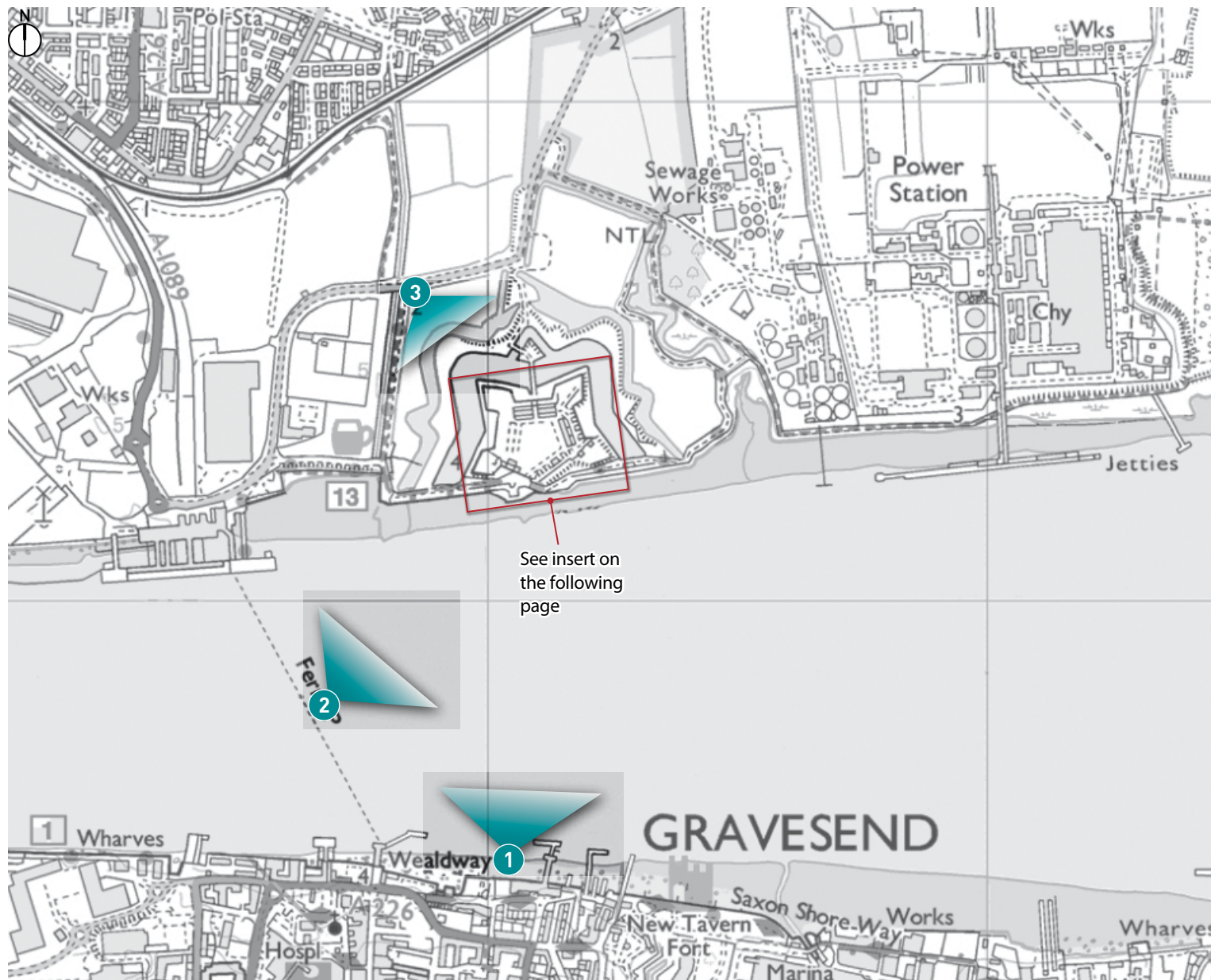


Fig. 18: Important views.

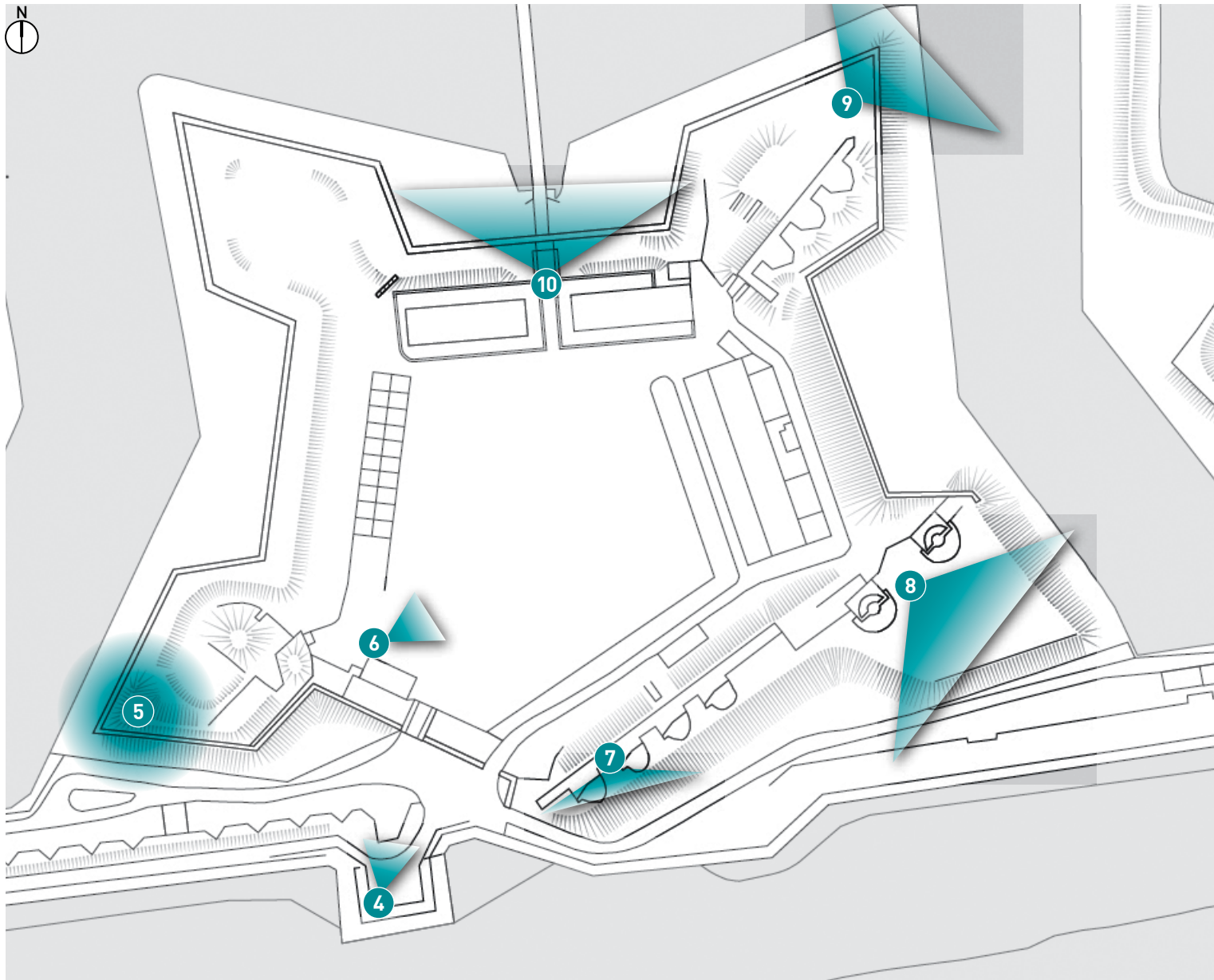


Fig. 19: Important views inset.



View no.: 1

PEIR no. (if applicable): n/a

Description: View of south side of Tilbury Fort, looking north from Gravesend.

Reason for importance:

Historically, the relationship between Gravesend and Tilbury Fort was very strong. Both sides provided defence and were often thought of as a single entity, as can be seen in figure x.

Despite the decline of Tilbury Fort and the construction of the sea wall in c.1982, which severely obscures views of the Fort from Gravesend, this relationship is still strong. It is also an important view in understanding that Tilbury Fort worked not in isolation but as part of a wider system of defence that spanned the length and breadth of the Thames.



View no.: 2

PEIR no. (if applicable): n/a

Description: View of south-east side of Tilbury Fort, looking north-east from the ferry.

Reason for importance:

Similarly to view 1, one of the most historically important views of the Fort was from the river.

Despite the decline in the use of the ferry due to increasing car ownership and the construction of the sea wall in c.1982, this view of Tilbury Fort is still important in understanding its significance. Historically it was likely the way that most people would have experienced the Fort and it still offers one of the best impressions of the Fort's purpose, which was to defend the river.



View no.: 3

PEIR no. (if applicable): 26

Description: View of the Fort looking south-east from Fort Road .

Reason for importance: to be discussed.



View no.: 4

PEIR no. (if applicable): n/a

Description: View of the front elevation of the Water Gate, looking north from the sea wall.

Reason for importance:

Along with the aerial view of Tilbury Fort, the view of the front elevation of the Water Gate is arguably the most famous. And it has been this way for most of the Fort's history.

The front elevation of the Water Gate is one of, if not the most recognisable building at the Fort, and is fundamental to visitor's experience of the Fort today. This primacy is reinforced through the Water Gate's use as the main visitor entrance.



View no.: 5

PEIR no. (if applicable): 62

Description: View across the Fort towards the old power station, looking east from the west bastion.

Reason for importance:

This view is not currently a part of the experience of Tilbury Fort. It was selected as a viewpoint as part of the analysis undertaken for the Tilbury2 development.

However, this view offers perhaps the best place within the Fort from which to understand its layout and the various elements of its defences. Currently, hardly any visitors experience it. But it could be an excellent orientation point to give visitors an overview of the Fort before learning more about its history.



View no.: 6

PEIR no. (if applicable): n/a

Description: View across the Parade Ground, looking east from the rear of the Water Gate (Main Visitor Entrance).

Reason for importance: to be discussed.



View no.: 7

PEIR no. (if applicable): n/a

Description: 180° view of the Thames (with Gravesend), looking east, south and west from the south curtain.

Reason for importance:

This viewpoint offers the best place in the Fort from which to understand why Tilbury was constructed here and its important relationship with the river. The 180° view, extending from up river towards London, to Gravesend directly opposite to finally downstream towards the sea contributes substantially to the understanding of Tilbury's location in connection with London and its defence. Today this site, with its long range views, is an attractive place for visitors to spend time.



View no.: 8

PEIR no. (if applicable): n/a

Description: View down the Thames, looking south-east from the east bastion.

Reason for importance:

Tilbury Fort was constructed to counter naval attacks along the Thames. This viewpoint is arguably the best place in the Fort from which to understand this relationship. This site would have been the first place from which incoming ships would have been seen and the most important in terms of defence. Today this viewpoint retains the atmosphere of being the first line of defence and is therefore important in understanding Tilbury Fort.



View no.: 9

PEIR no. (if applicable): 59

Description: View towards West Tilbury, looking north-east from the north-east bastion.

Reason for importance:

This view was identified as part of the Tilbury2 views selection and it offers a good appreciation of the variety of Tilbury Fort's setting. This in turn contributes to an understanding of why the Fort was located here. Whilst the Fort's setting has been compromised to some extent with the development of Tilbury Town to the north-west and the power station to the east, the Fort's relationship with the surrounding area, notably the ridge line, is still legible in the view towards West Tilbury to the north-east.



View no.: 10

PEIR no. (if applicable): n/a

Description: View of the bridges, looking north from the landward gate.

Reason for importance:

This view appeared frequently on social media and, with its view of the dramatic bridges, offers a good counterpoint to the Water Gate and views of the river to the south. It contributes to an understanding of the Fort's substantial landward defences.

Also, similarly to view 9, this viewpoint also includes views towards West Tilbury on the ridge line, contributing to an understanding of Tilbury's setting and location.

2.1.8 Collections

In addition to the site itself, English Heritage holds a collection of objects associated with Tilbury or related to its military functions. An extensive archaeological archive was assembled through excavations between 1988 and 1995 (described in Moore et al.) and this is conserved at the English Heritage archaeological store at Wrest Park. The primary collection items on site are the guns, of varied provenance (see appendix). A collection of militaria assembled by a former Custodian, Bernard Truss, is stored in the Officers' Quarters.

The Historic England Archive at Swindon holds an extensive (but not comprehensive) collection of drawings and photographs ranging from the early eighteenth century to the late twentieth century. The drawings largely relate to works carried out by English Heritage and its predecessors, but also include some early plans of the Fort. The photographic collection provides a good overview of the changes at the Fort since 1948. See [Sources](#) for details.

2.2 Management and use of the site

2.2.1 Ownership and management

The site is owned by the Historic Buildings and Monuments Commission for England and managed under licence by English Heritage (EH). A Property Curator, Area Manager, Conservation Maintenance Manager and Site Manager are responsible collectively for the site on a day-to-day basis. The Site Manager is present at the Fort during public opening hours and as required when the site is closed, to give access to contractors and members of EH staff.

2.2.2 Visitors

The Fort attracts around 14,000 visitors a year. Entry is free to members of EH but other visitors are charged. Fig. 20 shows the arrangements and extent of public access.

Opening times are variable according to the season. In 2018 the times are as follows.*

- 1 Jan to 29 March: Saturday and Sunday only, 10am–4pm
- 30 March to 30 September: Wednesday to Sunday, 10am–6pm
- 1 October to 31 October: Wednesday to Sunday, 10am–5pm
- 1 November to 31 December: Saturday and Sunday only, 10am–4pm

*Closed on some Bank Holidays.

An important factor in the closing time is the need for the Site Manager to be able to clear the site and close up before dark.

2.2.3 Residents

Three of the houses in the Officers' Quarters are currently tenanted by full-time residents. Residents use the main gate to access the Fort and have parking spaces to the rear of the Officers' Quarters. Having people on site overnight helps with security.

2.2.4 Filming

The site is occasionally closed to visitors for long periods, e.g. three months in 2017 and four months in 2016, while the Fort is used for filming. Tilbury is promoted by EH as one its Top Ten sites for filming and it has become a lucrative use of the site, generating income for the charity which can go back into conservation of the properties (although the income does not come directly to Tilbury, but into general EH budgets). Recent filming includes *Peterloo*, *Taboo* and *Wonder woman*. Access is available for filming to all parts of the site except the tenanted houses. EH staff including conservators are on site during filming to supervise and protect the historic fabric of the Fort.

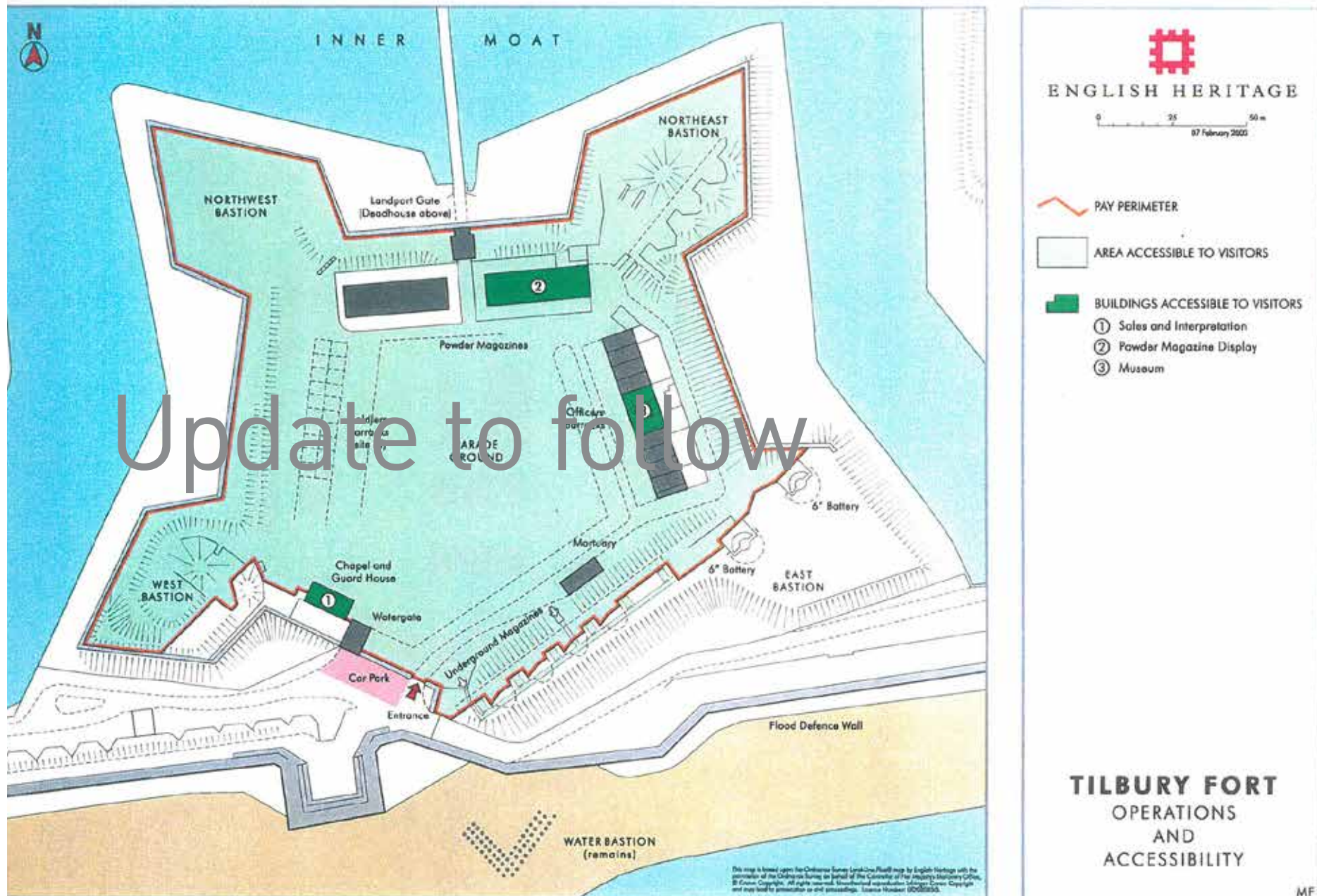


Fig. 20: Operations and accessibility

2.2.5 Access and parking

A small number of free parking spaces are available for visitors in front of the Fort. Alternatively they can park in front of the gates, in the car park of the Worlds End Inn. The car park on the outworks to the north of the Fort is no longer in use and the access route from there to the Landport Gate is closed. Entry to the Fort is through the Water Gate for pedestrians and through the adjacent gates for vehicles.

The nearest railway station is Tilbury Town, approximately 1.5 miles away. The number 99 bus runs several times a day from Tilbury Town to the Ferry Terminal, a short walk away from the Fort. It is easier to reach the Fort by public transport from the other side of the river as the ferry runs several times a day from Gravesend to the Tilbury Ferry Terminal. This mode of travel has the added advantage of giving tremendous views of the Fort from the water.

2.3 Condition of the site

Maintaining the Fort has been a challenge since the beginning, because of its location and construction. The records are full of references to earth movement and brick repair. The moats had to be kept clear and the sluices operational. The location is exposed to moist, salt laden air driven across the Thames by prevailing westerlies. In the winter brickwork can be saturated, damp has always affected buildings.

From the 1950s to the 1980s, extensive works of repair and restoration were undertaken by the Ministry and then English Heritage. These are described in section XXX above.

In 2016 a Periodic Condition Survey was carried out for English Heritage by Lloyd Evans Pritchard. This included a hydrological survey by Stirling Manyard. The Survey report assessed that £9.6m worth of repairs and maintenance backlog were required, most before 2020. Many of the masonry structures were found to be in fair condition, with only relatively minor works required to joinery, windows etc. 24 items like this were identified for action by summer 2018.

In addition, three areas required were judged to in very bad general condition, and substantial investment is recommended by 2020:

East Bastion and South East Curtain, which are suffering form movement and decay. Concrete repairs are required to cracking and corroding reinforcement, and the enclosed gun emplacement is considered unsafe. Such is the nature of the concrete that slow decay cannot be prevented.

Both of the moat bridges are closed because of their dangerous decayed state, the result of poor timber specification when they were built. This is preventing public access to the outworks

Both inner and outer moats are suffering from significant silting, exacerbated by the failure of the control valves and sluices. The outer moat is in places completely dry. This is harming significance

The works to the moats are by far and the way the most expensive, costed at £7.2m. At present there is no programme or budget for carrying out this or other works identified in the 2016 survey. At present, maintenance, painting, etc., is undertaken by XXX according to works identified and agreed by XXXX.

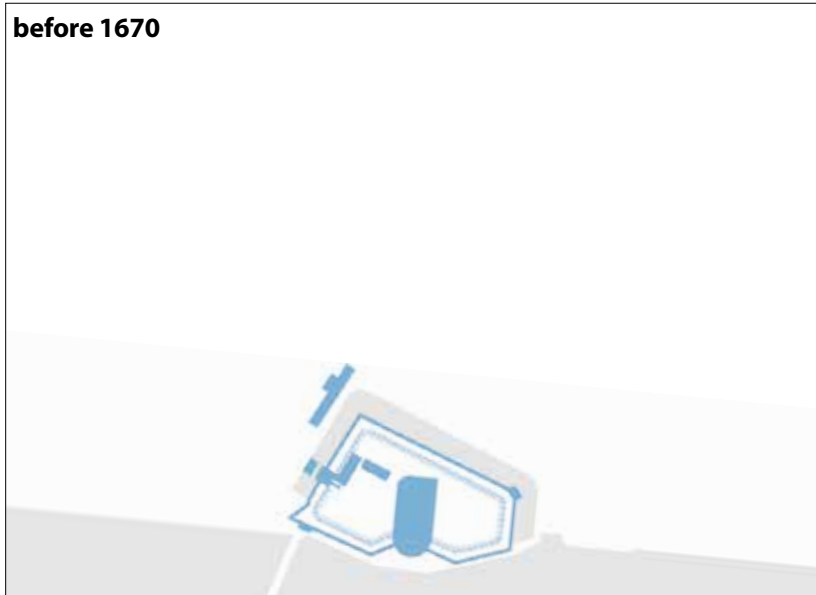
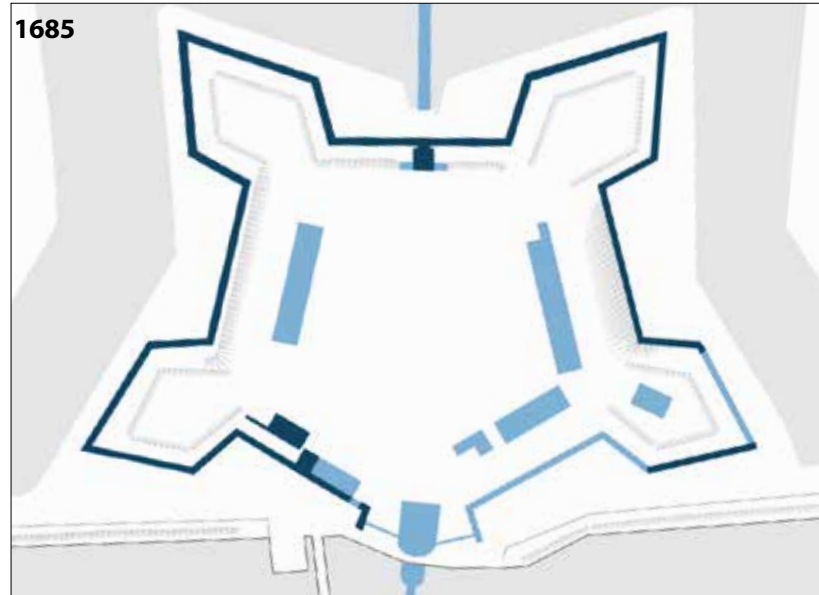
2.4 Historical development

2.4.1 Overview

Tilbury Fort is largely late seventeenth-century in layout, with standing fabric from the seventeenth to the twentieth century and earlier buried remains of a sixteenth-century blockhouse. Its original purpose was to protect London from enemy ships sailing up the Thames and to secure the strategic river crossing between Tilbury and Gravesend. Due to the continuing strategic importance of its site, it was periodically improved and re-armed up until the beginning of the twentieth century, although no shot was ever fired in anger from its guns. In the eighteenth-century the Fort gained an additional role as an ordnance depot and the storage and distribution of guns, ammunition and other military equipment continued to be its main activity up to the end of the Second World War. For the last seventy years it has been in care of the state as an historic monument.

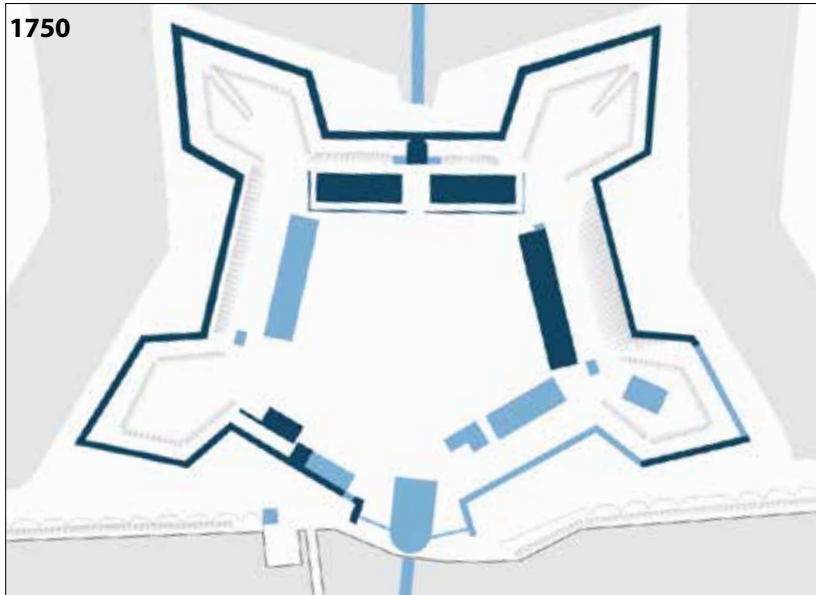
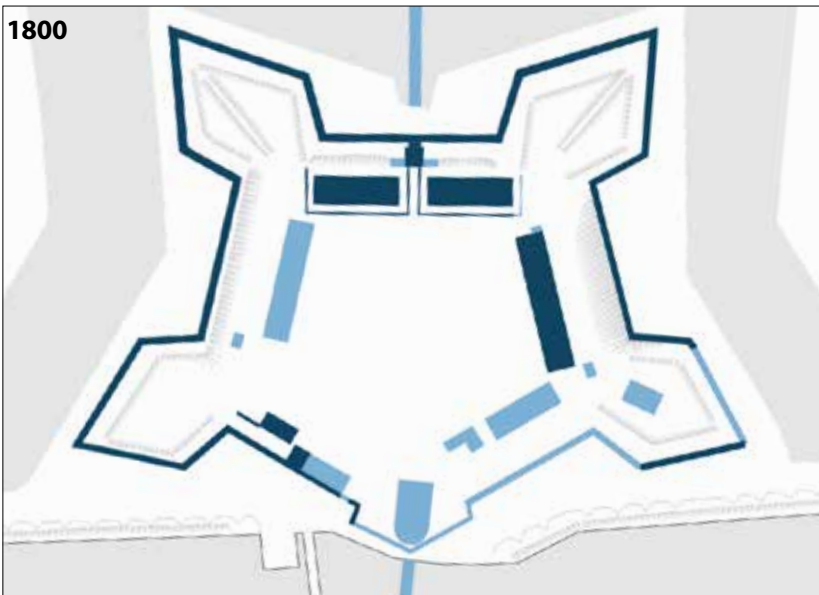
The history of the Fort has been marked by long periods of little or no change, punctuated by bursts of development stimulated by threats, or perceived threats, of invasion. The defences and armaments were repeatedly altered and updated over time because of the changing nature of weaponry and tactics. New buildings were added and old ones removed over time to meet the military requirements of the day. Six key phases can be identified in the historical development of the Fort and are mapped in the drawings on the following pages.

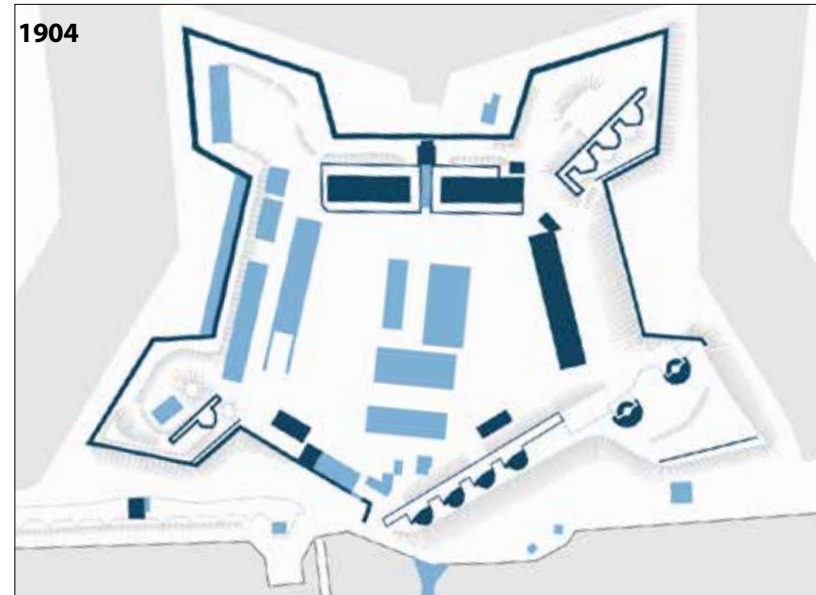
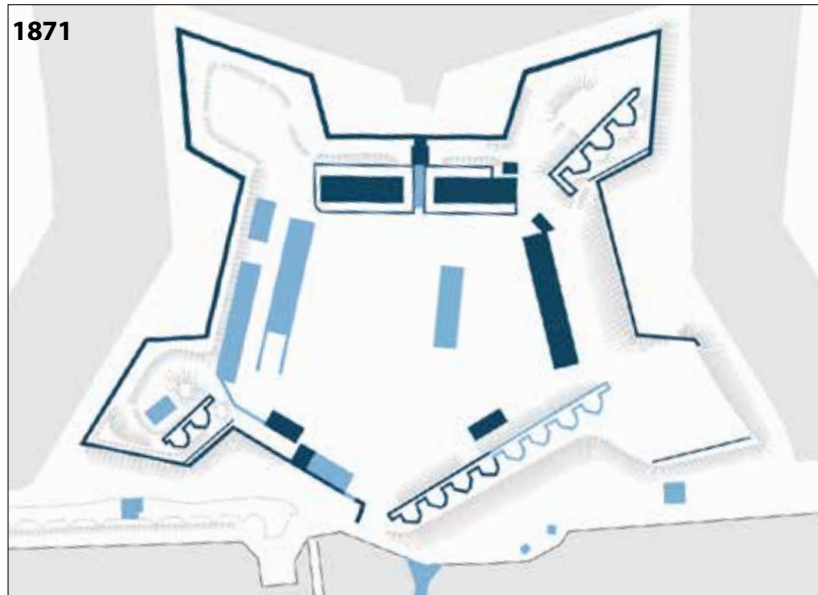
- | | |
|---------|---|
| 1539–40 | A small fort, or blockhouse, is built as part of Henry VIII's scheme of national defence following the break from Rome |
| 1670–85 | A large and powerful new artillery fort is designed on the bastion system by Sir Bernard de Gomme, for Charles II; the waterside entrance is given an impressive stone façade. |
| 1715–50 | The Fort becomes an ordnance depot; new gunpowder magazines are built, existing buildings adapted and some of the original buildings are rebuilt. |
| 1868–76 | New gun emplacements are built in the West, North-east and East Bastions, served by underground magazines; the bastion walls are earthed up to protect them from naval bombardment. |
| 1900–04 | New concrete gun emplacements are constructed on top of the East Bastion and South-east Curtain. |
| 1948–82 | Most of the nineteenth-century buildings are removed and the remaining structures repaired and restored under the Ministry of Works and its successors; opened to the public for the first time in 1958; the River Wall is built, 1981–82, cutting off the Fort from the river. |

before 1670**1685**

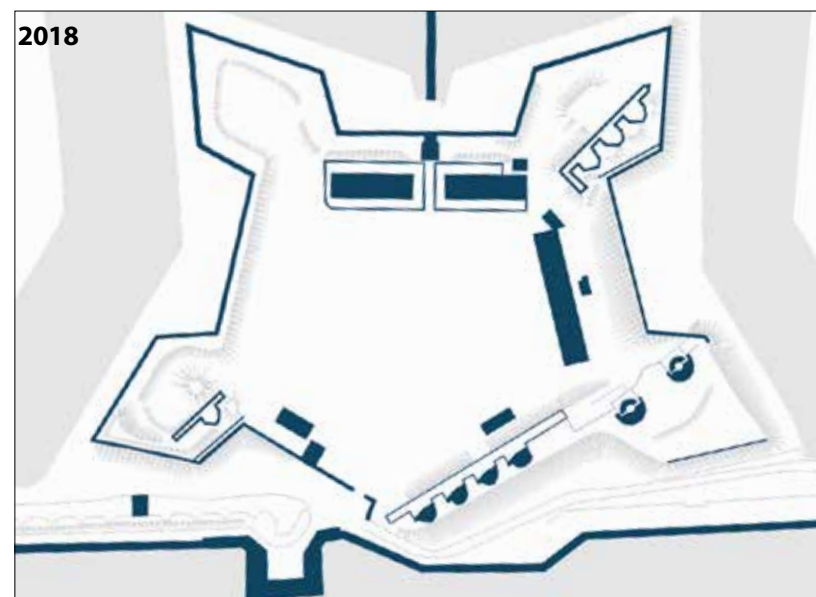
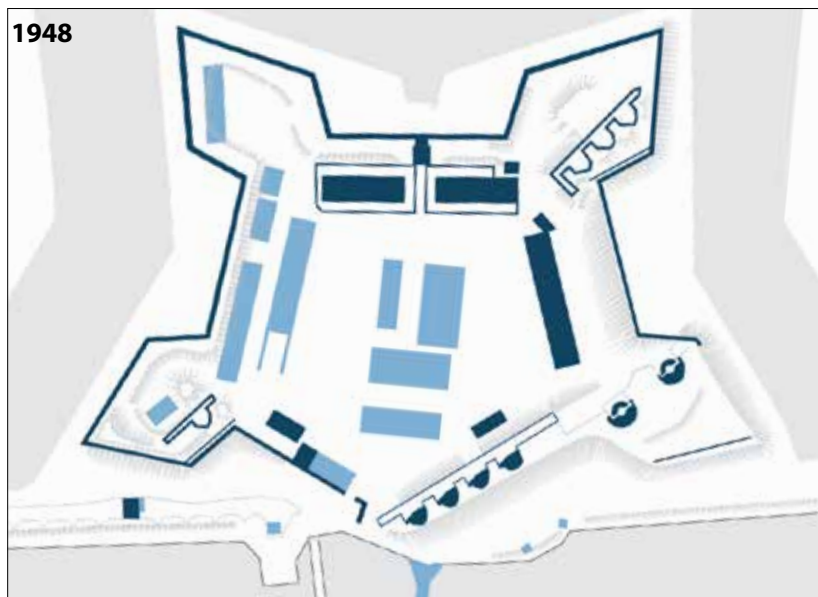
Existing (2018)
structure

Lost structure

1750**1800**



- Existing (2018) structure
- Lost structure



2.4.2 Tilbury Fort before 1670

Temporary fortifications to guard the ferry crossing between Tilbury and Gravesend existed in the fourteenth and fifteenth centuries, but in 1539–40 the first permanent structure was erected at Tilbury, as part of a series of small forts, or blockhouses, defending the Thames estuary (see topic box).

The Tilbury blockhouse was armed and manned in 1540, but just 13 years later it was disarmed and by 1558 was said to be in poor condition (Colvin, 603). In 1588 the threat of the Spanish Armada led to the repair and strengthening of the blockhouse and the construction of elaborate earthworks devised by Federico Gianibelli, an Italian engineer in the service of the Earl of Leicester.

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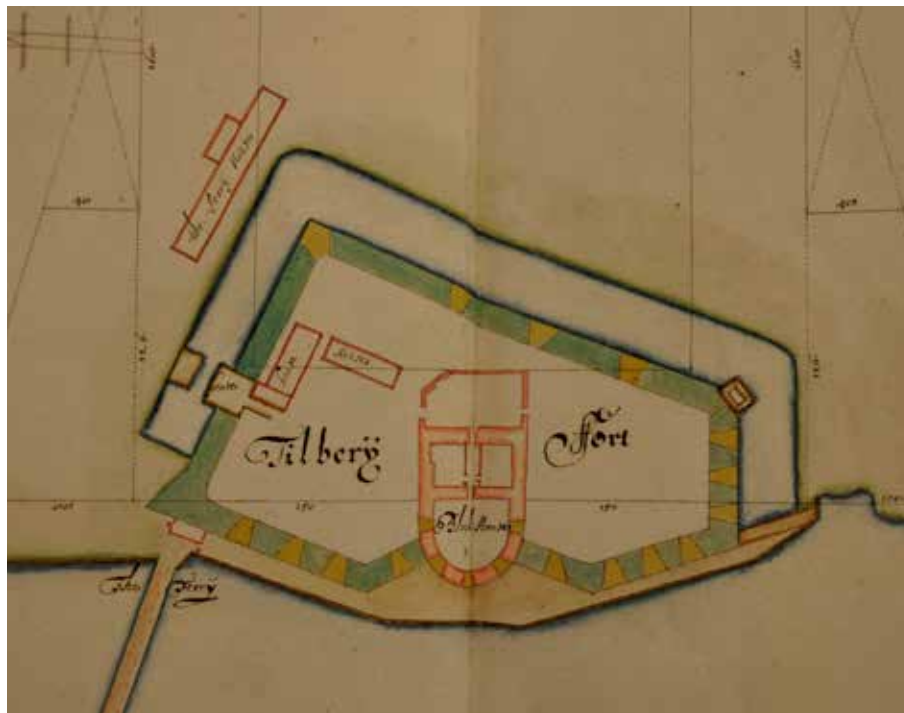


Fig. 21: Survey of the Blockhouse in its moated enclosure.

Defending London

The first permanent fortifications at Tilbury were raised by Henry VIII in 1539 response to the danger of invasion from his Catholic enemies, Francis I of France and the Holy Roman Emperor, Charles V, after the break from Rome.

Tilbury occupied an important strategic position for the defence of England and its capital in particular. Upstream from Tilbury lay the arsenal at Woolwich, the dockyard at Deptford, the commercial centre of London and the seat of government at Westminster. The River Thames was the most likely route for anyone wishing to attack these sites. Tilbury sits at a point where the river turns and also narrows significantly, which made it an ideal point at which to block any hostile shipping. The Tilbury blockhouse was one of five built to guard this stretch of the river (see Fig. 22). The narrowness of the river between it and the blockhouse at Gravesend meant that the two forts could operate in conjunction with a boom defence strung across the water.

The site of the Fort had further strategic importance because of the ferry which since the Middle Ages had crossed the Thames between Tilbury and Gravesend. This crossing would be crucial for moving troops and equipment from one side of the Thames to the other in the event of invasion.



Fig. 22: The sites of blockhouses built in 1539.

Seventeenth-century theories of fortification

The first purpose-built artillery defences emerged in Europe in the fifteenth century and their design developed rapidly in response to changing technology and theoretical thinking by military engineers. Bastions, which project out from fortress walls, developed from the towers on medieval castles and were first used regularly in Italy in the early sixteenth century. Because they were lower and had thicker walls than the earlier towers, bastions were better able to withstand attack.

Fortifications raised by Henry VIII in the mid-sixteenth century had rounded bastions (e.g. Camber in East Sussex, Deal in Kent) but later the *trace Italienne* system was adopted, which used angled rather than rounded bastions to ensure there was no 'dead ground' which could not be covered by fire from the fort. Early examples of angled bastions in Britain can be found at Berwick-on-Tweed and Yarmouth Castle, Isle of Wight. The system was widely used in erecting defensive lines in the Civil War (1642–51), although they were generally of earth and timber construction rather than masonry. After 1660 it was the basis of Sir Bernard de Gomme's fortifications designed for Charles II, at Portsmouth, Plymouth, Tilbury and elsewhere. It lived on until the nineteenth century.

Tilbury is modelled on fortifications developed in the Low Countries in the seventeenth century, where the Dutch were establishing complex defences for their major towns and forts on similarly low-lying terrain, using the bastion system, but enhanced by the use of water. Despite later changes, Tilbury still exemplifies the main features of the system. The regular plan meant that each side was equally well defended. Each bastion had four faces, carefully angled so that the defending artillery and infantry not only had a clear view of the approaches to the fort, but also a clear view over the ground immediately in front of it. It was additionally defended by moats and further revetted lines of defence and the area beyond the moats could be flooded.

add images

2.4.3 Sir Bernard de Gomme's Fort, 1670–85

The sixteenth-century earthworks were not maintained and by the 1630s had been largely flattened, leaving the blockhouse in its walled and moated enclosure (Fig. 21). After the Restoration, Charles II initiated a review of England's coastal defences and his Chief Engineer, Sir Bernard de Gomme (see topic box) was charged with building or rebuilding several large fortifications. Tilbury had lost none of its strategic importance and one of de Gomme's first tasks was surveying the old Fort. His first known design for Tilbury was drawn as early as 1662, but no action was taken until after the Dutch raid on Chatham in 1667, which highlighted the vulnerability of England's defences.

The site gave de Gomme an almost blank canvas, allowing him to create a regular plan, or *trace*, the ideal form from an engineer's point of view. It was designed as a regular pentagon (see Fig. 23), with an arrow-shaped bastion projecting from each corner. The only pre-existing feature that was kept was the Tudor Blockhouse, which was converted into a gunpowder magazine. Outworks

Sir Bernard de Gomme (1620–85)

to follow

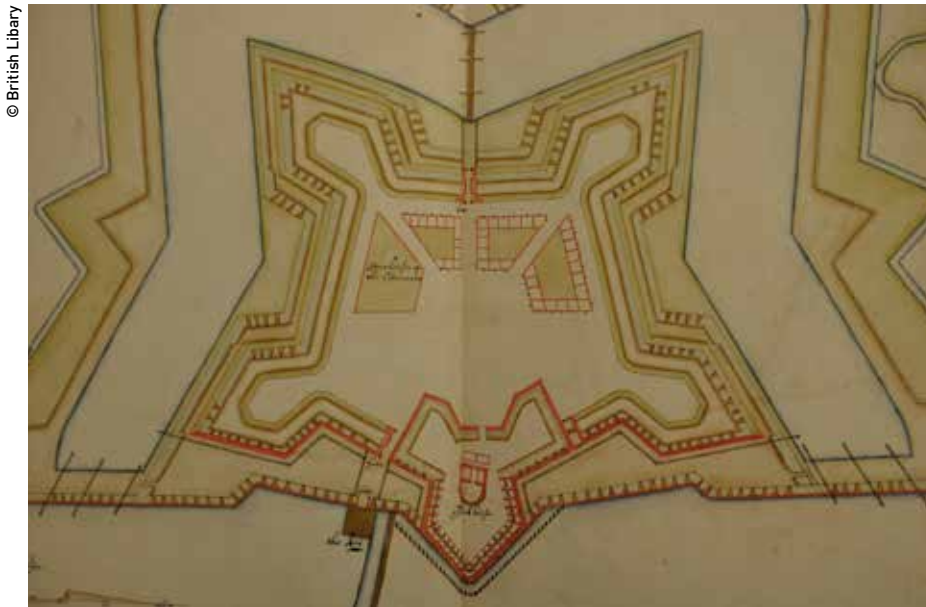


Fig. 23: 1670 design for Tilbury Fort by Bernard de Gomme.

consisting of a broad inner moat and a narrower outer channel separated by a continuous low rampart, the Covered Way, were designed to protect the Fort from attack by land. On the riverside front lay what was in many ways the most important part of the Fort: two lines of guns facing the river, which could destroy any enemy ships attempting to pass upriver.

Construction began in the winter of 1670 (Barker 584) and continued to c.1685, but de Gomme's design was never fully completed: the proposed riverside bastion remained unbuilt, although pilings in the intertidal zone indicate the beginning of its construction in 1674 (Saunders 2004, 201 and 210–11) (Fig. 24). Although most of the early work must have been in making up the ground so that it could be built upon, there is evidence that buildings were being erected as early as 1673 (Barker, 585). For some years, construction of the outworks, ramparts and buildings appears to have been taking place in parallel.

Construction of the curtain walls and bastions was a major feat on marshy ground, requiring substantial piling (Fig. 25) to support the high, battered brick

walls. The earthworks were formed over chalky rubble to stop them sinking into the waterlogged ground. Most of the early buildings are now lost, including the Sutler's House (rebuilt probably in the nineteenth century and demolished in the 1950s), the Storehouse and Storekeeper's House (demolished in the nineteenth century), a powder magazine in the east bastion later converted to a prison (remains of which may lie buried in the East Bastion) and the first barrack blocks on the east and west sides of the Parade (rebuilt a number of times on the same site).

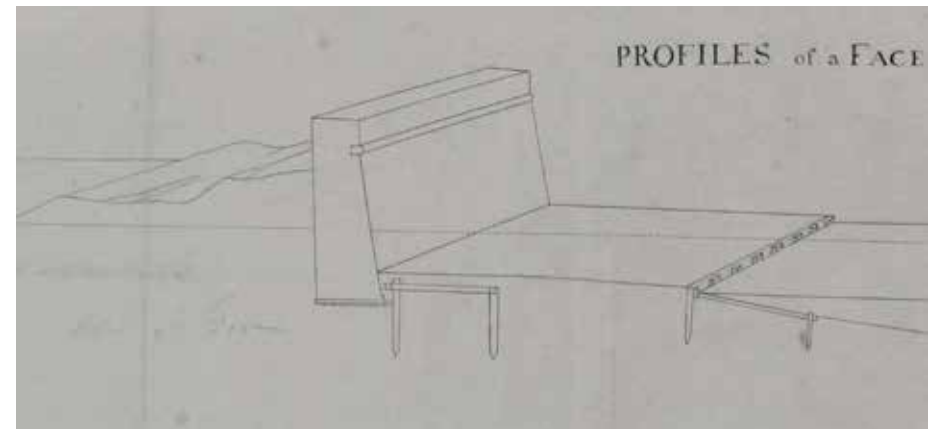
The fort was armed again by 1680, but work on the buildings and fortifications was far from complete. The Water Gate and Landport Gate, which were begun in 1676, were finally completed by 1683. Sentry boxes or echauguettes 'in the same form as those built at Plymouth according to the model given him by his majestys engineer' were erected at the point of each bastion (Barker 591). An extra storey was added to the Tudor blockhouse in 1683 to provide an additional gun platform overlooking the river.

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Fig. 24: Mid twentieth-century photo of the abandoned piling for the Water Bastion.



© British Library

Fig. 25: Profile drawing of the Fort wall, c.1716, showing the piling for the walls and camp shedding.

An extra storey was added to the Tudor blockhouse in 1683 to provide an additional gun platform overlooking the river.

In the years following the 'completion' of the fort, work was focused on remedying the various defects that had emerged, principally the settlement of the structures into the marshy ground. This aspect of the Fort was notable enough for Daniel Defoe, writing in the 1720s, to describe it in some detail:

the foundation is laid so deep, and piles under that, driven down two on end of one another, so far, till they were assur'd they were below the channel of the river, and that the piles, which were shod with iron, entered into the solid chalk rock adjoyning to, or reaching from the chalk-hills on the other side. These bastions settled considerably at first, as did also part of the curtain, the great quantity of earth that was brought to fill them up, necessarily, requiring to be made solid by time; but they are now firm as the rocks of chalk which they came from, and the filling up one of these bastions, as I have been told by good hands, cost the Government £6000 being filled with chalk-rubbish fetched from the chalk-pits at North-Fleet, just above Gravesend. (www.visionofbritain.org.uk)

Chalk rubble and gravel was spread on the ramparts to stabilise them, and on the Parade, to provide a base for paving (Barker, 596). Most of the fort seems to have been left unpaved, but some areas were paved either in ashlar or a mix of Kentish Ragstone and flint. The ground in front of the fort was raised because of repeated flooding at high tide.

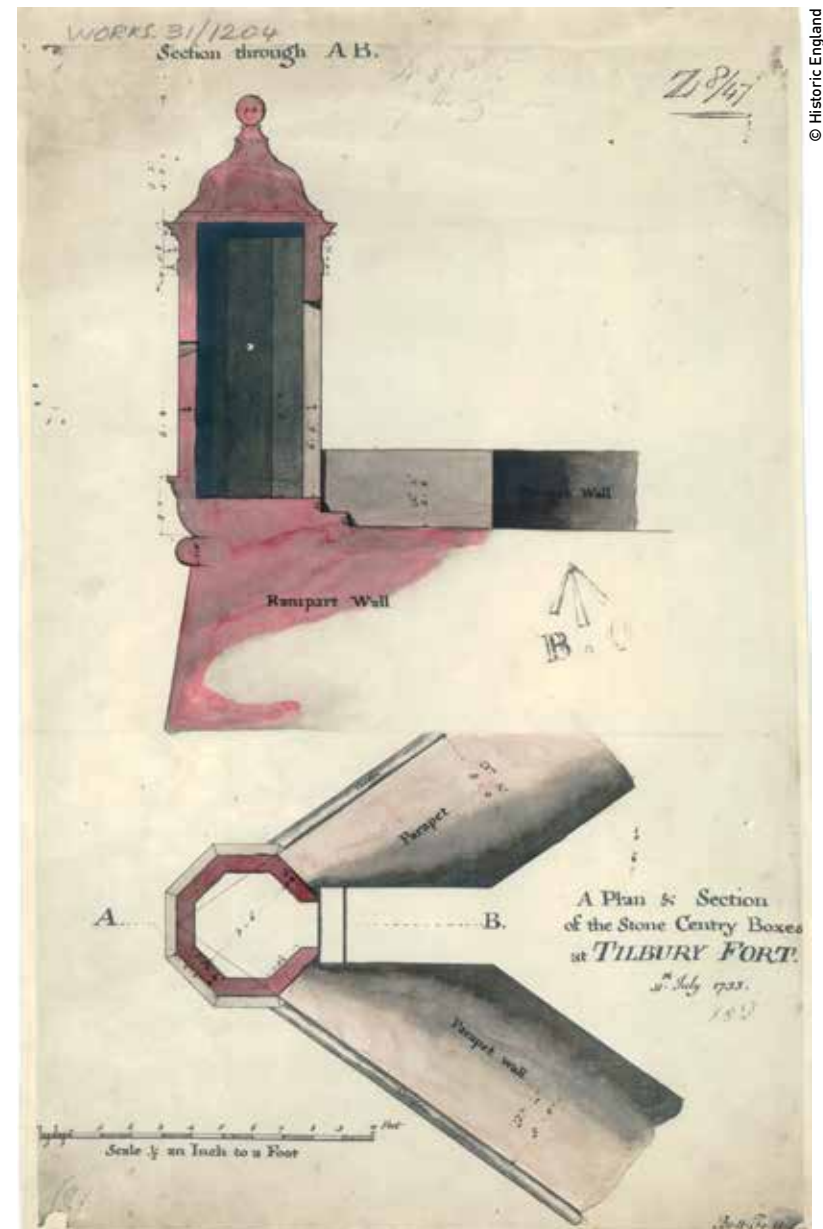


Fig. 26: Plan and section of the Sentry boxes.



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Fig. 27: View of the Parade, 1759, showing from left to right: teh Sutler's House, Water Gate, Guard House and Chapel, and West Bastion.

2.4.4 Tilbury in the eighteenth century

In the years after 1685, a greater emphasis seems to have been placed on Tilbury's role as an ordnance store, under the control of the Board of Ordnance. The blockhouse was converted into a powder magazine 1691–92 (Barker, 597) and a few years later 'further sums were spent on converting the Governor's House into a magazine' (Barker, 598).

In 1715 the fort, like many other Ordnance establishments was re-surveyed and a programme of works put in hand. The most significant of the surviving works in this phase are the rebuilding of the Guard House and Chapel (two hopperheads are dated 1715) and the construction of two new gunpowder magazines on the north side of the Parade. The foundations of the new magazines were begun in June 1716 (Barker, 602) and they were completed, to judge by the dated hopperheads, on the west magazine, by 1719. Both magazines were rebuilt in 1730–31, replacing the single vaulted structure with the twin vaults we see today (Pattison, 11). The thick blast walls separating the magazines from the Parade were constructed in 1746. The walls to the rear of the magazines and those forming the passage to the Landport Gate were added later.

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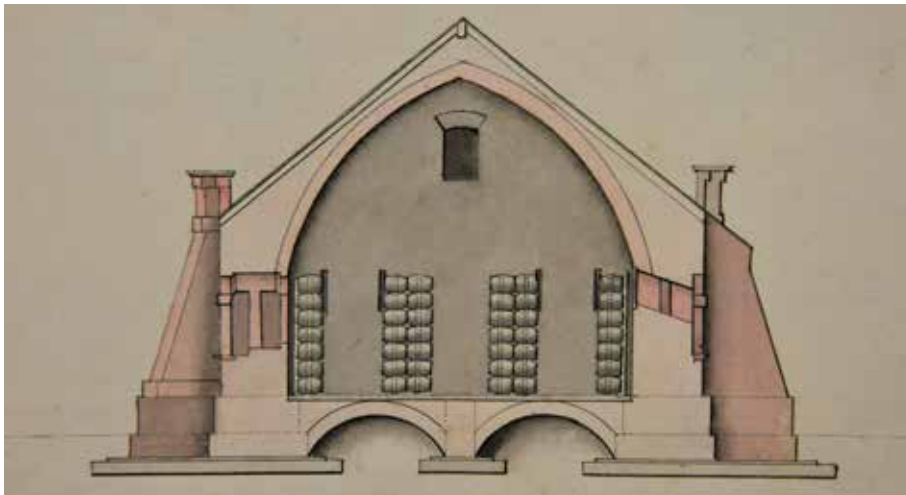


Fig. 28: Section of the Gunpowder Magazine as originally built.

The Board of Ordnance

to follow

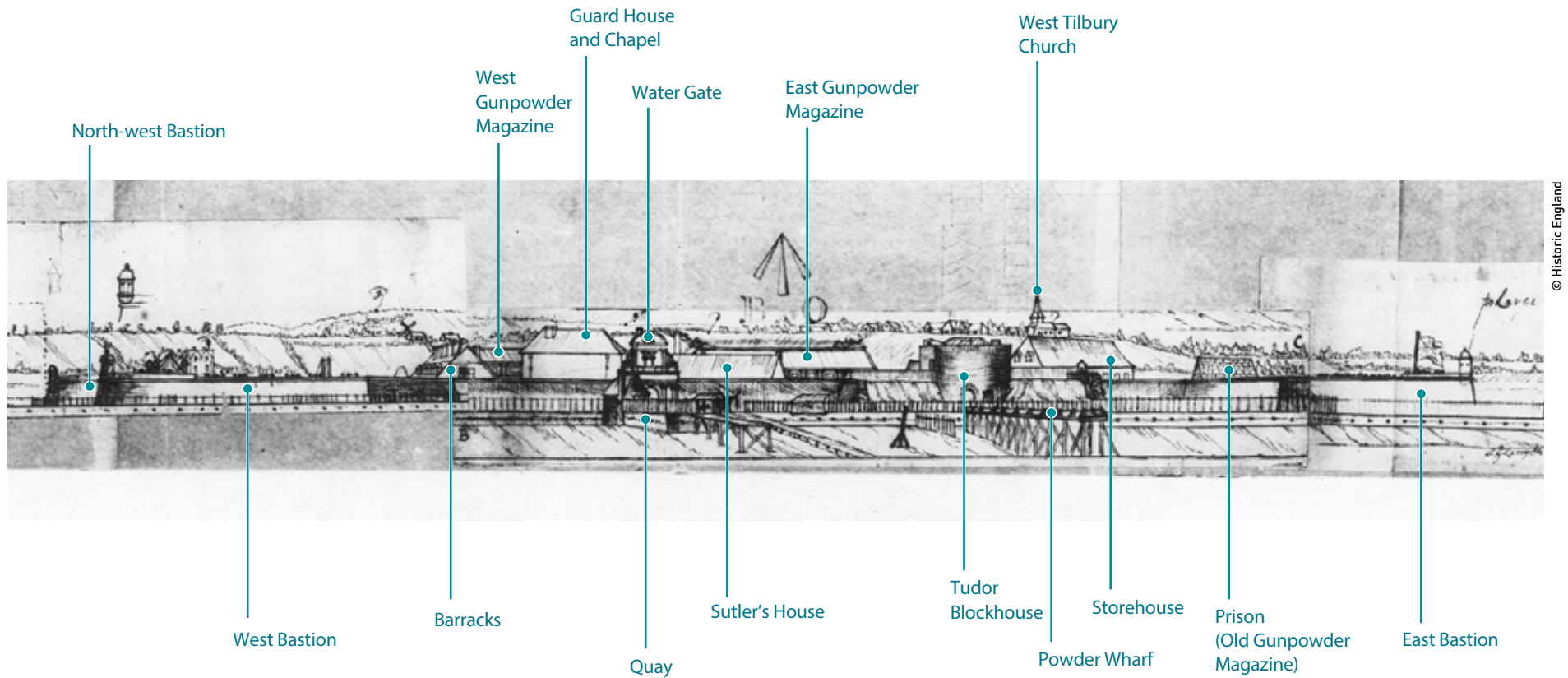


Fig. 29: Eighteenth-century view of the Fort

The other major change in the Fort during the first half of the eighteenth century was the rebuilding of the barracks, which may have occurred more than once. In 1702–03 the Ordnance spent similar amounts on both the west and east barracks, the work to the latter described as ‘rebuilding’, including re-roofing and new dormer windows (Barker 598). A drawing of c.1716 in the British Library shows ‘Old & New Barracks’, each to a different design, the new being those on the west side. They can be seen in an eighteenth-century view of the Fort (fig.), but were later replaced and a plan of 1806 refers to them again as ‘New Barracks’. In February 1750 a report stated that the east barracks were ‘ruinous’ (Barker, 607) and beyond repair. Plans to demolish and rebuild them, using as much of the old material as possible, were approved in June 1750 and got underway the following month. The result was the Officers’ Quarters, more or less as we see them today.

In 1778 fears of an attack on the Port of London prompted another reassessment of Thames defences. Across the river at Gravesend, New Tavern Fort was constructed, while at Tilbury improvements were made to increase the firepower it was able to bring to bear on the river (fig.). Plans dated 1778, signed by engineer Thomas Hyde Page, mark out the changes to be made (BL Maps K.Top.13.55.a; see appendix). What was effectively a new bastion, with truncated flanks, was to be built on the river side of the Fort enclosing the Blockhouse. The riverside gun lines were to be extended in front of this new bastion, formed a new battery projecting into the river. Gun emplacements were also planned at the south-east corner of the Place of Arms, to enable long-range fire downriver. In the event only the work to throw the curtain wall around the Blockhouse and to create an additional battery on the outer defences was carried out; the formidable battery planned for the front of the fort was never built.

Fig. 30: Riverside views of the Fort in the late eighteenth century (above) and in 1831 (below). Note the enclosure of the Blockhouse in the later view.



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2.4.5 Victorian Tilbury

In 1868, the *Illustrated London News* published a set of views of the fort (Fig. 31 and Fig. 32) which emphasised its old-world atmosphere and suggest it was seen as a relic of earlier centuries. Ironically, the Tudor Blockhouse had been demolished just a few years before (somewhere between 1849 and 1862, see historic plans reproduced in the appendix). In the accompanying text, however, it was noted that 'some parts [of the Fort] are to be rebuilt'. The result was a transformation over the following four years which would bring Tilbury into the world of modern warfare.

The second half of the nineteenth century saw a technological revolution in the instruments of war, fuelled by Imperial rivalry. New ironclad, steam-driven warships with more powerful and more accurate guns were being produced, starting with a new French frigate, the *Gloire*, in 1859. This had the potential to change the balance between land defence and naval attack.

Against this background a Royal Commission was appointed in 1859 to review the nation's defences. The Commission's report (published in 1860) led to a major programme of construction of new fortifications to protect major naval bases, arsenals and the Thames estuary. A pair of new forts was built at Coalhouse Point and Cliffe, just a few miles to the east of Tilbury Fort. Although this had the effect of relegating Tilbury to a secondary line of defence it was nevertheless adapted in 1868–71 to accommodate a powerful battery of new guns.

The new RML (Rifled Muzzle-loaded) guns were placed in newly-formed, embrasured emplacements in the West Bastion (two guns), North-east Bastion (three guns) and South-east Curtain (eight guns). Their positions reflected the need to be able to fire both at long range downriver, but also at closer range at ships attempting to run past. Hence the absence of new RML guns in the North-west Bastion which faced away from these likely threats. All the new gun emplacements were built over buried magazine complexes from which their ammunition was supplied by vertical lift shafts.



Fig. 31: From left to right, the Sutler's House, Water Gate and Guard House and Chapel, in 1868 (*Illustrated London News*).

To protect the fort and its guns from the increased power of modern naval guns, earth ramparts were built up against the outside of the seventeenth-century bastion walls (except the North-west Bastion) and the South-east Curtain (figs.). The walls were buttressed before they were earthed up. Inside the Fort, magazines, stores and serving rooms were covered in mounds and banks of earth to protect them from bombardment. A buried chamber within the East Bastion appears to be on the site of the old Prison, and may incorporate some fabric of that earlier structure.

A number of 10-in howitzers were also installed in the 1870s for land defence and a number of surviving emplacements can be seen in the North-east Bastion and West Bastion (fig.).

Mobilisation centre and ordnance depot

By the late nineteenth century, Tilbury's role in defending the river had been largely superseded by new front-line forts built further downstream at Coalhouse Point and Cliffe. Instead it became a 'mobilisation centre', run by the Army Ordnance Department as part of a new defence strategy for London in the event of invasion. As a result Mobilisation Wagon Sheds were erected on the Parade in 1889–90 and another was built up against the west curtain wall between the bastions. These structures contained wagons and horse harnesses for army transport (figs). All were later removed.



Fig. 32: The Landport Gate in 1868 (Illustrated London News).

2.4.6 Tilbury in the twentieth-century

The beginning of the twentieth century saw the last re-armament of the Fort. It was still the case that any invasion threat would come by sea, as it had when Tilbury Fort was first built, although the ships were now much better armed and faster. If anything Tilbury's strategic importance had increased with the growth of the adjacent commercial docks.

Plans were drawn up in 1900 for constructing a battery of two 6in guns in the East Bastion and four 12-pounder Quick Firing guns in the South-east Curtain, in new concrete emplacements. The latter were built over the top of the four southernmost of the 1868–71 emplacements giving them commanding views across and along the river. The new guns were all in place by 1904, while 9in RML guns of the 1870s remained in the West and North-east bastions. One of the guns can be seen *in-situ* on the South-east Curtain in W. L. Wyllie's watercolour of the Fort seen from the West Gun Line (fig. x). (The guns *in-situ* on the South-east Curtain are later introductions by English Heritage).

A little more than two years later, however, Tilbury was disarmed, it having been decided that the Thames was defended well enough by the guns further downriver and by the new, more powerful ships of the Royal Navy, and that as a result the secondary line of defence was redundant. By April 1907 all the guns had gone from Tilbury, bringing an abrupt end to its use as an artillery fort.

In the First World War the Fort acted initially as barracks for troops *en route* to France. A pontoon bridge was built across the Thames, to facilitate quick movement of soldiers and artillery between the Fort and Gravesend (thames.me.uk/s00016.htm). In October 1915 it was officially designated as an Ordnance Depot, storing and supplying explosives, ammunition, infantry equipment, wagons and gun carriages. Around the time of the First World War, a system of tramlines was installed to facilitate the transport of various supplies around the Fort (fig.). (A 1908 plan of the fort in the National Archives (WO 78/3605) is annotated with successive changes from 1913 to 1926, but to which of these dates the tramlines belong is not clear.) At the end of the war, the Fort was used as a receiving depot for artillery returning from the front, but its military usefulness was almost at an end.

In June 1931 the Army quit the Fort and it reverted to the ownership of the Commissioners for Crown Lands. They struggled to find tenants, although the local authority expressed an interest in buying it. The problem was solved in 1938 when the Army re-occupied the Fort in preparation for the anticipated conflict with Germany (TNA WORK 14/1468). The Chapel and Guard House were used as a temporary anti-aircraft operations room in 1939–40 and the Home Guard occupied part of the Officers' Quarters, but otherwise the Fort played no part in the war other than as a storage depot – for the Army until 1943 and afterwards for the Navy. Nevertheless there was some bomb damage to the fort.

The Ministry of Works carried out repairs to parts of the Fort (Water Gate, Landport Gate and Dead House) during the war and in November 1945 a preliminary enquiry was made about its transfer to the Ministry's Ancient Monuments Department. The Fort was still in partial use at that time but by 1948 the Admiralty had given up possession and the transfer to the Ministry was agreed, effective from 5 April 1948 (TNA WORK 14/3130 *passim*).



Fig. 33: Riverside view of the Fort in 1905 by W. L. Wyllie.



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Fig. 34: Survey elevation of the Water Gate by the Office of Works, 1914.



© National Archives

Fig. 35: Early twentieth-century view of the Water Gate showing the tramlines in the foreground.



© Britain from Above

Fig. 36: Aerial view of the Fort and its setting, 1934.

Tilbury Fort: worth preserving?

Tilbury Fort was taken into the care of the Ministry of Works as an historic monument in 1948, but questions of its preservation had exercised the official guardians of the nation's heritage for many years before that.

At first the Office of Works (predecessor of the Ministry of Works) only took an interest in the Water Gate. In 1912 it advised that the building should be transferred to 'Schedule B', meaning that its conservation became the responsibility of the Ancient Monuments Department, rather than the military; in 1914 the War Office notified them that repairs were needed. The building was surveyed (fig x) and the Office of Works agreed to take measures necessary to ensure its preservation but it is not clear that anything was actually done until 1925–26, when extensive repairs were carried out. These involved an entirely new roof and the rebuilding of the brick walls from the second floor upwards (TNA WORK 14/856).

After the Army quit the fort in 1931, the Office of Works considered the possibility of taking it over as a monument. The Chief Inspector of

Ancient Monuments, Charles Peers, was decisive in rejecting the idea, although he did express the hope that the Fort would not be 'obliterated' (TNA WORK 14/856). Meanwhile the National Trust and the SPAB were making enquiries about the future protection of the Water Gate.

By 1945 the official attitude had changed and the Ministry (as it was renamed in 1940) was 'anxious that [Tilbury Fort] should be preserved and, if possible, transferred to us' (TNA WORK 14/1468). The Chief Inspector was now Bryan O'Neil, an omnivorous collector of monuments on behalf of the Ministry and a pioneer in the study of British fortifications. In contrast to Peers he appreciated the importance of the Fort as a whole, understanding it to be a rare surviving example of a seventeenth-century fortification.

The Ancient Monuments Department carried out repairs to the Water Gate, Landport Gate and Dead House in 1943, but the Fort was nevertheless in a terrible state when in 1948 it was transferred from the Commissioners for Crown Lands to the Ministry of Works.

Thirty years of partial disuse and the neglect of maintenance during the war years, exacerbated by bomb damage, had taken their toll (see figs x, y z). This seems to have influenced some of the decisions to demolish buildings at the Fort. While some nineteenth-century buildings remained, such as the General Artillery Store, others such as the range of stores and the old hospital on the west edge of the Parade were demolished.

More understandable was the removal of the late nineteenth-century wagon sheds, which were seen as having no historic or architectural interest whatsoever. A more equivocal attitude was shown towards other features. When the question was raised of whether the rampiring on the bastions should be left in place, in October 1953, Inspector of Ancient Monuments for England, P. K. Baillie Reynolds, wrote: 'it must remain. It is part of the story, more's the pity.'

2.4.7 Preserving Tilbury Fort, 1948–2018

Two tasks faced the Ministry of Works when they began work on 'their' site in 1949: firstly the removal of buildings and structures that were not considered to be part of the historic interest of the site; and secondly conservation of the remaining structures. A third task, of restoration, came later.

Over the period 1951 to 1958 the inside of the Fort was cleared of buildings, most of which dated to the nineteenth century. The first to go was the Soldiers' Barracks in 1951, even though it appears to date from the eighteenth or very early nineteenth century. The decision-making is not recorded in detail in the National Archives files, but it may be that the building, for all its apparent historic value, was considered too badly damaged to be capable of restoration. By 1958 the clearance work had been completed and within the walls the Fort had largely attained the form it has today.

© Historic England



Fig. 37: The Soldiers Barracks in 1947.

There was no question of removing the earliest buildings on the site such as the Water Gate, Chapel and the Dead House, but they were 'tidied up', with the removal of later additions and a good deal of basic repair (fig.). The curtain walls and bastions also required extensive repair. A large section of the west curtain wall had to be rebuilt from the ground up and the North-west Bastion was repaired where a large section of the outer face had collapsed. Relatively little work was done outside the walls of the Fort, before its official opening to the public on 20 May 1958 by the Minister of Works, the Rt Hon Hugh Molson.



© Historic England

Fig. 38: Hugh Molson opening the Fort in 1958.



Fig. 39: The Dead House in 1947, prior to repair.

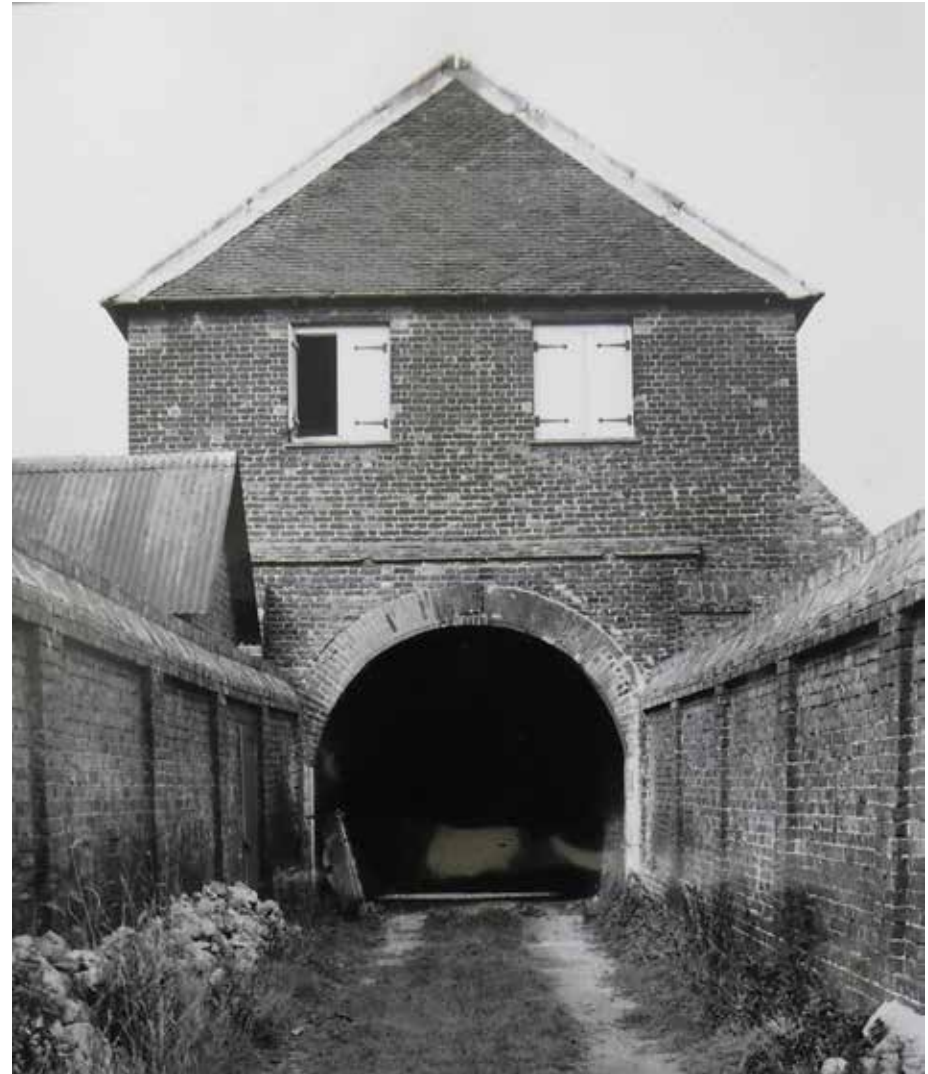


Fig. 40: The Dead House in 1954, after repair.

The next major phase of work, which addressed the scrubby wasteland beyond the Fort walls, began in 1971. A far-reaching report was written by a D. L. Marner, a Senior Architect at the Department of the Environment (successor to the Ministry of Works), setting out a new strategy for conserving and presenting the Fort (HE AL0948). It advocated a change to the circulation routes so that visitors arrived on the north side of the Fort, crossing bridges over the moats to enter via the Landport Gate, rather than the Water Gate.

Works were carried out between 1974 and 1982, which transformed the Fort, in particular the outworks. The works included:

- The River Wall was constructed
- A car park was laid at the north end of the site
- New bridges were constructed, based on eighteenth-century drawings, over the Inner Moat, to give access via the Landport Gate
- The West Gun line was cleared and repaired
- The south-west corner of the Inner Moat was restored to its historic form
- Paving of the Parade was completed
- The demolished Soldiers' Barracks were marked out on the west side of the Parade

This phase culminated in the re-opening of the Fort in 1982. Since then the bridges have been taken out of use due to safety concerns and as a result the car park has been abandoned. No major new works have been undertaken since 1982.



Fig. 41: Aerial view of the Fort in the mid-1970s, showing the incomplete paving of the Parade and the recent re-building of the West Gun Line.

3.0 Significance

3.1 Introduction

The purpose of this chapter is to explain the significance of Tilbury Fort in heritage terms and to examine the contribution to its significance made by its setting. The emphasis is less on ranking elements of the site by their level of significance, more on conveying the nature of its significance and the tangible and intangible qualities of the site that ought to be conserved.

The layers of the Fort's history cannot easily be disentangled, either physically or intellectually, because of its continual process of change and adaptation: few of the structures can be said to belong entirely to one period. Moreover, it cannot be said that any individual layer of the site's history detracts from its overall significance (although that was not the approach taken in the 1950s when the first programme of conservation was undertaken and the most recent buildings were all removed). The Fort is significant precisely because it has evolved and embodies the evidence of that process, including the conservation work carried out in the last seventy years.

3.2 Overview

The most important aspects of Tilbury Fort's significance can be summarised as follows.

- Tilbury Fort is a rare surviving example of a well-preserved seventeenth-century fortification, with even rarer surviving outworks;
- It has associations with the story of national defence from the mid-sixteenth century to the twentieth century and illustrates military responses to external threats over time; the continual re-use and adaptation of the site for the same purpose is an important part of its history;

- Surviving structures, earthworks and the fragmentary survival of fixtures illustrate the development of military technology and theory, in particular in relation to land-based defence against naval attack;
- In its setting, the underlying topography is legible despite modern development, enabling an understanding of the Fort's historic character and the reasons for its creation;
- The surviving buildings in the Fort have architectural and artistic interest, in particular the Water Gate, a superb seventeenth-century gatehouse, and the Gunpowder Magazines, rare early examples of this building type.
- The striking image of the Fort walls and moats when seen from the air, the curious landscape of the nineteenth-century earthworks, the strange beauty of the riverside and marshland setting and the sights and sounds of the working river, give the Fort outstanding aesthetic interest.

The only feature of the Fort that can meaningfully be said to detract is the River Wall, which has severed the important visual and physical relationship between the Fort and the River Thames. It is excluded from the scheduled area, but is within the site boundary.

3.3 Why is Tilbury Fort significant?

3.3.1 Historic interest

The site of Tilbury Fort has been associated with England's national defence, and more specifically the defence of London, since the sixteenth century. As such, the phases of its development can be mapped against the political history of the nation and the repeated threats, or perceived threats, from rival European powers. The repeated alteration and updating of the Fort over time mean that its features illustrate aspects of military history, the changing technologies and theories of attack and defence.

Some phases are illustrated better than others in the existing fabric of the Fort. Below-ground remains of the Tudor Blockhouse are said to survive and have the potential to illustrate the defences of the mid-sixteenth century, but otherwise there is no more than an association with Henry VIII. (Archaeological interest is discussed further below.)

Tilbury Fort is generally acknowledged to be the best-surviving example of a late seventeenth-century coastal fort in England. Its original design, by Sir Bernard de Gomme, survives remarkably well. De Gomme was undoubtedly the most important figure in seventeenth-century military engineering in England; Tilbury Fort and Plymouth Citadel are 'the most complete surviving examples of de Gomme's work as Chief Engineer' (Saunders 2004, 192). Comparison of the two sites, which came at each end of de Gomme's post-Restoration work, show the change in his approach over time, but also his responsiveness to the topographical situation of the different sites – Tilbury provided a flat, almost empty site, perfect for realising an ideal, regular trace whereas Plymouth demanded adaptation to a rocky promontory.

The overall layout (the *trace*) of de Gomme's fort is still clearly legible and provides an excellent illustration of the features of the bastion system. The survival of the outworks, a feature associated with forts in the Low Countries and imported to this country by the Dutchman, de Gomme, is fundamental to the understanding its seventeenth-century character. Appreciation of this is threatened by the current condition of the outer moat on the east side.

Inside the walls of the Fort, there is good survival of the general arrangement and some standing structures, namely the Guard House and Chapel, Watergate, Landport Gate. Eighteenth-century architecture in the fort – the Officers' Quarters and Gunpowder Magazines – is illustrative of the building practice of the Board of Ordnance in the period. The Gunpowder Magazines are among the earliest surviving examples of such structures and they retain a wealth of original fabric

Purpose-built barracks from before the 1790s are relatively rare (Douet, xiii). The history of the Officers' Quarters is hard to understand, but documentary references show that the block was rebuilt in 1750 (see Barker) and the existing building does appear on stylistic grounds to belong to that period, albeit with alterations. As the range of artillery increased, free-standing accommodation buildings in forts became too vulnerable and accommodation was created in casemates instead.

The lining-out of the Soldiers' or Privates' Barracks on the west side of the Parade is of little significance: interpretation on site claims them to be the footings of the 1680s barracks, but that structure is known to have been rebuilt at least twice and the lines followed (not with complete accuracy) are those of the last building on the site, including the fives court, which was certainly not part of the 1680s work.

3.3.2 Architectural interest

The standing buildings and structures of the Fort range from the seventeenth century to the late nineteenth century. The latter are mostly of limited architectural interest, but the earlier structures possess interest in their design, construction, craftsmanship and decoration.

The architectural highlight of the Fort is, and always has been, the Water Gate, or more specifically the Portland Stone façade of that building. Attached to the front of a very humble, rustic-looking building, the façade is a high quality piece of seventeenth-century Classical design with exuberant carving in stone of the trophies which flank the upper storey, the royal coat of arms in the pediment and some now much-decayed (and hence indecipherable) work in the

spandrels above the entrance. These are set off by the classical refinement of its composition and the simple detailing of its architectural elements.

The Water Gate has similarities to the slightly earlier gatehouse at Plymouth Citadel, and both derive from European, and in particular French, gates of the seventeenth century. The architectural display demonstrates the primacy of the Water Gate as the entrance to the Fort and the importance of the relationship of the Fort with the river. Although there has been some repair and renewal over the years, it retains its original appearance. The inscribed tablet over the entrance is a modern insertion (presumably based on the Office of Works drawing of 1914, fig.) and has an incongruous appearance due to the choice of material (not Portland Stone) and crude lettering.

An element of display was also, perhaps surprisingly, part of the design for the Gunpowder Magazines. Although the massive buttresses undoubtedly contributed to the structural stability of the magazines, as Nigel Barker has observed, they 'cannot have been merely for structural reasons...but must also have been for display' (Barker, 603). This sense is reinforced by the differences in detailing between the elevation facing the Parade and the rear elevation. On the Parade side, the brickwork shows a much higher level of craftsmanship and sophistication of design; two colours of brick are used to create a deliberate contrast and the rubbed-brick arches and carefully shaped stone base mouldings are signs of high quality construction. On the rear elevation just a single colour of stock brick is used and the brickwork of the buttresses unlike the level courses on the Parade side.

Other buildings in the Fort have a lower level of architectural interest. Even the Chapel, where one might expect some display is a relatively plain building, with a few touches of elegance such as the rubbed brick window arches and the projecting cornice (renewed in the twentieth century). The Officers' Quarters of c.1750 are an elegant and attractive range of houses. Its architectural interest lies in its use traditional materials and the symmetry and regularity of its twenty-three bay façade, enlivened by the treatment of its central three bays.



Fig. 42: The Water Gate, Tilbury Fort (left) and the main gate of Plymouth Citadel (right).



Fig. 43: Detail of the East Gunpowder Magazine.

3.4 Aesthetic interest

An excessively academic assessment of significance risks missing some of the most remarkable aspects of the Fort and its surroundings as they are experienced today. The sights and sounds of the Fort make it a place of great aesthetic interest, in ways which overlap with, but are not always dependent on its historic, architectural and archaeological interest.

The regular, geometric outlines of the Fort and its outworks are its most distinctive (and most easily communicated) design quality. This aspect of its significance has grown in importance in the twenty-first century, when it can be seen from the air – from aeroplane or drone – and the experience shared through the image-dominated medium of the internet. Ironically it is an experience that is not available to visitors to the Fort, whose interaction with the site is at ground level. Nevertheless the design is to some extent appreciable from the walls of the Fort, looking over the moats.

The nineteenth-century earthworks associated with the re-arming of the Fort in the 1860s–70s have created an extraordinary landscape, not designed to have aesthetic interest, but still visually appealing and intriguing. From the East Bastion they also allow for extensive views downriver and across to Gravesend.

The proximity of the river is extremely important to the way the Fort is experienced, although the effect has been diminished by the building of the River Wall which divides them. What it has not affected is the distinctive light, the big skies and the sight and sound of passing shipping. Crossing the river from Gravesend, the Fort is obscured by the River Wall, but the white Portland Stone façade of the Water Gate still stands out, as it always has done.

Even the marshland setting has a strange beauty, thanks to the extensive views that are possible across the flat land, to higher ground at West Tilbury, or downriver to the distant hills on the Kent side of the river.



Fig. 44: The 1860s magazines in the north-east bastion.



Fig. 45: The atmosphere of the River Thames on Gravesend Reach.

3.5 Archaeological interest

Tilbury Fort has not been subject to the high level of archaeological investigation of some other English Heritage sites. Recorded excavations have taken place between 1973 and 1995. Other investigations are likely to have taken place in association with the conservation work in the 1950s, but if so, there does not appear to be any record of it. Work led by Jerry Pratt in 1973 and Patricia Wilkinson in 1980 concentrated on the northern side of the Fort, on the Redan and Ravelin (see Wilkinson, 1983). Between 1988 and 1995 a series of excavations and watching briefs were undertaken by Newham Museums Service in advance of various works (see Moore, 2000). Areas covered by the excavations (in some cases only a small trench) were:

- The rampart against the West Bastion Wall
- Eastern Place of Arms
- Central foreshore (including recording the Water Bastion in 1989)
- Eastern foreshore
- To the south-east of the Officers' Quarters
- East Bastion

Potential for future investigations is quite limited. Investigation of the area known to have been occupied by the Blockhouse could potentially yield important evidence of its construction and use, but there is little prospect of getting access since it is buried deep beneath the South-east Curtain. Evidence of other parts of the pre-1670 Fort is likely to have been disturbed or even destroyed when the ground was built up to support de Gomme's new Fort.

The greatest archaeological interest is probably to be found above ground. The Gunpowder Magazines have not yet been recorded in detail, but are rare examples of their type and appear to retain large amounts of early fabric. The various gun emplacements and underground magazines, are rich in built fabric, fixtures and fittings that would provide evidence about the nineteenth and early twentieth-century phases of the Fort, if investigated and recorded by experts in the field.

3.6 Setting

3.6.1 Assessing setting

The definition of setting given in the NPPF (2012, Annex 2: Glossary) is:

The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.

This means that all heritage assets have a setting, separate from the concept of curtilage, character and context. However, the contribution made by the setting to the significance of heritage assets varies considerably and is subject to change over time. Where a setting has been compromised by cumulative change, consideration still needs to be given about the effect of additional change.

Defining the extent, nature and contribution of a heritage asset's setting can be challenging. Historic England offers guidance on this in its *Historic Environment Good Practice Advice in Planning Note 3 (Second Edition): The Setting of Heritage Assets* (December 2017).

This states that one of the most often used expression of a setting's contribution to the significance of a heritage asset is through views, either static or dynamic and can include a variety of views of, from, across or including that asset.

However, the setting of a heritage asset encompasses more than just this purely visual impression. It is influenced by other environmental factors such as dust, noise, vibration from other land uses and our understanding of historic relationships between places.

Historic England has divided these additional attributes into two different categories; the asset's physical surroundings and the experience of the asset.

A setting's attributes that relate to physical surroundings include:

- topography;
- the definition, scale and 'grain' of the surrounding streetscape, landscape and spaces ;
- openness, enclosure and boundaries, and;
- functional relationships and communications.

A setting's attributes that contribute to the experience of the asset include:

- surrounding landscape or townscape character ;
- view from, towards, through, across and including the asset;
- intentional intervisibility with other historic features;
- noise, vibration and other pollutants and nuisances;
- busyness, bustle, movement and activity, and;
- scents and smells.

3.6.2 The extent and nature of Tilbury Fort's setting

Tilbury Fort has a relatively large setting. This is due to the nature of the surrounding geology and topography. The low-lying alluvium plain on which the Fort sits is very flat, this means that views from the Fort extend over a wide area and also that the Fort itself is visible from a large distance. This effect is also exacerbated by the presence of the ridge line, the area of higher ground consisting largely of sand and gravel, to the north. This area also has high intervisibility with the Fort.

Historically, this area was overwhelmingly rural, with only a few small hamlets along the ridge line (Fig. 7). When it was constructed the Fort would have been by far the largest structure on the northern side of the river and a prominent landmark. It would have commanded very long and uninterrupted views both up and down the river Thames.

Due to its flat topography and historically undeveloped character, the Fort's setting was always going to be incredibly vulnerable to development. From the end of the nineteenth century to today the area surrounding the Fort has changed dramatically. This is due to a combination of:

- the development of the railway;
- the expansion of nearby settlements like Tilbury Town and Chadwell St Mary, and;
- the construction of large industrial sites in the area such as Tilbury Port and the now abandoned power station.

These changes have irrevocably changed the Fort's setting and by extension, the way it is understood and experienced. The Fort's historic sense of openness, isolation and primacy in the area has been lost. Development now virtually surrounds the Fort and its setting now feels distinctly urban and industrial. The presence of development, particularly to the west and east, has effectively shrunk the Fort's setting, contributing to a sense of encroachment.

3.6.3 Contribution of setting to Tilbury Fort's overall significance

Tilbury Fort's setting contributes fundamentally to its overall significance.

Today this contribution manifests itself largely as part of the Fort's historic and aesthetic interest.

When first built the setting was perhaps the most significant contributor to the Fort's significance. This was due to a combination of:

- its location at the point where the Thames begins to narrow on its way to London;
- its topography which offered long views both up and down the river;
- its geology of low-lying marshy alluvium which provided an extra layer of defence, and;
- its proximity and close relationship with Gravesend.

These aspects still contribute to the Fort's historic interest today as they explain why the Fort is located where it is and also to some extent, what it looks like. For example, the marshland setting facilitated the inclusion of moats in the Fort's design.

The way that the Fort's setting is now experienced has changed dramatically since the Fort's construction. The encroachment of impermeable residential and industrial sites, particularly to the west, means that views from the ramparts today are substantially different. Visitors' appreciation of the Fort's historic open and strategic position has been largely lost, to the detriment of the Fort's overall significance (Fig. ?).

However, there are still a few places which demonstrate the strategic location of the Fort, in particular in the view towards Gravesend from north of the Fort and the view north-east towards West Tilbury from the north-east bastion (fig ?). The comparable lack of development in these areas means that the original nature of the setting remains partially legible. Therefore these sites still contribute the Fort's overall significance.

In contrast to views from the ramparts, the visual appreciation of setting within the Fort is limited to transient and partial views. This is not to say that visitors do not appreciate the Fort's setting here. With the lack of a visual link with the outside, other elements outlined in section 3.1.1 become important, especially noise and smells.

This is because despite the Fort itself being fairly isolated historically, it was located next to an incredibly busy river. The sounds of ships would have been a constant and loud reminder of the Fort's strategic location and purpose. Today this aspect of the Fort's setting endures, albeit in a different way; the low hum of engines as ships constantly pass by and the intermittent, echoing rumble of cargo being loaded and unloaded at the nearby port means that at all times visitors retain a sensory, if not visual, link to the river.

Whilst the combination of reasons for the location of the Fort contributed most to its significance historically (and to its modern historic interest), today another aspect of the setting is just as important; its contribution to the Fort's aesthetic interest. Although substantially more developed than it was historically, the area surrounding Tilbury remains predominantly rural. The flat, low-lying topography offers a good appreciation of this landscape character and, when combined the outer defences and moats, offers an attractive place to visit and enjoy. This constitutes a large part of the visitor appeal of Tilbury Fort today and is fundamental to the site's overall aesthetic interest.



Fig. 46: View west from West Bastion.



Fig. 47: View north-east from North-east Bastion (view no. 9).

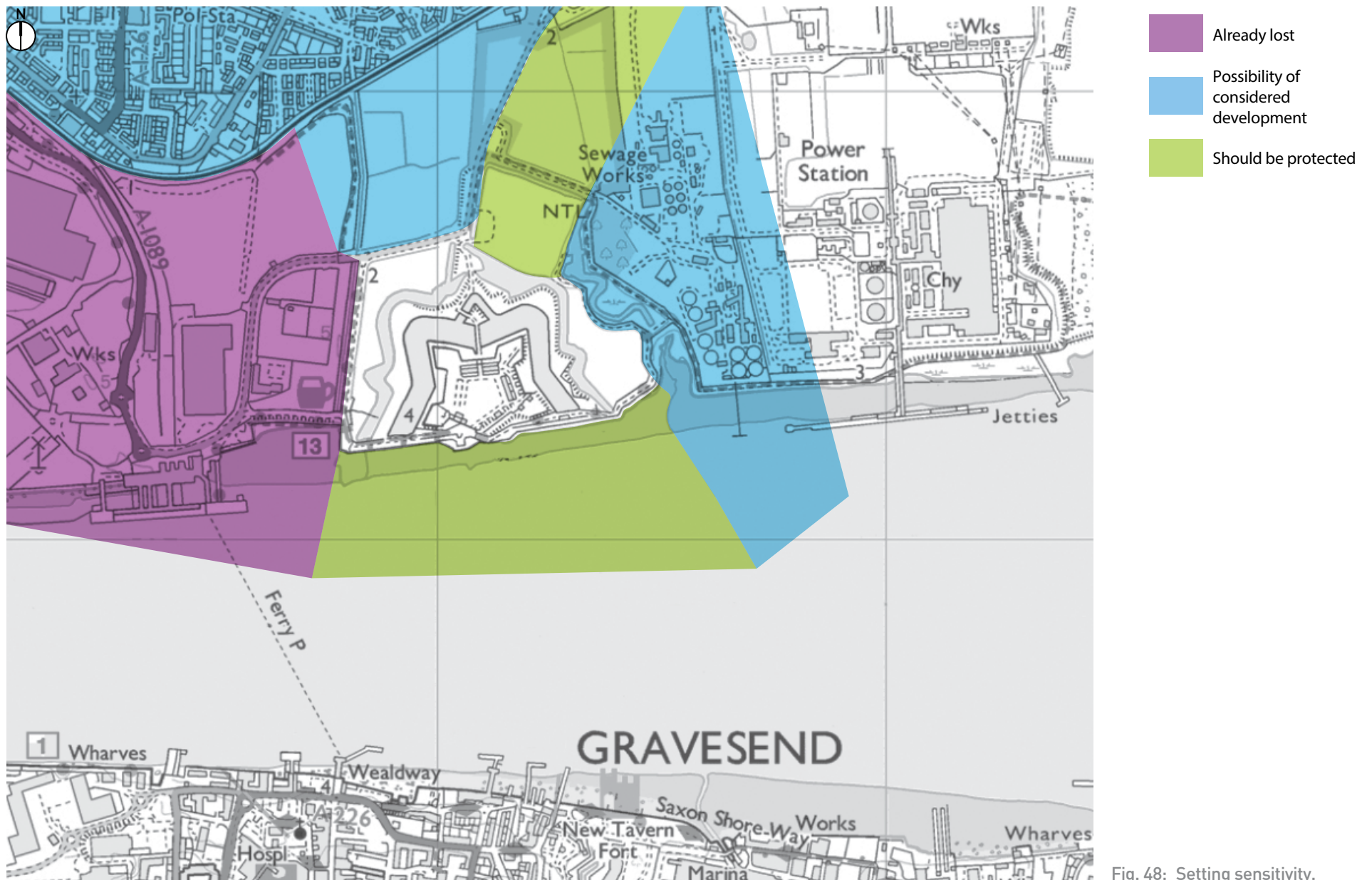


Fig. 48: Setting sensitivity.

4.0 Risks, opportunities and policies

4.1 Introduction and overview

It is seventy years since Tilbury Fort became an historic monument, to be preserved on behalf of the nation. In that time it has been transformed from a site the significance of which was obscured by dilapidation and modern military infrastructure into a well-maintained and popular visitor attraction of obvious and outstanding significance. The last major works carried out at the Fort were in 1982, however, and a fresh look at the condition, infrastructure and presentation of the site is due.

Meanwhile around the Fort – but at a distance – modern, industrial Tilbury has grown apace, altering the Fort's setting. The history of the Fort is one of occasional bouts of change with long intervening periods in which little changes. There is in prospect of another period of change, outside the control of English Heritage, due to the Tilbury 2 development and, more distantly the new Thames crossing at East Tilbury (see over the page for more detail of Tilbury 2). Any development that risks destroying the already compromised setting needs to be responded to through the planning system.

Four main issues stand out that need to be addressed as priorities:

Setting – it is crucially important to decide what matters most about the setting and how its contribution to the significance of the Fort can be sustained, working in close partnership with Historic England;

Access and circulation – the closure of the bridges over the Inner Moat access to the site has had an impact on access and parking and has restricted the amount of the Fort that is accessible to visitors; a long term solution to access and circulation issues would benefit the site;

Presentation – the way the Fort is presented and interpreted could be improved both on site and online; new and better presentation which better reveals the outstanding significance of the Fort would have potential to increase visitor numbers;

Condition – the maintenance and repair of the site is a challenge due to the Fort's size and location; it is crucial that basic maintenance is not neglected and condition is regularly monitored and resources prioritised appropriately.

The issues facing Tilbury Fort, now and in the immediate future, are discussed below and for each issue the following are identified:

- risks to the significance of the Fort;
- opportunities for better revealing or enhancing appreciation of significance;
- policies for achieving long-term conservation of significance.

Future of former power station site

Tilbury Power Station opened in 1967 and was decommissioned in 2013. The site is in the process of being demolished. A number of developments are proposed for the site, which may have an impact on the setting and operation of Tilbury Fort, and deserve to be introduced.

The first, on the western part, is known as Tilbury 2. This is an extension of the Port of Tilbury. It is proposed to consist of a:

- An extended river pier for a Roll-On/Roll-Off (RoRo) terminal for importing and exporting containers and lorry trailers and also containing a warehouse.
- A “Construction Materials and Aggregates Terminal” (CMAT) for handling and processing bulk construction materials. This will be located at the northern part of the site.
- Storage for bulk goods or vehicles,
- Infrastructure, including a new road and rail link to the exiting port, north of Tilbury Fort.

The scheme will be considered at a public inquiry in 2018, with construction to commence in 2019.

Proposals for the north-western part of the former power station site are less advanced, but in early 2018 RWE consulted on a new 2.5mw gas power station called the Tilbury Power Centre. Images show buildings lower than the former facility, with three chimneys. An application may be submitted in 2018.

4.2 Setting

Risks

The setting of the fort is has been significantly degraded by development, and further development could further harm it, passing a tipping point where its historic landward context can no longer be understood.

Future flood and sea defences associated with climate change may further sever the Fort from the river.

Opportunities

Engage with promoters of proposed schemes such as Tilbury 2, the Tilbury Power Centre and the lower Thames Crossing to shape and design development to avoid or minimise harm to setting.

Enhance the immediate setting by addressing fly tipping and other management changes.

Discussion

Tilbury can only be understood by its setting, because its location and form is an entirely functional response to a very specific geographical, topographical and military context. Yet its historical setting is now harder to understand because it has changed so substantially in the last 150 years, as documented in earlier chapters. Until the arrival of the docks, this was a windswept marsh, sparsely populated on the ridge behind. Gravesend on the opposite bank was the only major settlement.

Since the war development has accelerated - the port, housing, the power station, the M25 and ribbon development along the Thames. Tilbury-Gravesend has become the edge of the greater London conurbation, the gateway – symbolised by the presence of the Port of London pilots, and the Thames tugs. East is mostly developed, west open countryside begins. This is best understood by travelling a few miles down river to Coalhouse Fort, whose magnificent estuarial landscape setting is largely unaltered.

To understand what this means for the future management of setting it is helpful to consider the setting in two parts: river and landward.

The river. Although physical aspects of the river have changed - flood defences, port facilities, the technology of shipping – the Thames at Tilbury remains the busy, dynamic waterway that it was when the Fort was built and operated. This creates a highly distinctive sensory setting: noises, smells, movement of ships, indeed the light itself create a very evocative sense of place, quite unlike other environments. In these powerful ways the setting of the Fort is rooted in its past, and is a central part of the visitor experience even if this not consciously understood by everyone.

In physical ways the relationship with the river has been substantially changed, and harmed, by the construction of the river wall in c.1982. It means that visitors do not see the river – the reason for the Fort – until they climb the ramparts. In many ways, the impact is worse from the Gravesend shoreline, where the view so often painted and engraved has drastically changed: the rusting sheet piling of the river defences dominate the view, and only the tops Fort can be seen peeping over. Many might miss it: its direct relationship with the river has been severed. There is little that can be done to improve this in the short and medium term, but the sheet piling of the river wall has a design life of approx. 50 years. When it is renewed or replaced in the 2030s, the opportunity should be taken to ameliorate the visual impact, though these works will probably have to take into account the greater demands of climate change.

It is important that views out from the ramparts across and down the river are maintained. They are fundamental to the significance of the site, and understanding its design and operation as a gun platform to engage shipping sailing up the river.

Landward. As the earlier analysis of the significance of views and setting has shown, the immediate setting of the Fort is reasonably well preserved, though degraded by the quality of land management – such as fly tipping – and the weight of heavy goods vehicles pounding along Fort Road.

Beyond that, the setting is already developed intensively to the west, to the north and east. The industrial development east and west is of a scale that breaches the skyline of the Fort, as it is experienced from within the ramparts. There is one sector where the marshland, the landscape and the topography is still legible without such overlay, and that is to looking north west towards the village of West Tilbury on the ridge. Notwithstanding the presence of electricity pylons, this view is therefore highly significant for understanding the location and historical context of the Fort, and should be preserved.

Policy

001. English Heritage will engage with Thurrock District Council and developers to protect the significance of the setting of Tilbury Fort.

Implementation guidance

English Heritage should work with Thurrock District Council to embed the appropriate protection of the setting of the Fort in the new Local Plan via policy and guidance.

English Heritage should develop a clear strategic approach to addressing and engaging development planned to the east of Fort, in order to have an effective and coherence response over the next 10 years.

4.3 Access and circulation

Risks

Current arrival arrangements are inadequate: they present a poor impression of the site and EH, and may deter visitors

The site has accessibility failings: numerous steps at the entry and ticketing, and no ramps or lift access to the ramparts

Opportunities

To improve facilities and the experience by visitors arriving by all modes of transport

In doing so to improve the setting of the Fort, better reveal its significance and enhance interpretation and presentation

As a result, to increase visitor numbers and income

Discussion

Current approach

It is an unsatisfactory experience to arrive at Tilbury Fort, by car or public transport. Road signage is poor and inconsistent. Tilbury Town station is a mile away, and the walk along roads unpleasant. In both cases the approach is through the hinterland of the port. Whilst this is not without a certain fascination, it is unattractive and stressful because of the weight of heavy goods vehicle traffic and complex junctions.

It requires passing through a pub car park, out of a chain fence a gate that says no entry, along an unmade track, to an unmarked car park. All of this is not welcoming. It is not even clear if this is a public entrance.

These conditions exist because these circumstances are not intended. As envisaged in the 1970s, and operated from 1982, visitors parked at carpark on Fort Road, bought tickets there and walked across the outworks and newly recreated moat bridges to the Landport Gate. This came to an end when the bridges were declared unsafe at some point prior to 2002.

Future approach

Resolving these problems is recognised as a priority. The current intention to restore this approach, when funding permits the repair of the moat bridges. Before such a decision is taken, a careful review of all options should be undertaken. Whilst the landward approach has the benefit of drawing visitors across the outworks, so they can experience this design and setting, it is taking them in the secondary entrance to the Fort. For all of its until 1982, the main entrance was the Water Gate, initially because the river was the primary means of communication, and latterly because of the road from the station to the ferry. This is unambiguously clear in its architectural treatment. Therefore there is a compelling logic in bringing visitors into the site by its main entrance, as it was designed. This is not different to a major house or any other building. It brings visitors into proximity with the river from the outset, and the river is not visible when arriving by road.

Of course, this is not without its challenges: arrangements with the pub, parking, etc. One option for parking would be along the west gun line, taking it away from the Water Gate, which is clearly an unsatisfactory location. Such repositioning would not be without harm, though less than the current position. The overall balance of visitor experience, orientation and understanding might be favourable.

To answer these questions, English Heritage should undertake an analytical study including a travel plan before committing to a course of action. This study will need to take into account such factors as:

- The number of car parking spaces to support predicted / desired future visitor numbers (don't want this to be constrained by a failure to properly plan),
- The impact of Tilbury II on local road network,
- An assessment of the impact on significance of the options,
- An assessment of the relative merits for visitor understanding and orientation, and site presentation.

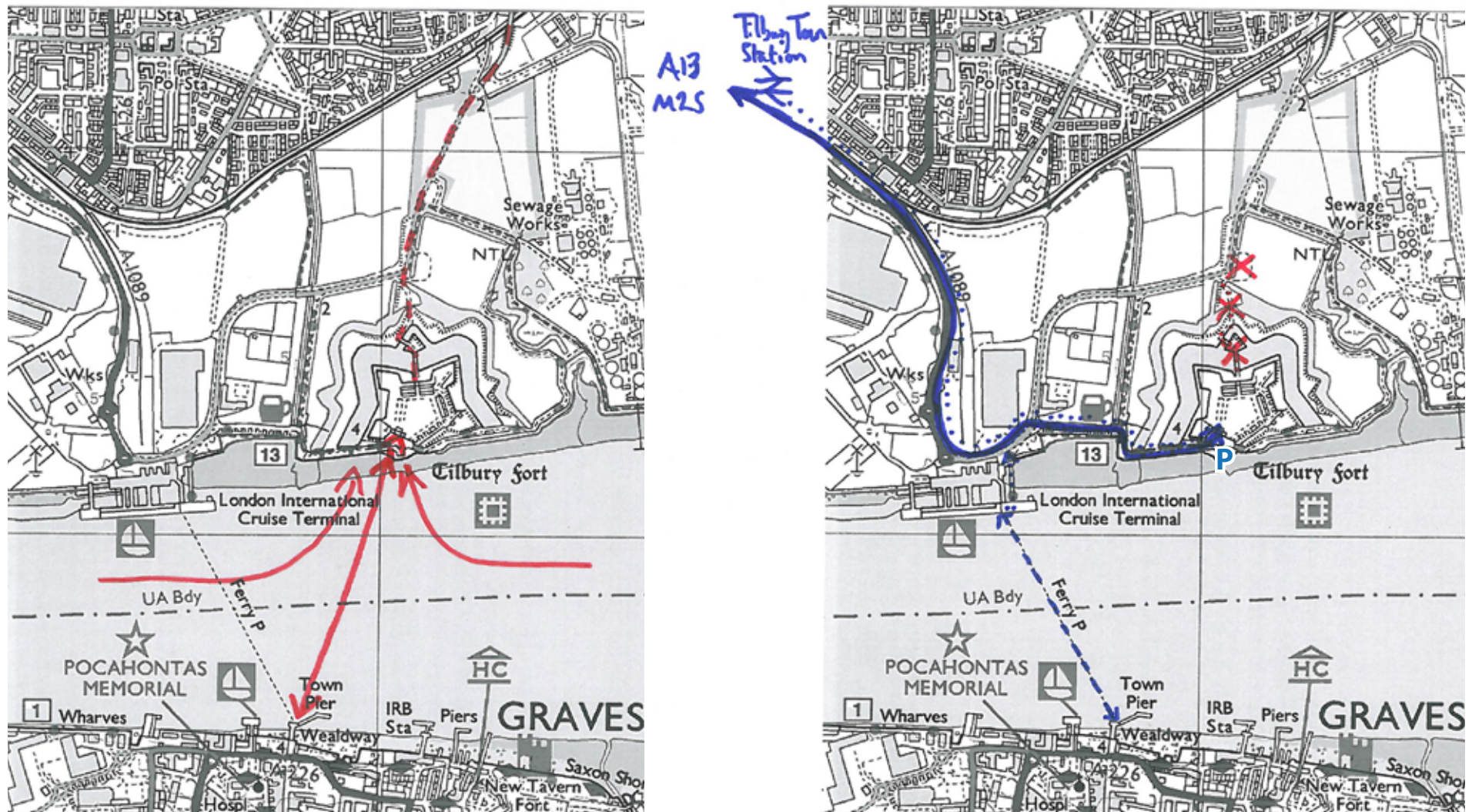


Fig. 49: Site access: historic (left) and contemporary (right) arrangements. Final drawings to follow.

These are long-term actions. In the short term EH should improve signage and the worst of the road surfaces.

Public transport

It is not pleasant to visit the site from public transport, though public transport provision is not bad by the standards of many sites: Tilbury Town Station is a mile away, with regular direct services to central London; the Gravesend passenger ferry still plies between the two shores, from the Tilbury passenger terminal pier. In both instances, the problem is the poor quality and length of the walk to the Fort. Visitor numbers do not justify expensive means of changing this. However, Thurrock and the Port could be encouraged to improve the pedestrian experience (new paths, lighting, etc.). EH could also consider a partnership to provide a small number of bicycles, along the model successfully used in London and elsewhere, to link the ferry, station and Fort. The small number required would limit capital and running costs.

Accessibility

The most recent access audit was undertaken in 2008. It identified issues with the number of steps at the entrance and ticketing, the unsuitability of the uneven paving of the parade, and the lack of access to the ramparts and upper rooms (for example, the Chapel.) Historically, there were ramps up to the ramparts. This may offer a precedent for creating access for all to the ramparts, at least, which would be highly desirable not least because of the views from them. The paving of the parade ground was put down in the 1980s, it is no clear on what precedent. Further research is required to identify historical finishes as a prelude to any resurfacing.

Policy

- 002. English Heritage will improve the visitor arrival arrangements, based on an analytical study of options for landward and Water Gate parking and access
- 003. English Heritage will work with Thurrock to create proportionate improvements in access via public transport
- 004. English Heritage will consider means for creating access for all to the ramparts, such as via ramps

Implementation guidance

Negotiations with Thurrock and the Port of Tilbury about the transport and highways impacts and alterations associated for Tilbury II could be an opportunity to upgrade vehicular and pedestrian access (from the Tilbury Town railway station) to the Fort

Decisions about the long term visitor arrival facilities should be informed by commissioning a travel plan

Access to the ramparts could be improved by reinstating an earth ramp in the north west bastion, but it would be better to create it on the southern side because of the significance of the views here

4.4 Interpretation and presentation

Risks

A lack of engaging interpretation and presentation would obscure the Fort's significance.

Opportunity

A thoughtful and intuitive strategy for interpretation and presentation on site and online would help to better reveal the significance of the Fort, encouraging more visitors.

Discussion

The way that heritage assets are presented to visitors and, in turn, how people interpret them, lies at the heart of successful conservation management. An engaging, well-thought out interpretation and presentation strategy is essential for visitors to understand and fully appreciate a site's overall significance. English Heritage recognises this and is open to new ideas for the presentation and interpretation of Tilbury Fort, while being mindful of funding potential for any emerging ideas.

Current interpretation for the Fort online is minimal. The webpage for the Fort contains little explanation of why the site is special and there is no communication of the Fort's history. This needs to be addressed in order to attract more visitors.

Greater interpretation could also be offered on site and a potential strategy is shown in (Fig. 52). This combines a number of ideas, which could be realised individually or collectively.

Whilst there is an on-site audio guide, this is out of date and takes visitors on a different route to the one currently suggested by site staff. This audio guide should be updated to reflect current understanding as well as presentation strategies for the Fort and should be reviewed periodically.

Presentation could potentially be improved by greater use of English Heritage's collections. Although mostly stored off-site, they are fundamentally part of the Fort and contribute to its significance.

Presentation of the site is also constrained by a lack of public access to some areas, but addressing this issue would involve costly repair. Two areas of work in particular would make a big difference:

- Repairing the bridges over the Inner Moat so that public access through the Landport Gate can be reinstated.
- Making safe the underground magazines in the East Bastion so they can be opened to the public

Policies

- 005. English Heritage will improve the Fort's online profile, including more information on its history and wider significance.
- 006. English Heritage will investigate new and engaging ways to present the Fort, making full use of its collections where possible.
- 007. English Heritage will update the on-site audio guide and reviewing periodically in order to reflect current understanding of the site and new presentation strategies.

Implementation guidance

Possible ways of re-presenting Tilbury Fort are suggested below.

A possible scheme, illustrated in Fig. 52, could take visitors from the main entrance at the Water Gate through the historical development of the Fort by visiting each bastion in a clockwise circulation. The presentation of each bastion could include a gun model in a relevant emplacement, with discreet information boards. Whilst there are currently a large variety of guns at the Fort there are some notable omissions, particularly from 1868–71. Reinstating these would constitute a substantial improvement to visitors' interpretation of the Fort.

As it is, something like the underground magazines in the North-east Bastion, which are well interpreted cannot be understood as part of a total system, since the guns they were meant to serve are absent. Comparing the two images in Fig. 50 and Fig. 51 highlights the difference that can be made, even with a replica gun.

Other presentation ideas that could be explored include:

- Exhibitions that focus on the films shot on site, which have become an important draw for visitors;
- Fostering links with other relevant nearby sites like Coalhouse Fort;
- Investigating the greater use of the Officers' Quarters, including presenting the interiors as historic rooms or to display collections;
- Re-presenting the North-west Bastion, the bastion that is closest to its original appearance, by re-profiling the ground to its seventeenth- or eighteenth-century form; in lieu of that, the Married Quarters could be lined out relatively easily, in the same way as the Soldiers' Barracks.



Fig. 50: Empty gun emplacement at the West Bastion, Tilbury Fort.



Fig. 51: Emplacement complete with replica gun at Gravesend Fort.

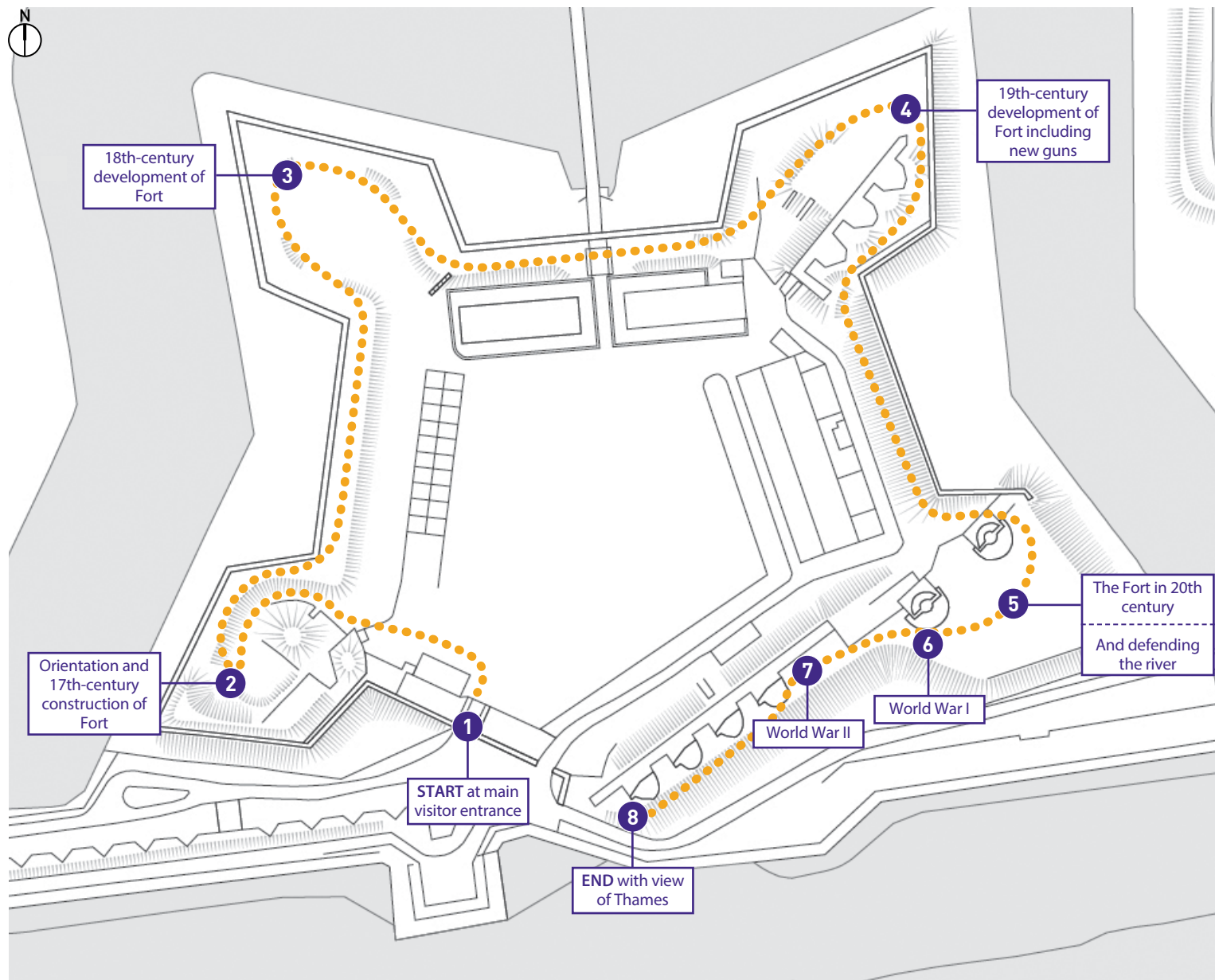


Fig. 52: Suggested scheme for interpretation.

4.5 Maintenance and repair

Risks

Loss of fabric and significance because repairs and maintenance are not undertaken regularly or swiftly.

Impairs visitor experience and understanding because areas are closed to the public or obscured by vegetation.

Opportunities

To reinstate visitor access to the outworks, including the ravelin and redan, by repairing the moat bridges.

To increase filming income, by maximising the usable area, and all character aspects of the site.

Discussion

Tilbury Fort is a challenging site to maintain: large, complex, built on salt marsh beside an estuarine river. The records show that this has always been so, with many references to collapsing earthworks and walls, for example. On the other hand, given the environmental conditions (for example, the extent of saturation seen during site visits), most of the historic brickwork seems to be in surprisingly good condition.

This is in large part because of the considerable investment between the 1950s and 1980s that brought the site into a reasonable state of repair. The most recent condition survey (2016) confirms that most fabric structures are in fair condition. However, it also identifies the substantial cost of rectifying those parts of the site in the very poor condition:

- The East Bastion and South East Curtain, which are suffering from movement and decay. Concrete repairs are required to cracking and corroding reinforcement, and the enclosed gun emplacement is considered unsafe. Cost: £380,00
- Both moat bridges are decayed and unsafe because of poor timber specification. Cost: £800,000

- Both inner and outer moats are significant silted, exacerbated by the failure of the control valves and sluices. Cost: £7,200,000

The Survey recommends that all of these works are carried out by 2020. The Survey Report's general condition statements and priority rankings for works are reproduced within the gazetteer for each section of the site.

These problems pose a health and safety risk, are causing the loss of historic fabric and significance, and prevent visitors from experiencing significant areas of the site, notably the outworks. However, there is no identified budget or programme for these works. Historic England needs to address this. Additional loss of significance may be limited because of the slow process of decay in these areas, but every year that passes without action is a double financial bind: it increases the eventual capital cost (which may be substantial in the case of the moats); and it hinders efforts to increase revenue generation by limiting the visitor and filming experience. At some point – perhaps already – this will become a false economy.

Policy

- 008. English Heritage will develop a programme and identify funding for remedial works of the highest priority, as identified in the 2016 Condition Survey
- 009. English Heritage will develop a programme and identify a funding package for desilting the moats and repairing the moat bridges, to restore these areas of great significance and public access to them

Implementation guidance

English Heritage should review maintenance arrangements for the Fort to ensure that maximum value is made of the resources currently available, by targeting the items at greatest risk and highest priority, as identified in the 2016 Consultation Plan.

4.6 Understanding and research

Risks

That the archaeology of the foreshore will be harmed or lost by river action or development.

Opportunities

To fill in gaps in understand about the present Fort and its Henrician predecessor.

To thereby improve interpretation and presentation.

To create more public interest and visitor activity, through witnessing and participating in archaeological investigation.

Discussion

We are fortunate that very good records survive for the Fort: drawings and surveys, accounts, engravings and paintings. Archaeological investigations from 1973-1995 (much of it associated with repair and conservation works, see PMA 34, 2000 for a full list) looked at the foreshore, the Redan, the Ravelin, the West Curtain Wall and the Eastern Place d'Armes, Covered Way and Outer Moat. The Archive us held by English Heritage at Cambridge (YES?)

However, there are also surprisingly long periods of its history, and significant aspects of the structures that have been little researched and are only broadly understood. These include much of the eighteenth century and the later nineteenth-early twentieth century. Having reviewed this research history with Paul Pattison, Senior Properties Historian, and Victor Smith, historian of the Thames forts, the following outline list of research projects and archaeological investigations has been identified, in order of priority:

To follow after discussion with Paul Pattison and Victor Smith ...

Policy

Historic England will create a research design for further historical research and archaeological.

Historic England will explore possible partnerships to undertake this work.

Implementation guidance

To follow after discussion with Paul Pattison and Victor Smith ...

Pan of past archaeological investigations, and priorities for future research.
To follow discussion with Paul Pattison and Victor Smith.

4.7 Filming

Risks

Harm is done to the historic fabric during filming.

Closure of the Fort for long periods during filming makes it harder for the public to appreciate the significance of the Fort.

Reputational damage to EH if the Fort is closed to the general public for too long.

Opportunities

Income from filming helps to pay for conservation work to EH properties.

Seeing the Fort in films and television programmes encourages more visits.

Discussion

Tilbury Fort is one of EH's Top Ten Locations for filming and is publicised as such on the website. The Fort has many advantages for filming: its proximity to London, the large open space of the Parade, the historic architecture, the dramatic landscape of the outworks. EH in return gets the benefit of income from filming which can go back into the conservation of its properties. Popular films or television programmes featuring a site can also help to attract visitors.

This type of use is, however, notoriously hard on historic fabric, due to the amount of equipment and temporary infrastructure that needs to come in and out and occasionally a lack of respect shown to the significance of a site by the film crew. It also requires an investment from EH in terms of extra staff on site, including conservators, during filming. Perhaps the most negative aspect of any large scale filming project, however, is the need to close the site to the public; Tilbury has been closed for up to four months in the past.

The benefits and costs of filming need to be carefully weighed; even relatively limited harm to historic fabric is likely to outweigh the benefits of filming, given EH's responsibility to preserve the site. Harm can be mitigated by providing information on the vulnerability of parts of the Fort in advance, ideally at an

early stage in the booking process, so that the prospective user understands not only the detailed constraints, but also the overriding priority that is placed on taking care of the site by EH.

Once a booking is made, EH must supervise the filming company appropriately, ensuring an adequate level of staffing on the site, including a conservator where necessary. Closures need to be publicised well in advance on the website to avoid visitors having to be turned away.

Policies

- 010. English Heritage will only hire out Tilbury Fort for filming where it is satisfied that there is not likely to be harm to historic fabric.
- 011. Anyone using the Fort for filming will be briefed in advance on the vulnerability of the various parts of the Fort and supervised appropriately during filming.

Implementation guidance

The notes in the Conservation Plan Gazetteer should be used by the Filming Department at EH to brief filming companies on the vulnerability of parts of the Fort as part of the booking process.

Any damage caused to the site should be logged by the Site Manager and reviewed periodically with the Area Manager and Properties Custodian. This will enable EH to identify where damage is occurring, its typical causes and ways of mitigating it; mitigation may include banning filming in certain parts of the Fort.

4.8 Visitor facilities

Risks

Inadequate provision of visitor facilities could impact on visitor experience.

Inappropriate siting of new visitor facilities could obscure or harm aspects the Fort's significance.

Opportunities

Increased provision of high-standard facilities could add greatly to visitors' experience of Tilbury Fort and encourage repeat or new visitors and increased income.

Discussion

Currently the visitor facilities at Tilbury consist of a small toilet block to the rear of the Officers' Quarters and a small room for the consumption of drinks and ice creams purchased in the shop. There is no dedicated café. These facilities are spread-out across the Fort and whilst sufficient for current visitors numbers would not have capacity for any significant increase in visitor numbers.

The toilet block to the rear of the Officers' Quarters dates from 1988 and requires an upgrade. Whilst it is situated discreetly it is also in some ways an inconvenient location, on the other side of the Parade to the visitor entrance and shop. English Heritage should consider other possible locations for replacement or additional toilets, within the constraints of existing drainage.

A dedicated visitor café at the site would be of great benefit, especially in the summer. However, the present visitor numbers are not enough to justify the introduction of one.

Opportunities to increase visitor numbers are discussed elsewhere but in conjunction, English Heritage should consider whether it is feasible to open a small separate (possibly temporary) café in a central location. Possible sites that would not harm the Fort's overall significance if developed sympathetically would be the General Artillery Store or an unused part of the Officers' Quarters.

Policies

012. English Heritage will look into potential siting of additional or new toilet facilities closer to the visitor entrance.
013. English Heritage will evaluate the possibility of opening a small café, separate from the shop, in either the General Artillery Store or Officers' Quarters.

4.9 Security

Risks

Insufficient or inadequate security measures could lead to damage of the historic fabric and harm to the site's overall significance.

Opportunities

Appropriately sited and discreet security measures would help to protect the fabric of the site without obscuring its overall significance.

Discussion

Security is an important part of the management of heritage assets because of the potential risk of loss of historic fabric and harm to significance. Tilbury Fort is arguably more at risk than others sites due to its comparative isolation.

Whilst it is understood that security at the Fort is bolstered somewhat by the constant presence of residents in the Officers' barracks and tenants of the surrounding fields, there are still issues including instances of anti-social behaviour. The east bastion in particular is vulnerable as it is not fenced off from the public footpath.

Fly-tipping is also a substantial problem locally with some reported instances occurring within the area covered by the scheduled monument designation.

Adequate and discreet provision of security should be a priority to protect historic fabric and preserve the Fort's significance. To this end English Heritage should review the Fort's security measures on a regular basis and involve the residents of the Officers' Quarters in this process. Where issues are identified, these should be looked into and material solutions should be evaluated to make sure that they do not come into conflict with or obscure the Fort's overall significance. Ways of discouraging fly-tipping and improving the security of the outer defences should also be investigated, including liaising with Thurrock Borough Council.

Policies

014. English Heritage will review the Fort's security measures on a periodic basis. This review will include consultation with the residents of the Officers' Quarters.
015. New material security measures will be assessed in order to prove that they do not obscure the Fort's overall significance.
016. English Heritage will liaise with Thurrock Borough Council about ideas to deter fly-tipping on parts of the Scheduled Monument.

4.10 Ecology

Risks

Insufficiently evaluated works to the outer defences and moats could harm the existing ecology.

Management of the site's ecology could come into conflict with management of its heritage significance.

Opportunities

A considered approach could improve the site's ecology and contribute to a greater visitor offer.

Discussion

An important element of Tilbury Fort, recognised in its designation as a Scheduled Monument, is its outer defences. A recent ecological survey (REF??) has classified these as a mixture of relict grazing-marsh, brackish ditches, the outer moats and grasslands.

The current condition of the moats means that they are prone to inundation with brackish water, which contributes to the very high salinity level of the water. This has led to the development of diverse saltmarsh flora, specifically Saltmarsh Rush (*Juncus gerardii*), Glassworts (*Salicornia* spp.), Sea Aster (*Aster tripolium*), Annual Seablite (*Suaeda maritima*) and the nationally scarce Stiff Saltmarsh-grass (*Puccinellia rupestris*) and Sea Barley (*Hordeum marinum*) (REF??).

The grazing land also has a number of notable grazing-marsh flora, with many Nationally Scarce plants such as Divided Sledge (*Carex divisa*), Sea Barley, Slender Hare's-ear (*Bupleurum tenuissimum*) grassland, with some Hairy Buttercup (*Ranunculus sardous*), Lady's Bedstraw (*Galium verum*), Narrow-leaved Bird's-foot Trefoil (*Lotus glaber [tenuis]*), Hard-grasses (*Parapholis* sp.) and Sea-spurreys (*Spergularia* spp.).

The recent ecology report demonstrates that the outer defences have ecological value and are an important part of the Fort's appeal. This value has been recognised by Thurrock Borough Council who have classified the outer defences as a Local Wildlife Site. Whilst this is a non-statutory designation, it still must be taken into account during the planning process.

Although a recent ecology report has been completed, there are still a number of gaps in knowledge and it would be beneficial to carry out additional surveys. For example, the recent ecology report recommended an invertebrate survey of the moats to look for species associated with saline lagoons, an Essex Habitat BAP.

These additional surveys should feed into a plan showing the areas of the outer defences of most ecological value, which would be helpful in discussions prior to future works. Similarly, it is important that future works to the outer defences and moats, including potential de-silting, do not harm this existing ecology. In order to prevent this, a full evaluation by an experienced ecologist should be undertaken before proposed work is signed off.

The landscape character of the outer defences, including the sight and sounds of wild birds, contributes greatly to the site's aesthetic interest and to Tilbury's overall significance. By improving the site's ecology, there is an opportunity to diversify the Fort's visitor offer and draw in new and repeat visitors. In exploring proposals for this, the aim should be to achieve multiple environmental benefits, encompassing both heritage and wildlife.

Policies

- 017. English Heritage will carry out additional surveys to explore current gaps in knowledge.
- 018. English Heritage will commission a thorough evaluation of the ecological impact of any proposed works to the outer defences or moats prior to sign off.
- 019. English Heritage will seek ways to improve the ecological value of the outworks and explain it to visitors.

4.11 Statutory controls

Risks

Some works to Tilbury Fort will require scheduled monument or listed building consent. Unauthorised works without consent are a criminal offence.

The need to obtain consent could delay or prevent works, events or filming happening at the Fort, leading to a deterioration of the historic fabric or a loss of income.

The need to obtain consent adds to the cost of administration and management.

Opportunities

An efficient and stream-lined process of consent ensures that repairs and other works can be carried out in a timely fashion, reduce administration costs and help forward planning and budgeting.

Discussion

Tilbury Fort is a scheduled monument and the Officers' Quarters are listed at grade II*. The different levels of designation at the Fort create challenges for the administration and management of the site. However, these different consent regimes also provide essential mechanisms for protecting the significance of the Fort.

The main type of consent required for works to the Fort is Scheduled Monument Consent. This is granted by the Secretary of State for Digital, Culture, Media and Sport on advice from Historic England.

It should be noted here that whilst the Fort as a whole is scheduled, the scheduling description is very detailed and many elements have been identified and specifically excluded from the scheduling. Works to these elements do not require consent.

For any other works English Heritage and Historic England operate a three tier system:

Tier 1 – A five-year Management Agreement

- This covers the routine, cyclical and planned maintenance tasks and other types of agreed activity that have no or negligible effect on the significance of the monument.
- This work can be carried out without consultation with English Heritage's Properties Curator or Historic England.

Tier 2 – A five-year Standing Schedule Monument Consent

- This covers conservation, repair and periodic renewal activities for specific categories of works on a 'like for like' basis such that there is no or minimal effect on significance.
- These works must be approved by English Heritage's Properties Curator and Historic England should be notified.

Tier 3 – Full Scheduled Monument Consent

- This covers all works not covered by the consents described above, namely where the significance of the monument could be affected to a larger extent.
- These works must be approved by the Department for Culture, Media and Sport, on the advice of Historic England.

This system appears to work well but it should be reviewed, with input from Historic England, every five years to ensure its fitness for purpose. Any suggestions to streamline the process should be discussed and trialled where necessary.

Policies

- 020. All works which affect the archaeological, architectural, historic and artistic interest of the Fort and its setting will be planned and carried out in accordance with local and national planning policy and guidance.
- 021. The correct consents will be obtained for all works before their commencement and conditions attached to those consents will be fulfilled.
- 022. English Heritage will keep the value of the Properties Works Protocol and Standing SMC under review, in conjunction with Historic England.

4.12 Implementing the plan

Risks

Without high-level endorsement and an individual responsible for ensuring the plan is used, the policies may not be implemented effectively.

If it is not regularly reviewed and updated the plan will quickly go out of date, undermining the relevance of the policies and the plan's credibility as a source of information.

Opportunities

Adoption and implementation of the plan will improve management of the Fort's significance and awareness of the importance of conserving it.

Discussion

This Conservation Plan is intended to be an active tool for the long-term management of Tilbury Fort. It will be adopted as one of the primary documents for guiding the future care and presentation of the Fort and its setting, to establish a coherent and unified approach amongst all parties who participate in its management. Therefore, the Plan should inform all proposals for care or change so that the conservation and enhancement of the site's significance are placed at the heart of all decision-making and all actions.

For this to happen, the Plan must be formally adopted as policy by EH. In addition, a senior management figure should be given unambiguous responsibility for ensuring that the Plan and its policies are executed.

For the Plan to remain relevant, it also needs to be reviewed regularly and revised as appropriate to take account of new understanding, changing priorities and external influences.

Policies

023. The Conservation Plan will be formally adopted by English Heritage as one of the principal sources of guidance in the management of the Fort.
024. The Properties Custodian or Area Manager will be responsible for ensuring the Conservation Plan is observed in the management of the Fort and that its policies are implemented.
025. The Conservation Plan will be reviewed periodically by English Heritage, at intervals of no more than five years.
026. The Conservation Plan will be used as a tool to actively promote understanding and appreciation of the site's significance among staff, volunteers, contractors and film companies working at the Fort.

Implementation guidance

- EH will see to it that those responsible for the management and care of the site are: aware of the Conservation Plan; understand its purpose, principles and format; and, implement its Policies when making decisions and carrying out actions. The Properties Custodian or Area Manager should have management responsibility for this.
- Copies of the Plan (electronic or paper as appropriate) should be made available to all those responsible for the management of the site, and the new understanding should of history be used to inform interpretation.
- Between quinquennial reviews of the Conservation Plan, the amendments, additions or corrections to the plan can be completed using the writeable pdf format at the end of this chapter. These Addenda will act as an audit trail for the next quinquennial review.

5.0 Sources

Primary sources

Bodleian Library

Gough maps 8. Essex f.49 Plan of Tilbury Fort in 1698

British Library (BL)

Plans

MS 16370	Tilbury Fort, Ben De Gomme 1600s (including 1668 and 1670)
MS 32363	View of Gravesend and Tilbury showing proposed tunnel 1 September 1798 (154, 1.449)
	Map of surrounding area no date (171, 1.449)
	Engraving, The Trinity Flotilla at the Hope near Gravesend in line of battle 1804 (200, 1.432)
MS 60393	A Survey of Tilbury Fort, Gravesend, Windmill Hill and parts adjacent 1780

Maps (King's Topographical Collection)

Maps K.Top. 13.53	A Plan of Tilbury Fort 1725
Maps K.Top. 13.54	Plan of Tilbury Fort with the Town of Gravesend 1746
Maps K.Top. 13.55.a	Plan of Tilbury Fort, Gravesend and parts adjacent, with the proposed works 1778
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Maps K.Top. 16.23	A map of the County of Kent Ordnance Survey 1807

Maps K.Top. 16.57c	A view of Gravesend in Kent and the manner of the troops passing the Thames to Tilbury Fort in Essex 27 July 1780	1/Mb 360/1/13	Black & white print, Gateway Tilbury Fort c1810
		1/Mb 360/1/14	Print of Tilbury Fort 1799
			Illustrations of Tilbury Fort 1796
Essex Records Office (ERO)			
<i>Prints, Sketches, Illustrations and Engravings</i>		1/Mb 360/1/15	Black & white print, Tilbury Fort no date
1/Mb 360/1/1	Illustration of Tilbury Fort 1854		Illustration of north gateway, Tilbury Fort 1950
1/Mb 360/1/2	Photograph of engraving, Tilbury Fort no date	1/Mb 360/1/16	Black & white print, A view of Tilbury Fort no date
1/Mb 360/1/3	Coloured print, Le Fort Tilbury no date		Illustration of Tilbury Fort 1810
1/Mb 360/1/4	Sepia print, A view of Tilbury Fort from Gravesend 1783	1/Mb 360/1/17	Black & white print, The Secret, Tilbury 1854
1/Mb 360/1/5	Black & white print, Tilbury Fort no date	1/Mb 360/1/18	Black & white print, Tilbury Fort 1801
	Illustration of Growersend and Tilbury Fort 1819	1/Mb 360/1/19	Black & white print, Gravesend and Tilbury Fort 1806
1/Mb 360/1/6	Coloured print of Tilbury Fort no date	1/Mb 360/1/20	Black & white print, Tilbury Fort c1680
	Illustration of Tilbury Fort – Wind against Tisle no date	1/Mb 360/1/21	Black & white print, Tilbury Fort no date
1/Mb 360/1/7	Aerial view of Tilbury Fort, Essex 1988	1/Mb 360/1/22	Black & white print, Entrance to Tilbury Fort 1818
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1/Mb 360/1/9	Black & white print, Tilbury Fort 1810	1/Mp 360/1/2	Illustration of Tilbury Fort no date
1/Mb 360/1/10	Black & white print, Views of Tilbury Fort no date	1/Mp 360/1/3	Illustration of Tilbury Fort 1831
1/Mb 360/1/11	Black & white print with text 1824	1/Mp 360/1/4	Illustration of Tilbury Fort 1808
	Illustration of The Sallyport, Tilbury Fort no date	1/Mp 360/1/9	Illustrations of gateway to Tilbury Fort 1815
1/Mb 360/1/12	Black & white print, Gateway Tilbury Fort c1810	1/Mp 360/1/10	Illustrations of Tilbury Fort no date
	Illustration of the main gate, Tilbury Fort (o date	1/Mp 360/1/13	Illustration no date
		I/LS/COL/00118	Tilbury Fort engraving 1831

Photographs and Postcards

D/DU 1464/147 Photographs, engravings and postcards of Tilbury showing Tilbury Fort 1950-1975

Drawings and Plans

D/DU 1388/1 Plans of Tilbury Fort and Waverley Barracks; sections through buildings 1908; block plan 1908 with revision of 1926

T/M 300/25 Plans and views of Tilbury Fort no date

Q/Rum 1/32 Plans of schemes for Thames tunnel 1825

Maps

T/M/84/1 Map of tunnel under Thames between Tilbury and Gravesend, Kent 1799

MAP/CR/2/1 A description of the Thames in the year 1588 by Robert Adams

MAP/CM/30/12 The Environs, or Countries Twenty Miles round London 1761

MAP/CM/23/22 A New and Correct Map of the Countries Twenty Miles Round London 1770

Miscellaneous

D/DS 245/91 Ministry of Works *Official Guide Book Tilbury Fort* 1960

T/A 318/11 Deeds and papers relating to Little Thurrock, including electoral list 1840; sale catalogues (map) of marshland near Tilbury Fort 1847

A13137 Records of Binnie and Partners of Redhill, consulting engineers re Thames Tidal Defences at Canvey Island, Benfleet, Tilbury, Wennington, c1980

Historic England Archive (HE)

Photographs

Gerald Cobb album – London Miscellaneous, Medway and Lower Thames: AL0041

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Drawings

MP/TIL0015 Sections and perspective, ravelin, covered way etc. 1742

MP/TIL0017 Sections and perspective, south gate, guardhouse, chapel etc. 1742

MP/TIL0026 Plan and sections of a new timber roof for Water Gate 1925

MP/TIL0027 annotated plan 1940

MP/TIL0030 Deed plan 1948

MP/TIL0034 Site plan mid twentieth century

MP/TIL0056 Labelled plan 1958

MP/TIL0364 Annotated copy of labelled C19 plan with notes

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Ministry of Works files

WORK 14/3130 Guardianship and works 1948–54

WORK 14/1468 Works 1941–53

WORK 14/856 Works 1910–38

WORK 14/2152 Safety precautions, river wall, opening to the public, 1952–59

WORK 14/2153 Improvements to tidal defences 1953–67

Crown Estate files

CRES 35/3972 Estates remaining in Crown possession after 1940: Tilbury Fort

CRES 35/682 Surrender by War Department to the Crown in 1931 and the re-letting to the War Department in 1938

Drawings

MPH 1/679 Plan of Tilbury Fort and adjoining marshes, showing Ordnance land, 1801

MR 1/844/2 Plan of Tilbury fort showing buildings, pipes, drains, sluices etc, 1806

WO 78/3605 Skeleton record plan of fort and buildings, 1908

WO 78/2345/2–7 Plan on six sheets, 1862–64

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6.0 Gazetteer

7.0 Appendices

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