



Thurrock Flexible Generation Plant

**Environmental Statement Volume 6
Appendix 7.1: Historic Environment Desk-Based Assessment**

Date: January 2020

Environmental Statement

Historic Environment Desk-Based Assessment

Volume 6

Appendix 7.1

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Summary

This appendix provides a desk-based heritage technical assessment in support of the assessment of impacts on the historic environment reported in Volume 3, Chapter 7 of the Environmental Statement.

Qualifications

This document has been prepared by Dr Nikki Cook MCIfA, who has 20 years' experience of environmental impact assessment. It updates an earlier PEIR statement prepared by Dan Slatcher in September 2018.

It has been reviewed by Dr Peter Ireland.

1. Introduction

1.1 Background

- 1.1.1 RPS was commissioned to produce a cultural heritage desk-based assessment in connection with the proposed development of Thurrock Flexible Generation Plant (FGP), located near Tilbury, Essex, centred at NGR 566324, 176593 (hereafter, 'the Site'). An aerial view of the proposed Site is shown in Plate 1.
- 1.1.2 The project proposes the construction and operation of a gas fired electricity flexible generation plant with generating capacity of up to 600 megawatts (MW) together with up to 150 MW of battery storage capacity. The proposed development is a Nationally Significant Infrastructure Project (NSIP).



Plate 1: Aerial view of the Site

- 1.1.3 A Preliminary Environmental Information Report (PEIR) was produced in September 2018. Following extensive consultation, the proposed development has been modified and there has been additional consultation on the revised development in October 2019.
- 1.1.4 This report is therefore an updated and expanded version of the earlier PEIR to take account of the changes to the proposed development and potential impacts to the historic environment, comprising above-ground, below-ground and underwater heritage assets.

1.2 Site Description

- 1.2.1 The proposed development area is located on the north side of the River Thames, to the east of Grays and south of West Tilbury in Essex. The proposed FGP Site is divided into a series of zones, which are shown in Figure 1.1.
- 1.2.2 The Site lies to the north and east of the consented Tilbury2 development, a new port terminal currently under construction on part of the site of the disused Tilbury Power Station, which is in the process of being dismantled. To the east of the Site, the land is currently being evaluated by Highways England with regard to a new proposed Lower Thames Crossing, which is due to be submitted as a Development Consent Order DCO application in Summer 2020.
- 1.2.3 Those elements of the proposed development considered in this report for their potential impact to the historic environment are summarised as follows:
- The main development site, which also includes an additional parcel of land to the west as an area of proposed carbon capture readiness (CCR) (Zone A).
 - A new permanent causeway into the river proposed to be constructed to allow the delivery of very large and abnormal indivisible loads (AILs) by water, and a haul road leading from the causeway to the main construction site (Zone G).
 - A new primary construction access from the west (Zone H) utilising modifications made by the Tilbury 2 development.
 - Areas of habitat creation (Zones F1-F4), as well as exchange common land (Zone E).
 - The corridor for permanent access road, gas pipeline and construction laydown (Zone C); gas pipeline route (Zones D1 and D2), and National Grid gas connection compound and access (Zone D3).

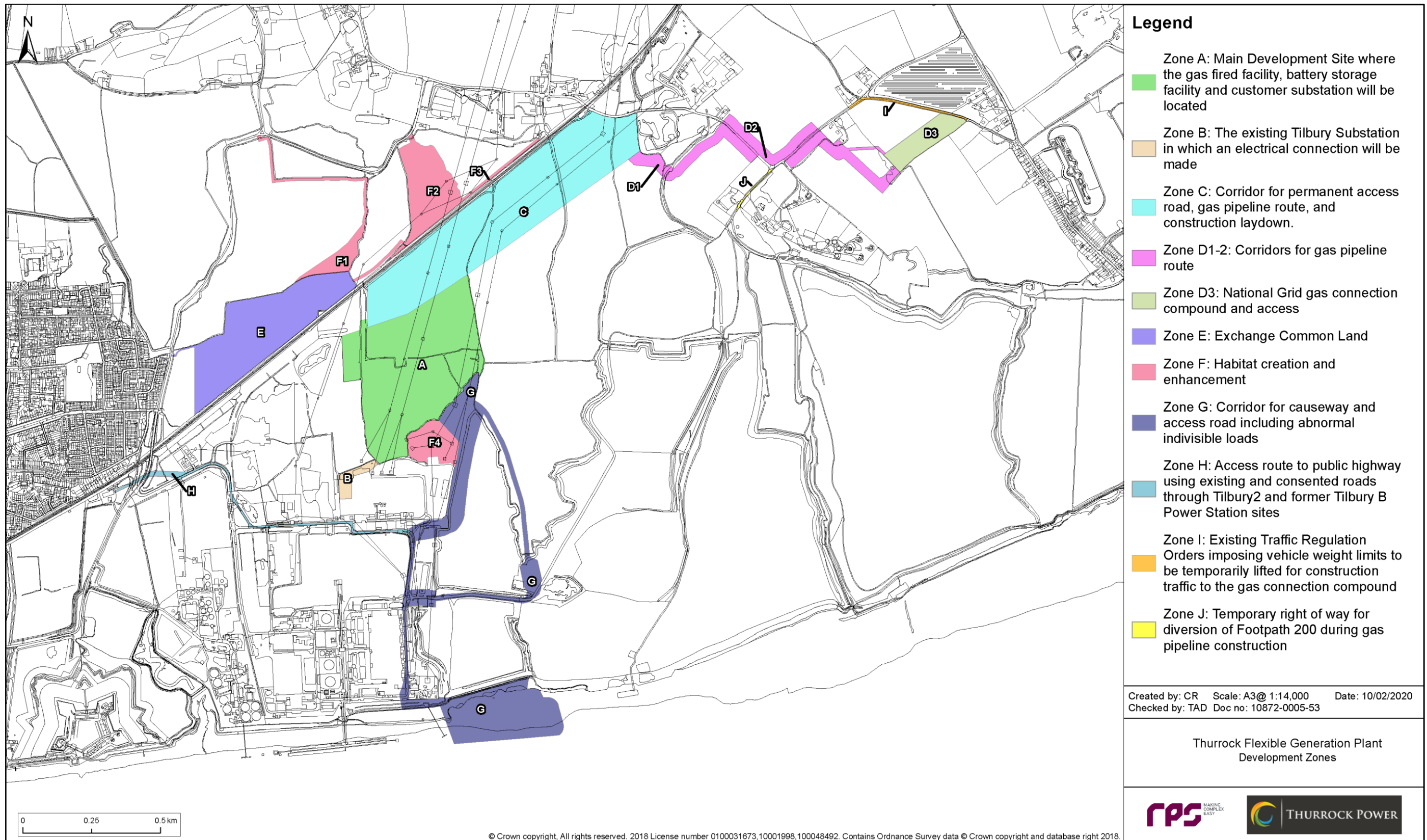


Figure 1.1: Development Zone Plan on Ordnance Survey Base

1.3 Designated and non-designated heritage assets: summary

- 1.3.1 The current historic environment baseline context is detailed and discussed in chronological order in Section 4 of this report: as such, the overall historic environment context of the Site and its environs is only summarised here.
- 1.3.2 In terms of relevant designated heritage assets, as defined in Section 2 and as shown on Figure 1.2, no World Heritage Sites, Scheduled Monuments, Historic Battlefields, Registered Parks and Gardens, Protected Military Remains or Historic Wrecks lie within the Site itself.
- 1.3.3 However, within a wider 3km buffer of the development site as a whole, taken from the centre of Zone A ('the Study Area'), there are seven Scheduled Monuments, including Tilbury Fort, c.1km to the southwest of Zone A; linked to Coalhouse Fort, c.2.35km to the east, by the Two Forts Way; as well as Bowaters Farm anti-aircraft battery, c.1.275m to the east-northeast of Zone A; East Tilbury Battery, c.2.2km also to the east-northeast; and earthworks near St James' Church at West Tilbury, c.820m to the north of Zone A. On the other side of the River Thames at Gravesend there is New Tavern Fort, c.2.2km to the south-southwest of Zone A and the Gravesend Blockhouse.
- 1.3.4 There are no Listed Buildings or Locally Listed buildings within the development site: however, there are 113 listed buildings within a 3km radius of Zone A, and these are listed within the Gazetteer in **Appendix 1** of this report. They comprise two Grade I, 12 Grade II* and 99 Grade II buildings.
- 1.3.5 There are 71 listed buildings within 3km Study Area on the north side of the River Thames, the bulk of which are located to the north and northeast within the Conservation Areas of West Tilbury (Parts 1 and 2) and East Tilbury. Those outwith the Conservation Areas include the Grade I Church of St Katherine and Grade II Old Rectory close to Coalhouse Fort to the east of the Site; the Grade II* Officers' Barracks at Tilbury Fort and Grade II Worlds End Inn adjacent to Tilbury Fort to the southwest of the main development Site; the Grade II* Riverside Station and floating landing stage at Tilbury Docks; Grade II Gun Hill Farmhouse, Biggin Farmhouse and Sunspan between c.1km and 1.5km to the north-northwest of the Site; and the Grade I listed Church of St Mary, Grade II listed Chadwell House and Sleepers Farmhouse in the heart of Chadwell St Mary, c.2.3km to the northwest of Zone A.

- 1.3.6 On the south side of the River Thames, at Gravesend, there are also a number of listed buildings within the 3km buffer of the development site. These are largely clustered within the historic core of the town, which comprises several, largely interlocking, Conservation Areas. The majority of the 42 listed buildings on the Kent side of the Thames are Grade II listed; although five are Grade II* listed (the Town Hall; the Town Pier; the Church of St George; Milton Chantry/New Tavern Fort; and 79, High Street).
- 1.3.7 At the time of writing, neither Thurrock Council nor Gravesham Borough Council had formally adopted lists of non-designated 'Locally Listed Buildings'.
- 1.3.8 There are no designated marine heritage assets within the Study Area: however, within the environs of the proposed causeway, various finds of Roman pottery and ceramic building material (CBM) have been reported on the foreshore, as well as an area of occupation (hut circles, oven, trackway) spreading to the east, which lies within the intertidal zone below the present high tide level. There are also two iron hulks on the foreshore, overgrown with vegetation and partially covered with gravel and inter-tidal mud, which are visible at low tide.
- 1.3.9 The terrestrial part of the study Site is not located within any areas of perceived archaeological potential, as recorded within the Essex Historic Environment Record (EHER) or National Heritage List for England (NHLE). However, indications of sub-surface potential archaeological features were recorded within a geophysical survey of Zone A (Wessex Archaeology 2017), and geoarchaeological monitoring of site investigation works within the main development zone identified a possible Bronze Age ditch within one of the borehole samples (QUEST 2019), which correlated with features identified on the geophysical survey and also visible on Lidar data (see Figure 1.3 and Figure 1.4).
- 1.3.10 Medieval sea defences survive within the area of the proposed haul route from the marine causeway (Zone G), and the whole site is recorded in the EHER as being part of a larger area of WWII anti-glider defence ditches. A linear arrangement of oyster beds of unknown date is also recorded within Zone A. Within the wider landscape surrounding the Site various findspots are recorded, dating from a Neolithic flint arrowhead to undated saltern sites, which could be of Bronze Age, Iron Age, Roman or later date.
- 1.3.11 A Great Tide is recorded as having swept the area in 1736, with the marshes flooded inland as far as Low Street. There was further catastrophic flooding in 1953.

- 1.3.12 Originally thought to be a Neolithic henge (it eventually proved to be a Late Bronze Age ringwork), the nationally significant site at Mucking, c.4km to the north-northeast of Zone A, contains remains dating from the Neolithic to the Middle Ages—a period of some 3,000 years—and the Bronze Age and Anglo-Saxon features are particularly notable. The site was on the 100 feet (30m) gravel terrace, close to the north bank of the Thames. The excavation over 18ha found more than 44,000 archaeological features. These included isolated graves and pits from the Neolithic and a hill fort from the Bronze Age. There were also more than 100 Iron Age round houses and a Romano-British cemetery. The excavations revealed substantial indications of a high status Romano-British building (most likely a villa), located either within the excavation or nearby.
- 1.3.13 Nothing is comparable to Mucking in British archaeology, with an estimated 44,000 features in total, including more than 400 structures and 1,145 burials. The story of the site begins with a succession of Early Neolithic, Grooved Ware, and Beaker-attributed occupations. Eight earlier Bronze Age barrows were found, plus a Middle Bronze Age field system with an accompanying settlement. It was, though, with the establishment of its two ringworks during the Late Bronze Age that the site, whose economy was fuelled by metalworking and salt production, begins to look different from other parts of the landscape, not least because of the continuous high density of occupation that stretches from the beginning of the first millennium BC through to the early Anglo-Saxon period. The activity at Mucking is replicated on a smaller scale in the landscape surrounding the Site, on the East and West Tilbury Marshes and the settlements at East and West Tilbury, and Chadwell St Mary, where cropmark evidence and recorded archaeological finds and monuments attest to the active, permanent and continuous settlement, management and exploitation of the landscape from at least the Bronze Age to the present.
- 1.3.14 The Site lies within the Greater Thames Estuary National Character Area (NCA 81), which is characterised by far-reaching views out across the Thames to the opposite banks of the river from the higher ground, with industrial and historic military landmarks noticeable within the predominantly low-lying marshy coastal landscape. The historic landscape character is largely one of former reclaimed land, historically divided into small plots with associated isolated farmsteads on the lower ground and settlement clustered on the higher ground to the north. There has been significant boundary loss within the Site and its surrounds, resulting in a more open landscape and areas of grazed and cultivated marsh and common. However, the patterns of historic drainage channels remain extant and legible and there is considerable time-depth, but with diminished legibility.

- 1.3.15 The historic landscape character of the Site and its immediate surrounds is mostly characterised by largely flat, reclaimed marsh land comprising what is currently largely open fields with an associated network of ancient and modern drainage ditches and/or boundaries, and historic green lanes. Historic map evidence shows considerable boundary loss within the area surrounding the Site, as the area has been transformed for industrial uses and mineral extraction and traditional pastoral and arable farming has decreased. Towards the Thames estuary the coastal landscape comprises shallow creeks, mudflats and broad tracts of tidal salt marsh, with some grazing land, marsh and common characterising the area between the sea and the rising ground inland.

1.4 Aims and objectives

- 1.4.1 In accordance with relevant policy and guidance on archaeology, historic environment and planning, and in accordance with the Standard and Guidance for Historic Environment Desk-Based Assessments (Chartered Institute for Archaeologists (CIfA), December 2014, updated January 2017: see https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_3.pdf) and the *Standard and guidance for commissioning work on, or providing consultancy advice on, archaeology and the historic environment* (CIfA, December 2014), see https://www.archaeologists.net/sites/default/files/CIfAS&GCommissioning_1.pdf), the aim of this assessment is to draw together the available archaeological, historical, topographic and land-use information in order to clarify the archaeological potential of the Site and potential impacts of the proposed development on the historic environment as a whole, whether above-ground, below-ground or underwater.
- 1.4.2 This desk-based assessment comprises an examination of evidence held by the Essex Historic Environment Record (EHER, supplied by Essex County Council), the Kent HER, the National Heritage List for England (NHLE, supplied by Historic England), Wrecks and Obstructions Data (supplied by the United Kingdom Hydrographic Office) and other primary and secondary sources, including grey literature reports. The report also includes the results of a comprehensive map regression exercise which charts the development of the study site from the 16th Century until the present day.
- 1.4.3 This report also fulfils the objective of enabling relevant parties to assess the archaeological potential of various parts of the Site and to consider the need for masterplanning, design, civil engineering, and archaeological solutions (mitigation) to the archaeological and historic environment potential identified as part of the decision-making process.

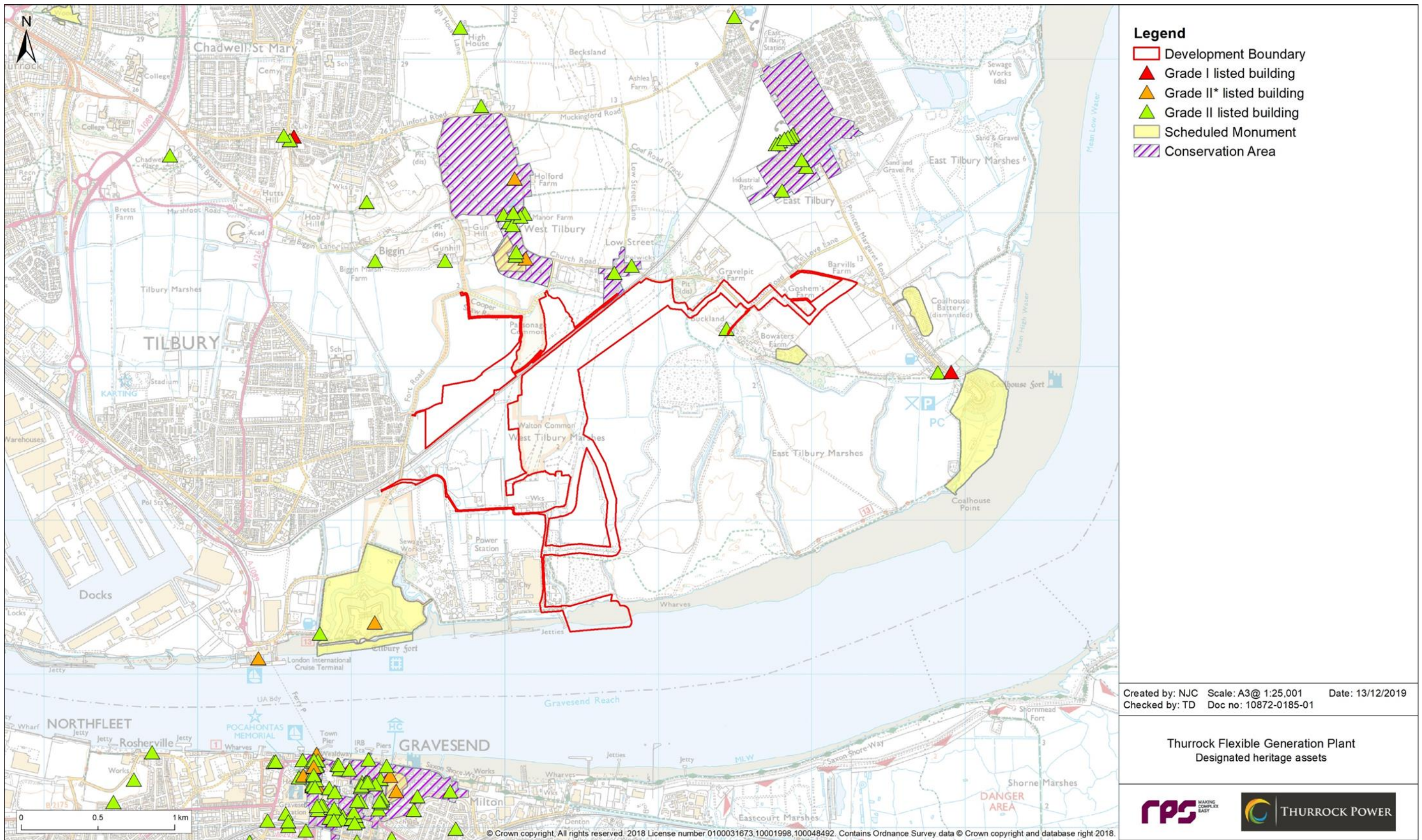


Figure 1.2: Designated heritage assets

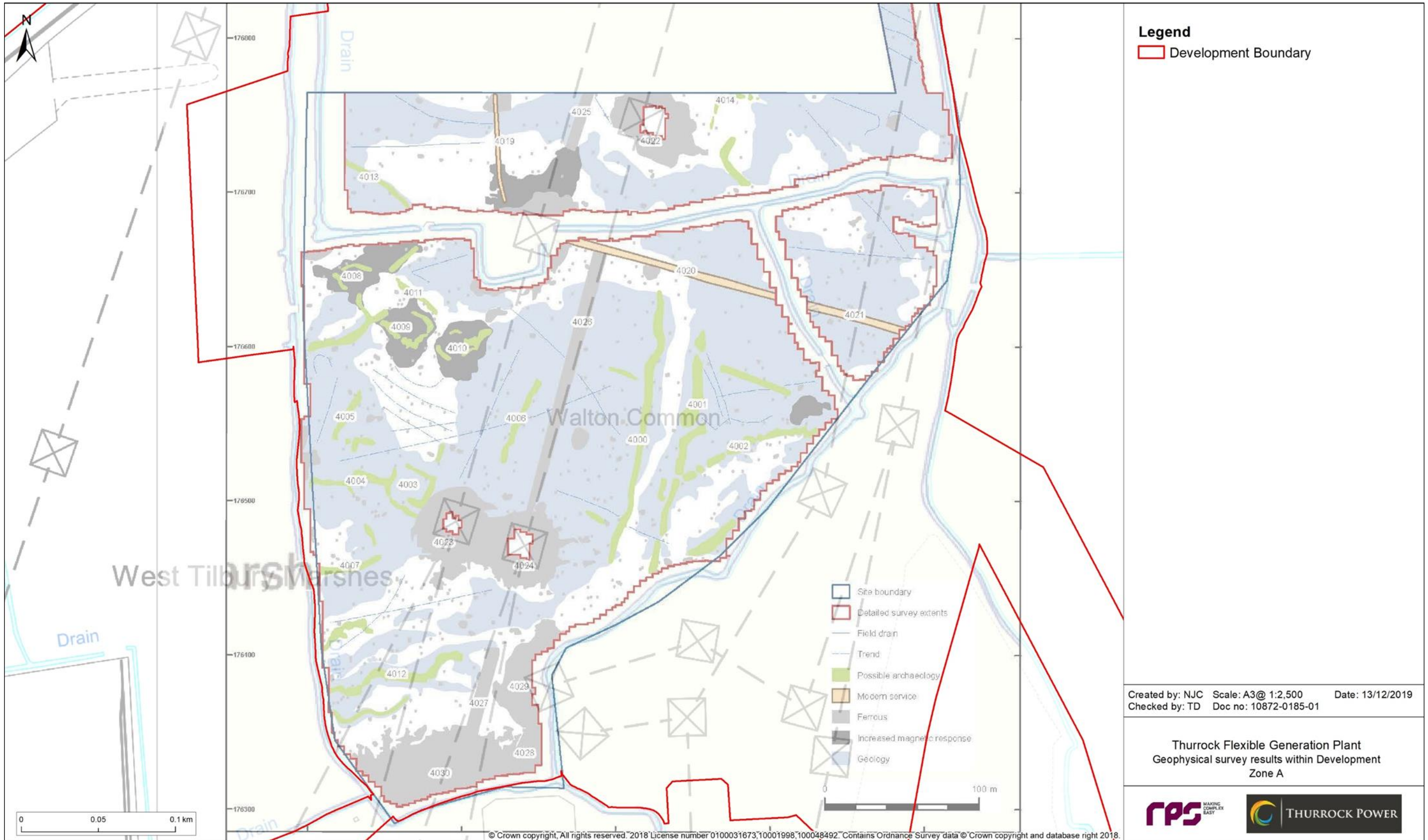


Figure 1.3: Geophysical survey results in Zone A

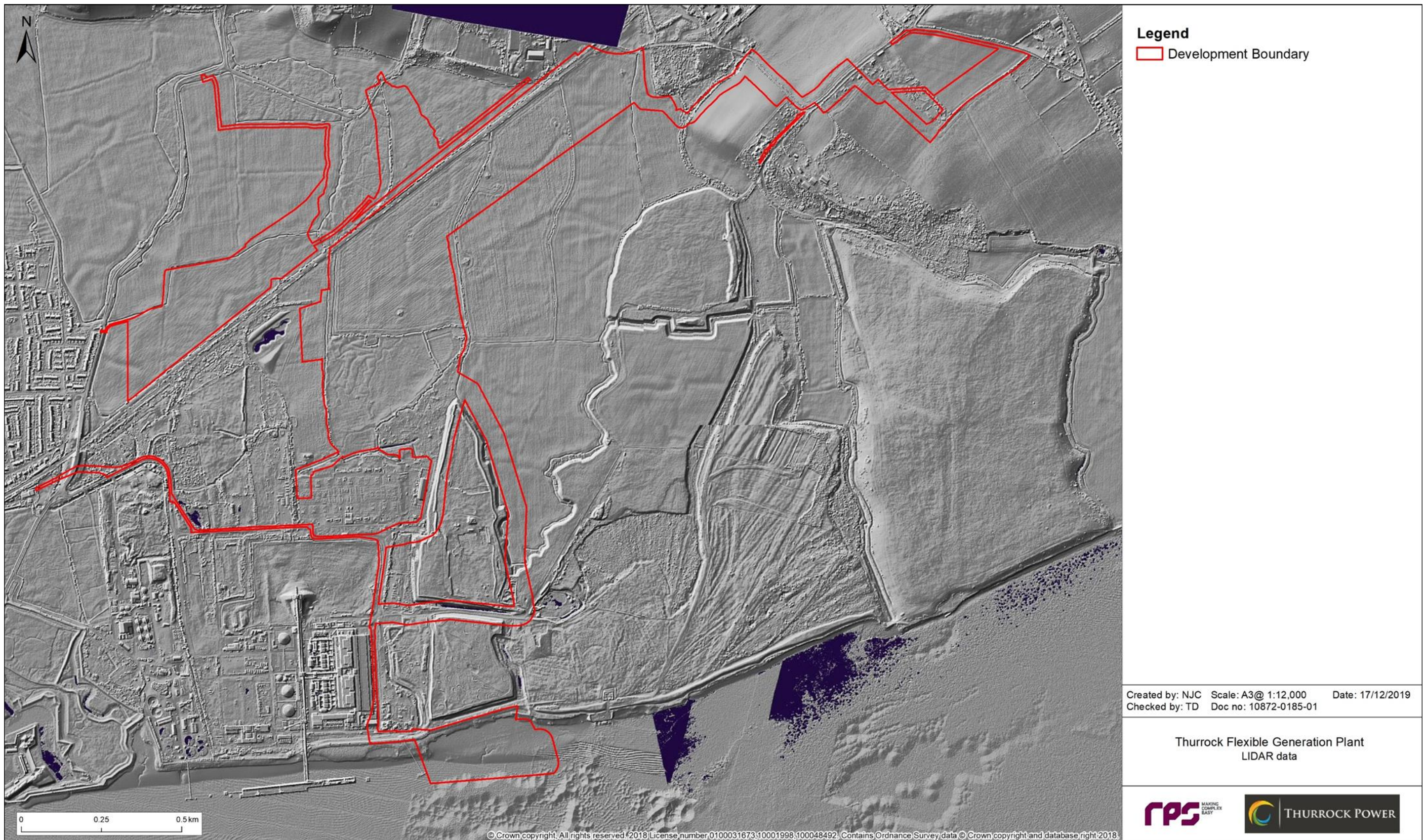


Figure 1.4: Lidar data across development site

2. Legislation, Planning Background and Development Plan Framework

2.1 Introduction

- 2.1.1 Planning policy for energy generation Nationally Significant Infrastructure Projects (NSIPs), specifically in relation to the historic environment, is contained in the Overarching National Policy Statement (NPS) for Energy (EN-1; DECC, 2011). These policies are further enshrined, and explained in more detail, in the National Planning Policy Framework (NPPF) and National Planning Practice Guidance (NPPG). These are set out in more detail in sections 2.2 and 2.3 below.
- 2.1.2 There is national legislation and guidance relating to the protection of, and development on or near, important archaeological sites, historic landscapes or historical buildings within planning regulations as defined under the provisions of the Town and Country Planning Act 1990. In addition, local authorities are responsible for the protection of the historic environment within the planning system.
- 2.1.3 In a marine context, the Marine and Coastal Access Act (MCAA 2009) divided the UK into marine planning regions, with an associated planning authority responsible for preparing a Marine Plan for that area: for England, this is the Marine Management Organisation (MMO). The Marine Policy Statement ((MPS), Defra 2011) sets out the framework for preparing Marine Plans and managing decision-making in the marine environment, recognising that marine activities have the potential to result in adverse effects on the historic environment both directly and indirectly, including damage to or destruction of heritage assets.
- 2.1.4 National legislation regarding archaeology, including Scheduled Monuments, is contained in the Ancient Monuments and Archaeological Areas Act 1979, amended by the National Heritage Act 1983 and 2002, and updated in April 2014, and applies within the 12 nautical mile (nm) limit of English territorial waters.
- 2.1.5 Listed buildings are protected under the designation regime set out in the Planning (Listed Buildings and Conservation Areas) Act (1990) which empowers the Secretary of State for the Department of Digital, Culture, Media and Sport (DCMS) to maintain a list of buildings and areas of special architectural or historic interest. Any decisions where listed buildings and their settings, and/or conservation areas, are a factor must address the statutory considerations of the Planning (Listed Buildings and Conservation Areas) Act 1990 (see in particular sections 16, 66 and 72) as well as applying the relevant policies in the local development plan and the National Planning Policy Framework.
- 2.1.6 Historic England (formerly English Heritage) is empowered by the Historic Buildings and Ancient Monuments Act 1953 (as amended) to maintain a register of parks, gardens and battlefield sites which appear to Historic England to be of special historic interest. Registration in this way makes the effect of proposed development on the sites and their settings a material consideration, but does not afford statutory protection.
- 2.1.7 The Protection of Wrecks Act 1973 provides specific protection for wreck sites of archaeological, historic or artistic interest. Ownership of any wreck remains is determined in accordance with the Merchant Shipping Act 1995.
- 2.1.8 The Protection of Military Remains Act 1986 provides protection for the wreckage of military aircraft and designated military vessels. The Act provides for two types of protection: protected places and controlled sites. Military aircraft are automatically protected but vessels have to be specifically designated. The primary reason for designation is to protect as a 'war grave' the last resting place of UK servicemen (or other nationals); however, the Act does not require the loss of the vessel to have occurred during war.
- 2.1.9 Under the Hedgerow Regulations 1997, as amended by The Hedgerows (England) (Amendment) Regulations 2002, hedgerows are deemed to be historically important if they are over 30 years old and either: incorporate, or are associated with, a Scheduled archaeological feature or site; mark the Boundary of a pre-1600 estate or manor recorded at the relevant date in a Sites and Monuments Record; or forms an integral part of a pre-1845 field system.

2.2 National Policy Statement for Energy

- 2.2.1 In July 2011, the Government published the Overarching National Planning Policy Statement for Energy (EN-1). EN-1 is part of a suite of NPSs issued by the Secretary of State for Energy and Climate Change which sets out the Government's policy for delivery of major energy infrastructure (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf).
- 2.2.2 A further five technology-specific NPSs for the energy sector cover: fossil fuel electricity generation (EN-2); renewable electricity generation (both onshore and offshore) (EN-3); gas supply infrastructure and gas and oil pipelines (EN-4); the electricity transmission and distribution network (EN-5); and nuclear electricity generation (EN-6).
- 2.2.3 The approach for assessment and decision-making in terms of the impacts of energy infrastructure on the historic environment is in line with national planning policy and guidance, as outlined in sections 2.2 and 2.3.
- 2.2.4 Section 5.8 of EN-1 sets out the approach to be taken to the assessment of generic impacts on the historic environment. Para 5.8.2 defines the historic environment as including "all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, landscaped and planted or managed flora. Those elements of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are called "heritage assets". A heritage asset may be any building, monument, site, place, area or landscape, or any combination of these. The sum of the heritage interests that a heritage asset holds is referred to as its significance."

2.3 National Planning Policy

- 2.3.1 In March 2012, the government published the National Planning Policy Framework (NPPF), and it was last updated in February 2019. The NPPF is supported by the National Planning Practice Guidance (NPPG), which was published online 6th March 2014 and last updated 23rd July 2019 (<https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment>). The NPPF (Ministry of Housing, Communities and Local Government, 2019) provides advice to planning authorities regarding the protection of heritage assets within the planning process. The NPPF deals with all types of heritage in a single document. It takes an integrated approach to the historic environment, moving beyond a distinction between buildings, landscapes and archaeological remains.

- 2.3.2 Section 16 of the NPPF, entitled 'Conserving and enhancing the historic environment' provides guidance for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 16 of the NPPF can be summarised as seeking:
- Delivery of sustainable development;
 - Understanding the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment;
 - Conservation of England's heritage assets in a manner appropriate to their significance; and
 - Recognition that heritage makes to our knowledge and understanding of the past.
- 2.3.3 Section 16 of the NPPF recognises that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term. Paragraph 189 states that planning decisions should be based on the significance of the heritage asset and that level of detail supplied by an applicant should be proportionate to the importance of the asset and should be no more than sufficient to review the potential impact of the proposal upon the significance of that asset.
- 2.3.4 Heritage Assets are defined in Annex 2 of the NPPF as: a building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. They include designated heritage assets (as defined in the NPPF) and assets identified by the local planning authority during the process of decision-making or through the plan-making process.
- 2.3.5 Annex 2 also defines Archaeological Interest as a heritage asset which holds or potentially could hold evidence of past human activity worthy of expert investigation at some point.
- 2.3.6 A Nationally Important Designated Heritage Asset comprises a: World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area.
- 2.3.7 Significance is defined as: The value of a heritage asset to this and future generations because of its heritage interest. This interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
- 2.3.8 Setting is defined as: 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.

2.3.9 In short, government policy provides a framework which:

- Protects nationally important designated Heritage Assets;
- Protects the settings of such designations;
- In appropriate circumstances seeks adequate information (from desk based assessment and field evaluation where necessary) to enable informed decisions;
- Provides for the excavation and investigation of sites not significant enough to merit in-situ preservation.

2.4 National Planning Practice Guidance

2.4.1 The National Planning Practice Guidance (NPPG) has been published by the Government in order to aid the application of the NPPF.

2.4.2 The NPPG is supplemented by heritage-specific guidance published by Historic England (Conservation Principles 2008; Good Practice Advice Notes (GPA) 1, 2 and 3 (2015 and 2017)) and specialist technical notes.

2.4.3 The NPPG reiterates that the conservation of heritage assets in a manner appropriate to their significance is a core planning principle, requiring a flexible and thoughtful approach. Furthermore, it highlights that neglect and decay of heritage assets is best addressed through ensuring they remain in active use that is consistent with their conservation. Importantly, the guidance states that if complete, or partial loss of a heritage asset is justified, the aim should then be to capture and record the evidence of the asset's significance and make the interpretation publicly available.

2.4.4 Key elements of the guidance relate to assessing harm. An important consideration should be whether the proposed works adversely affect a key element of the heritage asset's special architectural or historic interest. Additionally, it is the degree of harm, rather than the scale of development, that is to be assessed. The level of 'substantial harm' is considered to be a high bar that may not arise in many cases. Essentially, whether a proposal causes substantial harm will be a judgment for the decision taker, having regard to the circumstances of the case and the NPPF. Importantly, harm may arise from works to the asset or from development within its setting. Setting is defined as the surroundings in which an asset is experienced and may be more extensive than the curtilage. A thorough assessment of the impact of proposals upon setting needs to take into account, and be proportionate to, the significance of the heritage asset and the degree to which proposed changes enhance or detract from that significance and the ability to appreciate it.

2.4.5 In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance the NPPF, by current Development Plan Policy and by other material considerations.

Conservation Principles, Policies and Guidance (Historic England (formerly English Heritage, April 2008))

2.4.6 Conservation Principles outlines Historic England's approach to the sustainable management of the historic environment. While primarily intended to ensure consistency in Historic England's own advice and guidance, the document is recommended to LPAs to ensure that all decisions about change affecting the historic environment are informed and sustainable.

2.4.7 The guidance describes a range of heritage values which enables the significance of assets to be established systematically, with the four main heritage values being: evidential value; historical value; aesthetic value; and communal value.

Overview: Historic Environment Good Practice Advice in Planning

2.4.8 The NPPF and NPPG are additionally supported by three Good Practice Advice (GPA) documents published by Historic England: GPA 1: The Historic Environment in Local Plans; GPA 2: Managing Significance in Decision-Taking in the Historic Environment (both published March 2015). The second edition of GPA3: The Setting of Heritage Assets was published in December 2017.

2.4.9 These are complemented by Historic England Advice Notes in Planning and other technical guidance published by Historic England (e.g. Environmental Archaeology; Preservation of Archaeological Remains; Waterlogged Organic Artefacts).

GPA1: The Historic Environment in Local Plans (March 2015)

2.4.10 This document provides information to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing historic environment policy in the NPPF and NPPG.

2.4.11 The advice in this document, in accordance with the NPPF, emphasises that all information requirements and assessment work in support of plan-making and heritage protection needs to be proportionate to the significance of the heritage assets affected and the impact on the significance of those heritage assets, and recognises the primacy of the NPPF and NPPG.

***GPA2: Managing Significance in Decision-Taking in the Historic Environment
(March 2015)***

2.4.12 This document provides advice on numerous ways in which decision making in the historic environment could be undertaken, emphasising that the first step for all applicants is to understand the significance of any affected heritage asset and the contribution of its setting to that significance. In line with the NPPF and NPPG, the document states that early engagement and expert advice in considering and assessing the significance of heritage assets is encouraged. The advice suggests a structured, staged approach to the assembly and analysis of relevant information:

- Understand the significance of the affected assets;
- Understand the impact of the proposal on that significance;
- Avoid, minimise and mitigate impact in a way that meets the objectives of the NPPF;
- Look for opportunities to better reveal or enhance significance;
- Justify any harmful impacts in terms of the sustainable development objective of conserving significance balanced with the need for change; and
- Offset negative impacts to significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.

GPA3: The Setting of Heritage Assets (Second Edition; December 2017)

2.4.13 This advice note focuses on the management of change within the setting of heritage assets. This document replaces GPA3: The Setting of Heritage Assets (March 2017) and Seeing History in the View (English Heritage, 2011) in order to aid practitioners with the implementation of national legislation, policies and guidance relating to the setting of heritage assets found in the 1990 Act, the NPPF and PPG. The guidance is largely a continuation of the philosophy and approach of the 2011 and 2015 documents and does not present a divergence in either the definition of setting or the way in which it should be assessed.

2.4.14 As with the NPPF the document defines setting as ‘the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve’. Setting is also described as being a separate term to curtilage, character and context. The guidance emphasises that setting is not a heritage asset, nor a heritage designation, and that its importance lies in what it contributes to the significance of the heritage asset, or the ability to appreciate that significance. It also states that elements of setting may make a positive, negative or neutral contribution to the significance of the heritage asset, including below-ground archaeological remains.

2.4.15 While setting is largely a visual term, with views considered to be an important consideration in any assessment of the contribution that setting makes to the significance of an asset, and thus the way in which an asset is experienced, setting also encompasses other environmental factors including noise, vibration and odour. Historical and cultural associations may also form part of the asset’s setting, which can inform or enhance the significance of a heritage asset.

2.4.16 This document provides guidance on practical and proportionate decision making with regards to the management of change within the setting of heritage assets. It is stated that the protection of the setting of a heritage asset need not prevent change and that decisions relating to such issues need to be based on the nature, extent and level of the significance of a heritage asset, further weighing up the potential public benefits associated with the proposals. It is further stated that changes within the setting of a heritage asset may have positive or neutral effects.

2.4.17 The document also states that the contribution made to the significance of heritage assets by their settings will vary depending on the nature of the heritage asset and its setting, and that different heritage assets may have different abilities to accommodate change without harming their significance. Setting should, therefore, be assessed on a case-by-case basis.

2.4.18 Historic England recommends using a series of detailed steps in order to assess the potential effects of a proposed development on significance of a heritage asset. The 5-step process is as follows:

- Identify which heritage assets and their settings are affected;
- Assess the degree to which these settings and views make a contribution to the significance of a heritage asset(s) or allow significance to be appreciated;
- Assess the effects of the proposed development, whether beneficial or harmful, on the significance or on the ability to appreciate it;
- Explore ways to maximise enhancement and avoid or minimise harm; and
- Make and document the decision and monitor outcomes.

2.5 Regional Planning Policy – the South East Marine Plan

- 2.5.1 Under the Marine and Coastal Access Act 2009 the UK was divided into marine planning regions, with an associated planning authority responsible for preparing a marine plan for that area. The Marine Policy Statement (Department for Environment, Food and Rural Affairs 2011) sets out the framework for preparing Marine Plans and taking decisions affecting the marine environment and was jointly adopted by the Secretary of State, Scottish Ministers, Welsh Ministers and the Department of the Environment in Northern Ireland in 2011. In England, marine licensing and marine planning was made the responsibility of the MMO, and inshore and offshore waters have been divided into 11 plan areas for which marine plans are to be produced. The planning process officially began on 1st April 2011.
- 2.5.2 The Marine Policy Statement (MPS) notes that “Marine activities have the potential to result in adverse effects on the historic environment both directly and indirectly, including damage to or destruction of heritage assets”.
- 2.5.3 The MPS sets out that:
- Some heritage assets have a level of interest that justifies statutory designation, the purpose of which is to ensure that they are protected and conserved for the benefit of this and future generations.
 - Many heritage assets with archaeological interest in these areas are not currently designated as scheduled monuments or protected wreck sites but are demonstrably of equivalent significance. The absence of designation for such assets does not necessarily indicate lower significance and the marine plan authority should consider them subject to the same policy principles as designated heritage assets.
 - In considering the significance of heritage assets and their setting, the marine plan authority should take into account the particular nature of the interest in the assets and the value they hold for this and future generations.
 - Where the loss of the whole or a material part of a heritage asset’s significance is justified, the marine plan authority should identify and require suitable mitigating actions to record and advance understanding of the significance of the heritage asset before it is lost. Requirements should be based on advice from the relevant regulator and advisors.
- 2.5.4 The Site lies within the South East Marine Plan Area (SE MPA), which covers the inshore marine plan area from Dover to Felixstowe, and the MMO is the planning authority.

- 2.5.5 The SE MPA is currently under development and at Iteration 3 (out for consultation between January and April 2019), and therefore the policies within the 2011 MPS remain relevant.

2.6 Local Planning Policy

- 2.6.1 The development plan for the proposal Site comprises policies from the Thurrock Local Development Framework, adopted in 2011, and the Gravesham Local Plan Core Strategy.
- 2.6.2 The following policies from these respective plans relate specifically to the historic environment:

Thurrock Local Development Framework

CSTP24: Heritage Assets and the Historic Environment

1. Protecting and Enhancing Heritage Assets

1. The Council will preserve or enhance the historic environment by:

- i. Promoting the importance of the heritage assets, including their fabric and their settings;*
- ii. Encouraging the appropriate use of heritage assets and their settings;*
- iii. Supporting increased public access to historic assets, including military and industrial heritage;*
- iv. Reviewing the designation of local heritage assets, including considering the designation of new Conservation Areas;*
- v. Retaining non-designated heritage assets which are considered locally important as well as those with statutory protection; and*
- vi. Encouraging proposals that include enhancement of surrounding landscapes and integration between priority heritage assets and the Greengrid*

2. Proposed Development

1. All development proposals will be required to consider and appraise development options and demonstrate that the final proposal is the most appropriate for the heritage asset and its setting, in accordance with:

- i. The objectives in part 1 above;*
- ii. The requirements of PMD 4 Historic Environment;*

iii. Conservation Area Character Appraisals and Management Proposals as appropriate; and

iv. Relevant national and regional guidance.

3. Priorities for Heritage Regeneration and Enhancement

I. The Council will work collaboratively with owners and partners to encourage the appropriate regeneration and use of priority heritage assets to secure their long-term future. The Council will identify priority heritage assets from:

i. English Heritage's national Heritage at Risk Register;

ii. The Thurrock Heritage at Risk Register, which will be reviewed annually;

iii. The Conservation Area Management Proposals, which will be reviewed at least every five years, and

iv. A local list of heritage assets once produced.

v. The Historic Environment Record

II. Of priority heritage assets already identified, the Council will:

i. Ensure that the setting of Tilbury Fort, including views of it from the river, are appropriately protected and enhanced, and that encroachment on the open land around it is not permitted.

ii. Ensure that the setting of Coalhouse Fort is appropriately protected from development and that its fabric is conserved.

iii. Resist development that undermines an understanding of the role the river Thames has played in the historic development of Thurrock.

iv. Promote public access between Tilbury Fort and Coalhouse Fort through riverside links.

v. Ensure that any new development close to, or within, Bata Village or the Bata Factory complex is well designed and contributes positively to their settings.

vi. Ensure that Thurrock's historic landscapes, and the contribution made to them by ancient woodland, hedgerows and trees, are appropriately considered in all development proposals.

Policy HC1 PMD4: Historic Environment

The Council will ensure that the fabric and setting of heritage assets, including Listed Buildings, Conservation Areas, Scheduled Ancient Monuments and other important archaeological sites, and historic landscape features are appropriately protected and enhanced.

1. The Council will also require new development to take all reasonable steps to retain and incorporate non-statutorily protected heritage assets contributing to the quality of Thurrock's broader historic environment.

2. Applications must demonstrate that they contribute positively to the special qualities and local distinctiveness of Thurrock, through compliance with local heritage guidance including

i. Conservation Area Character Appraisals;

ii. Conservation Area Management Proposals;

iii. Other relevant Thurrock-based studies, including the Landscape Capacity Study (2005), the Thurrock Urban Character Study (2007) and the Thurrock Unitary Historic Environment Characterisation Project (2009).

iv. Further local guidance as it is developed.

3. The Council will follow the approach set out in 'PPS 5: Planning for the Historic Environment' in the determination of applications affecting

Thurrock's built or archaeological heritage assets. This will include consideration of alterations, extensions or demolition of Listed Buildings or the demolition of unlisted buildings within Conservation Areas, and requirements for pre-determination archaeological evaluations and for preservation of archaeology in situ or by recording."

Gravesham Local Plan Core Strategy

2.6.3 Policy CS20: 'Proposals and initiatives will be supported which preserve and, where appropriate, enhance the significance of the Borough's heritage assets, their setting where it contributes to the significance of the asset and their interpretation and enjoyment, especially where these contribute to the distinct identity of the Borough.'

2.6.4 Policy TC2 (Listed Buildings): outlines that in the case of applications for development affecting the setting of listed buildings, the primary consideration of the Borough Council will be the maintenance of the integrity of the original listed building. Proposals will also need to be sympathetic to the listed building in terms of massing, scale, appearance and materials.

- 2.6.5 Policy TC3 (Development affecting Conservation Areas): outlines that: 'The Borough Council will adopt the following approach to applications for development within or affecting conservation areas:
- 2.6.6 Where development is acceptable in relation to other policies in this Plan, it will be carefully judged for its impact and will be expected to make a positive contribution to the conservation area. The Borough Council will expect applications to contain sufficient details to enable the impact of the proposal upon the conservation area to be assessed.'

3. Methodology

3.1.1 There is no single published guidance on the production of Heritage Statements, although some local planning authorities provide detailed requirements for what is acceptable for planning application validation purposes. However, a recognised industry Standard is published by the Chartered Institute for Archaeologists (CIfA), comprising the Standard and guidance for historic environment desk-based assessment (CIfA, December 2014, updated 2017).

3.1.2 The Standard states that:

“Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the Code of conduct and other relevant regulations of CIfA. In a development context desk-based assessment will establish the impact of the proposed development on the significance of the historic environment (or will identify the need for further evaluation to do so), and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention that impact.”

3.1.3 In accordance with the requirements of local and national planning policy, and in particular NPS EN-1 (section 5.8), the NPPF (para 189) and national guidance (NPPG; GPA1, GPA2 and GPA3), an applicant should describe the significance of any heritage assets affected by the proposed development, including any contribution made by their setting. The level of detail should be proportionate to the assets’ importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, the planning authority should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

3.1.4 This desk-based assessment fulfils these requirements, and has considered the historic environment resource within a 3km and 5km buffer of the whole Site, taken from a centre point within Zone A, including the setting and seascape of relevant heritage assets.

3.1.5 In the first instance, consultation with the Essex Archaeology Advisory Service and their Historic Environment Record (HER) was undertaken. Data on scheduled monuments, listed buildings, protected wrecks, registered parks and gardens and registered battlefields was obtained from Historic England. A review of relevant documentary and archival material held in libraries and archives was undertaken. An iterative approach was adopted during this process to determine the scope of the above consultations/searches. Essex Archives was visited in September 2018.

3.1.6 An initial site visit was undertaken in September 2018 to establish the presence of previously unrecorded heritage assets, and/or to further assess the potential of recorded heritage assets. In addition, the field visit assessed as appropriate the suitability of any further survey techniques and provided an indication of the likely effect of the proposed development on the settings of heritage assets.

3.1.7 A geophysical survey was undertaken by Wessex Archaeology (Wessex Archaeology 2017) within the area of Zone A, the results of which have informed this assessment and are shown in this appendix. The geophysical survey also guided Phase 2 Site Investigation (SI) works undertaken by TerraConsult in October 2019, where a series of boreholes, windowless samples and cone penetration tests were drilled across Zone A. The Phase 2 SI report is shown in Volume 6, Appendix 16.2 of the ES.

3.1.8 Geoarchaeological monitoring of the Phase 2 SI works enabled a Deposit Model Report to be produced for the Site (QUEST, October 2019 – submitted in Volume 6, Appendix 7.2), which sets the Site into its wider geoarchaeological context and also drew on other available datasets for the Lower Thames Estuary to assess the geoarchaeological and palaeoenvironmental potential at the Site.

3.1.9 Following extensive consultation and changes in the project design, including the addition of a new permanent causeway into the river and haul road to facilitate construction, further data searches were undertaken, and an additional site visit and walkover survey of the wider landscape was made in November 2019 to assess the effects of the revised development on known and potential heritage assets within the marine and intertidal zones, and their settings. Additional photomontages were also procured in September 2019 as part of the Landscape and Visual Impact Assessment (Volume 3, Chapter 6) in order to assess the effects of the proposed revised development on the wider historic environment.

3.1.10 The results of these various intrusive and non-intrusive investigations have informed the current historic baseline context as set out in Section 4.

4. Baseline historic environment

4.1 Introduction

4.1.1 This section reviews the available historic environment evidence for the site and the archaeological/historical background of the general area, and, in accordance with the NPS EN-1, the NPPF and industry guidance, considers the potential for any below-ground and/or submerged archaeological evidence within the development site, in order to provide a current historic environment baseline context and to identify known and potential sensitive receptors to the proposed development.

4.1.2 This chapter also reviews the settings of known heritage assets. Whilst the setting of a heritage asset is not simply one with a visual link to the proposed development, the LVIA analysis and photomontages have been drawn upon to assist with the assessment of setting and potential effects of the proposed development on the settings of selected heritage assets.

4.1.3 Within this report, archaeological and/or historic periods are defined as follows:

- Prehistoric, comprising:
 - Lower Palaeolithic (pre 150,000 BC),
 - Middle Palaeolithic (150,000 – 30,000 BC)
 - Upper Palaeolithic (30,000 - 10,000BC),
 - Mesolithic (10,000 - 3,500BC),
 - Neolithic (3,500 - 2,000BC),
 - Bronze Age (2,000 - 700BC), and
 - Iron Age (700BC - AD43);
- Roman/Romano-British (AD43 – AD410);
- Saxon/Early Medieval (AD410 – AD1066);
- Medieval (AD1066 – AD 1485);
- Post-Medieval (AD 1485 - 1700);
- 18th century (AD 1701 – 1800)
- 19th century (AD1801 – 1900); and
- Early 20th century (1901 – 1939);
- World War II (1939 – 1945); and
- Modern (1901 onwards).

4.1.4 Heritage assets have been attributed a chronological **HA** number, cross-referenced with the gazetteer in the text and on relevant figures. All known heritage assets recorded within a 3km buffer from the centre of Zone A are shown on Figure 4.1. A total of 245 heritage assets have been assessed, which comprise findspots, monuments, buildings, wrecks, obstructions and landscape features. A breakdown of the chronological spread of these assets and their type is summarised in Table 4.1 below.

Table 4.1: Breakdown of heritage assets

| Period | Number | Type |
|--------------------------------|--------|--|
| Palaeolithic | 11 | Findspots |
| Mesolithic | 3 | Findspots |
| Neolithic | 13 | Monuments; findspots |
| Neolithic / Bronze Age | 3 | Findspots |
| Bronze Age | 13 | Monuments; findspots |
| Iron Age | 10 | Monuments; findspots |
| Prehistoric | 15 | Monuments; findspots |
| Roman | 34 | Monuments; findspots |
| Anglo-Saxon | 7 | Monuments; findspots |
| Medieval | 22 | Monuments; listed buildings; findspots; landscape features |
| Post-medieval | 12 | Monuments; listed buildings |
| 18 th century | 9 | Monuments; listed buildings |
| 19 th century | 12 | Monuments; listed buildings |
| Early 20 th century | 14 | WWI landing ground Listed building (Sunspan house); Conservation Area and Listed Buildings at Bata factory |
| WWII | 36 | Monuments; landscape features |
| Modern | 4 | Monuments; wrecks |
| Unknown | 27 | Monuments; wrecks; findspots |

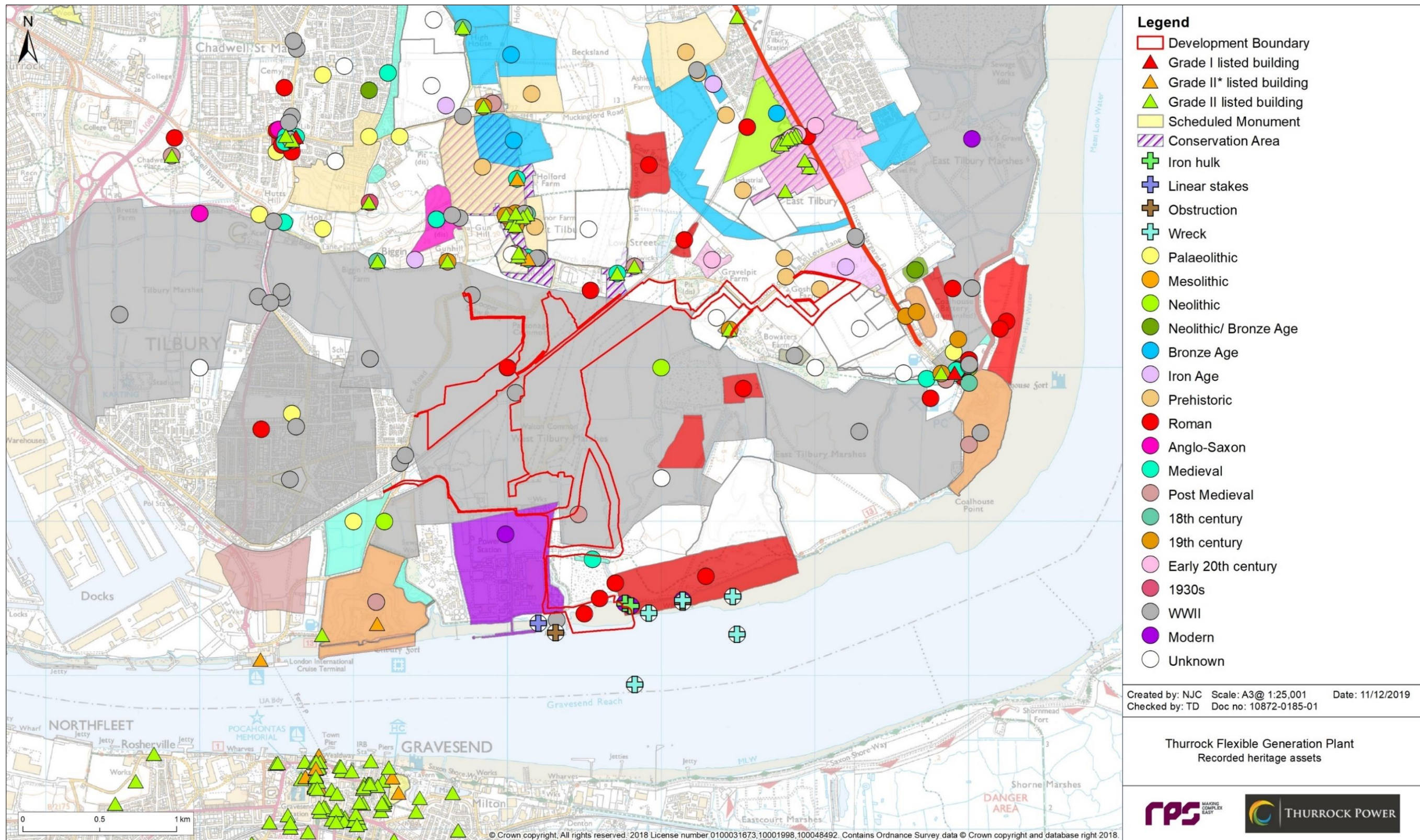


Figure 4.1: Recorded heritage assets in local and national datasets within 3km of the Site

4.1.5 In terms of coastal and marine heritage assets, data is recorded by the United Kingdom Hydrographic Office (UKHO) as ‘wrecks’ and ‘obstructions’ around the UK for charting purposes, and are described as ‘live’, ‘lifted’ or ‘dead’, and can also be categorised as ‘dangerous’ if considered to pose a risk to surface navigation. A live site is one identifiable on repeated surveys and therefore considered by the UKHO to be in existence. A lifted site is one where the wreck/obstruction has been removed, whilst a dead site is one that has not been identified on repeated surveys and therefore is considered to be potentially lost or removed.

4.2 Previous archaeological work/events

4.2.1 There have been a number of non-intrusive and intrusive archaeological works within the area surrounding the site, the relevant information from which has been used to inform the baseline historic context for the Site in association with the data recorded in local and national datasets.

4.2.2 An onshore archaeological assessment of the adjacent Tilbury2 site was completed by Wessex Archaeology in 2007, with a marine assessment completed in 2009. The marine DBA for Tilbury 2 was updated by Wessex Archaeology in November 2017. An archaeological evaluation at the Tilbury2 site was undertaken by Wessex Archaeology in April 2018 (Wessex Archaeology 2018) in advance of a programme of ecological mitigation and compensation measures, but no archaeological finds or features were recorded, although some geological analysis was conducted.

4.2.3 The recently successful DCO application for Tilbury2 has generated a significant wealth of historic environment information, which has been drawn on to inform this report, in particular the suite of studies and chapters within the Tilbury 2 Environmental Statement (Port of Tilbury London, October 2017).

4.2.4 Geoarchaeological studies have been undertaken for the adjacent Tilbury2 site by Wessex Archaeology (2008) and QUEST (2017), and a geoarchaeological deposit model has recently been produced for the Site (QUEST, October 2019), which has amalgamated the results from the Tilbury2 work and other studies to inform the deposit model for the Site and also assess its archaeological and palaeoenvironmental potential.

4.2.5 This recent geoarchaeological study has built on the extensive work undertaken in the area since 1889, during the construction of Tilbury Docks, when early work carried out by Spurrell (1889) revealed a thick sequence of alluvial and peat deposits. Subsequently, Devoy (1979, 1982) carried out a detailed stratigraphic analysis and now additional work at Tilbury Fort (Batchelor 2009), London Distribution Park (Batchelor, *et al* 2014) and Tilbury 2 have contributed to a better understanding of the nature, depth, extent and any former land surfaces, alluvial and peat deposits at the Site and within the Lower Thames Valley.

4.2.6 Various SI works have also been undertaken across the land to the east of the Site by Highways England as part of the preparatory works for the Lower Thames Crossing DCO, although it has not yet been possible to fully access this data. Should this data become available for geoarchaeological analysis, it would make a meaningful contribution to further understanding of the sequences of past environmental change, sea level rise and human activity through the preservation of biological remains in the Lower Thames Estuary.

4.2.7 A geophysical survey was undertaken within Zone A at the Site by Wessex Archaeology in August 2017: the survey results (as seen in Figure 1.3) suggested various potential archaeological features particularly in the western side of Zone A. The survey identified a series of strong rectilinear anomalies that were considered to be of probable archaeological origin.

4.2.8 Phase 2 Site Investigation Works were undertaken by TerraConsult in September and October 2019. Various boreholes, windowless samples and cone penetration tests were undertaken across the Site and were located across Zone A as shown at Plate 2. The Phase 2 SI report is submitted in Volume 6, Appendix 16.2 of the ES. The results of the geophysical survey were used to avoid direct impacts, where possible, to areas of potential archaeological interest.

4.2.9 A simultaneous programme of geoarchaeological fieldwork and deposit modelling was carried out at the Site during the SI works to clarify the nature of the sub-surface stratigraphy across the site; enhance understanding of the nature, depth, extent of any former land surfaces, alluvial and peat deposits, and to make recommendations for any further geoarchaeological investigations at the site, which would form part of the development impact mitigation process. This is reported in Volume 6, Appendix 7.2.

4.2.10 The results of the deposit modelling indicate that the sediments recorded at the Site are similar to those recorded elsewhere in the Lower Thames Valley, with Late Devensian Shepperton Gravel overlain by a sequence of Holocene alluvial sediments, including peat, and buried beneath modern Made Ground.

- 4.2.11 It is important to note that 'Made Ground' is essentially soil that has been subjected to anthropogenic intervention. It may be fill material (structural or landfill), reworked soils (as commonly found on arable land), or a combination of a variety of materials from past settlement, demolition, reworking and importing, and as such is often representative of the depth of archaeological horizons and potential.
- 4.2.12 Similar to other investigations in this area of Tilbury, up to three distinct horizons of peat are identified, towards the base, middle and top of the sequence. Each sequence has the potential to provide information on past environmental change, sea level change and human activity, through the preservation of biological remains (QUEST 2019).

- 4.2.13 Of particular importance on this Site is a mixture of deposits recorded within BH1, which are indicative of a large former channel dating to the Bronze Age. This is a very unusual sequence for the Site, the Tilbury area and more widely within the Lower Thames Valley, and may be contextual with the various linear and rectilinear features identified during the geophysical survey, suggesting evidence of an early phase of landscape reclamation and management.
- 4.2.14 As a consequence of the findings from the geoarchaeological deposit model and geophysical survey results, the site is considered of potential regional significance in terms of likely archaeological, palaeoenvironmental and geoarchaeological deposits indicated to be present within Zone A.
- 4.2.15 An archaeological evaluation was undertaken at Tilbury Power Station by the Essex County Council (ECC) Field Archaeology Unit (FAU) on behalf of the South-East Electricity Substation Alliance (SEESA), as a condition on planning consent to build a 400kV Gas Insulated Switchgear (GIS) substation (ECC FAU 2008). The work was carried out to investigate any archaeological remains related to the post-medieval Wick House to the south-east and any other deposits related to the exploitation of the marsh, especially Roman salt extraction. Two evaluation trenches were excavated by machine within the footprint of the proposed substation down to the top of the waterlogged alluvial marsh deposits at a depth of 0.7-0.8m. Both trenches revealed a clean orange/brown and grey alluvium, 0.1-0.2m thick, at the top of the marsh deposit, sealed by a brown silt-clay subsoil and modern topsoil. All these horizons were naturally formed and suggest a gradual drying out of the surface of the marsh, although the modern water table is still very high. No archaeological remains were present in either trench, apart from two concrete anchor blocks of modern date at the northern end of Trench 1.
- 4.2.16 Further north, a multi-phase site at Orsett, c.3.7km to the north-northwest of Zone A has been excavated: although predominantly a Neolithic causewayed enclosure, finds recovered include Palaeolithic and Mesolithic material, as well as several phases of occupation throughout the prehistoric period and a funerary use into the early medieval period. Similarly, there is evidence of multi-phase activity at Gun Hill c.1.2km to the northwest of the Site on the higher ground to the west of West Tilbury.
- 4.2.17 The EHER records 53 various event records in the study area surrounding the Site including salvage excavation, watching brief, field visits, and geophysical survey. Where there have been any finds or features these have been given their own HER entry by ECC, and only those which are relevant appear in the gazetteer used to inform the baseline historic context and the Site and its surrounds.

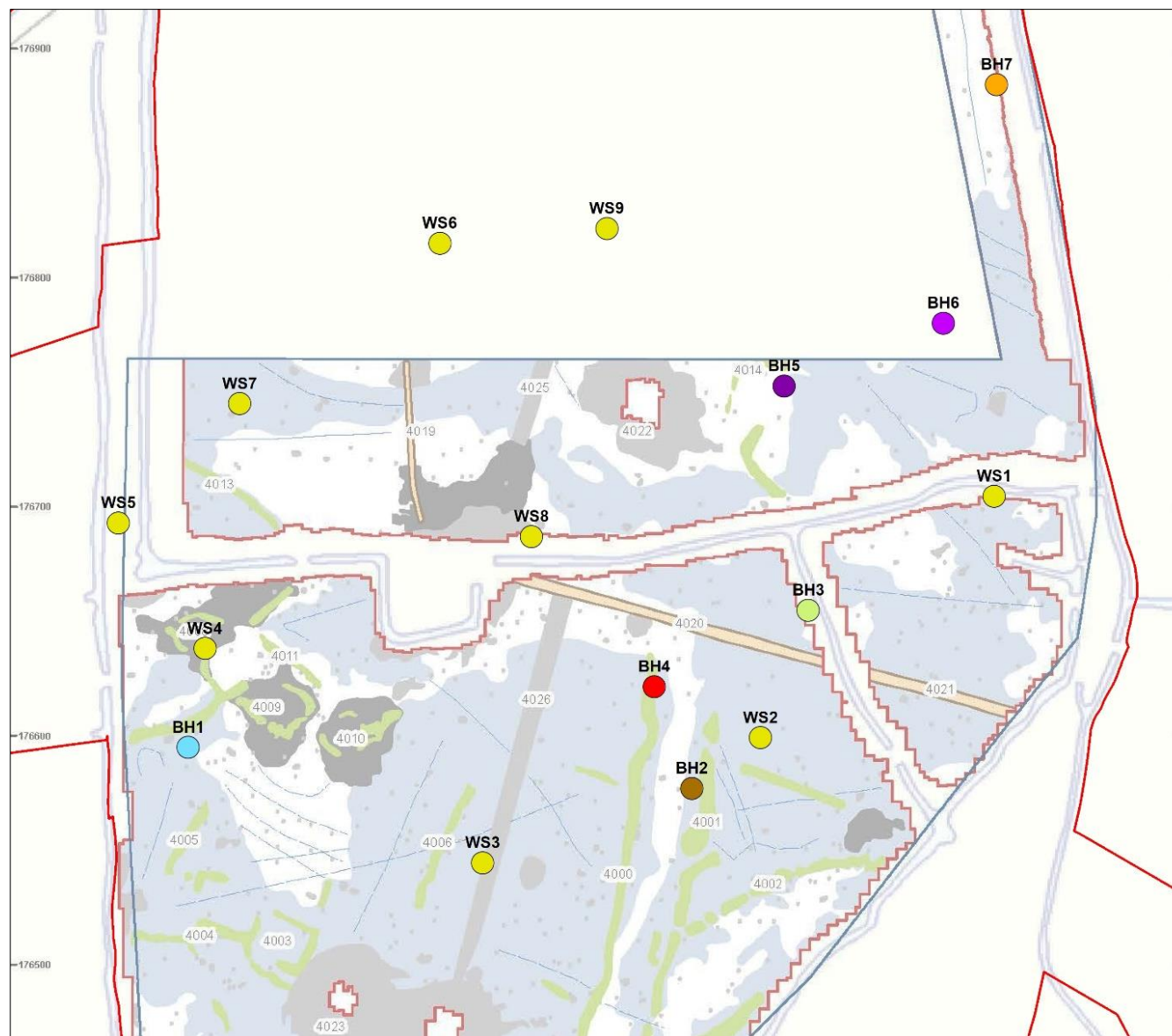


Plate 2: Borehole (BH) and windowless sample (WS) locations in relation to geophysics survey results

4.3 Designated Assets

4.3.1 In terms of relevant designated heritage assets, as defined in Section 2 and as shown on Figure 1.2, no World Heritage Sites, Scheduled Monuments, Historic Battlefields, Registered Parks and Gardens, Protected Military Remains or Historic Wrecks lie within the Site itself.

4.3.2 However, within a wider 3km buffer of the development site as a whole, taken from the centre of Zone A ('the Study Area'), there are a number of Scheduled Monuments and Listed Buildings, as well as Conservation Areas. Between 3km and 5km from the centre of Zone A ('the Wider Study Area') there are additional Scheduled Monuments and Listed Buildings, as well as one Registered Park and Garden.

4.3.3 These are set out in more detail below.

Scheduled Monuments

4.3.4 There are seven Scheduled Monuments within the Study Area, including Tilbury Fort, c.1km to the southwest of Zone A; linked to Coalhouse Fort, c.2.35km to the east, by the Two Forts Way; as well as Bowaters Farm WWII anti-aircraft battery, c.1.3km to the east-northeast of Zone A; East Tilbury Battery, c.2.2km also to the east-northeast; and a set of earthworks near St James' Church at West Tilbury, c.820m to the north of Zone A. On the other side of the River Thames at Gravesend there is New Tavern Fort, c.2.2km to the south-southwest of Zone A and the Gravesend Blockhouse.

4.3.5 There are an additional four Scheduled Monuments located between 3km and 5km of the built part of the application site (Zone A). These comprise the area of deneholes in Hangman's Wood, Little Thurrock c.3.8km to the northwest of Zone A; the Orsett Causeway enclosure and Anglo-Saxon cemetery, c.3.8km to the north-northwest of Zone A; Cliffe Fort, c.4km to the east of Zone A on the opposite side of the Thames from Coalhouse Fort; and Aspdin's kiln, c.4.6km to the southwest of Zone A.

Listed Buildings

4.3.6 There are no Listed Buildings or Locally Listed buildings within the Site: however, within the 5km Wider Study Area there are a total of 206 listed buildings, comprising three at Grade I, 16 at Grade II* and 187 at Grade II. These listed buildings are located on both the Essex and Kent sides of the Lower Thames Estuary: on the Thurrock side there are two Grade I and 5 Grade II* listed buildings within 5km, whilst in Gravesham there is one Grade I and 11 Grade II* listed buildings. Of the Grade II listed buildings, 47 are within Thurrock Unitary Authority (UA) area and 140 in Gravesham District.

4.3.7 Within the 3km Study Area there are 113 listed buildings, comprising two at Grade I (both in Thurrock UA area), 12 at Grade II* (four in Thurrock UA area and eight in Gravesham District) and 99 at Grade II (33 within Thurrock UA area, and 66 within Gravesham District).

4.3.8 There are 71 listed buildings within the 3km Study Area on the north side of the River Thames within the Thurrock UA area, and comprise two Grade I, four Grade II* and 65 Grade II buildings. The majority of these listed buildings are located to the north and northeast of the Site, within the Conservation Areas of West Tilbury (Parts 1 and 2) and East Tilbury, including the Grade II* Church of St James and Grade II* Marshalls Cottages in West Tilbury, c.0.88km and c.1.4km to the north of Zone A respectively.

4.3.9 Those listed buildings outwith the Conservation Areas include the Grade I Church of St Catherine and Grade II Old Rectory close to Coalhouse Fort to the east of the Site; the Grade II* Officers' Barracks at Tilbury Fort and Grade II Worlds End Inn adjacent to Tilbury Fort to the southwest of the main development Site; the Grade II* Riverside Station and floating landing stage at Tilbury Docks; Grade II Gun Hill Farmhouse, Biggin Farmhouse and Sunspan house between c.1km and 1.5km to the north-northwest of the Site; and the Grade I listed Church of St Mary, Grade II listed Chadwell House and Sleepers Farmhouse in the heart of Chadwell St Mary, c.2.3km to the northwest of Zone A.

4.3.10 On the south side of the River Thames, within Gravesend District, there are also a number of listed buildings within the 3km buffer of the Site, which are largely clustered within the historic core of the town, which comprises several, largely interlocking, Conservation Areas. The majority of the 42 listed buildings on the Kent side of the Thames are Grade II listed; although eight are Grade II* listed (the Town Hall; the Town Pier; the Church of St George; Milton Chantry; New Tavern Fort; and Nos. 79 and 80, High Street).

4.3.11 Between the 3km and 5km buffers there are an additional 93 listed buildings, comprising one Grade I listed building (the Parish Church of St Botolph at Gravesham, on the south side of the River Thames in Kent) and four Grade II* listed buildings. The remaining 88 are all Grade II listed.

4.3.12 At the time of writing, neither Thurrock Council nor Gravesham Borough Council had formally adopted lists of non-designated 'Locally Listed Buildings'. Although not formally designated, buildings on a 'local list' are nonetheless a material consideration within the decision-making process.

Conservation Areas

- 4.3.13 Approximately 700m to the north and northeast of Zone A, and bisected from it by the embanked railway line, is the West Tilbury Conservation Area (CA), which is divided into two parts. A Character Appraisal for the West Tilbury Conservation Area was produced by Thurrock Council in March 2007, and the CA was designated in 1991. West Tilbury is situated at the edge of an escarpment immediately overlooking the marshes to the south and the Lower Thames Estuary. Human activity has long been present in the vicinity and evidence has included cropmarks, rectilinear features, trackways and ring ditches dating to the prehistoric period. Roman pottery has also been found in the vicinity and it is thought that a Roman road passed nearby. In the Medieval period West Tilbury was a small settlement very closely related to agriculture. Much evidence of this past has been retained in the present landscape. This includes a complete example of a Medieval 'open field' system in the area of The Great Common Field bounded by Rectory Road, Turnpike Lane, Blue Anchor Lane and Muckingford Road. Much Medieval 'common land' upon which farmers had common rights to graze animals still remains in the vicinity of West Tilbury.
- 4.3.14 Parts of the proposed development (within Zone F) are adjacent to the West Tilbury CA and comprise habitat creation and enhancement measures. Other elements (Zones E and F) are also to the north of the railway line and comprise exchange common land and habitat creation and enhancement measures.
- 4.3.15 Approximately 1.7km to the northeast of Zone A is the East Tilbury (Bata) Conservation Area, which was designated in 1993. A Character Appraisal for the East Tilbury Conservation Area was produced by Thurrock Council in March 2007. The CA consists of the former factory complex of the British Bata Shoe Company and a large housing development of some 352 houses in a 'garden village' setting. This planned settlement was designed by architects of international importance from Zlin in Moravia (now in the Czech Republic) and home of the parent shoe company, which is the only entire constructivist town in the world. The original master plan for the Bata estate at East Tilbury mirrors that of Zlin, although the design of some of the houses did change with time. Although recent housing has been built to the east of the Bata estate, the surrounding land on the north, west and south is flat, open countryside.
- 4.3.16 To the south of the Site within Gravesham District on the opposite side of the Lower Thames Estuary there are a cluster of Conservation Areas within the historic core of Gravesham, comprising Upper Windmill Street; King Street; Harmer Street; Milton Place; Gravesham Riverside; and High Street and Queen Street.

- 4.3.17 In the Gravesend Town Centre Strategy of 1998, High Street Conservation Area and adjacent areas are identified as the 'Heritage Quarter' of the town (Gravesham Borough Council 2009), and are located c.2km to the south-southwest of Zone A. Recent archaeological work has demonstrated continuous settlement from at least the Iron Age and into the Roman period. A Saxon settlement had grown around the Old Dover Road where the Saxon Parish Church of St Mary was built. There was also a small community to the north centred on a landing place (hithe) close to the location of the Town Pier, at the head of what was to become High Street. The oldest surviving building in Gravesend, Milton Chantry, dates from the 14th century and stands a few hundred metres to the east of the Queen Street Conservation Area boundary next to the scheduled fort. Towards the end of the 14th century the town was almost completely destroyed by a combined French and Spanish force that sailed as far as Gravesend before retreating from an attack aimed at London. The resultant destruction led to the first rebuilding of the town. In recompense for the attack, Richard II granted the people of Gravesend sole rights to ferry passengers to London and this gave rise to Gravesend's growth as a maritime centre and trading port. The suitability of Gravesend in this regard was supported by its location as the first settlement after the estuary, the deep anchorage in the area and the relatively short crossing to the north bank at this location.

- 4.3.18 These conservation areas contain many of the listed buildings referred to above.

Registered Parks and Gardens

- 4.3.19 There is one Registered Park and Garden within the Wider Study Area, which comprises the Grade II* registered Gravesend Cemetery, located c.3.7km to the southwest of Zone A. There are no Registered Parks and Gardens within the 3km Study Area, nor within the wider Thurrock UA area.
- 4.3.20 Gravesend Cemetery comprises a cemetery laid out by a joint-stock cemetery company to the designs of Stephen Geary in 1838, who had formerly laid out Highgate Cemetery in 1836-7. The cemetery was built on the site of an early Victorian pleasure gardens previously laid out and opened to the public in 1834. The principal building at the cemetery is the one-storey stuccoed neoclassical building (Grade II listed) which was originally an Assembly Hall but then repurposed as a chapel. The cemetery gates and lodges are also Grade II listed.

Heritage at Risk

- 4.3.21 Three sites within the 5km Wider Study Area are also recorded on Historic England's Heritage at Risk register. These comprise the East Tilbury Conservation Area; and the Scheduled Monuments at Coalhouse Fort and Cliffe Fort.

4.4 Archaeological and historical context

4.4.1 The site lies c.1.25km to the south of the geological and topographical boundary of the East Tilbury Marshes Gravel (Gibbard, 1985).

4.4.2 The British Geological Survey (BGS) show the site underlain by Cretaceous Seaford and Newhaven Chalk Formation bedrock and describes the Alluvium overlying it as 'Clay, Silty, Peaty, Sandy' (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>). In fact, the alluvial deposits of the Lower Thames and its tributaries are almost everywhere underlain by Late Devensian Glacial Gravels (in the Thames valley, the Shepperton Gravel of Gibbard, 1985, 1994), and this gravel is widely recorded in boreholes in the vicinity of the Site. Borehole sequences have confirmed the presence of a thick sequence of intercalated alluvial and peat deposits overlying sands and gravels of the Shepperton Gravel between ca. -11m OD and -17m OD (Quest 2019).

Prehistoric: Palaeolithic

4.4.3 From the beginning of the Holocene, the River Thames underwent a gradual transition from a braided river system to a single meandering channel and the chalk and gravel was progressively buried under deep alluvial deposits as a result of relative sea rise. During the course of the Holocene, further periods of stabilisation of the valley floor and changes in sea level are indicated in the Tilbury area by peat horizons.

4.4.4 The peat deposits have been shown to provide significant palaeoenvironmental information considered to be of a national or international importance providing detail of environmental and landscape change during the prehistoric periods (Quest 2013).

4.4.5 No Palaeolithic archaeological features have thus far been recorded in the Study Area: at present, the EHER contains only records of findspots relating to material of this date, as shown on Figure 4.2. The considered potential for Palaeolithic material to be found within the Study Area is recorded geospatially in the EHER and is shown in Figure 4.3

4.4.6 Chadwell St Mary, c.2.5km to the northwest of the Site is the richest area for Palaeolithic hand-axes in Thurrock, comprising a collection of 115 hand-axes, two roughouts (unfinished axes), and six unretouched flakes (**HA01–HA04; HA06–HA08**). However, most discoveries are only recorded as 'Chadwell', so it is unknown if finds are from the 70ft (21m) or 100ft (30m) aOD level gravels, as both have been quarried.

4.4.13

4.4.7 Types include pointed and ovates, mainly sharp or slightly rolled, and 25 of the hand-axes in Colchester Museum have "a striking similarity to those found in the Swanscombe Middle Gravels" (Wymer 1985) and therefore likely to be Acheulian (Lower Palaeolithic) in date. The Swanscombe site, from which there has been significant early prehistoric material, including human and other fossil remains, as well as material culture ascribed to two different early hominid populations, is located c.6.6km to the west-southwest of Zone A near Ebbsfleet. Evidence from both Swanscombe and at Chadwell St Mary suggests there was an active human presence along the Thames Estuary during the Palaeolithic period, most likely replicated on both sides of the river.

4.4.8 Palaeolithic and later flint artefacts have also been recorded during excavation of the Tilbury Docks and at West Tilbury Marshes: an isolated piece of worked flint of possible Palaeolithic date was found during the early 20th century at Tilbury Dock and an Acheulian hand-axe was found within the built development of Tilbury (**HA09**).

4.4.9 A find of implements apparently of Palaeolithic date was also made at Tilbury, the precise provenance of which is unknown, and thus a generic location is recorded in the EHER (**HA10**).

4.4.10 To the east of the Site, a Lower Palaeolithic Acheulian hand-axe was found in 1969 in a ploughed field north of the Church in East Tilbury at 'Marsh Level' (on the 10m contour) and presumably derives from the gravels there (**HA05**), and suggests that there may indeed be some Palaeolithic potential within the Tilbury marshes landscape, and in the area around Goshem's Farm (Zone D).

4.4.11 Approximately 1.2km to the northwest of Zone A there is a multi-period site at Gun Hill, which lies adjacent to the western edge of the West Tilbury Conservation Area. A cropmark complex at Gun Hill was discovered in the late 1950s and a series of aerial photographs (Aps) were taken between 1959-1968, which suggested the presence of enclosures, trackways, and pit-like cropmarks. Much of the area was quarried without archaeological observation and some cropmark features were quarried away in 1967-1968. The major features were excavated in 1969-1970 before their destruction.

4.4.12 Gravel has been dug at Gun Hill commercially since at least 1965. A slightly rolled primary flake was found in 1969 at TQ 656778, and a stone-struck pointed hand-axe was found in the same year at TQ 655779. Earliest finds from Gun Hill comprise four Acheulian hand-axes and possible Palaeolithic flint flakes, derived from the Thames gravel (**HA11**). Some are abraded and so are not in primary secure contexts. A fine flint hand-axe has also been found at Gun Hill, which is of Middle Palaeolithic date.

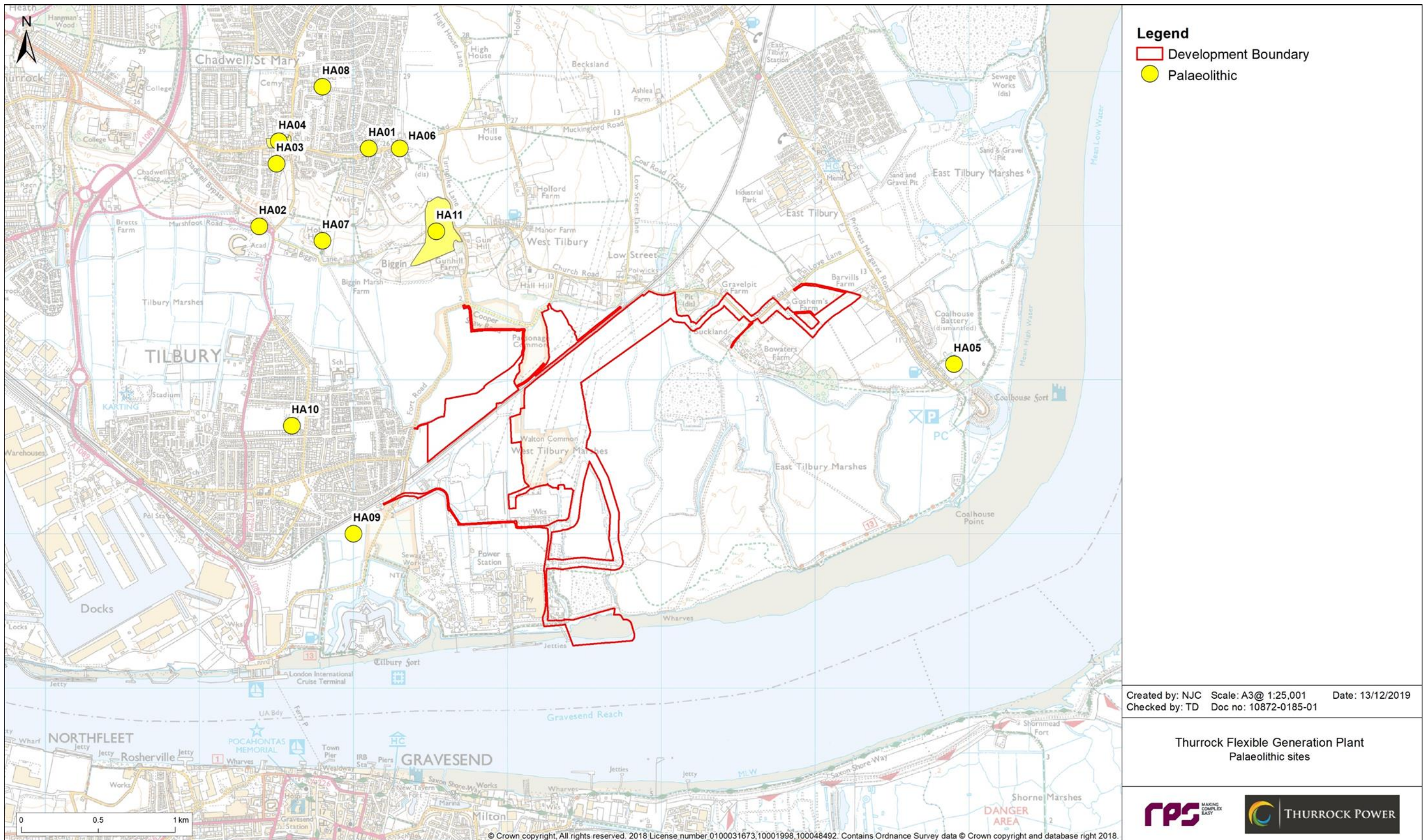


Figure 4.2: Palaeolithic sites

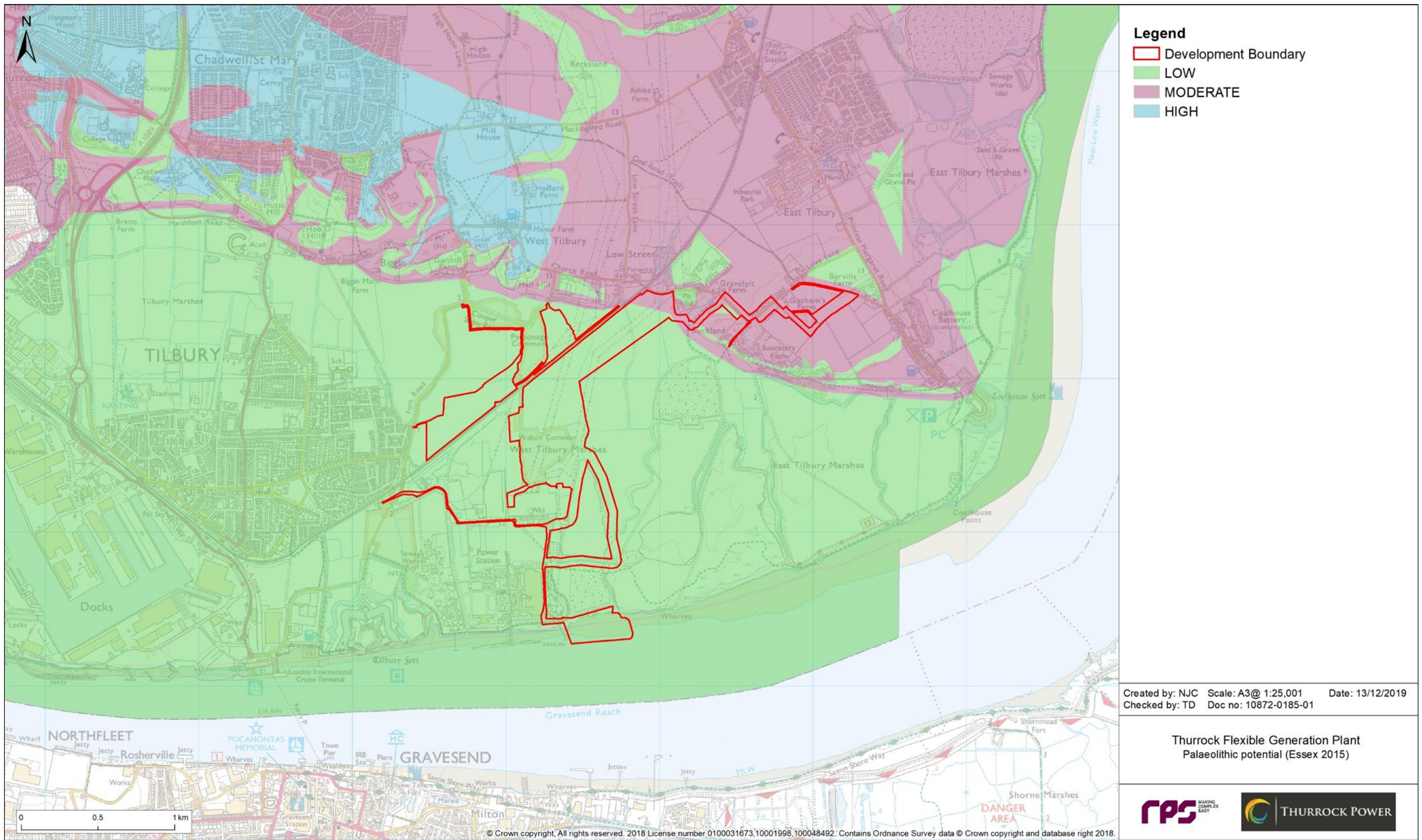


Figure 4.3: Palaeolithic potential, as recorded by the EHER (2015)

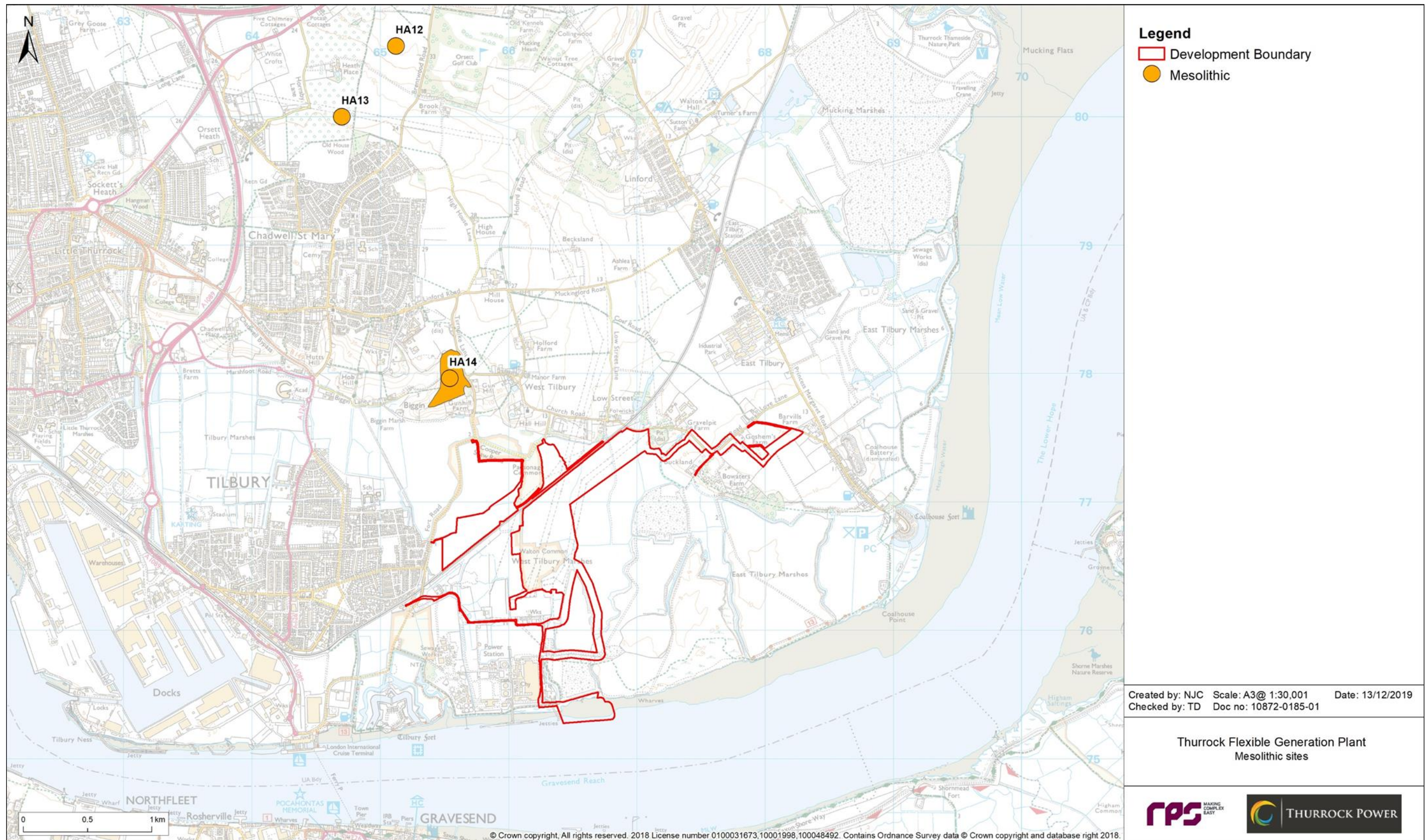


Figure 4.4: Mesolithic sites

Prehistoric: Mesolithic

- 4.4.14 In some areas where deep gravel deposits have been recorded, peat accumulation dating to the Mesolithic period has been identified underlying the alluvial sedimentation.
- 4.4.15 Mesolithic sites as recorded in the EHER are illustrated in Figure 4.4.
- 4.4.16 A Mesolithic flint tranchet axe was found at Orsett causewayed enclosure (**HA12**) and a short flint blade southwest of Heath Place Farm (**HA13**) to the north of the Site.
- 4.4.17 Some possible Mesolithic flint blades have also been recorded at Gun Hill (**HA14**).
- 4.4.18 Furthermore, a partial skeleton was found in 1883 within peat at c.10m below ground level (bgl) at the Tilbury Docks site (Spurrell, 1889), c.3km to the west-southwest of Zone A. More recent analysis (Schulting, 2013) has revealed the skeleton to be of Late Mesolithic date (8015–7860 cal BP); the Late Mesolithic is a period for which human skeletal finds are very rare in Britain, and such a find highlights the presence of human habitation, and the potential utilisation of the floodplain not far from the Site, during this period.

Prehistoric: Neolithic and Neolithic/Bronze Age sites

- 4.4.19 Although evidence of prehistoric archaeology is limited in the Lower Thames Valley, the palaeoenvironmental record indicates woodland clearance, cultivation and animal husbandry was taking place which suggests the presence of prehistoric farming settlements close-by. Palaeoenvironmental investigations at the nearby London Distribution Park also indicate episodes of burning and changes in vegetation during the prehistoric period which may be associated with human activity (Batchelor *et al*, in prep).
- 4.4.20 An ancient ridgeway route running between Chelmsford and Horndon-on-the Hill in Essex, and Higham in Kent, is presumed to have crossed the Thames at East Tilbury, to the east of the Proposed Development (Smith 2008: 5), at a point where the Thames narrows, and is likely to have been a well-known routeway which had been in use throughout the prehistoric period, as nomadic hunter-gatherers gradually began to settle more permanently in the landscape during the later prehistoric period.
- 4.4.21 A number of features and finds dating to the Neolithic have been recorded in the Study Area (see Figure 4.5). One of the most significant Neolithic sites in the Study Area is the Orsett Causewayed Enclosure (**HA15**), which is a scheduled monument located c.3.8km to the north-northwest of Zone A. The site survives only as a cropmark and was discovered during aerial reconnaissance in the early 1970s. The site lies at the southern edge of a remnant of the 30m Thames Terrace.

- 4.4.22 It was excavated in 1975 to assess its nature and state of preservation. The two outer ditches and the palisade were excavated where there seemed likely to have been an entrance. The palisade trench is the earliest known from lowland England. Palisaded trenches are a feature of similar continental sites, whereas triple ditched arrangements are an English development. Orsett therefore combines 'continental' and 'native' developments. The functional interpretation of the enclosure itself remains open. Flints from the lower causewayed ditch levels were grouped as a middle Neolithic assemblage, as pottery found here was almost entirely Mildenhall ware. The flints included a polished axe, scrapers, cores, serrated blades, notched flakes, a 'blunted back knife' and bifacial tools. The finds also included a flaked axe, a transverse arrowhead, a barbed and tanged arrowhead, a burin, scrapers and, bifacial tools. Of the pottery, at least 750 sherds are earlier prehistoric in date, mostly of the Mildenhall style. Also found were Grooved Ware sherds and Beaker or earlier Bronze Age assemblages (a decorated cup, without parallels, may belong to this period). Stone finds included a 'rubber' and saddle quern fragments. Other artefacts were collected from the ploughed surface of the field (**HA22**).
- 4.4.23 Also at Orsett, in an area south of Heath Place on the northern outskirts of Chadwell St Mary, there is an area of cropmarks comprising a cello-shaped enclosure orientated north west-south east, with trackways leading out at both the short ends, on approximately the same alignment (**HA20**). The enclosure is unparalleled by any known enclosure form in Essex, and in view of the flint assemblage (**HA21**) may well be Neolithic. A polished flint axehead was also found at Chadwell (**HA17**) and an early Neolithic feature to the east of Sabina Road (**HA26**).
- 4.4.24 Within the cropmark complex at Gun Hill worked flint tools were recorded in residual contexts. Neolithic/Bronze age activity was indicated by finds of an unfinished leaf-shaped arrowhead, two scrapers, and a possible knife (**HA25**).
- 4.4.25 A possible Neolithic burial was apparently found at East Tilbury in 1982 according to the EHER (**HA16**). A Neolithic flint arrowhead is also recorded in the EHER as being from Tilbury (**HA23**) but with only a six-figure grid reference it is unclear exactly where this was found, and it may not be from the area shown on Figure 4.5, c.500m to the northeast of Zone A. However, the Neolithic flint axe recorded in the EHER as having been found at West Tilbury Marsh (**HA27**) is also likely to be erroneously plotted and may have been found within Zone A or its immediate environs. Other Neolithic/Bronze Age findspots are also recorded at East Tilbury (**HA29** and **HA30**).
- 4.4.26 Other findspots include an early Neolithic, small chipped flint axe or chisel, which was dredged from the Thames off Tilbury and is now in Colchester Museum (**HA24**), as well as a polished flint axe from the Thames at West Tilbury Marsh. An axe head and a mace head are also recorded from Mucking Creek Valley (**HA 18** and **HA19**).

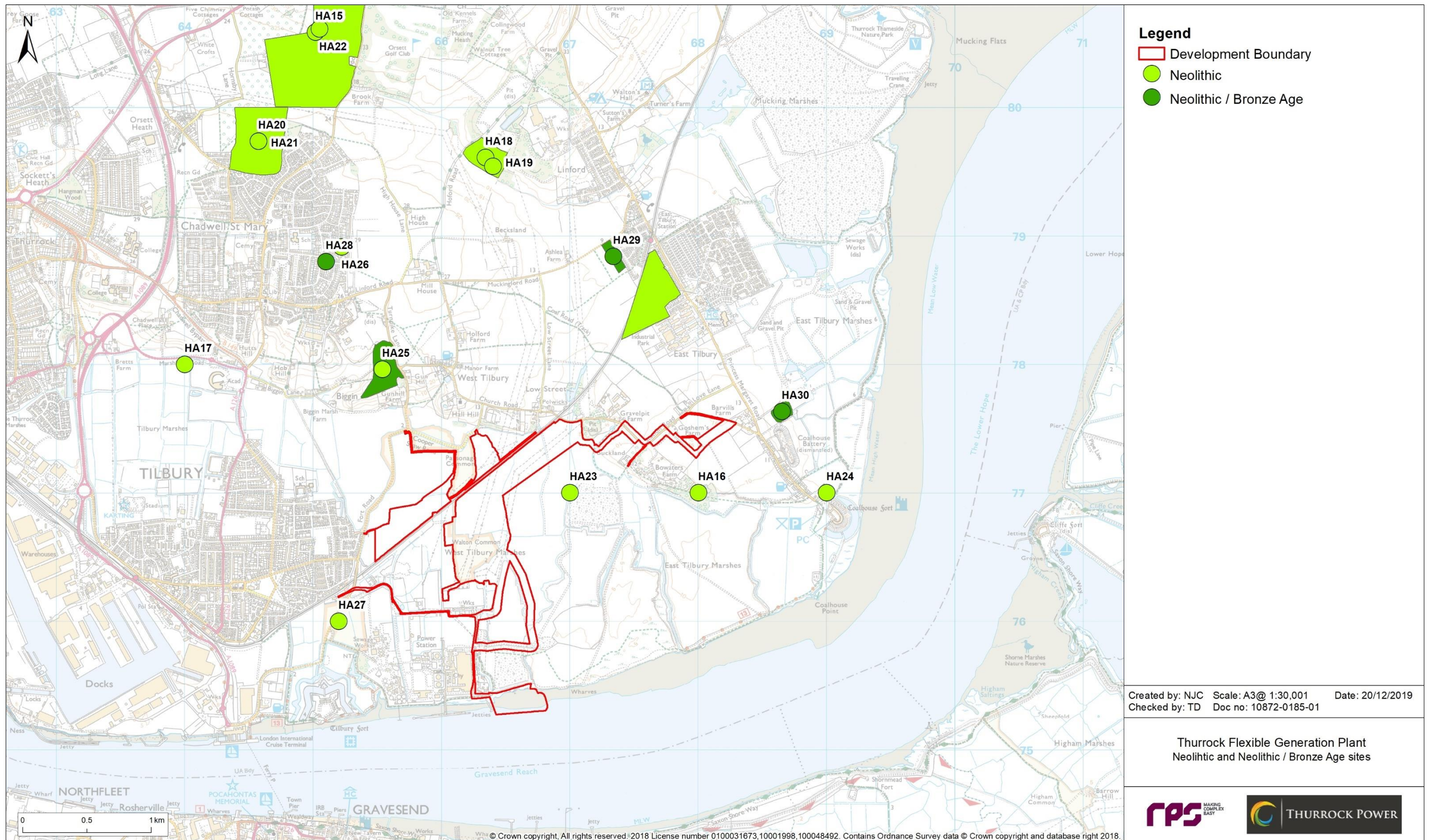


Figure 4.5: Sites of Neolithic and Neolithic/Bronze Age date

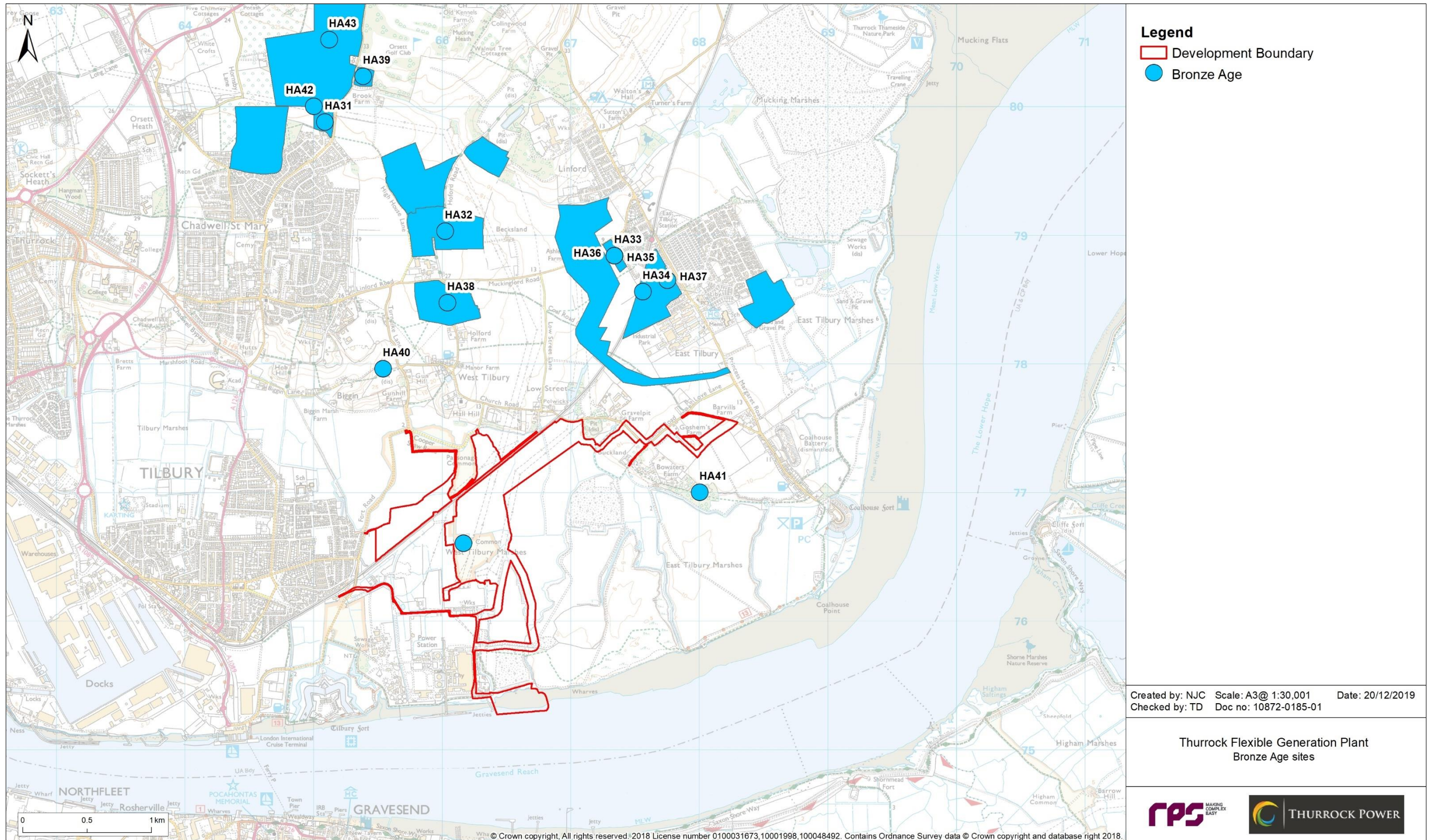


Figure 4.6: Sites of Bronze Age date

Prehistoric: Bronze Age

- 4.4.27 The area surrounding East Tilbury and Lindford is recorded in the EHER as a prehistoric ritual landscape, and there are various areas of cropmarks and known sites and finds from the Bronze Age recorded throughout the Study Area, as shown on Figure 4.6. This evidence is indicative of populations becoming permanently settled and fully adopting agricultural practices in the area, which would have also included the exploitation and management of the saltmarshes. These features include prehistoric field systems, trackways and enclosures, as well as funerary sites.
- 4.4.28 The East Tilbury and Lindford Area of prehistoric ritual landscape (**HA59**) also evidences Roman field boundaries. Archaeological evaluation by trenching and excavation revealed occupation from the Neolithic, as well as late Bronze Age ditches belonging to superimposed field systems and limited Roman features. (CgMs 2008). The earliest features were of a Late Neolithic/Early Bronze Age double enclosure consisting of an annular ditch with a sub-rectangular ditch extending to the west with an entrance on the south. A single cremation was located in the centre of the sub-rectangular enclosure. A mini-barrow (3.5m diameter) of Middle Bronze Age date and two further truncated barrows were identified with no dating. Features comprising possible droveways led to the barrows, whilst across the north-western side of the site was a Middle Bronze Age coaxial field system, aligned northeast to southwest. Two sides of a Bronze Age enclosure were identified with a compacted working area and 30 post holes, and is suggestive of a substantial Bronze Age settlement, which also exploited the estuarine marshland in the Site during this period.
- 4.4.29 At Gun Hill, c.1.2km to the north-northwest of Zone A, the earliest excavated feature was thought to be a late Bronze Age field boundary ditch (**HA40**). A scatter of pottery was found at one point and several post-hole structures must be of this period. Some post holes were cut by early-middle Iron Age ditches. Isolated post holes contained late Bronze Age pottery. Other Bronze Age features would have likely been removed by later ploughing if they were shallow. The evidence suggests a field system may have been created by the late Bronze Age which continued in use into the Iron Age.
- 4.4.30 Approximately 1km to the north-northeast of Gun Hill, at Mill House Farm, West Tilbury, a variety of cropmarks were identified comprising ring ditches, curvilinear features, a trackway, enclosures, and pits (**HA32**). Archaeological excavation at the site dated these to the Bronze Age and suggests an established settlement site on the higher ground above the floodplain, c.2km due north of the Site. A Bronze Age ditch was identified within Zone A during the SI works in BH1 in October 2019. A double-ditched ring ditch was also seen on aerial photographs at Holford Farm (**HA38**), which lies between the Site and the settlement, and is most likely the remnants of a Bronze Age funerary barrow.
- 4.4.31 It is likely that the people who were actively using and managing the land within Zone A and the West Tilbury Marshes were living at this location in West Tilbury, and another encampment may well have existed at East Tilbury (**HA37**) where a late Bronze Age settlement surrounded by a substantial enclosure ditch has been identified. This is also associated with other Bronze Age field systems (**HA34**), ring ditches and a trackway (**HA35**), as well as a cremation cemetery at Lindford (**HA36**). Also, at Muckingford Lane, East Tilbury, c.2km to the northeast of Zone A, a late Bronze Age round barrow was excavated after the monument was indicated as a cropmark showing a double ring ditch. When trenches were excavated across the ditches a central cist was discovered, which contained an inverted urn burial, containing the calcined bones of an adult and child (**HA33**). The barrow itself was levelled and disturbed during the Iron Age. It was one of a larger complex of ring ditch barrows located next to a curving, double-ditched trackway, and most likely formed part of a larger barrow cemetery along with the Linford cremation cemetery.
- 4.4.32 Various other cropmark evidence for ring ditches are also recorded in the EHER to the north of Chadwell St Mary (**HA31** and **HA39**) and there was also Bronze Age torcs and pins (**HA42**) found locally, although the precise location of their discovery is unknown. A perforated whetstone probably of Bronze Age date is also recorded in the HER as being found at East Tilbury (**HA41**), with an equally vague grid reference.
- 4.4.33 Originally thought to be a Neolithic henge (it eventually proved to be a Late Bronze Age ringwork), the nationally significant site at Mucking, c.4km to the north-northeast of Zone A, contains remains dating from the Neolithic to the Middle Ages—a period of some 3,000 years—and the Bronze Age and Anglo-Saxon features are particularly notable.
- 4.4.34 The story of the site at Mucking begins with a succession of Early Neolithic, Grooved Ware and Beaker-attributed occupations. Eight earlier Bronze Age barrows were found, plus a Middle Bronze Age field system with an accompanying settlement. It was, though, with the establishment of its two ringworks during the Late Bronze Age that the fortified site, whose economy was fuelled by metalworking and salt production, begins to look different from other parts of the landscape, not least because of the continuous high density of occupation that stretches from the beginning of the first millennium BC through to the early Anglo-Saxon period.

4.4.35 It is likely that the marshland area surrounding the proposed development Site, from the foreshore at East Tilbury Marshes and Coalhouse Fort in the east, across and round to Tilbury, with its extensive saltmarsh and tidal floodplain, was actively managed for grazing and subsistence, and that the first industry in the area, that of salt production, would have been actively taking place as the landscape was reclaimed and managed and its resources exploited for both salt and animal grazing. The Bronze Age channel recorded in BH1 within Zone A also attests to this.

Prehistoric: Iron Age

4.4.36 Settlement and funerary/ritual evidence within the Study Area continues from the Neolithic and Bronze Age into the Iron Age, with several sites seeing continued and expanded activity (see Figure 4.7). However, there are as yet no recorded Iron Age sites or finds within the Development Site, although adjacent to Zone D, at East Tilbury Place, part of a sub-rectangular enclosure was recorded, some of which had already been destroyed by gravel extraction. The enclosure ditch was c.1.5m wide and approximately 0.75m deep: pits outside the enclosure were excavated and contained 'soft red undecorated pottery', charcoal and animal bones (**HA44**) dating to the Iron Age period.

4.4.37 The evidence from the multi-phase site at Gun Hill at West Tilbury suggests that the first major period of settlement was in the Early to Middle Iron Age (**HA49**), although earlier activity is recorded through ephemeral finds of Palaeolithic, Mesolithic, Neolithic and Bronze Age date. The major features were two successive east-west ditch systems and a north-south ditch that survived as a land boundary in succeeding periods. The Early Iron Age pottery distribution suggested that occupation was confined to the west part of the hill. Two fragmentary hut gullies could represent domestic enclosures, and some of the pits without finds could belong to this period. In the later part of this period new pottery types appear, especially foot ring bowls and there is clear evidence for structures in the form of successive semi-circular slots between the ditches, which were probably for upright timbers. The enclosed areas contained pits, some recut, and other contemporary or slightly later features included additional pits and a gully. One pit had been used to store raw clay, another had been a hearth pit. Another pit group was isolated on the summit of the hill. One pit had contained three juxtaposed timbers, a few pot sherds and bovine teeth were found and seems to have been a freestanding structure. Slightly later in this period were three pits that contained estuarine clay. There was also one, possibly two, two-post structures. Finds included triangular clay loom weights and briquetage, the latter of which is likely to be 4th to 3rd century BC in date.

4.4.38 The earliest salt production in Britain using the industrial ceramic known as briquetage is now firmly dated to the Middle Bronze Age and its use extends to the early Roman period. When found at Gun Hill, the briquetage at Gun Hill was the earliest record of such material in Essex. It is possible that pottery was made on the site in the latter part of this period: much waste pottery was dumped in one end of a ditch, also with briquetage. The semi-circular structures could have been stock pens but were more likely to have been domestic or industrial in character, and to have been semi-circular or D-shaped buildings, and this workshop interpretation seems more likely

4.4.39 The Middle Iron Age post-settings invited ritual interpretation, though it was not certain if they were contemporary with the adjacent domestic occupation. Early Iron age pottery was also recorded from the south side of Gun Hill gravel pit, West Tilbury (**HA50**).

4.4.40 High House Lane, Chadwell St Mary (**HA46**) is on the line of a middle Iron Age trackway running northwards from Gun Hill, which may have originally been an ancient trackway leading from the estuary to the Neolithic causewayed enclosure at Orsett. At the Orsett site, no Bronze Age activity was identified but early Iron Age occupation of the southern central area of the causewayed enclosure was found (**HA48**). The upper level of the inner ditch contained early Iron Age domestic rubbish. Most of the finds came from a scatter of pits, but only three of these seemed to have been typical storage pits: many of the pits were no more than scoops or hollows. Many of the 140 or so post holes in this area were thought to be early Iron Age, although no coherent patterns could be identified. Two roughly circular areas were devoid of post holes and could reflect hut floors, but the encircling post holes were not convincing as huts. Linear post holes were detected, and cattle, sheep and horse bones were found, in small amounts.

4.4.41 The Neolithic causewayed enclosure ditches at Orsett had probably survived into the Iron Age as shallow depressions, and they were filled by renewed occupation. The lack of tree root holes suggested the area had been given over to pasture in the Bronze Age. One pit contained a small amount of carbonized seeds, and saddle and rotary quern fragments were further evidence for grain cultivation. Finds included spindle whorls, whetstones, triangular loom weights, a number of iron rings, an iron round-headed pin, and cylindrical clay objects. Pieces of daub and baked clay with wattle impressions indicated structures. The evidence indicates unenclosed settlement during the 6th-5th centuries BC, and probably suggests continuous occupation. The end of the Middle Iron Age occupation at Orsett can be compared to Gun Hill, where changes at this period are economic with a move to pastoralism.

4.4.42 Within 500m of the causewayed enclosure to the west-southwest, large quantities of very high status Celtic material, including very well preserved gold staters and jewellery, has been found by metal detectorists in a potato field (**HA53**) at Heath Place, and may be related to the Iron Age settlement.

- 4.4.43 Various sites and finds of Iron Age material have also been recorded in the environs of East Tilbury. At Muckingford Lane (**HA45**) a Bronze Age barrow showed evidence of having been disturbed and levelled during the Iron Age, with pottery, burnt clay and wood found within the ditch infill. To the northwest, at Rainbow Wood, an area of Iron Age pits and postholes are also recorded (**HA47**)

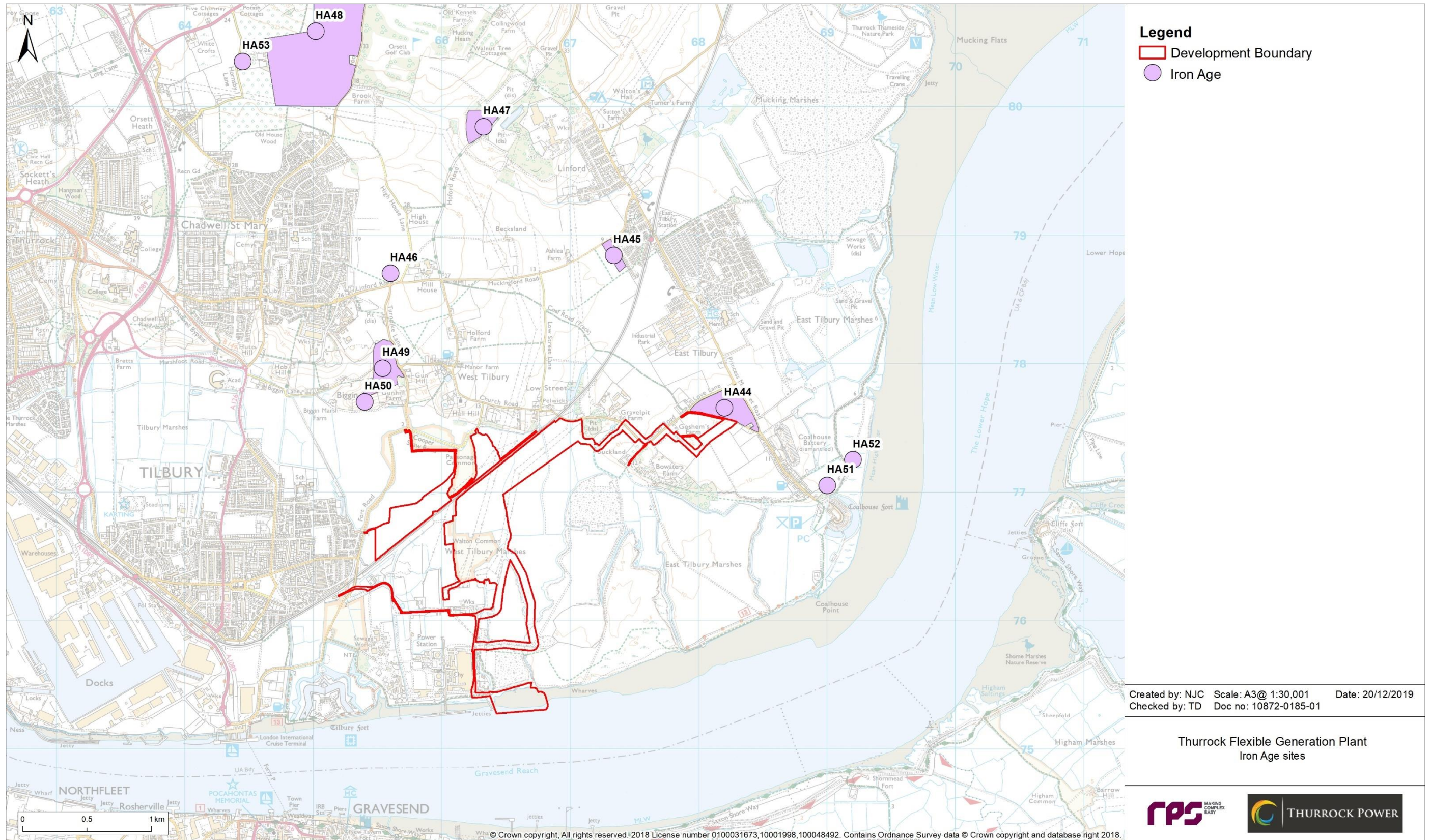


Figure 4.7: Iron Age sites

- 4.4.44 In the area of Coalhouse Fort, a gravel quarry was excavated for the 1903 remodelling of the fort on its north side. In the 1970s during construction of the North Sea gas pipeline, within the same quarry, deep stratification was revealed with large quantities of Late Iron Age and Roman pottery; a coin; an early amphora fragment, apparently a Late Iron Age import, and briquetage fragments relating to salt manufacture. The remains extended into the field to the east of the quarry (**HA51**). Approximately 200m to the northeast of Coalhouse Fort on the foreshore, the EHER also records finds of Iron Age pottery (**HA52**).
- 4.4.45 The significance of the briquetage material from Gun Hill and at East Tilbury is that it is clear evidence of salt production in these areas during the Iron Age: the distinctive orange/red, coarse, fired-clay material was used to make evaporation vessels and supporting pillars (pedestals) used in extracting salt from brine or seawater (Harding 2013). Thick-walled saltpans were filled with saltwater and heated from below until the water had boiled away and salt was left behind. Often, the bulk of the water would be allowed to evaporate in salterns before the concentrated brine was transferred to a smaller briquetage vessel for final reduction. Once only salt was left, the briquetage vessels would have to be broken to remove the valuable commodity for trade, and in Essex the mounds of discarded briquetage material left over from salt production are known as 'red hills', which are particularly prolific during the Romano-British period. It is likely from the Bronze Age evidence within the study area that the process of salt production most likely began at Tilbury Marshes during the Bronze Age, but this industrial process was certainly an established part of Iron Age life in the area, with domestic settlement focused on the higher ground, but with the low level marshlands being managed for salt production.
- Prehistoric: other sites**
- 4.4.46 There is considerable evidence from cropmarks shown on aerial photographs to suggest extensive activity in the Study Area throughout the prehistoric period, with multi-period sites suggesting almost continuous occupation from early prehistory, although the main focus of settlement seems to have been the higher ground nearby at Mucking (Smith 2008: 5), and also at Gun Hill/West Tilbury, Linford, East Tilbury and Orsett/Chadwell St Mary (see Figure 4.8). Many of these cropmark sites have not been archaeologically evaluated/excavated, and therefore a precise date cannot be assigned to them, although their indicative shapes and forms strongly suggest a later prehistoric date and are most likely multi-phase sites given their surrounding context.
- 4.4.47 An area surrounding East Tilbury and Linford is recorded in the EHER as a prehistoric ritual landscape (**HA59**). At Coal Road, to the east of Low Street Lane, a rectangular cropmark is also recorded (**HA67**), with a ring ditch and ditch.
- 4.4.48 There are a series of cropmark features to the west of Gun Hill (**HA58**), and also to the east of Turnpike Lane (**HA55**). The cropmarks are part of a large complex, some of which, to the west of Turnpike Lane, have been destroyed through quarrying (with some rescue excavation). Features east of Turnpike Lane included two parallel ditches, which are shown on old maps as a boundary and may indicate a road of Roman origin. The ditches stretch from Rectory Lane in the south, to Muckingford Road in the north. The early date is shown by the appearance on a map of 1584 of the boundary, virtually as it was shown on the OS map of 1897. In the angle formed by the junction of Muckingford Road and Turnpike Lane is the cropmark of a polygonal enclosure with possible entrances to the east and southeast. Those to the west of Gun Hill include linear and rectilinear features, a possible trackway, and ring ditches. All suggest a later prehistoric date, and could be Bronze Age and/or Iron Age.
- 4.4.49 A complex of cropmarks is also recorded at Mill House Farm, north of Muckingford Road (**HA54**), comprising rectilinear enclosures and ditch alignments. Also recorded are linear features, ring ditches, penannular ditches and pits. Other cropmarks include a ring ditch cut by Linford Road, with others of rectangular and circular enclosures, and parallel ditches. The EHER suggests that a possible Roman road and north-south trackway pass over these cropmarks, and that from its plan "a prehistoric date seems most likely". Further south, a pair of curving ditches run northwest-southeast on the opposite side of the road from Turnpike Cottages. The property boundary of the latter apparently continues the line of the northern ditch, although the boundary and cottages are modern. The early ditch line survives as an indentation in the highway boundary shown on the 1848 tithe map.
- 4.4.50 In the northeast angle between Turnpike Lane and Rectory Lane, a scatter of pit-like cropmarks may represent a settlement composed of sunken featured buildings (possible 'grübenhause'), which may be of Anglo-Saxon date. These various features also suggest a Bronze Age and/or Iron Age date for this cropmark evidence, and are most likely linked to those at Gun Hill/West Tilbury/Low Street to the south and east, and at East Tilbury and Linford to the east, suggesting that the prehistoric ritual landscape extends across this whole area, following the natural topography and located in an area rich in natural resources, which would have been attractive to prehistoric settlers.
- 4.4.51 To the north of Chadwell St Mary, south of Heath Place, cropmarks appearing on RAF vertical photography from 1946 show a subdivided rectangular enclosure (c.55m x30m), whilst to the east there is an annexe enclosure with a terminal defined entrance to the east (**HA56**). In addition, there are further linear features and pits and a ring-ditch. The site is overlain by the residential development at Godman Road.

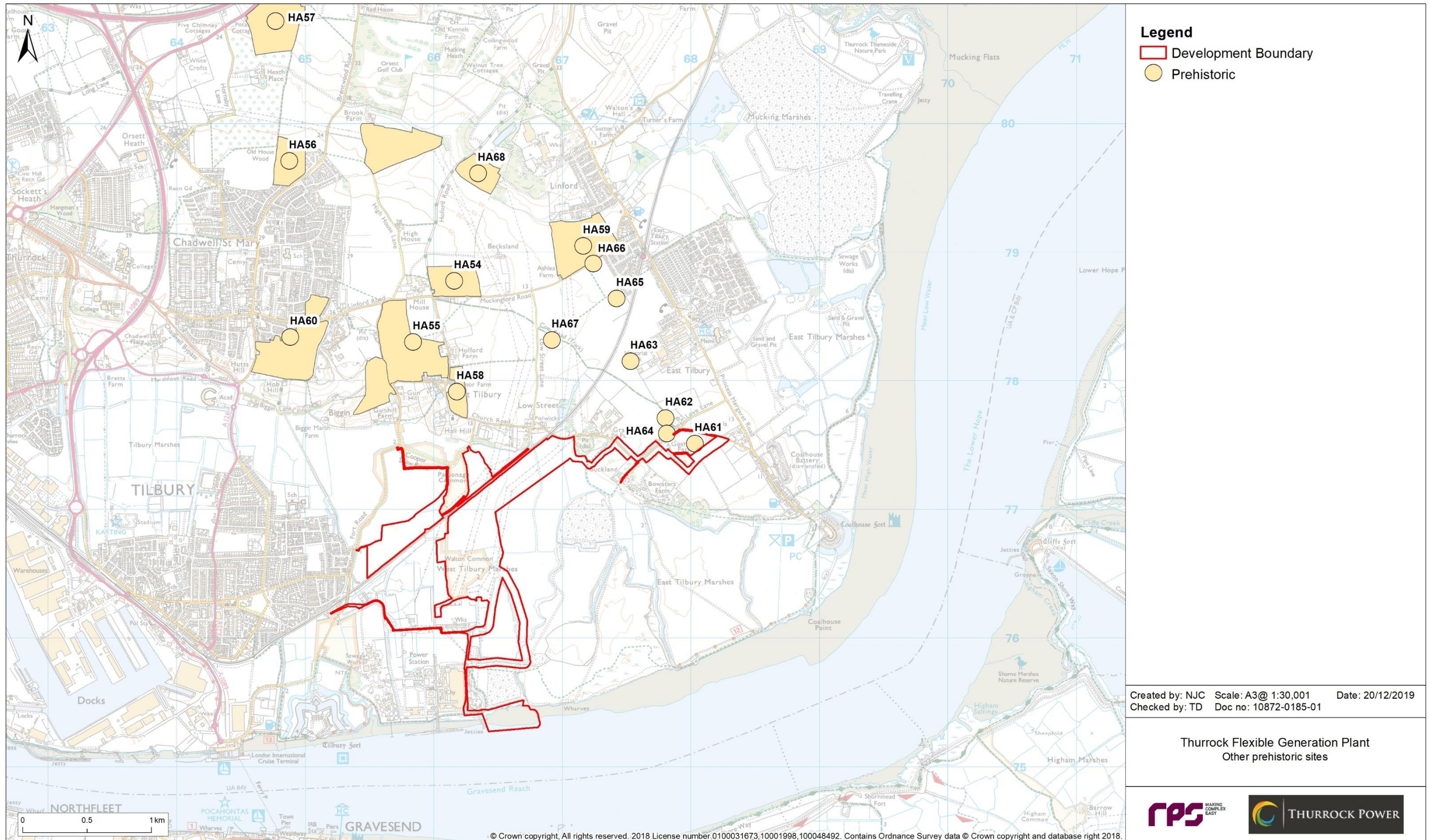


Figure 4.8: Prehistoric sites (general)

- 4.4.52 To the north of Heath Place cropmarks noted on RCHM air photographs comprise linear features, rectilinear features, a ring ditch, and double ditched trackways (**HA57**). This also suggests a later prehistoric date and may be evidence of a Bronze Age settlement deliberately sited adjacent to the Neolithic causewayed enclosure at Orsett: there is no evidence of Bronze Age activity within the causewayed enclosure, which is most likely because its ritual and/or symbolic significance continued into the Bronze Age. There is evidence from Orsett which suggests that the monument was ‘managed’, in that it didn’t become overgrown with trees, and may even have been tended by the Bronze Age community living alongside it. It appears that the monument didn’t go out of use until the Iron Age when settlement evidence of early Iron Age date has been recorded.
- 4.4.53 Along the route of the Horndon to Tilbury (Coalhouse Fort) Gas Pipeline, a number of prehistoric findspots are recorded (**HA61–HA66**) comprising various worked flint artefacts, with a double ditched trackway, pits and a rectilinear enclosure shown as cropmarks at Linford (**HA59**). To the northwest of Linford at Mucking Creek Valley, a sub-rectangular enclosure is recorded, measuring c.353m x 316m, with has one entrance in the southern side and two in the western side. A trackway cuts through the western side of the enclosure and joins internal linear features.

Roman / Romano-British

- 4.4.54 Recorded sites of Roman date are widespread across the Study Area, and some material is recorded within the Site itself (see Figure 4.9).
- 4.4.55 The wider area would have been heavily Romanised and it is likely that extraction of gravel, chalk and clay, continued during the Roman period, and that the Roman settlers significantly expanded the industry of salt production which had begun much earlier in the later prehistoric period.
- 4.4.56 The EHER records one or more ‘red hills’ – remains of salt-making activity of prehistoric and/ or Roman date - at East Tilbury (**HA74**; **HA75**; **HA76**). Geophysical survey revealed the locations of two possible salterns on the margins of Mucking Marsh, although the interpretation is tentative (**HA73**). Approximately 550m to the east of Zone A, and c.300m east of Zone G, an area of Roman salterns is also recorded in the EHER, c.250m southwest of the Roman ‘red hill’ at Bowaters Farm (**HA74**). To the south of Zone A an extensive area of Roman settlement is recorded in the area immediately adjacent to the proposed causeway and jetty (**HA71**).

- 4.4.57 Below the present high tide level, the area measuring c.1.1km long and c.0.3km wide (as recorded in the EHER) comprises the remains of an extensive settlement, associated with much 1st and 2nd century pottery. The settlement comprised a number of hut circles, a trackway and an oven, with large quantities of pottery sherds including Samian ware. The site may represent a landing-place for traffic from Kent or elsewhere, as the amount of pottery seems excessive for the ordinary requirements of a small hut-settlement (RCHM 1923). Further east, a salt extraction site was identified based on evidence of waste briquetage and Roman pottery and “immediately east of the huts is a shallow channel, running N.E. and S.W., with some traces of flanking stakes. This may represent a former trackway leading from the old river-edge” (ibid.).
- 4.4.58 Also within the environs of Zone G, large quantities of Roman pottery were found on the banks of the Thames in 1912, including 1st century Samian, Salopian and Durobrivian wares, including 49 stamps (listed in Victoria County History, 1903) (**HA87**). Most of them belonged to the second half of the 1st century. In number this exceeds many important forts: “The evidence suggests a population of some density, able to buy Samian ware but otherwise falling into line with a grouping of native huts, like those at East Tilbury” (ibid.). A Romano-British rim sherd was also recorded here (**HA101**) as well as other spreads of pottery (**HA85**). These spreads of pottery are most likely associated with the adjacent settlement site and have been washed out of the receding riverbank due to tidal erosion. Several sherds of pottery were collected from the foreshore in the area of the proposed causeway and jetty during the walkover survey in November 2019 (see Plate 3).
- 4.4.59 Roman tiles, flint blocks, potsherds, bones and oyster-shells were found in the excavations for the Central Dock at Tilbury in 1883: “They were scattered over an area of 40 yards or more, lying on a mossy, grass-grown surface 7 ft. below the modern surface” (*Arch. Journ.*, XLII, p. 276). As noted by the RCHM (1923), “Incineration burials have been found near the ancient ferry at West Tilbury and opposite Low Street Manor Way in Mucking Marsh” (*ib.*, p. 276–7; XXIX, p. 187). The latter was recovered from a gravel pit near the Railway at Low Street, where Roman urns from burials were found in gravel-digging during the building of the railway (**HA83**). The EHER also records “Roman burials with iron and bronze bracelets found in 1910 at West Tilbury (**HA82**), and the fragment of a Roman lamp with a lion relief (**HA94**), both of which are recorded within Zone F. However, the precise location of these is not known and the material is unlikely to be from the location recorded, although at Condover’s Pit, 0.7km to the northeast, 2nd century Roman pottery was found within the banks of an old gravel pit (**HA100**), and so the possibility of finding Roman material within Zones E and F, and elsewhere in the Site, cannot be ruled out.

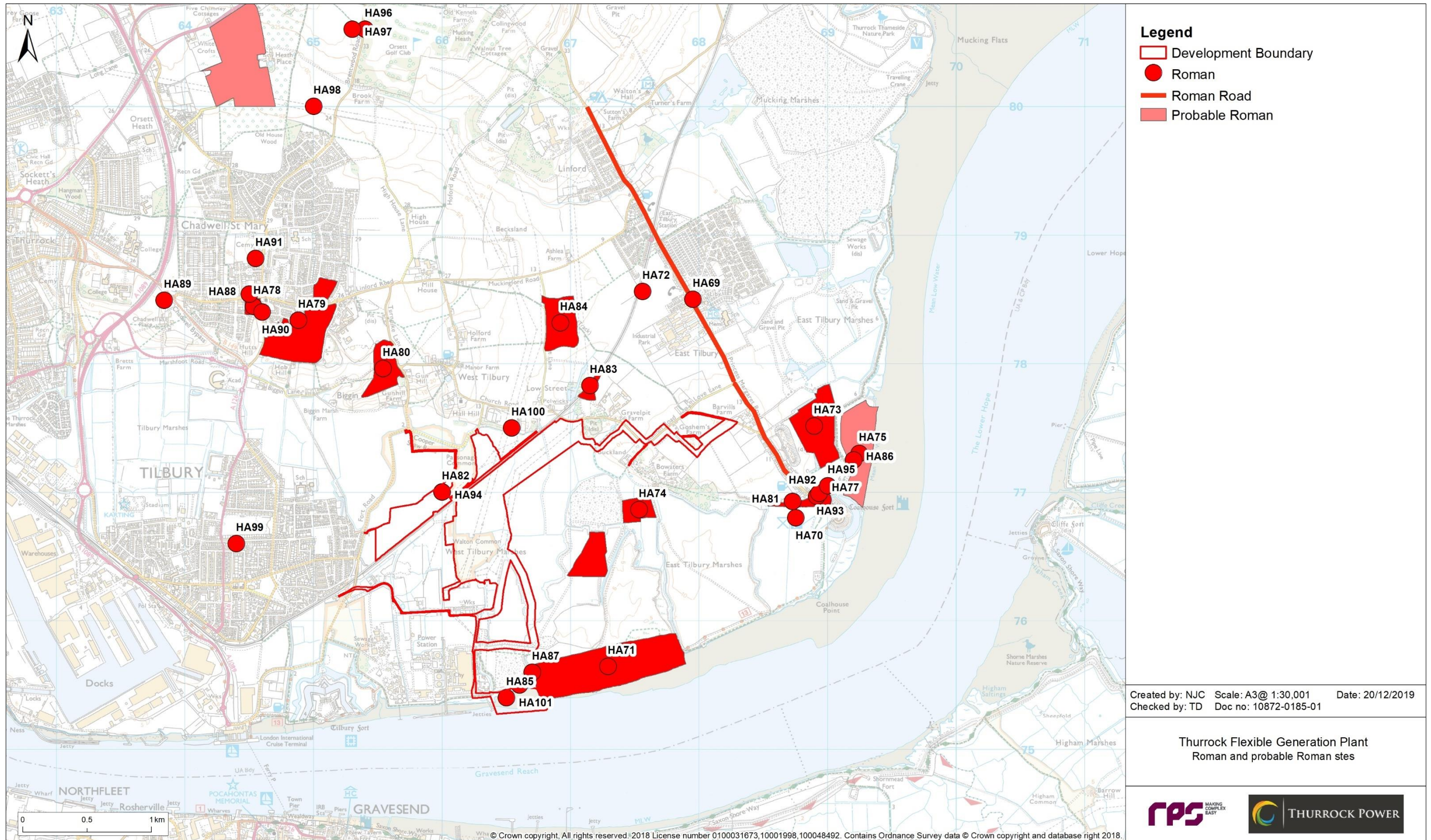


Figure 4.9: Roman sites



Plate 3: Roman pottery collected on the foreshore in the area of Zone G proposed causeway

4.4.60 At Gun Hill, c.1.2km to the north-northwest of Zone A there was an enclosure of mid-1st century AD date, which in the late 1st century was mainly used for industrial purposes (HA80). Romano-British pottery kilns were built in its backfilled enclosure ditches: three kilns are known for certain, but others were destroyed without record. The upper layers of the northern ditch were filled with kiln debris which spread down the eastern and western ditches and occurred in patches in the southern one. Shallow pits were excavated, which contained charcoal, ash and kiln debris.

- 4.4.61 To the northeast of Gun Hill at Sandy Lane, Chadwell St Mary (HA79) the RCHM reports the finding of an 'oven' in Christian and Neilson's gravel-pit in 1922. It contained complete and fragmentary vessels and a decorated clay lamp. The pottery is in Colchester Museum, mostly of probable 3rd to 4th century date, and 'some retain traces of late Celtic traditions'. (ibid.). There was no evidence that the pottery was made on site, and the purpose of the oven is not apparent, although it could indicate a dwelling in the vicinity, no traces of buildings were noted. In 1959 the Ministry of Works excavated the area, which is currently located in what is now the Industrial Estate at Chadwell St Mary, in gravel-workings on the top of the hill. Ditches, mostly V-shaped, post holes, and pottery of mainly late 1st to early 2nd century were recorded, and some Iron Age pottery (HA60). The site is thought to be the edge of an extensive settlement, the rest of which has already been destroyed by gravel-digging.
- 4.4.62 A site c.90m southeast of the area yielded much Samian ware, mainly late 1st to early 2nd century with many stamps. A third century pottery flask with human figure decoration was also recorded at Palmers Sixth Form College (HA89), along with another flask.
- 4.4.63 Many Roman remains have been found over a wide area around the Sandy Lane, Chadwell St Mary area. In 1909, several urns in oak chests (which fell to pieces) were found at a Gravel-Pit: two of the chests had brass mountings, 'there were many large nails and Samian fragments'. Nearby were found two *mortaria*, the handles of a large amphora. Urns, brass mountings and a pottery lamp, with a figure playing ball, are in Colchester Museum. Other fragments of a coffer burial group are probably from this site: iron nails, pieces of wood, brass ornaments and mountings, and are housed in Thurrock Museum.
- 4.4.64 Roman coins of all dates have been found in the parish (e.g. at the Rectory in Chadwell St Mary (HA91); at the primary school (HA88); in Tilbury (HA99); and at South Stifford (HA98)) but none are recorded from secure contexts.
- 4.4.65 Chancellor's gravel pit, now owned by Bison Floors Ltd, was excavated in 1956-1957 by Thurrock Historical Society. They found a coin hoard of silver *denarii* – one of Antony, one of Nero, then a range from Vespasian to Caracalla. Pottery from this area, tile and quern fragments, and the coins, are in Thurrock Museum.

- 4.4.66 Also in Chadwell St Mary a Roman tessellated floor was uncovered west of the parish church (**HA78**), and at Purleby Gravel Pit, a substantial amount of Roman pottery was recorded, comprising 922-fragmentary urns, including seven pieces of red Salopian ware and three of Samian (**HA90**). The material from the Purleby Pit compares to that from the foreshore within Zone G (**HA87**), and strongly suggests that routeways ran inland from the coastal margins of the Site to Chadwell during the Roman, and potentially the prehistoric period. These may have been via the routeways running north towards Low Street and West Tilbury, as denoted on historic mapping, potentially originated in the mid-late Bronze Age or earlier.
- 4.4.67 Some 1st century AD pottery was also found at Orsett (**HA96**), and some limited Romano-British pottery was found at the Orsett causewayed enclosure (**HA97**). Near Heath Place, c.500m to the west of the scheduled monument, cropmark evidence of a large rectilinear enclosure with internal subdivisions is recorded in the EHER (**HA102**): a double ditched trackway forms its southern boundary, and possibly the northern boundary also. A third double ditched trackway cuts through the feature from south to north: prehistoric material has also been found in the area, so it is unclear as to whether this is a later prehistoric settlement, although the description of the cropmarks suggests a possible Roman form.
- 4.4.68 At Coal Road, east of Low Street Lane, c.1.3km to the northeast of Zone A, the bank of an old gravel pit produced small quantities of Romano-British pot dating to the 2nd century (**HA84**). Approximately 500m to the northeast of **HA84**, to the west of East Tilbury, a field system was recorded which comprised of a complex of field boundaries dating from the Roman period (**HA72**) in close proximity to a late Bronze Age settlement. The presence of a number of pits and postholes in this area, combined with pottery evidence hints at the existence of a settlement in the vicinity.
- 4.4.69 At East Tilbury, near to Coalhouse Fort, a substantial Roman building would appear to have existed in the area of St Catherine's Church, where the walls reportedly contain some Roman and later bricks (**HA92**). The EHER notes that it was reported in the 18th century that gravel-digging near the church often uncovered tessellated pavement (**HA77**). When the churchyard at St Catherine's was extended to the east, some Roman tile and roof tile was also recorded (**HA93**).
- 4.4.70 A gravel quarry excavated in 1903 for the remodelling of Coalhouse Fort also revealed large amounts of Iron Age and Roman pottery (**HA95**). Along the foreshore at East Tilbury, there are also wide spreads of Roman material, including 4th century pottery (**HA86**).
- 4.4.71 In the field to the west of St Catherine's Church, some Roman pottery, plus medieval sherds, and human bone was collected from the area during drainage works in the late 1980s nearest the road line by the church (**HA81**). These drainage works (comprising the straightening of a ditch) revealed a large quantity of Roman pottery and tile. The observed stratification in ditch sides at c.0.4m below ground level suggested that these deposits are below plough-depth and therefore are unlikely to be damaged (**HA70**). As such, should archaeological deposits exist within the Site, there may be similar preservation of material at similar depths..
- 4.4.72 The line of a Roman road, presumably a successor of the Ridgway referred to at paragraph 4.4.20 above, is recorded by the EHER as running inland along the line of Princess Margaret Road to the northwest from the ford or ferry at East Tilbury (**HA69**). A corresponding road apparently approached the north Kent coast at Higham, where burial evidence has been found. Roman remains have also been recorded at Tilbury Fort to the southwest of Zone A, with finds include including Samian ware and *fibulae* (located at TQ64727510 and TQ650751).
- 4.4.73 There was clearly a large Roman/Romano-British presence within the Study Area, involving salt production and a likely landing-stage/trading post, as suggested by the extensive area of settlement and ceramics found on the foreshore to the east of Zone G (**HA71**), which also extended inland with field systems, settlements and burials, with the establishment of new encampments and the re-purposing of earlier ones.

Saxon/Anglo-Saxon

- 4.4.74 The nationally significant site at Mucking, c.4km north-northeast of the Site, had been abandoned by the Romano-British during the 4th century and there was a gap before the Saxon occupation of the site began in the early 5th century. This was among the earliest Anglo-Saxon settlements in England. The Anglo-Saxon settlement gradually moved north over the course of two hundred years after its establishment, and during or after the 8th century, the settlement was either abandoned, or drifted beyond the area that was excavated, with the area previously occupied by the Anglo-Saxon settlement becoming part of a Saxo-Norman field system.

- 4.4.75 More than 200 Anglo-Saxon sunken featured buildings (Grübenhause) were excavated at Mucking, together with nearly a dozen large timber buildings. These more substantial halls were up to 15m long and 7.6m wide with entrances in the middle of both longer sides. There were more than 800 burials in the Anglo-Saxon cemeteries ranging in date from the early 5th to the 7th century. Two cemeteries were excavated, although one of them had already been partially destroyed by gravel working. Cemetery II contained cremation and inhumation graves, while cemetery I contained only inhumations. Cemetery II (the undamaged cemetery) contained graves from which 125 brooches were recovered, allowing the reconstruction of Anglo-Saxon dress styles. The cemeteries were not used after the middle 7th century although the settlement continued in to the 8th century. Later burials may have been at a Christian cemetery associated with Cedd's minster church at Tilbury, which is likely to have been St Catherine's at East Tilbury.
- 4.4.76 As was the case during the Bronze Age, where satellite settlements and activity occurred in the Study Area away from the main settlement at Mucking, so too during the Saxon period there were satellite settlements within the landscape surrounding the Site, most of which revolved around the foundation of early Christian churches, with small villages then also becoming established around the churches, which then grew into the historic settlements at East Tilbury (around St Catherine's Church); West Tilbury (**HA104** and **HA105**) (around St James' Church); and at Chadwell St Mary (**HA106** and **HA107**) (around St Mary's Church) (see Figure 4.10).
- 4.4.77 St Catherine's Church at East Tilbury may relate to Bede's earliest Christian site at 'Tilberg': the site has the potential to be an early Saxon settlement/religious site as it lies on the ancient highway from the East Tilbury ferry to Mucking and beyond. Moreover, within an arable field close to the church, heavily worked by a metal detecting group, the EHER has recorded that more than 20 early Saxon *sceattas* have been found, plus a range of 14th to 17th century metal objects (**HA108**). An Anglo-Saxon bronze bowl is also recorded as found in 1925 at Tilbury, but it is not clear precisely where this was found (**HA109**).

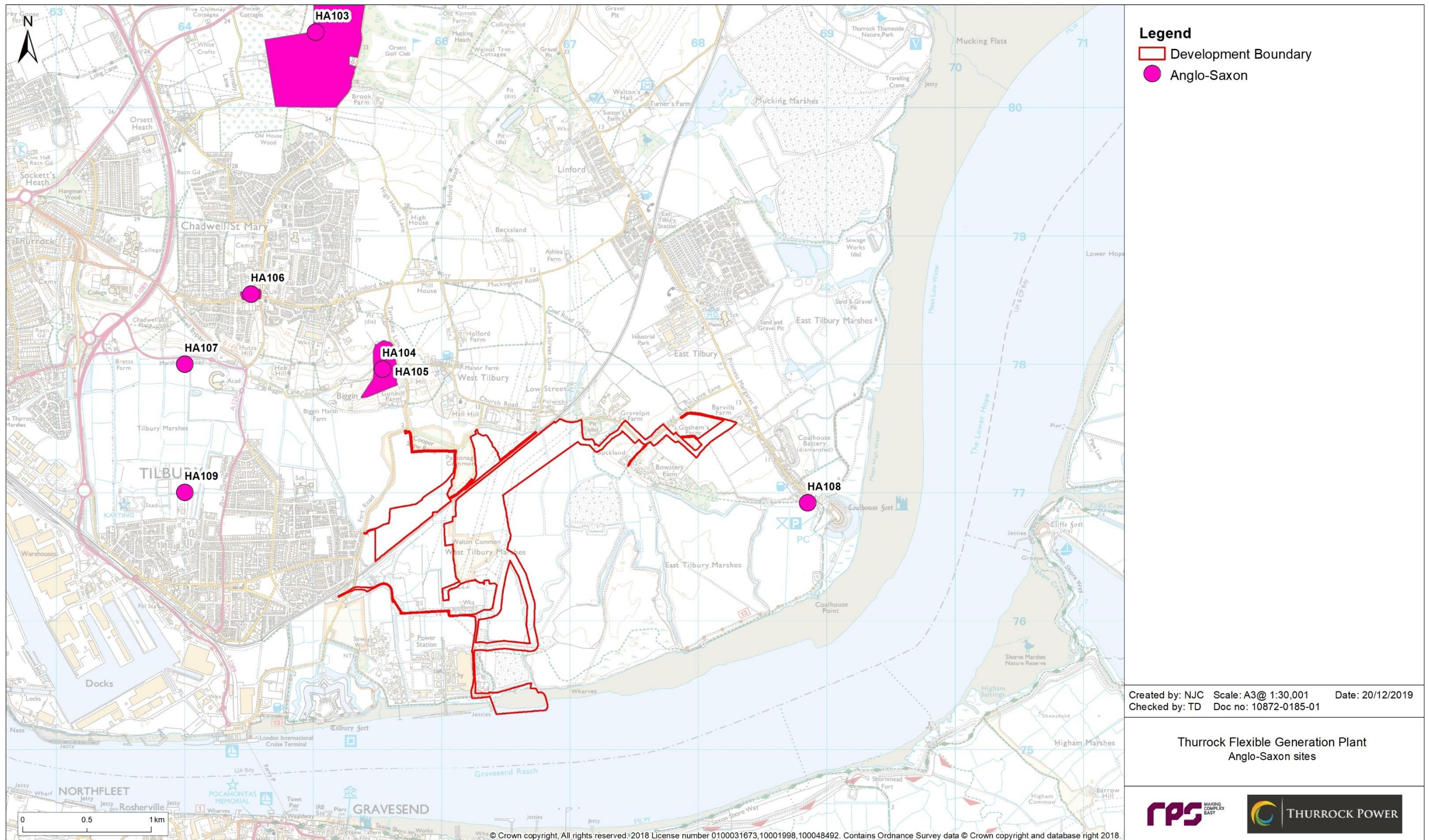


Figure 4.10: Anglo-Saxon/Saxon sites

- 4.4.78 Within the southern half of the inner circuit of the Neolithic causewayed enclosure at Orsett, four or five ring ditches were recognised as cropmarks (**HA103**), with central pits visible within three of them. It was observed that the ring ditches were not like normal ring ditches from ploughed-out Bronze Age barrows, their diameters being rather small. In 1975 during trial excavation of the Neolithic enclosure three of the ring ditches were excavated and proved to be of Saxon date. No post sockets were recognised but the ring ditches probably represent timber mausolea. In profile the ring ditches were 1-2m wide, the maximum surviving depth was 0.35m below the ploughsoil. Graves were located in two ring ditches, only part of the third's ditch being excavated: the graves were centrally situated, aligned east-west, and contained traces of skeletons with the stain left by wooden coffins. Of the finds, less than 10 sherds of Anglo-Saxon pottery were found although the southern ring ditch burial contained a small knife, and the northern one an iron sword in poor condition. The ring ditches appeared to belong to Hogarth's group 116, probably dating to the late 7th–early 8th centuries. They can be paralleled in Saxon cemeteries in north-east Kent, but as a small, Saxon barrow group in the east of England they are extremely rare.
- 4.4.79 The re-use of the Neolithic causewayed enclosure suggests that as an earthwork this prehistoric monument had survived with a visible presence into the Saxon period, and it is not uncommon to find Neolithic and Bronze Age funerary monuments being re-appropriated by Saxon communities. The nearest settlement evidence dating to the Saxon period is at Chadwell St Mary, where a sunken-floor building (likely Grubenhaus) was recorded in the former playground at Chadwell St Mary primary school (**HA106**). The pottery was of 6th to 7th century date, and other finds include a ceramic spindle whorl and a fired clay 'doughnut shaped' loom weight from the bottom fill of the sunken floored building. Environmental evidence suggests the presence of a granary: oats, barley, and rye cereals were present, and environmental analysis indicated that the surrounding landscape was heathland.
- 4.4.80 A fragment of an Anglo-Saxon cinerary urn is also recorded in the EHER at Chadwell St Mary (**HA107**), but the precise location of the find is not known, and therefore is recorded with only a six figure grid reference, as is also the case with the Saxon bronze bowl from Tilbury (**HA109**).
- 4.4.81 A possible Grubenhaus is also recorded in the EHER at Gun Hill (**HA105**), although other evidence at the site is quite ephemeral, comprising only a sherd of Anglo-Saxon pottery from the main north-south ditch (**HA104**). However, the scheduled earthworks to the southwest of St James' Church includes a length of rampart with an internal ditch reputed to be the site of a Saxon hall – a high-status residence. In c.628 Tilbury was recorded as the location of Bishop Cedda's palace and the scheduled earthworks may indeed be the remnants of an early ecclesiastical site.

Medieval

- 4.4.82 During the medieval period, the early Christian chapels and religious sites often became the foci for expanding settlements which also aggregated around earlier manors, themselves established during the Saxon period. Recorded medieval sites are shown on Figure 4.11, with medieval settlements at West Tilbury, East Tilbury and Chadwell St Mary. The Development Site was in the agrarian hinterland of these Saxon and expanding medieval settlements
- 4.4.83 The historic settlement most closely associated with the Site is West Tilbury, which is situated at the edge of an escarpment immediately overlooking the marshes, and the hamlet around Low Street, which together form Parts 1 and 2 of the West Tilbury Conservation Area. The Low Street hamlet developed around the second West Tilbury manor of Condovers, created in the 15th century, and Walnut Tree Cottage (**HA124**; Grade II listed) was the manor farm. The original Saxon manor was most likely that evidenced by the earthworks around St James Church (**HA118**, **HA119**), which although dating to the 11th century, was most likely built on and over an earlier Saxon religious site.
- 4.4.84 A Character Area Appraisal for the Conservation Area at West Tilbury was produced by Thurrock Council in March 2007. An area adjoining the village (Hall Hill) has been designated as a scheduled monument (see Figure 1.2) because of, amongst other things, the potential that it has to show development at West Tilbury from pre-Saxon to the Medieval period. The group of earthworks are located c.780m north of Zone A and lie south and west of St James Church and the Hall. The earthworks are obscured by gravel workings and farm buildings. The earthworks lie at the edge of the escarpment overlooking the levels and the Site towards the River Thames and cover the neck of a promontory.
- 4.4.85 The churchyard, located adjacent to the earthworks and to their east, is located on a slight mound, which the EHER indicates is suggestive of the site of an early camp. In addition, the HER notes that the site is reputed to be the location of Bishop Cedda's palace, Cedda being a Saxon monk who is alleged to have built a cell here in 623 AD and also Queen Elizabeth I's camp for her review of the troops in 1588. Cedda was the brother of St Chad and was a Northumbrian monk and missionary bishop. He was sent from Northumbria to assist King Peada of Mercia in the evangelization of his kingdom (AD 653). He was then sent to help the recently converted King Sigebert of Essex to Christianize his people and was consecrated bishop of the East Saxons in 654 by Finan of Lindisfarne. He founded two monasteries among the East Saxons, one at Bradwell-on-Sea, where a contemporary church still survives, and the other at Tilbury (most likely located at East Tilbury, with a monastic grange/hall at West Tilbury).

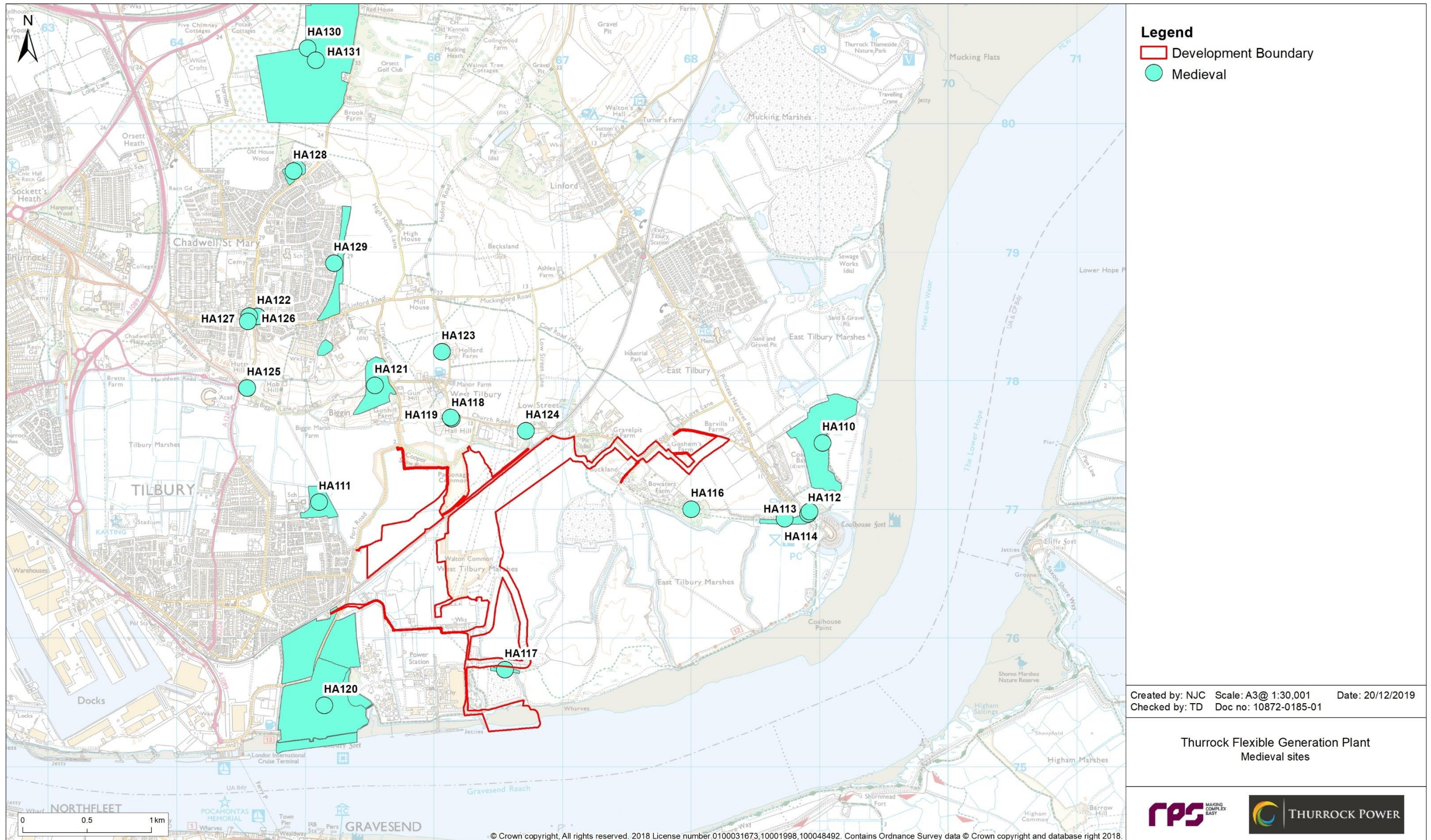


Figure 4.11: Medieval sites recorded in the EHER

- 4.4.86 Within the Domesday Book, Tilbury [East and West Tilbury] was recorded as a settlement in the hundred of Barstable. It had a recorded population of 16 households in 1086 and is listed under three owners: William of Warenne (one smallholder household); Theodric Pointel (one smallholder household); and Swein of Essex (one villager, 11 smallholders and 2 slaves as households). The land and resources of Swein of Essex comprised ploughland, pasture for 300 sheep, four hides of woodland, one fishery and other livestock including 31 cattle and nine pigs.
- 4.4.87 Evidence from West and East Tilbury Marshes (**HA111**) and also Mucking Marsh (**HA110**) suggests that the land was improved and used for grazing during the medieval period: the landscape is characterised by a rectilinear pattern of fields divided by drainage ditches with a medieval sea wall surviving on the eastern edge of Mucking Marsh, and a surviving counter wall and ditch at West and East Tilbury Marshes (**HA117**), the outline of which is indicated on the 1777 Chapman and Andre map of the County of Essex (see Plate 4).

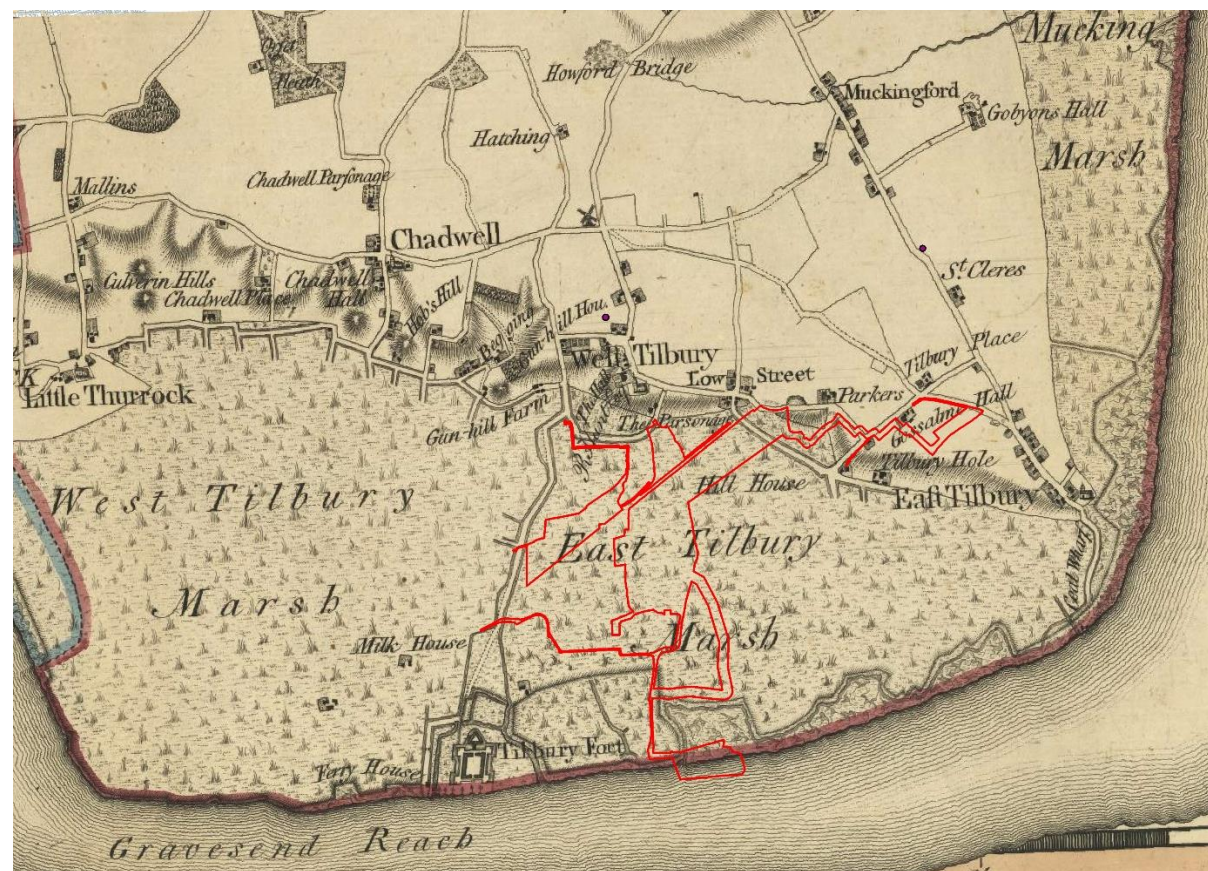


Plate 4: Extract from the 1777 Chapman and André map, showing the Site and sea wall

- 4.4.88 The current footpath linking Tilbury Fort with Coalhouse Fort largely follows the line of the medieval sea wall and ditch, and part of the Zone G haul road lies adjacent to the counter wall, which survives as a tall grassy bank (see Plate 5).



Plate 5: Remnants of medieval counter wall and marshland adjacent to Zone G

- 4.4.89 In the Medieval period West Tilbury was a small settlement very closely related to agriculture. Much evidence of this past has been retained in the present landscape, including a complete example of a Medieval 'open field' system in the area of The Great Common Field bounded by Rectory Road, Turnpike Lane, Blue Anchor Lane and Muckingford Road. Much Medieval 'common land' upon which farmers had common rights to graze animals still remains in the vicinity of West Tilbury, including Parsonage Common and Walton Common, parts of which fall within the Proposed Development Site.
- 4.4.90 The historic dispersed and polyfocal settlement pattern largely survives at West Tilbury, where the Grade II* listed former parish Church of St James (now redundant and repurposed as a family home) includes 11th century fabric (**HA118**, **HA119**). The church tower and the trees around the churchyard are an important silhouette and landmark from all directions. West Tilbury Hall (Grade II listed, **HA135**) is the manor of the village. It was built in the 16th century in a prominent hilltop position on the site of the previous 'Domesday Manor', although its listing description dates it to the '17th century or earlier' and a Medieval market and fair, both dating from the 14th century, were held at West Tilbury on the area that is now The Green.

- 4.4.91 The Great Common Field retains its historic form as a single large open field, which would have been communally tilled in Medieval times. It has hedgerows with trees to the field and village boundaries, and several footpaths traverse it. Rectory Road is also an ancient lane, which is flanked by the hedgerows of field boundaries, as too is Blue Anchor Lane. Church Road, leading from Gun Hill to Low Street, is an ancient narrow lane and connects to the north-south Low Street Lane, which runs southwards from Walnut Tree Cottage as a track alongside a relic drainage channel to Walton Common and West/East Tilbury Marshes, across Zone C and to the reclaimed landscape within which Zone A and Zone G are located.
- 4.4.92 At Gun Hill (**HA121**) the only medieval excavated feature was a ditch that replaced an earlier field boundary on the southern edge of the Gun Hill plateau. It was recut several times, and was sited 2m north of the present hedgerow boundary, to the south of which is a negative lynchet of unknown date. The ditch produced a large pitcher sherd of the 14th century and the EHER records that it seems that the area was given over to agriculture during this period. Nearby lanes and a footpath are medieval in origin.
- 4.4.93 Marshalls Cottages at Holford Farm, West Tilbury (**HA123**), c.1.4km north of Zone A, is Grade II* listed, and comprises an early 15th century timber hall house with crosswings. Walnut Tree Cottage (**HA124**) at Low Street (Grade II listed) is also recorded as a 15th century house and was a former manor house for the second manor at West Tilbury, Condovers.
- 4.4.94 The Grade I listed Church of St Mary, at Chadwell St Mary (**HA122**), dates to the early 12th century, with 14th and 15th century alterations, and most likely was built on, or close to, an earlier early Christian religious site. Chadwell itself has been shown to have evidence of human activity from the prehistoric period onwards, but as a settlement Chadwell was first recorded in the Domesday Book, where it appeared as 'Celdewella', meaning 'cold spring'. Chadwell St Mary possibly also takes its name from a well blessed by St Chad (or more likely St Cedda), whose bishopric was at Tilbury. There appears to be a confusion in names between St Cedda and St Chad, who was Cedda's brother: it was Cedda who was made bishop of the East Saxons. The suffix 'St Mary' was only added to the name in the 19th century to avoid confusion with Chadwell Heath near Romford.
- 4.4.95 Thurrock's earliest historian, William Palin, described the well: "*Descending the hill from the venerable church, we find ourselves on the border of the level, face to face with an ancient well, having more the appearance of a tank, wide and shallow, large enough to walk into, just such as the apostolic Chad might be thought to choose for the baptism of his East Saxon converts*". The moated site recorded at St Chad's Well (**HA125**) may also be the remnants of a medieval manor, although it has also been suggested that St Chad's Well may have been a Holy Well of Roman date, and located on a Roman road or trackway leading northwards from the estuary and the known settlement site on the foreshore in the area of Zone G.
- 4.4.96 At Sleepers Farm, at Chadwell Hill, the farmhouse is Grade II listed and noted as a 15th century timber house (**HA126**). An archaeological trial trenching evaluation undertaken in advance of residential development at Sleepers Farm revealed one ditch that contained late medieval/early post-medieval pottery (**HA127**) and one sherd of possible Saxon pot, although the Saxon pot is thought to be residual. Late medieval pottery sherds were also recorded as part of an archaeological evaluation on land east of Sabina Road (**HA129**).
- 4.4.97 Also at Chadwell St Mary a possible medieval windmill mound is recorded in the EHER (**HA128**). Located on a fairly prominent site, the mound was excavated by the Morant Club in 1913. A patch of marsh mud contained medieval pottery, decayed bone, and oyster shells. Otherwise few finds were made. Some of the material in the pit (marsh mud) was brought from a distance but the reason why was somewhat puzzling. The mound was considered to be too small and low for a mill mound (as suggested by the French burr fragments) but could possibly have been a beacon site. Another windmill site, of possible Medieval or Post-Medieval date, is recorded on the 1777 Chapman and André map (**HA140**) on Linford Road c.1.8km to the north of Zone A (shown on Figure 4.12).
- 4.4.98 The historical pattern of the growth of East Tilbury comprises a single linear development extending northwards from the parish church towards Linford, which also branched north-westwards to West Tilbury at the end of the village. The historic pattern of settlement at East Tilbury also comprised a scatter of outlying farmsteads, with the land enclosed in a piecemeal fashion, creating a pattern of small, irregular fields. During the medieval period the settlement at East Tilbury appears to have been modestly prosperous, apparently as a consequence of its proximity to both the river crossing and marshland grazing (Smith 2008: 5).

- 4.4.99 The main street is most likely derived from the route of the ancient causeway and river crossing which linked East Tilbury with Higham and Cliffe, but whilst the historic pattern has remained unaltered, most of the former historic buildings have either been renovated beyond recognition or pulled down and rebuilt. One exception is the Grade I listed Church of St Catherine (**HA112; HA113**), formerly the Church of St Margaret, a flint and rubble building which retains a considerable amount of medieval fabric, as well as some Roman brick inclusions. The nave dates to the early 12th century, to which was added a north arcade and aisle in the late 12th century; the chancel was rebuilt or enlarged during the first half of the 13th century, and a south arcade and aisle added in the 14th century. The south aisle and the tower were reputedly destroyed by the Dutch fleet in 1667 and the south arcade blocked afterwards.
- 4.4.100 A hospital dedicated to St Mary was founded in c.1213 at East Tilbury (**HA116**): it was last mentioned in 1456. The Victoria County History notes that at the end of the 14th century the hospital was better known as the Chapel of St. Margaret, and the patronage belonged to the Earls of Ormond. It is said to have been a free chapel and to own land in East and West Tilbury, Aveley and Mucking (Page and Round, 1907).
- 4.4.101 The precise location of the hospital is not known and only a six-figure national grid reference in the EHER places the hospital to the west of the main settlement at East Tilbury, which is likely to be inaccurate.
- 4.4.102 The Venerable Bede records that Bishop Cedda set up a monastery at Tilbury in the 7th century, and it is likely that this would have been at East Tilbury, although the earthworks at West Tilbury have been suggested to be a possible early medieval monastic grange and/or bishop's palace. Any medieval poor hospital would have almost certainly been associated with an adjacent religious house, and so both the monastery and hospital are likely to have been on land associated with, and adjacent to, the Church of St Catherine (formerly St Margaret). The presence of large quantities of Saxon coinage has also been taken as possible evidence that Cedda's monastery was established at East Tilbury rather than West Tilbury, but the location of East Tilbury on the coast and on the route of an ancient trackway and trading route may also be an alternative explanation for its location, and the finds of *sceattas*.
- 4.4.103 To the west of the Church of St Catherine, there have been various finds of medieval pottery and human remains (**HA114**), as well as a range of 14th to 17th century objects recovered by metal detectorists (**HA115**), in the same field as the significant number of Saxon *sceattas*.
- 4.4.104 At Orsett, the Neolithic causewayed enclosure was overlain by cropmarks of linear features, and on excavation in 1975 these parallel ditch alignments proved to be medieval and/or post medieval trackways (**HA130**). Other medieval ditches seemed to be field boundaries. Less than 20 sherds of medieval or post medieval pottery were found in the excavations, however other Medieval finds included tile, possible metal, glass and fired clay. A whetstone was a surface find after ploughing and is a fine-grained schist of unknown provenance, tapering and perforated at the wider end. The shape, stone type and presence of perforation nonetheless suggest it is medieval in date (**HA131**).
- 4.4.105 To the south of the river the place-name 'Gravesend' is first recorded in the Domesday Book of 1086 and has been argued to derive from the Old English meaning 'at the groves end' (Glover 1976: 83). Glover notes that the park to the east of Gravesend may be the original grove at the end of which the settlement developed. However, Edward Hasted in *The History and Topographical Survey of Kent* (1797) notes that in Domesday the town is recorded as 'Gravesham', and belonged to Odo, Bishop of Bayeux. There was also a landing place from the river at Gravesend by the time of the Domesday Book.
- 4.4.106 Hasted notes that "*King Richard II in 1377, directed his writs to the sheriffs of Kent and Essex, commanding them to erect certain beacons on each side the river Thames, opposite to each other, which were to be kept prepared, and to be fired on the first approach of the enemies vessels, so that notice might thereby be given of any sudden attempt, in consequence of which one beacon was erected here at Gravesend, and the opposite one at Farnedon, in Essex; notwithstanding which precaution, this town was soon afterwards plundered and burnt by the French, who sailed up the Thames hither in their gallies, and carried away most of the inhabitants prisoners*". In order to help the town recover from the French and Spanish raids, Richard II granted to the watermen of Gravesend and their successors the sole right to ferry passengers to London. This right, which was successively confirmed by later monarchs, was the beginning of the long ferry, and gave great impetus to the growth of Gravesend as a maritime centre and port.
- 4.4.107 Medieval Gravesend was an important and wealthy town, derived from its position on the Thames (Kent County Council, 2004: 5). The town contained a church (St Mary's, apparently first mentioned in the Domesday Book of 1086), with a manor house, probably located next to it.

4.4.108 The EHER also records a medieval road and causeway located on the redan outwork of what eventually became first, a blockhouse at Tilbury during the Tudor period, and later the Tilbury Fort (HA120). The road most probably connected with the ferry houses on the Essex side of the river, which were associated with boats crossing the Thames from Gravesend, with the medieval road and causeway thereby linking Gravesend with West Tilbury.

Post-Medieval

4.4.109 The picture of settlement and activity in the wider area during the early Post-Medieval period was presumably similar to that of the later medieval period (see Figure 4.12), and comprised mostly the continuation of the established medieval settlement, enclosure, agricultural practices and routeways through the landscape, with little expansion. However, the wider area was significant in the defence of the River Thames from at least the reign of Henry VIII onwards, as it appears that it was during the Post-Medieval period that the first fortifications appear on the shorelines on both sides of the Lower Thames Estuary, including the scheduled monuments comprising Tilbury Fort (HA132) and the early phases of the mainly 19th century Coalhouse Fort on the Essex side (HA133); and a blockhouse at Gravesend on the Kent side.

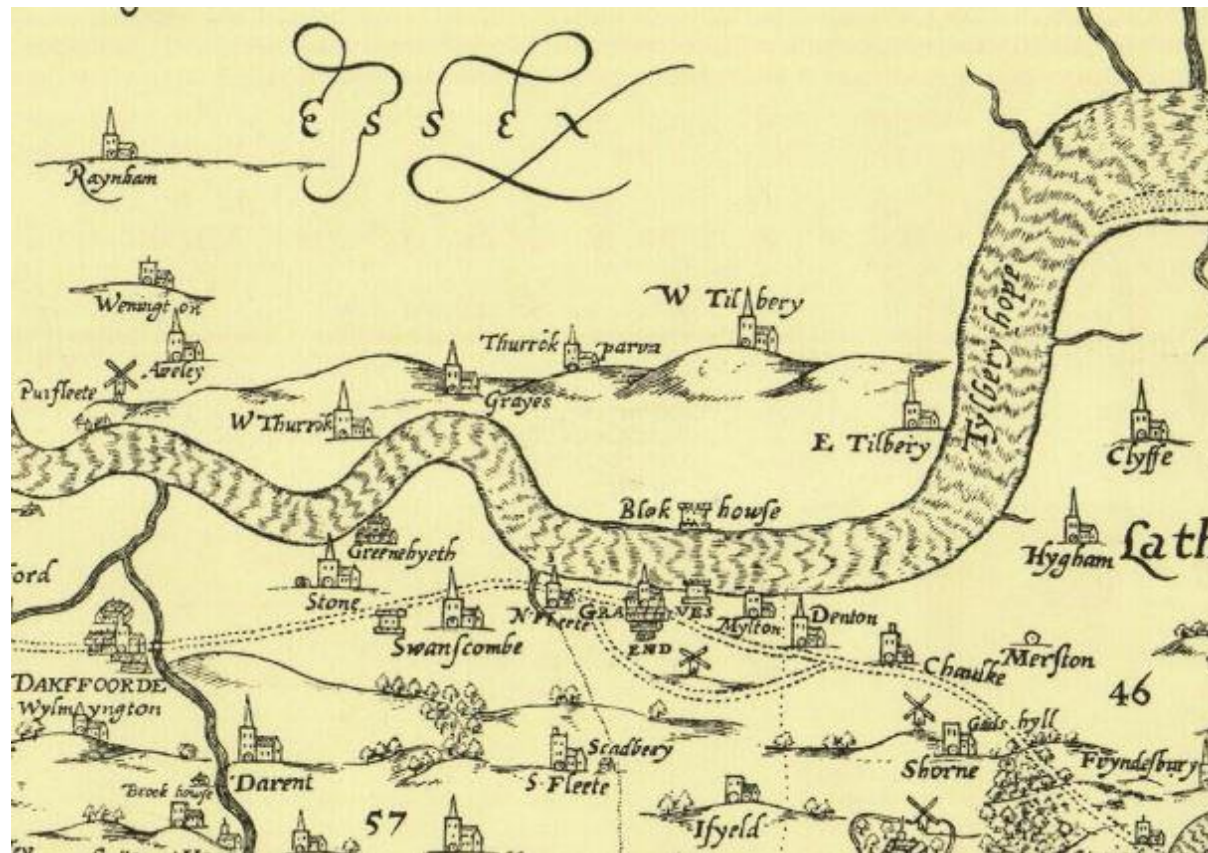


Plate 6: Extract from Symonson's 1596 Map of Kent

4.4.110 Tilbury Fort is located on low lying ground on the north bank of the River Thames, southeast of the modern outskirts of Tilbury and 1km southwest of the built part of the Proposed Development (Zone A) at its nearest point. King Henry VIII ordered the building of a blockhouse in 1539 and also new marsh roads (Fort Road and Cooper Shaw Road) that cut across West Tilbury Green and other common land. A plan of fortifications before the 17th century fort was constructed shows the Henrican blockhouse within an area enclosed by a rampart and a ditch: it is also marked on Symonson's 1596 map of Kent as 'Blok howse' (see Plate 6).

4.4.111 The blockhouse at Tilbury was superseded by the far larger and more complex fort and battery seen today, which is pentagonal, double-moated star-plan, with arrowhead-shaped bastions projecting from four of the angles, allowing guns positioned behind the parapets to command wide areas and to be mutually supportive in close quarter defence. This was designed by the chief engineer to Charles I, Sir Bernard de Gomme and succeeded the blockhouse in the late 17th century. Under Charles II it became a regular fort, armed and bastioned, in 1667. When rebuilt in 1672 this was in quadrangular form with salient angle bastions and a double moat. Much of the rampart walls are of 17th century brick but the only, more or less, unaltered buildings are the south gatehouse and a small chapel.

4.4.112 Gravesend Blockhouse located c.2.1km southwest of Zone A on the south bank of the River Thames was built in 1539 as part of a chain of coastal defences in response to the renewed threat of invasion. It was one of five artillery blockhouses built along this stretch of the River Thames to defend the approach to London and the dockyards at Woolwich and Deptford. The other blockhouses were located at Tilbury, Higham, Milton and East Tilbury. The Gravesend Blockhouse crossed its fire with Tilbury Blockhouse on the north bank of the river and guarded the ferry crossing between Gravesend and Tilbury. Repairs were carried out to the blockhouse in 1588 and 1667, and by 1665 quarters for the Duke of York as Lord High Admiral had been provided behind the blockhouse. This subsequently became the Ordnance Storekeepers Quarters and, much later, the Clarendon Royal Hotel. By the late 17th century the blockhouse had been converted into a storage magazine for gun powder, although the eastern arm of the gun lines was still armed. Gravesend Blockhouse is a scheduled monument (list entry number 1005120).

4.4.113 West Tilbury also has a well-chronicled association with Elizabeth I and her address to the troops at the time of the Armada in August 1588, at their camp at Gun Hill, where it is recorded that the Queen left her bodyguard before Tilbury Fort and went among her subjects attended by the Earls of Leicester and Essex and other lords, where she delivered an impassioned speech including the famous lines "I know I have the body of a weak, feeble woman; but I have the heart and stomach of a king, and of a king of England too."

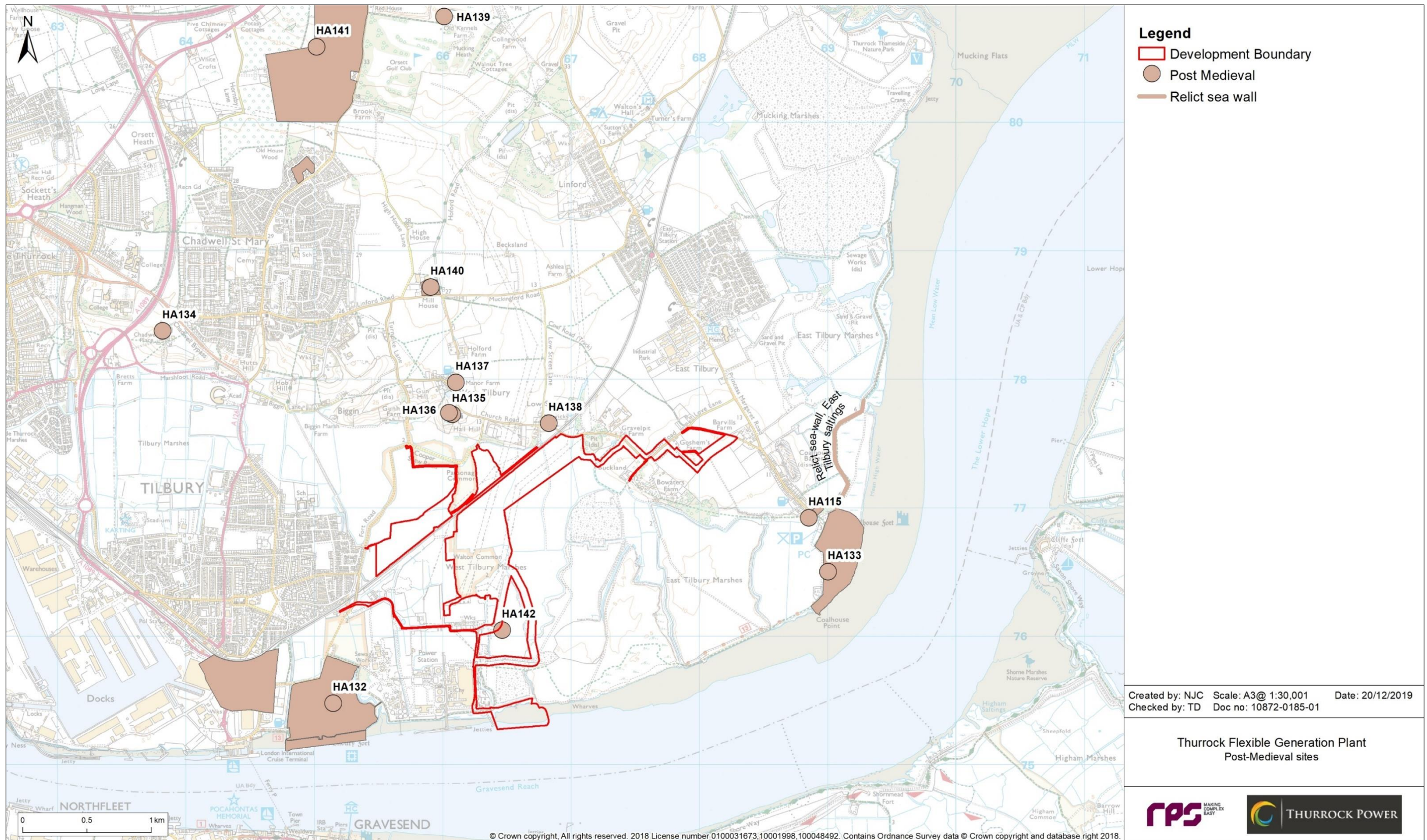


Figure 4.12: Post-Medieval sites recorded in EHER

- 4.4.114 A Henrican artillery battery, East Tilbury Blockhouse (**HA133**), was also constructed at Coalhouse Point, c.2.3km east of Zone A between 1539 and 1541, but is not depicted on Symonson's map of Kent, although the Churches at East and West Tilbury clearly are (see Plate 6). The fort was one of the five blockhouses built along this stretch of the river Thames to defend the approach to London, although the blockhouse was disarmed in 1553. The site of Coalhouse Wharf and the Coastguard Lookout is thought to be the location of the 1540 blockhouse: a second blockhouse was built subsequently to the seaward side of the first, and by 1735 this was described as 'inundated and ruined by the sea'. It is possible that the remains of the blockhouse lie beneath the mud: the EHER notes that it was hoped in 1984 that a trial trench would be able to locate it, but there is no evidence that it did so. In the field to the west of the Church various finds of 14th to 17th century date have been recorded by metal detectorists (**HA115**).
- 4.4.115 At the Orsett causewayed enclosure, settlement and agricultural use continued in the Post-Medieval period. Parallel ditch alignments proved to be Medieval and/or Post-Medieval trackways (**HA141**). Other ditches (of likely Post-Medieval date) seemed to be field boundaries. Post-Medieval tile and clay pipe were found, as well as fired clay, glass and metal. One ditch was almost certainly a main east-west boundary, still in place until recently, and marked to the east of the excavation in 1975 by a tree line. The 1839 Tithe map showed that the field containing the cropmark complex was once subdivided into fields whose junction appeared to be within the area of the inner causewayed ditch and ring ditch excavations.
- 4.4.116 Within an area surrounded by Zone G of the Site, 'Wick House' is recorded from documentary sources as a Post-Medieval site (**HA142**), c.100m southeast of the 400kv substation at Tilbury Power Station, but has not been identified on the ground, and the area is now much disturbed. It may have been a small farmstead.
- 4.4.117 A number of the Grade II listed buildings within the West Tilbury Conservation Area are dated to the 16th and 17th centuries. West Tilbury Hall (**HA135**) is a timber-framed, part-plastered and part-weatherboarded H-plan hall, which is most likely rebuilt on the site of the earlier medieval manor. The hall is associated with its former farmyard and a 16th century timber-framed barn (**HA136**), most likely a former tithe barn, which is now converted to residential use (now Malagay). In the area of The Green, Manor Farmhouse (**HA137**) is also a timber-framed and weatherboarded house, whilst within the hamlet at Low Street, also part of the West Tilbury Conservation Area, Polwicks (**HA138**) is recorded as a 16th or 17th century timber-framed house, clad with yellow stock brick. The Medieval and Tudor buildings in West Tilbury are principally farming-related buildings: the farmyards had large functional barns which were usually of at least five bays with a central threshing floor, also of timber frame construction.
- 18th and 19th centuries (including historic map regression)**
- 4.4.118 As noted in its Conservation Area appraisal, the timber-framed buildings and oldest plan forms at West Tilbury date from the medieval period, but the present external appearance of many of these earlier original buildings owe their external surface character from the later agriculturally prosperous 18th and 19th centuries (Thurrock Council 2007, 6), including the later use of render or re-facing in brick, the raising of roofs and the alteration of doors, porches and windows which hide a wealth of earlier historic details. The settlement prospered and grew, but with little physical change to its size. The majority of the Grade II listed buildings within the Conservation Area at West Tilbury are of late 18th or early 19th century date and cluster around The Green (e.g. **HA145**, **HA151**, **HA152**, **HA153** and **HA154**) (see Figure 4.13).
- 4.4.119 Although Grade II listed as an early 19th century farmhouse, Gun Hill Farm appears on the 1777 Chapman and André map (**HA155**) and is therefore likely to be of 18th century date, as is Biggin Farmhouse (**HA146**) to the west, also Grade II listed.
- 4.4.120 The River Thames, providing easy access to London, became heavily defended during the Post-Medieval period and later. Tilbury Fort was partly modernised during this period, with a number of new buildings during the early 18th century although its armament was reduced in 1716, and by 1859 it had been reduced to 32 guns. It was extended again in 1861 when the 17th century powder tower was demolished to be replaced by a new magazine and a new battery was installed. By 1867 it was being re-armed with heavy, rifled guns - a process that was not finished until 1888. Under the urging of General Gordon (Commander, Royal Engineers from 1866), new earthworks were built to take brick embrasures though not all were occupied, it seems. The officers' barracks, a terrace of approximately 22 officers' houses within the fort (now seven houses and museum) were constructed in 1772, by the Board of Ordnance and altered during the early 19th century. The officers' barracks are listed at Grade II* (list entry number 1375568).
- 4.4.121 On the opposite side of the River to Tilbury Fort at Gravesend Blockhouse, the gun lines were remodelled in the 1780s before being levelled in 1834. The blockhouse was partially demolished in 1844. The New Tavern Fort was built as a result of the 1778 survey of the defensive requirements of the Thames, with the fort designed and built to provide cross fire with Tilbury Fort on the north side of the river. A 1778 ink plan drawing by Thomas Hyde Page (see Plate 7) shows the proposed works considered to be required at both Tilbury Fort and at New Tavern Fort/Gravesend Blockhouse as tensions built between England and France ahead of the Napoleonic Wars. New Tavern Fort is both a scheduled monument and Grade II* listed and also includes within it the Grade II* listed Milton Chantry, a 14th century chapel associated with the medieval leper hospital at Gravesend.

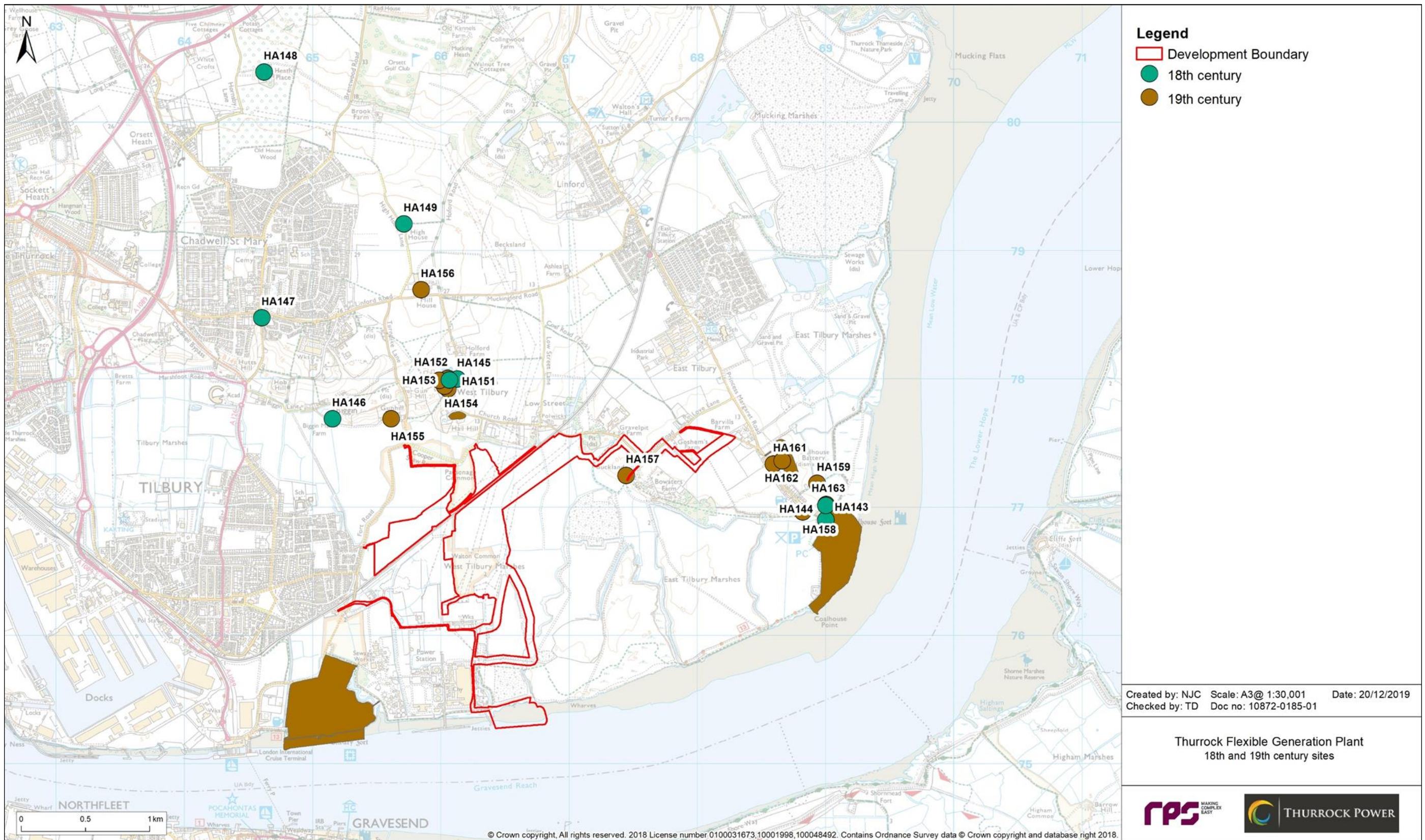


Figure 4.13: 18th and 19th century sites recorded within the EHER



Plate 7: Detailed extract from a drawing by Thomas Hyde Page in 1778, showing proposed works at Tilbury and Gravesend Forts and the lines of fire

- 4.4.122 New Tavern Fort comprised a battery on two faces forming an angle towards the river with a strip of rampart joining it to a smaller, straight battery. The fort was constructed of unrevetted earth and was designed for an armament of heavy, smooth-bore cannon firing through embrasures. The initial construction took place between 1780 and c.1783, the armament of the fort being updated and increased at intervals throughout the 19th century.
- 4.4.123 Coalhouse Fort (**HA143**), also a scheduled monument, is located c.2.3 km east of Zone A and comprises an artillery fort on a site used for defence since the late 16th century. The first phase of the present fort was begun in 1799 but was disarmed and abandoned after the Battle of Waterloo, but was later to be enlarged and replaced in 1847-55 by a more complex structure. Following recommendations made by the Royal Commission on the Defence of the UK in 1860 the fort of the 1850s was then superseded by the present buildings between 1861-74.
- 4.4.124 East Tilbury battery (**HA162**), located on the east side of Princess Margaret Road to the east of the Church, c.2.1 km east of Zone A, was constructed between 1889 and 1892 as a long-range emplacement to supplement Coalhouse Fort as part of the coastal defence system of the Thames. The battery was designed to blend into the landscape using a long sloping earth frontal area. The guns comprised two 10-inch and four 6-inch breech-loading weapons, mounted on 'disappearing carriages' which lay flat in deep emplacements for reloading and aiming but which were raised above the parapet for the few seconds of firing. An earthwork defensive ditch (**HA163**) was built to protect the gun battery during the 19th century.
- 4.4.125 Cliffe Fort, also a scheduled monument, is located c.4km east of Zone A, on the southeast side of the Thames in Kent, and lies due east of Coalhouse Fort as a pair defending The Lower Hope at a bend in the Thames leading into Gravesend Reach. The Fort was constructed during the 1860s as part of the River Thames' coastal defence system. The fort is of stone and brick and contained a moat and earthworks on the seaward side. Part of the fort was rebuilt in 1885 as a Brennan Torpedo Station.
- 4.4.126 Shornmead Fort is located c.3.2 km southeast of Zone A, on the south side of the Thames in Kent, c.2km around the foreshore to the southwest of Cliffe Fort. A small battery of four guns had first occupied the site in 1796, but this was obliterated by a polygonal fort in 1847. This was in turn replaced by the present fort in the 1860s. The fort was intended to cross its fire with Coalhouse and Cliffe Forts, and the structure comprises an arc of granite-faced casemates with iron shields and an open battery at the up-river end, in front of which is a deep ditch and caponiers. A defensible barracks closed the rear. The fort was armed with fourteen guns, removed before the First World War.

- 4.4.127 Shornmead Fort is undesignated, but lies on the Saxon Shore Way, a long-distance coastal footpath running for over 250km, linking Gravesend to the west with Hastings in East Sussex, which traces the coast of southeast England as it was during the Roman period. The Romans invaded Britain at Hastings and later built their Saxon Shore forts to defend their territory against a new wave of invaders along the coastline, and the Saxon Shore Way is therefore a significant historic routeway preserved as the current footpath. The routeway also saw the spread of early Christianity into England after St Augustus landed at Hastings to bring the Gospel to the Anglo-Saxon kingdoms, and would have been a vital route for communication, trade and exchange.
- 4.4.128 There are some early 19th century Grade II listed buildings at East Tilbury, including The Old Rectory (**HA158**), and Buckland (**HA157**), which lies adjacent to Zone J (proposed temporary re-routing of Footpath 200 during the construction of the gas pipeline associated with the proposed development). A mid-19th century Old Wesleyan Methodist Chapel (**HA161**) was formerly located within East Tilbury Village but has been replaced by a modern house.
- 4.4.129 By 1854, the London Tilbury and Southend Railway had been constructed. The railway line divides the application Site and bisects the historic settlements to the north from the ancient marshland commons and managed landscape to the south. The railway provided access to the landing stage at Tilbury for passenger liners, which was replaced in 1924 by the present structure, comprising Riverside Station and floating landing stage, which is Grade II* listed (List Entry 1111547), located c.2km southwest of Zone A and to the west of Tilbury Fort. There was also a station at Low Street.
- Historic mapping: 18th and 19th century*
- 4.4.130 The first detailed map of the Study Area and its environs is the Chapman and André map of Essex of 1777 (see Figure 4.14). This shows the settlements and various routeways on the gravel ridge. West Tilbury Marsh, East Tilbury Marsh and Mucking Marsh are shown on the lower lying alluvium running from east to west on the north bank of the river, and the medieval sea wall and counter wall are also clearly depicted. The Tilbury marshes contain several structures including Milk House and Ferry House in the west and Hill House in the north.
- 4.4.131 Although the Chapman and André map does not show land divisions, it is presumed that the agricultural land in both the marshes and the higher ground to the north had long been enclosed by this time, as indicated by the detail contained in the Page drawing of 1778 (Plate 7).
- 4.4.132 Goshem's Farm, adjacent to Zone D of the Proposed Development Site, is not recorded in the EHER, but is depicted on the 1777 map as 'Gossalme Hall', and the current Bowaters Farm was formerly 'Tilbury Hole'. 'Parkers' on the 1777 map is now Gravelpit Farm. Goshems is first recorded as 'Goshalmes' in 1412.
- 4.4.133 The roads within and around the Site (e.g. Fort Road, Church Road, Cooper Shaw Road, Love Lane/Station Road, Low Street Lane) are unchanged from the 1777 map, although a former road leading south and southeast from Low Street to what is now Buckland and Bowaters Farm is no longer extant, although Footpath 200 linking Station Road to East Tilbury and the Church would appear to partially follow the line of the old route, which is otherwise depicted on modern OS mapping as a track following a drain.
- 4.4.134 The Ordnance Survey (OS) surveyors plan of 1805 (Figure 4.15) is the first map to clearly show the former historic boundaries and land divisions within the Site and wider Study Area, as well as areas of ridge and furrow and their orientation. It is also the first map to show more of the historic routeway patterns of roads and trackways linking the settlements on the higher ground with the salt marshes and estuary, some of which were only hinted at on the 1777 map.
- 4.4.135 'Tilbury Hole' on the 1777 map has been renamed as Joslins Farm by 1805. The Grade II listed Buckland (**HA157**) appears to have formerly been 'Tilbury House', and the footpath linking Gravelpit Farm with Buckland and Station Road is depicted as a rough rectangular circuit on the 1805 map, which was not depicted on the 1777 Chapman and André map. A routeway running directly south from Low Street is shown to cross Zone C and part of Zone G as it runs down towards the salt marsh and the medieval counterwall bank (**HA117**): this is currently partially shown on modern mapping as a track following the line of drain. A route which went southwest from Tilbury House (Buckland) to another area of salt marsh and the relict sea wall to the east of Zone G is an area marked on modern OS mapping as 'Wharves': not unsurprisingly it is this area of the foreshore where there are wrecks and hulks of barges visible at low tide (e.g. **HA238**, **HA240**, **HA241**). Other routes across the East Tilbury Marshes to the foreshore are depicted on the 1805 map and depicted on modern OS mapping as tracks following drains or creeks: the former land divisions in the landscape have been substantially degraded across the East and West Tilbury Marshes, but in 1805 encapsulated a historic pattern of piecemeal enclosure.
- 4.4.136 Historic landscape character will be discussed in more detail in Section 4.5, but the present landscape shows considerable denudation of the former historic landscape pattern visible in the early 19th century, due to substantial boundary loss and mineral extraction in the Modern period, although some elements of early piecemeal enclosure remain extant within Zones A, C and G.

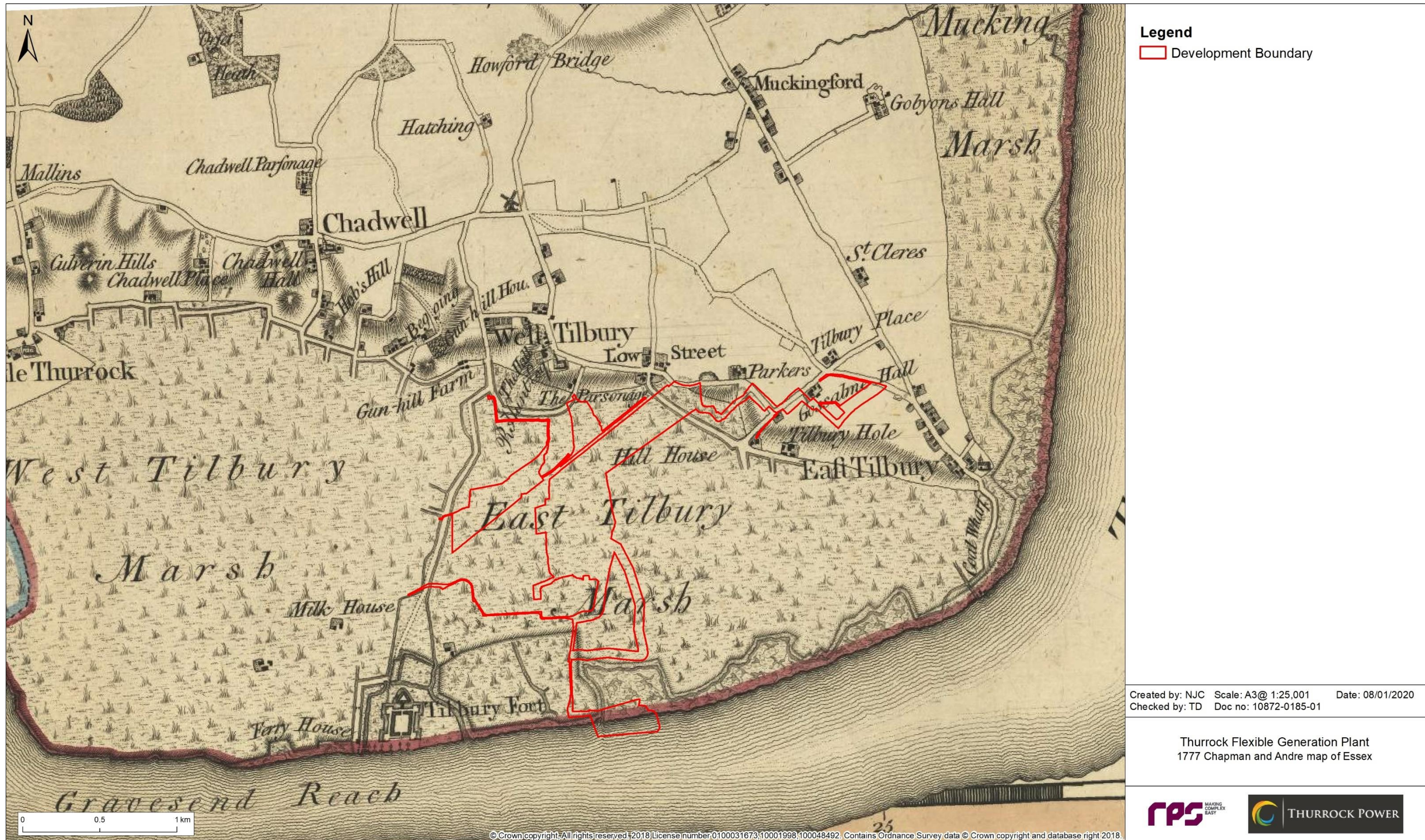


Figure 4.14: 1777 Chapman and Andre map

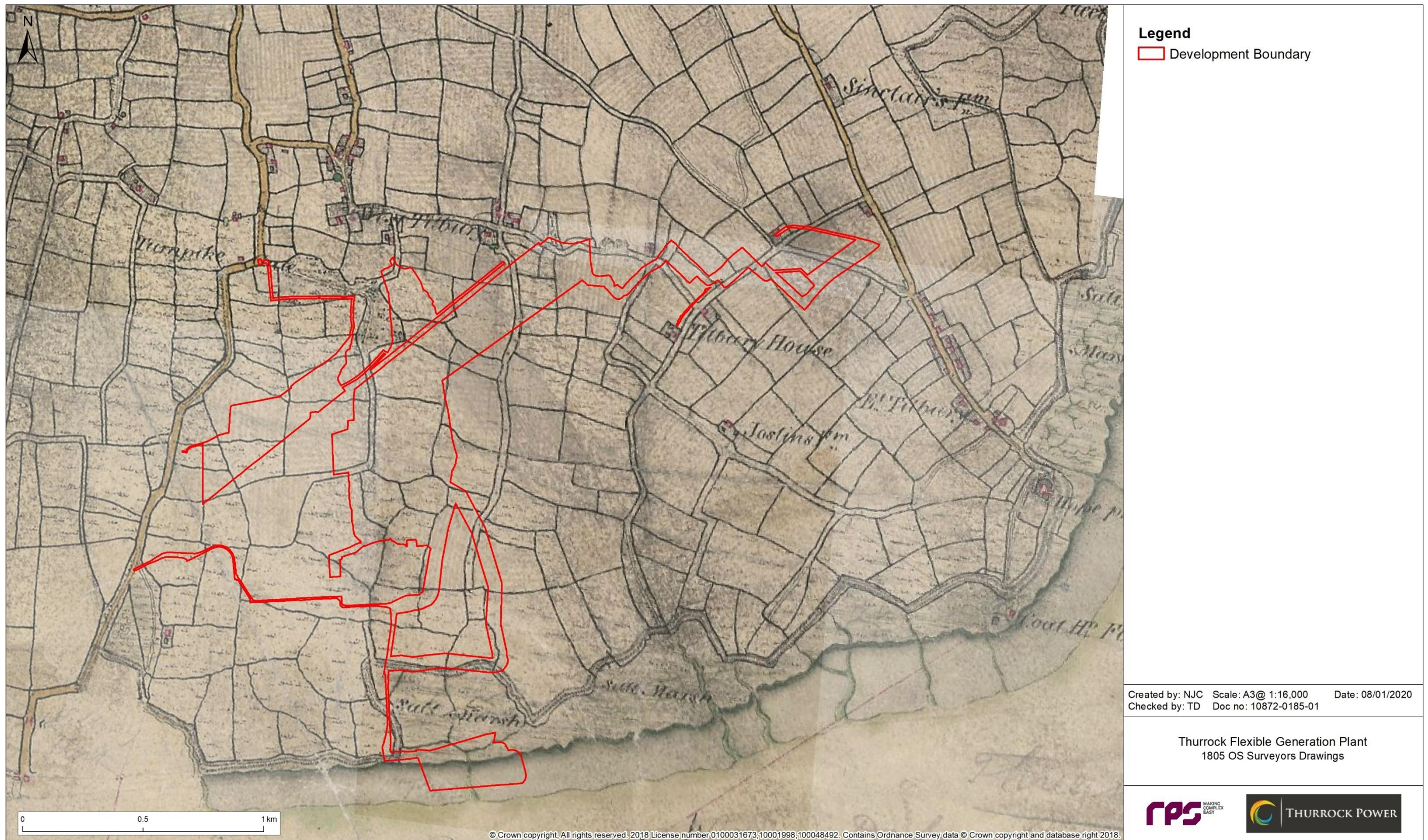


Figure 4.15: 1805 OS Surveyors Drawings

- 4.4.137 The fort at Coalhouse Point is marked as 'Hope Pt Battery' on the 1805 map, this area of the Thames Estuary being formerly known as 'The Hope'. To the south a Coal House is depicted at Coalhouse Point and the footpaths on the 1805 map remain extant, as does the medieval sea wall which is part of the Two Forts Way.
- 4.4.138 An area of ridge and furrow is shown on the 1805 map in the northeast part of Zone C, most likely previously associated with 'Parkers' farmstead to the east of Low Street but this has since been largely quarried away (shown on modern mapping as a disused pit – see Figure 1.2, the area having been renamed as Gravelpit Farm by the end of the 19th century) although traces of ridge and furrow and former field boundaries, as well as a possible palaeochannel, are visible on the Lidar data within the rest of Zone C (see Figure 1.4).
- 4.4.139 Tithe Maps for East and West Tilbury were produced in 1839 (see Figure 4.16) and accompanying Apportionments in 1840.
- 4.4.140 Comparisons between the 1805 map and the Tithe Awards show additional straight-line and angular boundaries being inserted into the landscape as a result of the Tithe Commutation Act which received Royal assent on 13th August 1836: this abolished a rent formerly payable in kind to the Church, which after the Dissolution had passed into lay hands, and substituted rent-charges apportioned on each plot or parcel. The commutation could be by voluntary agreement between the local owners and payers or, if agreement failed, could be compulsorily imposed by commissioners. A Valuer was to be appointed to apportion the rent of each parcel of land and tenants could deduct that rent-charge from their rent paid to the landlord.
- 4.4.141 All the Common Land within and surrounding the Site (e.g. Walton Common and Parsonage Common) were owned by the Crown, i.e. Her Majesty Queen Victoria.
- 4.4.142 A large proportion of the land surrounding the Site within the West Tilbury Parish is recorded as being owned by 'The Trustees of Frances Georgiana, the Wife of Edward Henry Moore Kelly, Esq.' Documentary sources show that Frances married Lieut. EH Moore-Kelly on May 9th 1837 at St Georges', Bloomsbury, and that she was the only child of a Captain Hunt (deceased): therefore it would seem that the lands at Tilbury were part of her inherited estate from her father, who had owned West Tilbury House and various landholdings around it.
- 4.4.143 The fields within and surrounding the Site are variously recorded as 'Marsh' and by size (e.g. Three Acre Marsh, Six Acre Marsh, Ten Acre Marsh), some of which were listed as arable fields, and others pasture. Frances Georgiana also owned (in trust) the Saltings at the river edge, and the West Tilbury estate extended southwards from the village and across the marshland and former common land to the estuary.
- 4.4.144 The Hunt family are recorded as owning West Tilbury Hall and Estate in the 18th century, with Capt. Thomas Hunt also owning an East India Shipping Company ship, the 499 ton 'Tilbury', which set sail for Bombay in 1752. The West Tilbury Estate was later acquired by James Burness in 1872, the Burness family being another major landowner in the area.
- 4.4.145 The first edition OS six inch to the mile map of 1873 (not reproduced) shows a similar disposition to that of the tithe map of some 35 years previously, but omits to show Tilbury and Coalhouse Forts, presumably for security reasons. By this time, the area was becoming more populated: census returns show that the population West Tilbury in 1871 was listed at 372. When Low Street Station had opened in 1854, the population of West Tilbury was 259, although the first census of 1801 had recorded a population of only 201.
- 4.4.146 The 1895 OS six inch to the mile map (Figure 4.17) shows very minimal boundary loss between the historic field pattern depicted on the 1839 Tithe within the West Tilbury portion of the Site, save the loss of one division. The biggest change, was however, the construction of the railway, which severed some of the traditional routeways from the higher ground to the farmland marshes and altered some field patterns as the fields were bisected. Similarly, there are no changes to the landscape or field patterns within the East Tilbury portion of the Study Area during the latter half of the 19th century.
- 4.4.147 Directories started in the late 17th century but it was not until the 19th century that they became more wide-spread across Britain and more comprehensive. By 1850 the main directory publishers were the Post Office, White's, Pigot's, and Kellys. There are limitations to this data though, as the directories only list the principal residents of a place (such as the rector, and parish clerk) and tradespeople, so others, such as agricultural workers for example, are unrepresented. However, a more detailed social history of a place can be traced through census records.
- 4.4.148 The inhabitants of West Tilbury were predominantly farmers, but with some other trades such as cattle dealer, baker, milk seller, grocer, blacksmith and shopkeeper. A Board School had been built in 1877 and enlarged in 1894 for 110 children, although the average attendance was only 66. It was a similar demographic in East Tilbury, where an insurance agent, and manager of Floating Gunpowder magazine are also listed.



Figure 4.16: 1839 East and West Tilbury Tithe maps

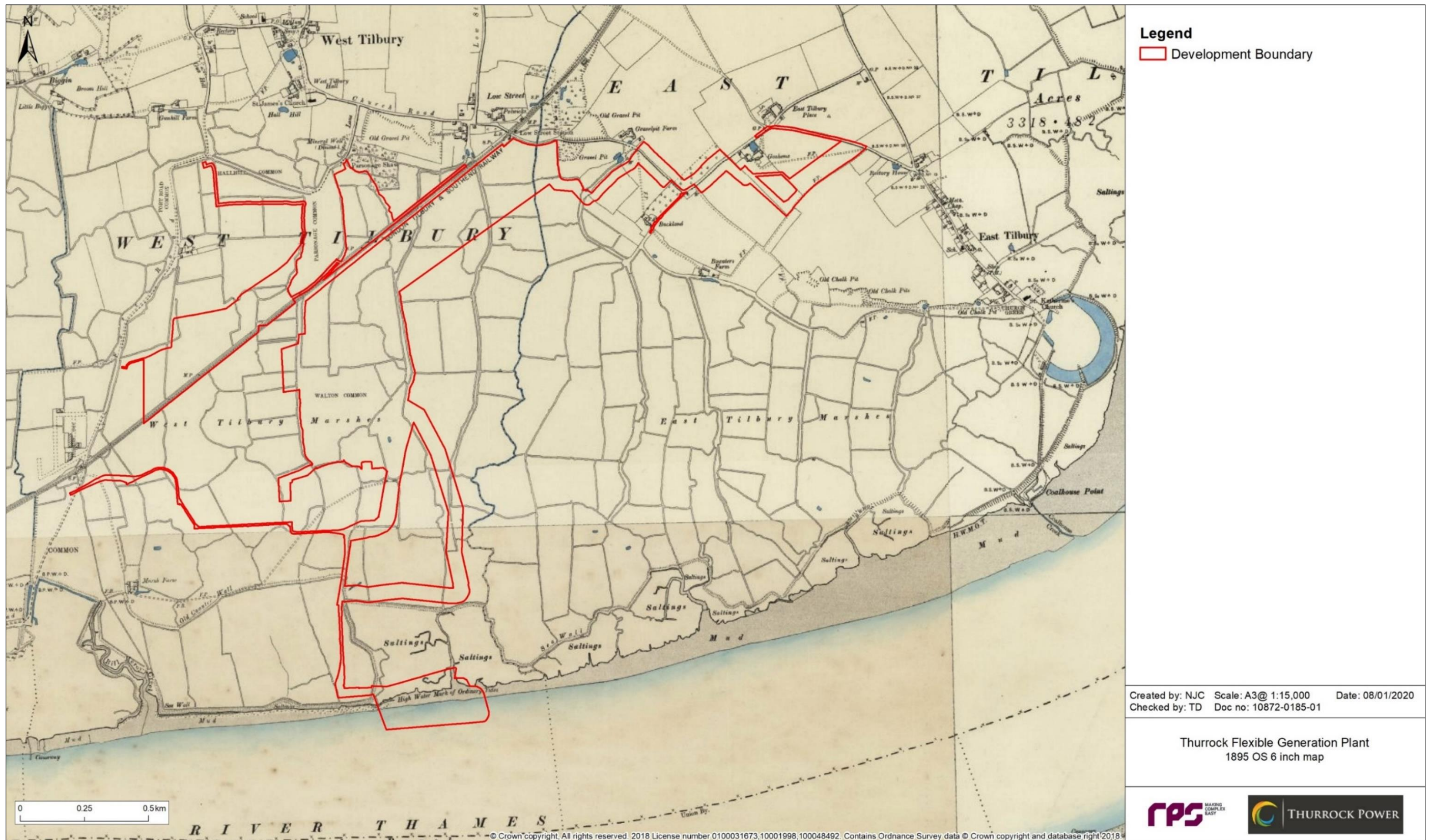


Figure 4.17: OS 6 inch to the mile map, 1895

Early 20th century

- 4.4.149 At the end of the 19th century, there had been little socio-economic change since the medieval period within the immediate area of the Site, which had remained largely rural and agricultural in nature. However, to the west, Tilbury Docks were opened in 1886 to alleviate congestion in the main London docks in the East End and begin the process of the gradual modern industrialisation of this part of the Thames. Tilbury was convenient because of the availability of land and the presence of the railway which had been built in 1854 to connect with Tilbury ferry. The railway station was originally known as Tilbury Fort but soon became simply Tilbury.
- 4.4.150 At the same time, the construction of the railway and development of the Docks led to the beginnings of the creation of the modern urban town of Tilbury to the south of Chadwell St Mary on the Chadwell Marshes to house the workers (see Figure 4.18). In 1912, the growth of the community was recognised by the establishment of Tilbury as an urban district. The newly established council began a programme of house building that continued into the 1920s, although it was delayed by the First World War.
- 4.4.151 After the First World War passenger numbers through Tilbury increased significantly and it was realised that there were no central facilities for passengers. Given that liners were able to berth at this point in the River Thames, it was decided to make Tilbury the centre of passenger operations in London. A Bill was subsequently passed by Parliament to give powers to the Port of London Authority to build a passenger landing stage in 1922, and construction commenced two years later. The Grade II* listed neo-Georgian structure includes the railway station and baggage hall, ticket office, and floating landing stage. The architect was Sir Edwin Cooper for the Port of London Authority.
- 4.4.152 At East Tilbury, some 1.5 km northeast of Zone A, a purpose-built industrial village (**HA164**; see Figure 4.19) was developed between the 1930s and the 1960s for the British Bata Shoe Company Ltd as one of a number of satellites or colonies that the parent organisation, the Bata Shoe Company, based in Zlin, near what is now the eastern border of the Czech Republic, was constructing around the world in the 1930s. The East Tilbury Conservation area now covers the site and surroundings, and some of the houses and buildings within are also Grade II listed (**HA165** to **HA173**). Both the layout and design of the pre-war factory, housing and community facilities were devised by the parent company and the settlement combines Garden City planning and Modernist architecture. Its character has subsequently been diluted by a large private residential development of the 1970s and piecemeal change to the company buildings and is on the Heritage at Risk register.
- 4.4.153 A brickworks was established at Low Street during the early 20th century (**HA174**), but closed in 1967.
- 4.4.154 Gravesend Reach and The Lower Hope were still important, strategic defensive sites for London, although by the end of the 19th century muzzle-loaded guns had become obsolete, and emphasis was placed on strengthening defences downstream from Gravesend. As a result, New Tavern Fort then lost some of its strategic importance. In 1905 concrete emplacements for two six-inch breech-loading guns were built, joined together by a walkway with a separate magazine underneath. Although the fort was garrisoned during the First World War, its strategic importance continued to decline. In 1930 it was purchased by the Gravesend Corporation who laid it out as a pleasure garden for the public. During the Second World War the magazine built for the breech-loading guns was used for a time as an air raid shelter. Since then the site has again been cultivated as a public garden.
- 4.4.155 There were a number of late 19th and early 20th century alterations to Tilbury Fort. During the First World War anti-aircraft guns at the fort brought down a German airship, whilst to the north at Orsett there was a military airfield, which operated as a landing ground from 1916 to 1919 during the early days of military aviation. By 1905 Tilbury Fort had been provided with 2 6" converted breech-loaders and 4 12-pounder quick-firing guns, which remained until after World War II.
- 4.4.156 In 1903 Coalhouse Fort was refortified with 5-6 feet of concrete placed on top of the 1860 battery roof. This structural strengthening was to support the weight of new guns. The fort was effectively obsolete during the First World War but was reoccupied during the invasion scare of 1940. By 1905, a small earthen battery with two searchlights had also been built about 300 yards to the south of the fort. This was later adapted to take three searchlights with generating equipment (HA). Following the Second World War it was used as a store by Bata Shoes and then acquired by the district council. The fort is not shown on the OS edition of 1873, where the area is shown as fields (albeit with a moat), but is marked, at least in part, on the OS six-inch edition published in 1923 (see Figure 4.18).

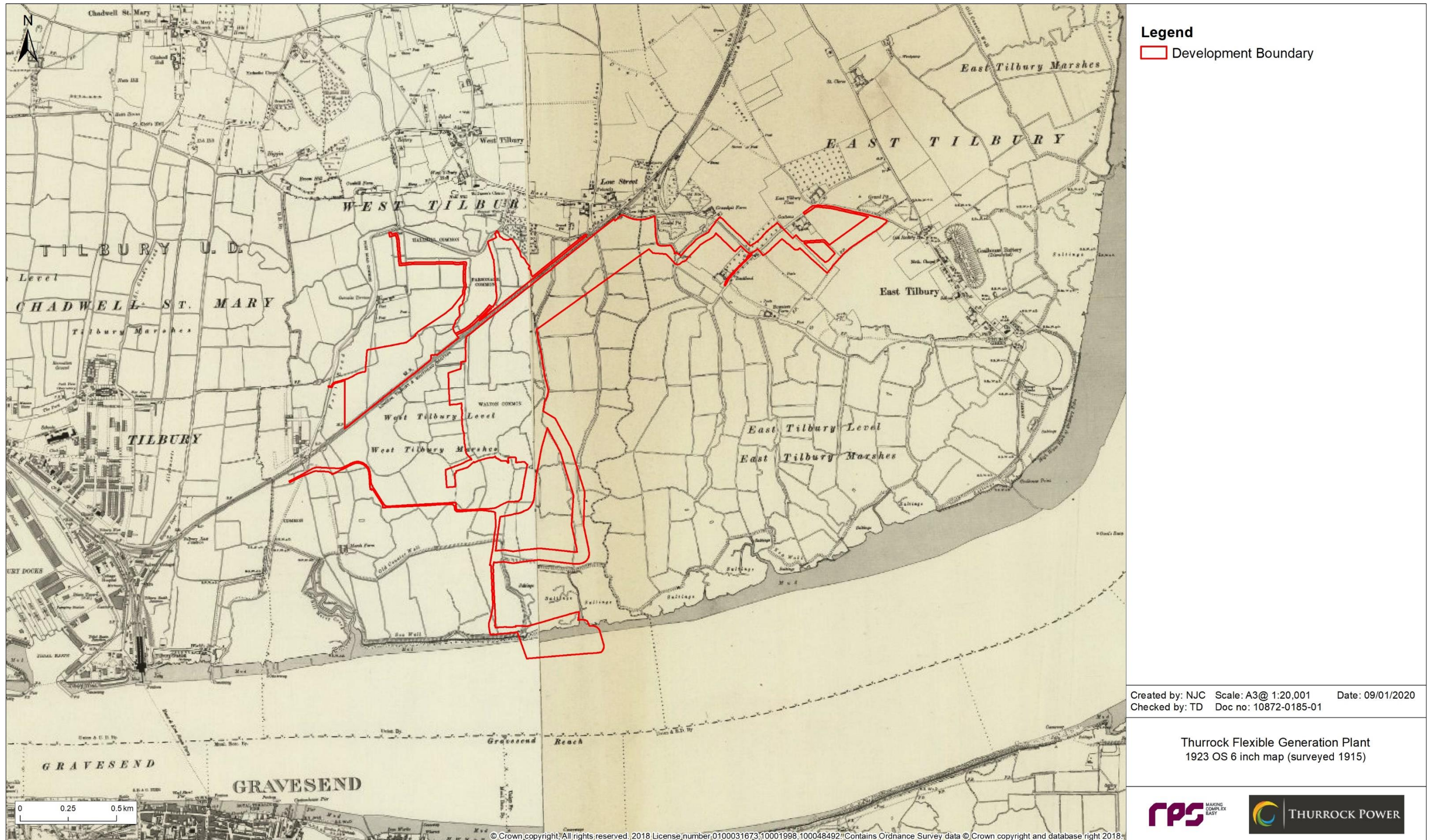


Figure 4.18: 1923 OS 6 inch to one mile map (surveyed 1915)

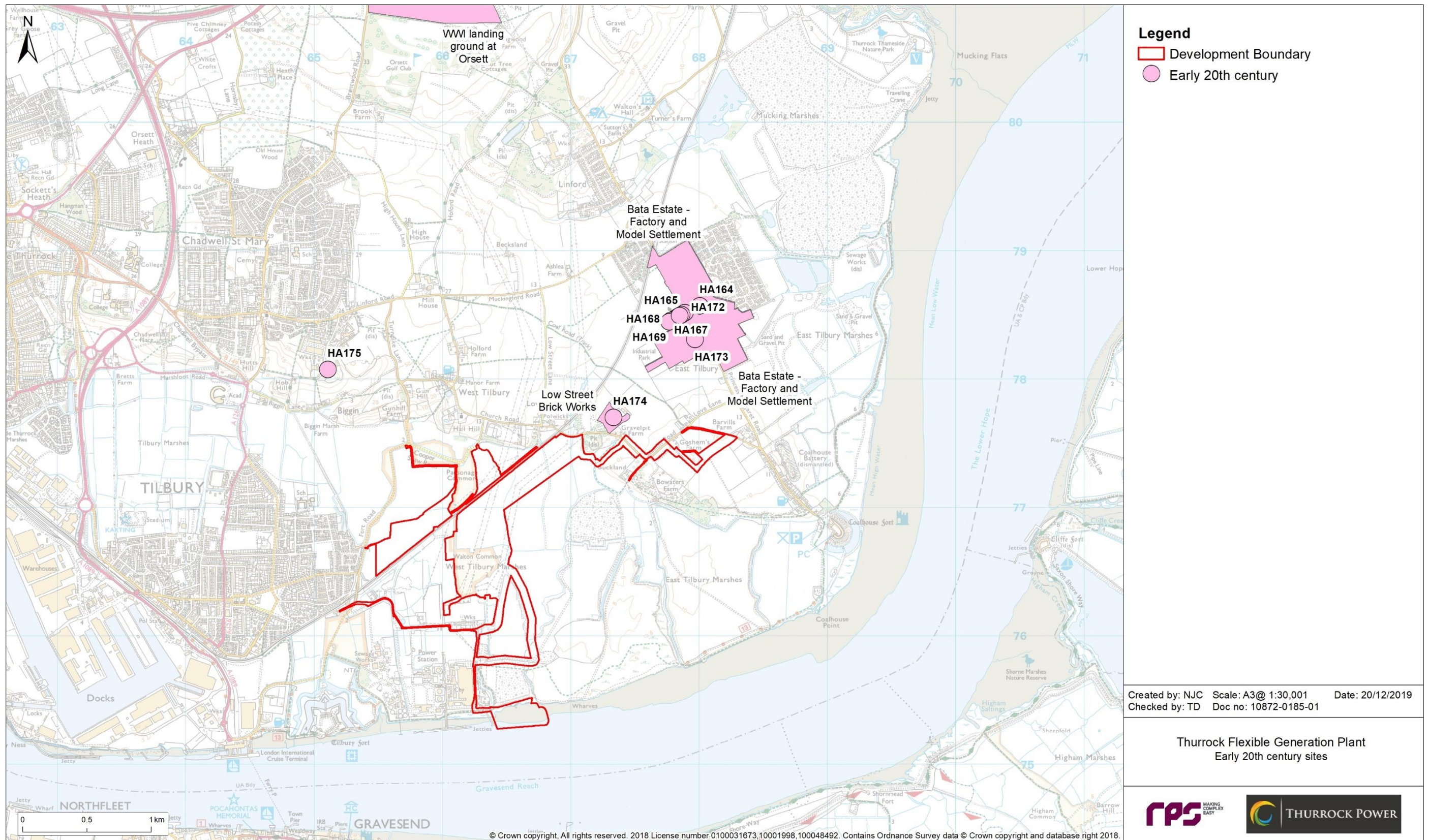


Figure 4.19: Early 20th century sites (pre-WWII)

World War II

- 4.4.157 A number of defensive features of Second World War date have been recorded both within the application Site and in its vicinity (see Figure 4.20). During WWII there was the development of a wide range of defensive measures to meet the much greater threat of invasion and attack from the air, and included anti-aircraft batteries, gun emplacements (spigot mortars), road barriers and anti-landing ditches, particularly within locations considered vulnerable to attack, such as Lower Thames Estuary. The low-lying topography of Essex, particularly along the coast, presented many such vulnerable locations, and many fields were criss-crossed with ditches to prevent their use by enemy aircraft. This was one of the main methods used to break up large flat fields but although often referred to as anti-glider or anti-landing ditches, one of their main aims was to prevent the turn-around and take-off of powered aircraft (Ingle and Saunders 2011).
- 4.4.158 As part of a National Mapping Programme (NMP) the Study Area has been assessed through the use of contemporary wartime and later aerial photography to record sites not previously recorded in the EHER and which may, or may not, survive to the present day: during the course of the Second World War, military features appeared in the English landscape on an unprecedented scale, but their impact was largely ephemeral, as the majority of features were removed at the end of hostilities.
- 4.4.159 At both Mucking Marsh and West and East Tilbury Marshes, there are spreads of anti-glider ditches (**HA176, HA177, HA180, HA181, HA209**) recorded from aerial photos, although none of those recorded within the Site are now visible. They each comprise straight ditches set out in interrupted cross-hatch patterns, dividing large fields into smaller components, the individual ditches generally between 100 and 150m long, although varying from this according to the size and shape of the field to be obstructed. Spoil from the ditch was deposited in mounds either side of the ditch. The pattern of the mounds varied, most commonly as lines of regularly spaced single mounds either side of the ditch, although the two lines were offset to provide greatest obstruction (Ingle, in Ingle & Saunders 2011).
- 4.4.160 Whilst ditches were considered the most secure method of obstruction, they were also the most obstructive to agriculture, causing damage to farmland, and it is perhaps not surprising that the majority of the anti-landing ditches recorded in Essex are therefore on enclosed grazing marshes, such as at Tilbury, where they had less impact on agricultural activities than on arable land. The appearance of cropmarks of medieval and earlier sites on both NMP mapping and Lidar data also indicates that these anti-invasion defences probably had little impact on earlier archaeological features beyond the ditches.
- 4.4.161 At Tilbury Fort, in the early stages of World War II, the fort controlled the anti-aircraft defences of the Thames and Medway (North) Gun Zone, and spigot mortar bases were established on the northeast and southwest bastions (**HA187**). A small rectangular pillbox was also added at this time (**HA188**). The elaborate outworks which surround the landward sides of the fort remained substantially unaltered.
- 4.4.162 Close to Tilbury a D-Day Assembly Area is recorded (**HA183**) as well as 18 air raid shelters on the Recreation Ground (**HA184**).
- 4.4.163 Coalhouse Fort was also reused during WWII where there was a minefield control tower, associated infrastructure and also spigot mortar sites (**HA182, HA211** and **HA212**), all of which are designated by virtue of being within the scheduled area.
- 4.4.164 The East Tilbury Battery was decommissioned in 1907 and the guns removed: the battery is marked as disused on the OS six-inch edition of 1923 and sold to a local farmer in 1930. However, during World War II he used the site as an unofficial air-raid shelter.
- 4.4.165 At St Catherine's Church, East Tilbury, a small searchlight/gun battery was established (**HA205**), and formerly occupied an area now overtaken by the cemetery extension.
- 4.4.166 At Bowaters Farm, located to the south of Zone D and c.1.27km east of Zone A, a heavy anti-aircraft (HAA) battery was built at the start of WWII (**HA210**), and is a scheduled monument. The monument includes eight concrete gun emplacements with their connecting roads and vehicle parks, magazine and command post.
- 4.4.167 Various spigot mortar emplacements are also recorded within the Study Area (**HA193 – HA204**), as well as Tett Turrets (**HA206 – HA208**), road barriers (**HA189 – HA192**) and gun cupolas (**HA178, HA179**), the majority of which are no longer extant.
- 4.4.168 Cliffe Fort on the Kent coast opposite Coalhouse Fort was occupied during the First World War and disarmed sometime after 1927. During Second World War the fort was used as the base for the Royal Navy Auxiliary Service. Partial remains of the battery survive at the fort in poor condition.
- 4.4.169 During the Second World War Shornmead Fort was also reopened as an emergency battery. The formidable riverside display of bull-nosed granite gun embrasures remained, but behind these there was considerable destruction during the 1950s by the army school of demolition. By the late 1970s (at the latest) the barracks were in a derelict state. Most of the structure has now been demolished, with only the casemates surviving (Newman 2012: 543). The fort is undesignated.

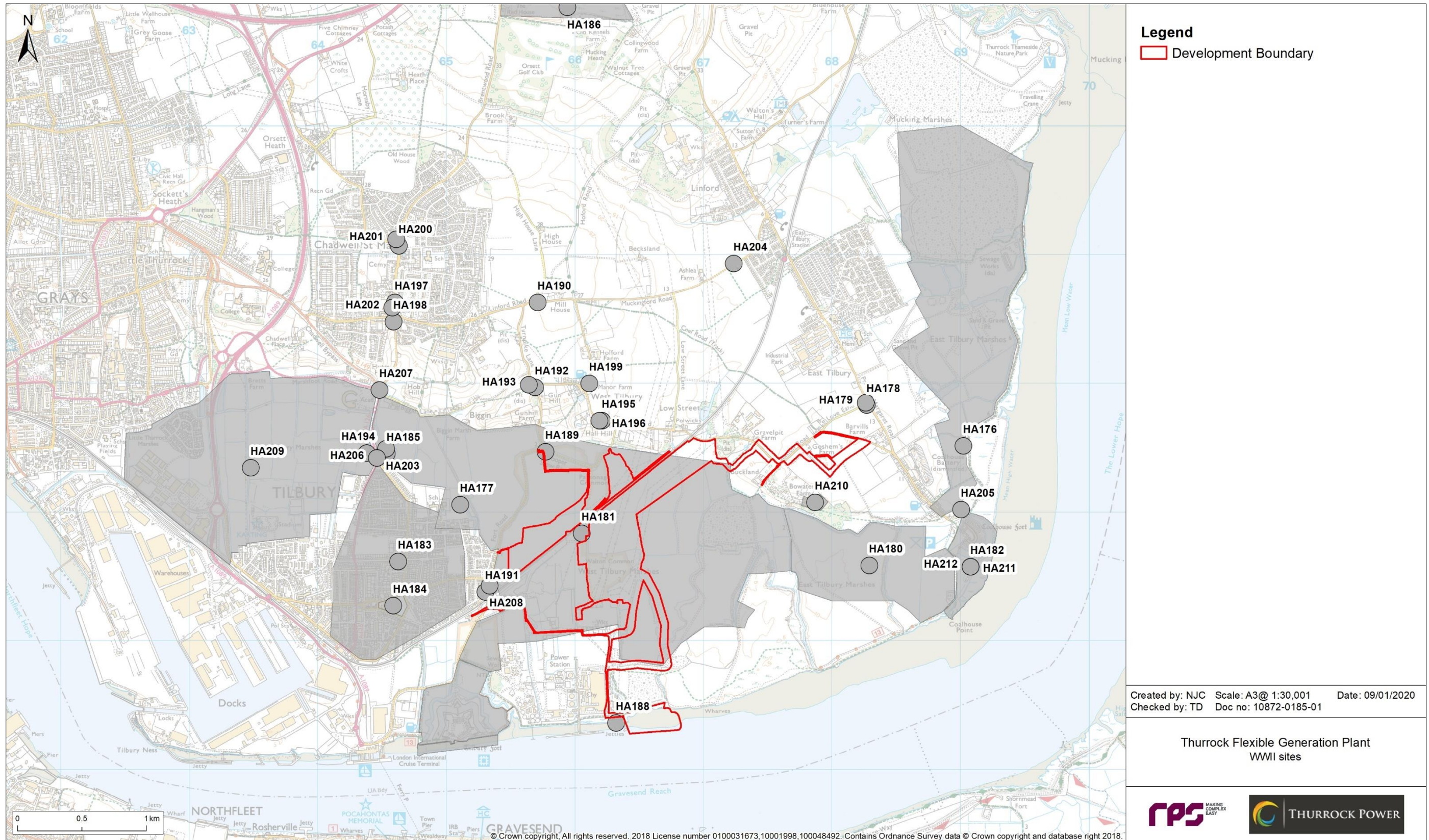


Figure 4.20: WWII sites recorded in the EHER

Post-War (Modern) to present

- 4.4.170 In the 1940s, with the expansion of urban Tilbury, a sewage works was built to the south of the town, immediately adjacent and to the east of Tilbury Fort (see Figure 4.21) on the other side of Bill Meroy Creek.
- 4.4.171 Tilbury 'A' Power Station was constructed to the south of the Application Site and adjacent to the sewage works between 1949 and 1957 (see Figure 4.22). Tilbury 'B' was constructed adjacent to Tilbury 'A' during the 1960s. At this time the jetty was lengthened to the east and its original coal-handling cranes were replaced. By the 1970s works buildings and an electricity sub-station had been constructed and a number of overhead power lines crossed the wider area.
- 4.4.172 The two Tilbury Power Stations, A and B, were built on made ground previously reclaimed from marsh and their construction obliterated the only historic farmstead in the zone – Marsh Farm. Tilbury A was planned by the County of London Electricity Supply Co. in 1947 and completed for CEGB in 1958. It is similar in layout to many mid-20th century power stations with boilers and related plant located in a long rectangular building, with a parallel turbine hall attached to one side. Tilbury B, completed in 1969, is much larger and is architecturally similar to other power stations of its period. The stations, each of which has a full complement of ancillary buildings, form part of the Thames corridor industrial landscape, and are considered to be of national importance although they are not listed (ECC 2007, 71).
- 4.4.173 However, Tilbury 'A' was partly demolished in 1999, whilst Tilbury 'B' was converted to biomass in 2011. The jetty was enlarged in 2004. Following the closure of the Power Station, a programme of demolition has commenced across the remainder of 'A' and 'B' and relatively few structures now remain.
- 4.4.174 Planning consent to build a 400kv Gas Insulated Switchgear (GIS) substation immediately north of Tilbury B resulted in an archaeological evaluation in 2008, but no trace of any remains related to Wick House were found. The substation is located immediately to the south of Zone A and Zone B indicates the connection to be made from the Proposed Development.
- 4.4.175 The former Tilbury Power Station site is currently being redeveloped to create a new port terminal, Tilbury2, comprising a Roll-On/Roll-Off (Ro-Ro) terminal located south of Substation Road and a Construction Materials and Aggregates Terminal (CMAT) to the north of Substation Road (see Figure 4.22). The development has recently been consented and includes modifications and enlargements to the existing jetty and other marine works, as well as warehousing, other buildings and structures, and a new railway provision with improved road bridge.

- 4.4.176 At the time of writing, site investigation works are being undertaken to the east of Zone A on the East Tilbury Marshes as part of a plan for a Lower Thames Crossing to be put forward by Highways England as a DCO application in 2020.

Sites of Unknown date

- 4.4.177 There are a number of records within the EHER dataset which represent finds and features for which no date has been ascribed (see Figure 4.23).
- 4.4.178 Many of these sites comprise cropmarks identified from aerial photographs which have not been ground-truthed through archaeological fieldwork (e.g. **HA217 – HA221; HA223 – HA225; HA227 – HA234**), which include possible ring ditches, pits, linear features, trackways and enclosures, which could date anywhere from the Prehistoric to the Post-Medieval periods.
- 4.4.179 A series of oyster beds (**HA229**) are located c.1km east of Tilbury Power Station and appear to pre-date the 1777 map, as recorded in the EHER. A line of small stakes within the intertidal mud to the east of the covered conveyor belt on the coaling jetty was recorded by Wessex Archaeology during the Tilbury2 walkover survey, which may be part of a fish trap or revetment (**HA226**).
- 4.4.180 What is clear from this cropmark and other evidence is that the wider landscape within the Study Area has seen considerable activity throughout human history, as the landscape has been settled and farmed, and its marine/intertidal resources exploited for millennia.



Figure 4.21: Site and its wider Post-War context

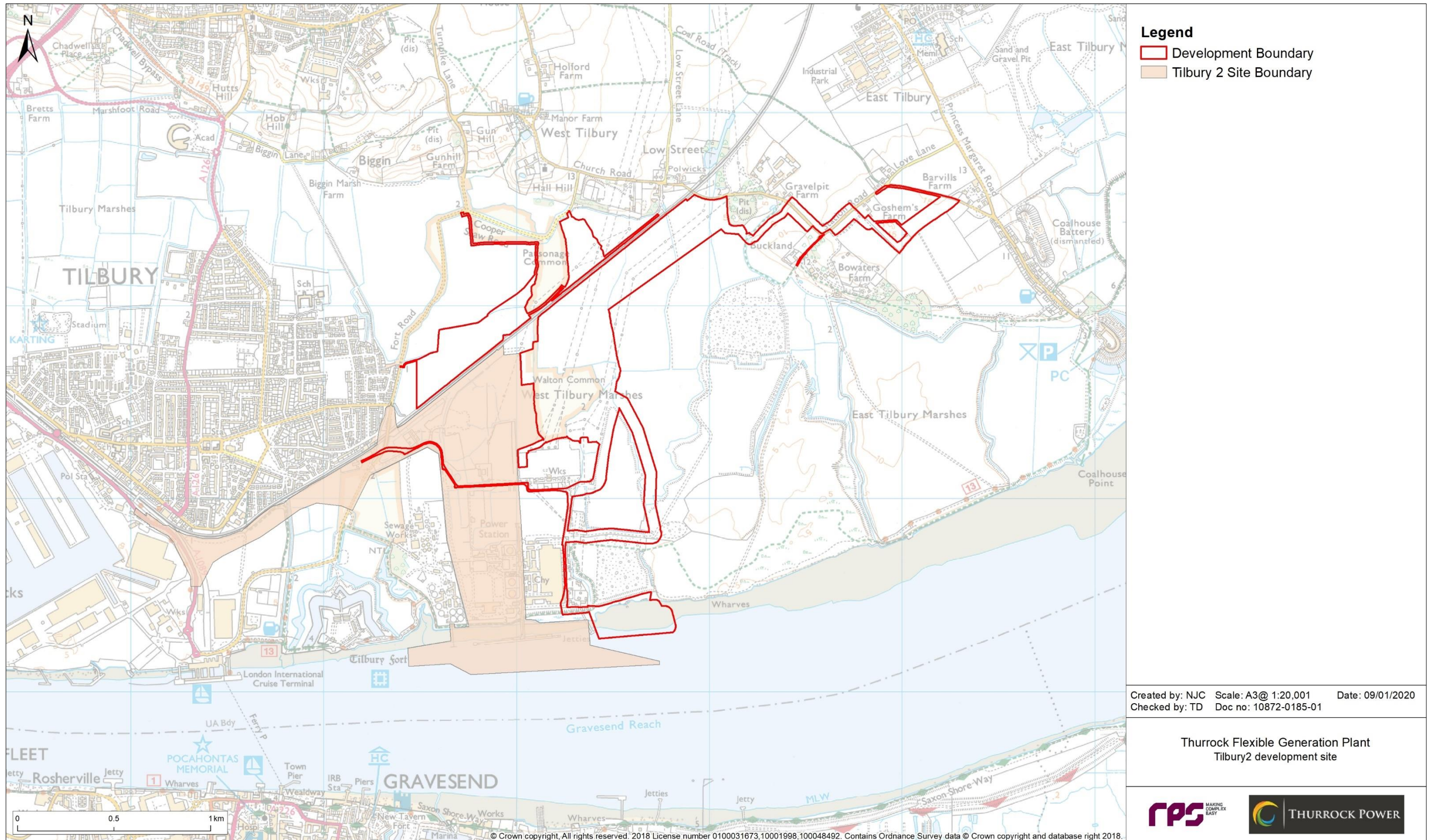


Figure 4.22: Location of Proposed Development Site in relation to the consented Tilbury2 development

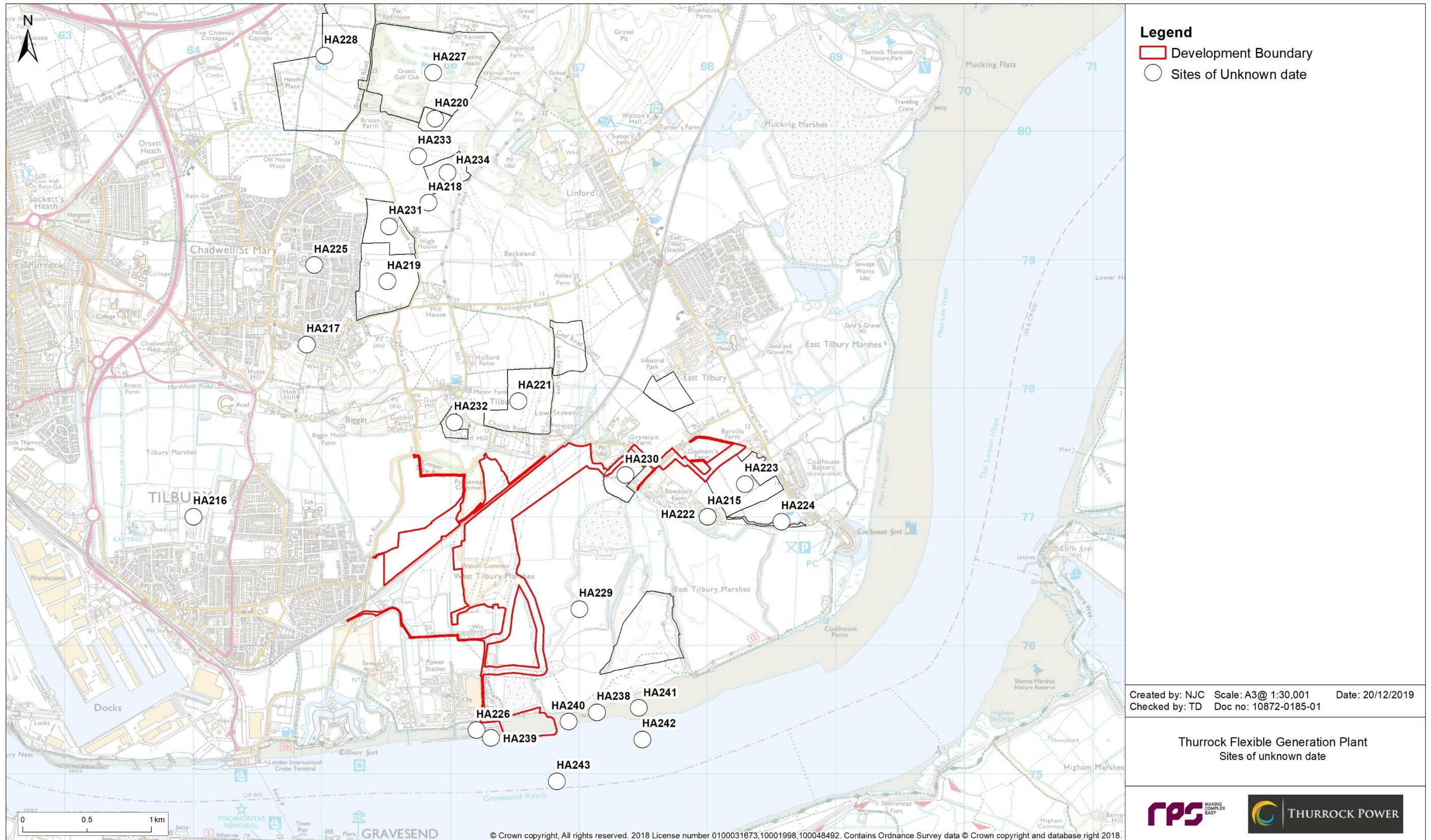


Figure 4.23: Sites of unknown date recorded in the EHER

4.5 Historic landscape and archaeological character

- 4.5.1 The Essex Thames Gateway Historic Environment Characterisation Project was completed by Essex County Council in 2007 and divides the Study Area into a series of landscape and archaeological character zones (see Plate 8).
- 4.5.2 The EHER also supplied a GIS layer which divides the landscape into a more fine-grain analysis of the different components which make up the present landscape within and around the Site (see Figure 4.24).

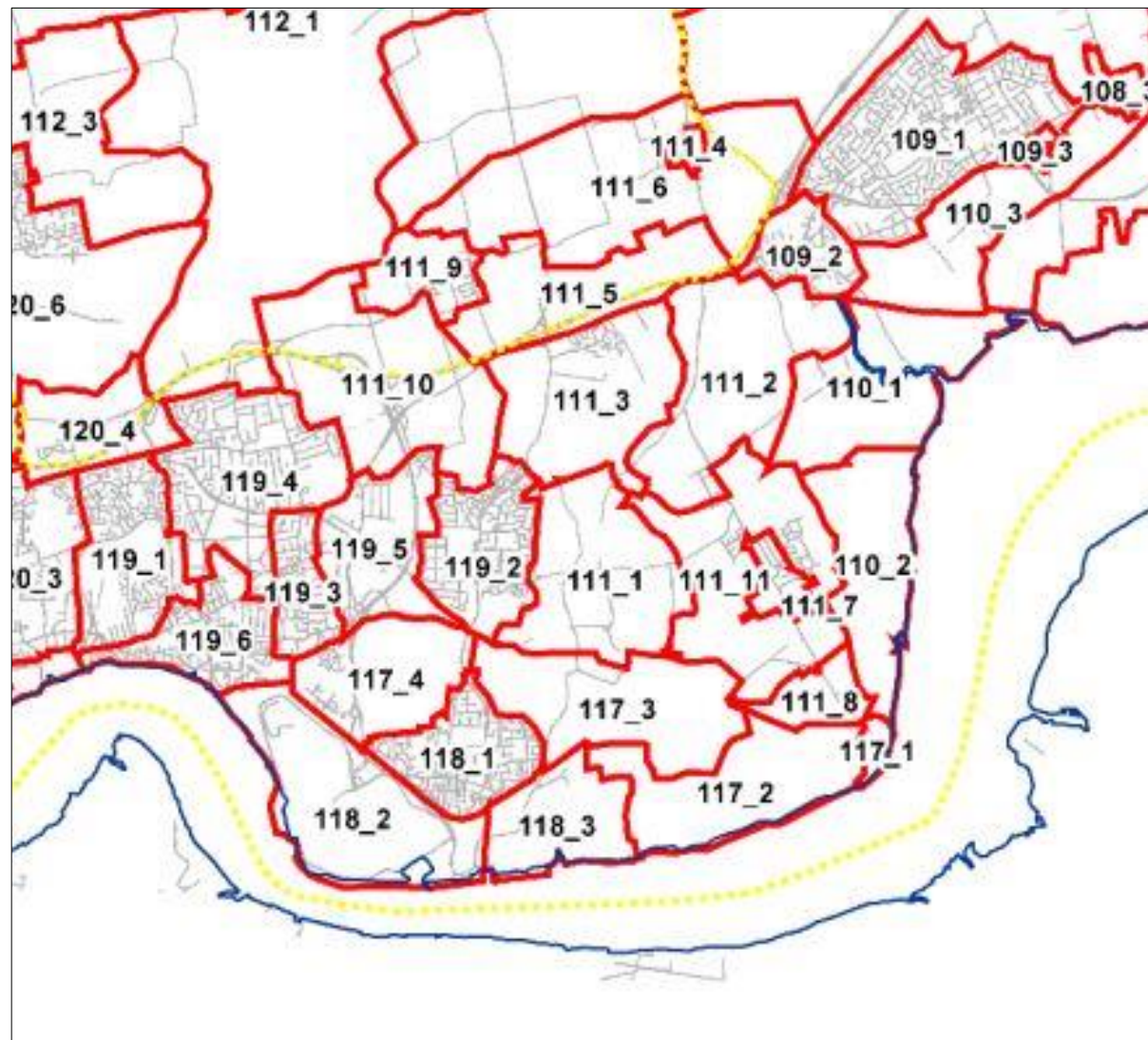


Plate 8: Map of Historic Environment Character Zones (ECC 2007)

- 4.5.3 The following section is taken directly from the ECC Historic Environment Characterisation Report (ECC 2007).

4.5.4 Zone 111_1 West Tilbury: Fields in the northern part of the zone, north of Muckingford Road, are early heathland enclosures dating to 16th century or possibly earlier. Recent boundary loss has created some very large fields, but the general historic grain of the landscapes boundaries is preserved, particularly in the south-east of the zone. The network, of ancient origin, of roads, minor lanes and tracks, some distinctly sinuous, survives.

4.5.5 West Tilbury also has a well-chronicled association with Elizabeth I and her address to the troops at the time of the Armada from a Camp at Gun Hill. West Tilbury continues to be a rural settlement within a historic rural agricultural setting on an escarpment. There are wide views to and from the former marshes to the south and west and from the north and east across the agricultural land. The church tower and trees around the churchyard are an important silhouette and landmark from all directions. A distinguishing characteristic of West Tilbury is the fact that there has been very little physical change to the settlement, which is encapsulated by the Conservation Area. This has resulted in the evolution of a settlement that is sporadic in its character. The built form of West Tilbury is dominated by the adjoining and surrounding landscape. The historic elongated central common encompasses The Green and the meeting of several ancient lanes and footpaths, such as Blue Anchor Lane, Rectory Road and Church Road. The latter leads to the lower historic group of buildings at Low Street, part of the West Tilbury Conservation Area. The Site lies within the setting of this zone.

4.5.6 In terms of archaeological character, the zone lies within a Pleistocene River Valley, with the potential for deposits containing artefacts and faunal remains from the Lower and Middle Palaeolithic. Finds from the gravel pits at Gun Hill include a Lower Palaeolithic handaxe and several flakes and cores. A possibly Neolithic ditch was excavated at the western edge of the zone, but the archaeological character of the zone is dominated by extensive cropmark complexes comprising rectilinear and circular enclosures, linear features and pits, particularly in the area east of Mill House, north of the Muckingford Road, and around West Tilbury. Excavations in 1969-70 west of West Tilbury revealed a series of Late Bronze Age boundary ditches and postholes, and there was also evidence for Iron Age domestic enclosures and Romano-British pottery kilns in this area. Some of the earthworks southwest of West Tilbury may be associated with a 7th century high-status residence, but the focus of the historic settlement is provided by its medieval church, with the adjacent earthworks indicating an extension of the medieval settlement. West Tilbury Common Field contains cropmarks that may represent a previous settlement centre, as well as evidence for strip farming which continued there into the 19th century. Quarrying has affected some areas in the south-west but in general the zone contains the potential for a substantial archaeological resource.

- 4.5.7 Zone 117 3 Low Street and West Tilbury Marshes: The rural landscape consists of small, rectilinear fields with extensive drainage ditches on the grazing marsh to the south. There are several commons southwest of Low Street, some of which were dissected when the London, Tilbury & Southend Railway was built in the 19th century. The zone has not been developed to any extent during the 20th century although the construction of anti-glider trenches during WWII would have changed temporarily the character of the historic landscape. There are major power lines running north from Tilbury Power Station across this zone, and the Proposed Development Site sits mostly within this character area.
- 4.5.8 There are two potential Romano-British 'Red Hill' saltworking sites at the east of the zone and some Romano-British pottery was found in a gravel pit immediately south of Low Street. There are also a series of undated linear cropmarks in the north east corner of the zone, in fields to the north of Buckland House. It is likely that there will be buried remains relating to the late medieval development of Low Street. The remains of anti-glider trenches appear as low earthworks or cropmarks forming crosses within fields. The archaeological potential of this zone could be significant, although much will depend upon the scale of the 20th century dumping on reclaimed marshes.
- 4.5.9 Zones C, E and F of the Application Site lie within this zone.
- 4.5.10 Zone 118 3 Tilbury Fort and Power Station: The historic landscape of this zone is dominated by Tilbury Fort, a scheduled monument, and Tilbury Power Station. The first fort was constructed in the 16th century, although the present fort is substantially that constructed in the late 17th century as an artillery fortress designed by Sir Bernard De Gomme. Tilbury Fort is the best preserved example of late 17th century military engineering in England. It was further extended and re-armed between 1861 and 1888. During WWII anti-aircraft guns were mounted on its south-east and north-west bastions. The fort at Tilbury is linked to Coalhouse Fort on the coastline to the northeast by means of the Two Forts Way, a public footpath.
- 4.5.11 The archaeological character of this zone is largely defined by the fort and power stations as described above. There have been archaeological investigations at the fort in advance of maintenance work by English Heritage, and this military complex remains a major military resource for further study. Archaeology in the area of the power station will have been mostly destroyed by the construction of foundations and made-ground but the built environment of the power station is an important historical and archaeological resource. This zone contains stratified palaeo-environmental deposits of critical importance for understanding the development of the Thames Estuary. The open ground to the north of the fort and power station may contain a range of archaeological sites and deposits. Zone G lies within this area.
- 4.5.12 Zone 117 2 East Tilbury Marshes: This area historically comprised grazing marsh with a field system of small, irregular enclosures, most of which has now been quarried with extensive dumping. The coastal area was utilised during the Romano-British period for settlement and as an economic resource. A medieval sea wall was located in the southwest of the zone and inland the fields were criss-crossed with WWII anti-glider trenches. There is no settlement focus in this zone, which is defined on its southern border by the Thames. The rural landscape consisted of predominantly small, irregular fields with extensive drainage ditches that might suggest enclosure at an early date for enclosure. This marshland reclamation would have provided extensive grazing, a characteristic feature of the Essex marshes. The zone has had extensive quarrying and dumping during the 20th century with the exception of the most easterly portion. Despite this extensive disturbance some possible early counter walls and track ways appear to survive.
- 4.5.13 This zone is predominantly characterised by evidence for Romano-British settlement and land-use along the coastal marshland area. At the southwest, below the present high tide level, there are remains of hut circles, associated with much 1st – 2nd century AD pottery. To their east, a shallow channel with traces of flanking stakes, running north-east – south-west, may have been a former trackway from the old river edge. Further pottery was found elsewhere along and close to the shoreline, and there is a possible 'Red Hill' Romano-British saltworking site in the north of the zone. A medieval sea wall was located in the south-west of the zone. The character of the zone is also partly defined by the remains of anti-glider trench, which appear as low earthworks or cropmarks forming crosses within the fields. The archaeological potential of the eastern part of this zone is likely to be significant, as may be the coastal zone. There is potential for Palaeo-environmental sequences.
- 4.5.14 Zone A and the haul road of Zone G of the Application Site fall within this zone.
- 4.5.15 Zone 111 11 East Tilbury and surrounding land: This zone, bounded to the east by the Tilbury Marshes, surrounds East Tilbury, excluding the BATA estate (zone 111.7). It comprises both rural landscapes and 20th century factory and housing developments. There is evidence for Bronze Age and the Iron Age occupation, and a Roman road forms the dominant axis of this zone, which is also crossed by a railway line established in the 19th century. The Roman road, running towards a former Thames crossing, continues to provide a very clear axial route through the zone. The historic settlement pattern within this zone was dispersed, but some ribbon development had already been established along the Roman road by the time of the 1777 Chapman and Andre map. The field pattern suggests early enclosure, with small irregular fields characteristic of heathland assarts.

- 4.5.16 The west of the zone contains East Tilbury Great Common Field which had been partially enclosed by the late 19th century, by when also the London, Tilbury & Southend Railway was constructed through the zone. In 1904, The South Essex Waterworks Co. opened a brick-built pumping station in the northern part of the zone, around the east and north of which the nucleated settlement of Linford developed. The areas of nucleated settlement at East Tilbury, to the immediate east and north-west of the BATA estate, were also developed as housing during the 20th century. There were three areas of sand and gravel extraction in the southern part of the zone, and the Low Street Brick Works, situated north-west of Gravelpit Farm, operated between the early 1900s and 1967.
- 4.5.17 The zone lies within a Pleistocene River Valley, with the potential for deposits containing artefacts and faunal remains from the Lower and Middle Palaeolithic, although no Palaeolithic finds are known from this zone. There is a range of cropmarks in the zone and recent archaeological evaluation around East Tilbury has revealed extensive multi-period occupation. In the north-west of the zone an important earlier Bronze Age double-ditch round barrow was excavated in 1960, and there are ring-ditch and rectilinear enclosure cropmarks in the eastern and northern parts of the zone. An Iron Age enclosure was excavated at the south, and the Roman road runs north-west – south-east through the zone to a Thames crossing point south of East Tilbury, may be pre-Roman in origin, and is likely to have been a major influence on settlement patterns in this zone. This zone has high archaeological potential.
- 4.5.18 Part of Zone D of the Application Site sits within this zone.
- 4.5.19 Zone 117 1 Coalhouse Fort: This zone is characterised by Coalhouse Fort, which commands a position overlooking the Thames. It was a multi-period fort although it is the 19th century structure and earthworks that survive best.
- 4.5.20 This zone is defined by Coalhouse Fort, the site of a series of fortifications dating back to the time of Henry VIII. Little is known about the pre-18th century fort, although an unlocated blockhouse was constructed near Coalhouse Point in the 16th century but was in ruins by 1735. In 1795, an open earthen battery was built to take four 32-pounder guns. This was demolished in 1855, to be replaced by a second open battery for 17 guns. Following a Royal Commission report of 1860, a fort was built as a curved casemate face with defensible, bastioned barracks closing the gap at the rear. It was two-storied, the lower tier containing magazines and storehouses protected at the front by 7m of granite, overlaid by an earth slope or glacis. A moat surrounded the front (river) face, as shown on historic mapping.
- 4.5.21 Shortly after 1892, however, both guns and fort were obsolete, and soon after 1900 a dry ditch in front of the fort was filled in and an earthen bank thrown up against the face of the casemates for better protection, and possibly to render the fort less conspicuous. In 1905 an earthen searchlight battery was constructed about 200m to the south. For a while during WWII the fort was used as a naval monitoring station.
- 4.5.22 Coalhouse Fort is located at the southern end of a Roman road that seems to have been in almost continuous use up to the present day, with the road ending at a crossing point/wharf on the Thames.
- 4.5.23 The fort is a scheduled monument, and the Application Site lies within the wider setting of the monument.
- 4.5.24 A strong historic landscape pattern of piecemeal enclosure is suggested by earlier historic maps from the late 17th to the end of the 19th centuries. However, as demonstrated by modern developments within the Study Area, such as urban Tilbury, the sewage works, and Tilbury A and B Power Stations, as well as widespread mineral extraction in parts of East Tilbury Marshes, large parts of the former historic landscape have been severely denuded.
- Historic landscape character**
- 4.5.25 The EHER Historic Landscape Character areas are shown on Figure 4.24.
- 4.5.26 Zone A of the Proposed Development Site comprises Walton Common, which is characterised as an area which saw gradual piecemeal enclosure by agreement. The common land is currently a mix of flat grazing land with encroaching vegetation in places, with survival of historic drainage patterns and reasonable legibility, although the modern intrusion of several power lines and the railway bisecting the land from Parsonage Common and West Tilbury has denuded its character.
- 4.5.27 Zone G lies within an area of unimproved intertidal saltmarsh, where there are also the remnants of medieval sea defences and areas of drained, pre-18th century reclamation. Evidence from BH1 during recent site investigation works within Zone A (Quest 2019) suggest that the landscape here may have been reclaimed during the Bronze Age, or that at least it was certainly being actively exploited at this time.
- 4.5.28 Zones C, E and F lie within areas characterised as having suffered significant boundary loss, and Zone C in particular is crossed by power lines, with the railway also severing the former historic field pattern within these zones, which has degraded its character and legibility. However, the historic drainage channels which formed the land divisions remain largely extant, although access to the marshland and foreshore through the historic routeways depicted on the 18th and 19th century mapping, and up to the 1950s, is now largely restricted.

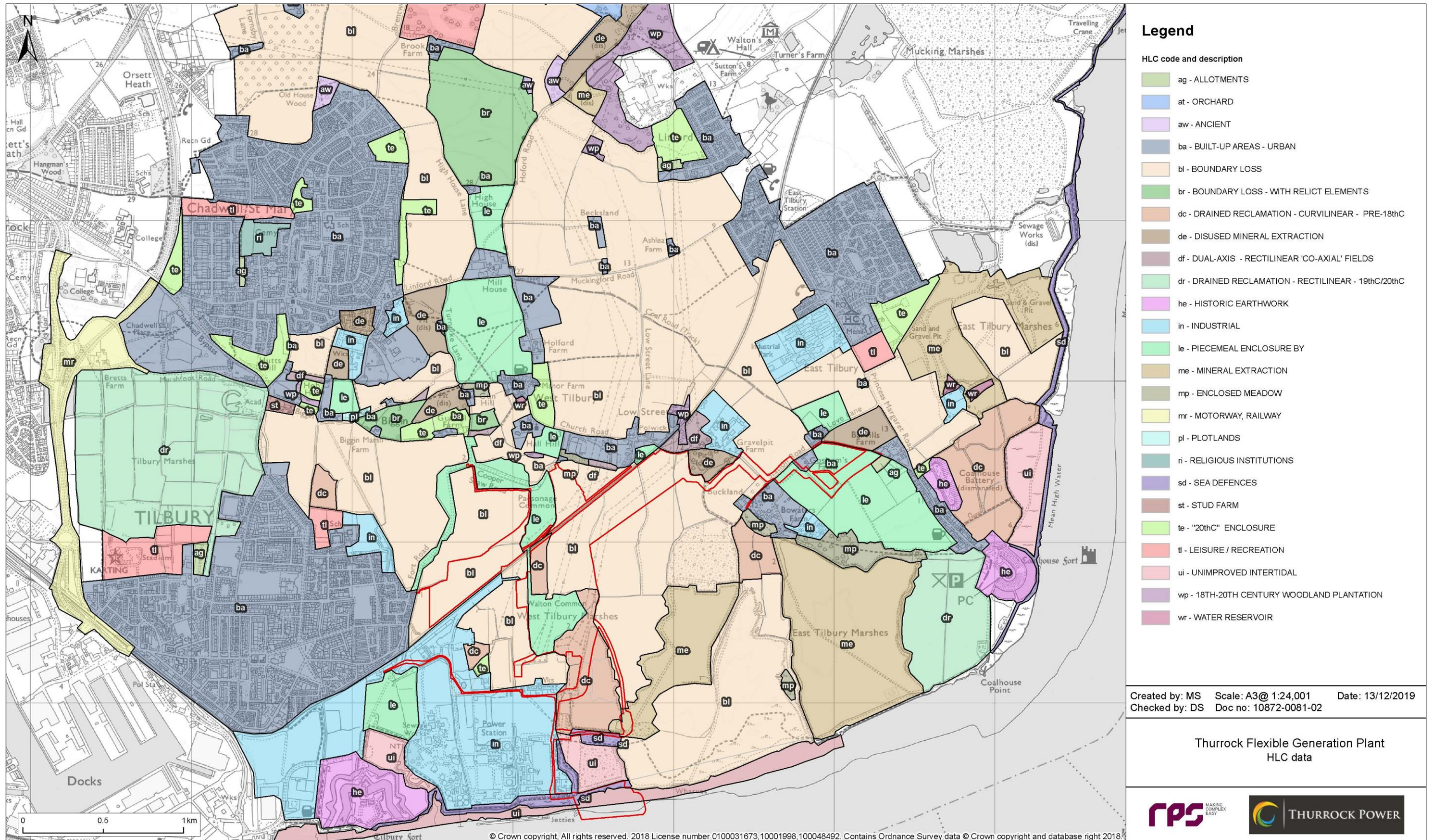


Figure 4.24: Historic Landscape Character (ECC EHER)

4.6 Marine and intertidal

- 4.6.1 The Proposed Development comprises the construction of a causeway and access road in order to facilitate delivery of abnormal indivisible loads (AILs) (Zone G) so that materials for the construction of the main part of the Site, Zone A, can be delivered. The causeway is provided with a minimum crest width of 12.5m which is sufficient to accommodate the dimensions of the anticipated AIL. At the outer end of the causeway, two crane pad areas are provided to accommodate the crane required to assemble the barge ramp structure.
- 4.6.2 To construct the causeway, the very soft foreshore sediment will be removed at low tide (to an assumed depth of 0.5m) and backfilled with crushed rock fill placed on a geotextile layer (to prevent it simply sinking into the bed material below). The causeway is then formed from further crushed rock aggregate, reinforced by one or more further layers of geotextile.
- 4.6.3 The longitudinal sides of the causeway will be formed to a stable slope and protected from erosion by tidal currents by rock filled reno-mattresses. At the river end of the causeway, a gabion wall is provided in order to retain the causeway material and to provide a nominally vertical face adjacent to the beached barge.
- 4.6.4 Modifications to the flood defence wall are also proposed, so that the landward end of the causeway will tie into the existing ground level immediately in front of the reinforced concrete flood defence wall. A length of this existing wall will be broken out and reconstructed to incorporate a 12.5m clear gated opening to permit the AILs to be driven through the wall.
- 4.6.5 The proposed delivery barge is specially designed to be safely beached onto the river bed however the bed must be prepared to be suitable for safe beaching. Preparation will include removal of high spots, infilling of any large low spots and removal of any hard spots or foreign materials found at the surface. This preparation will be undertaken over an area extending slightly larger than the barge in order to allow for some flexibility and adjustment in the precise position of the barge.
- 4.6.6 Recorded marine heritage assets are shown on Figure 4.25, and comprise a mix of wrecks and iron hulks, the latter of which (**HA235** and **HA236**) are visible on the foreshore at low tide (see Plate 9 and Plate 10), and are most likely 'lighters' (a type of flat-bottomed barge) of 20th century date. The UKHO records two further hulked wrecks further east (**HA237**), which have broken up. **HA241** and **HA242**, both barge wrecks, are recorded as 'dead' (i.e. wrecks which have not been detected on repeated surveys) and **HA243** is recorded as having been lifted (salvaged). A disused wharf is located c.160m to the east of Zone G, and is visible on Plate 10.



Plate 9: Iron hulk on the foreshore, looking west



Plate 10: Iron hulk on the foreshore, looking east

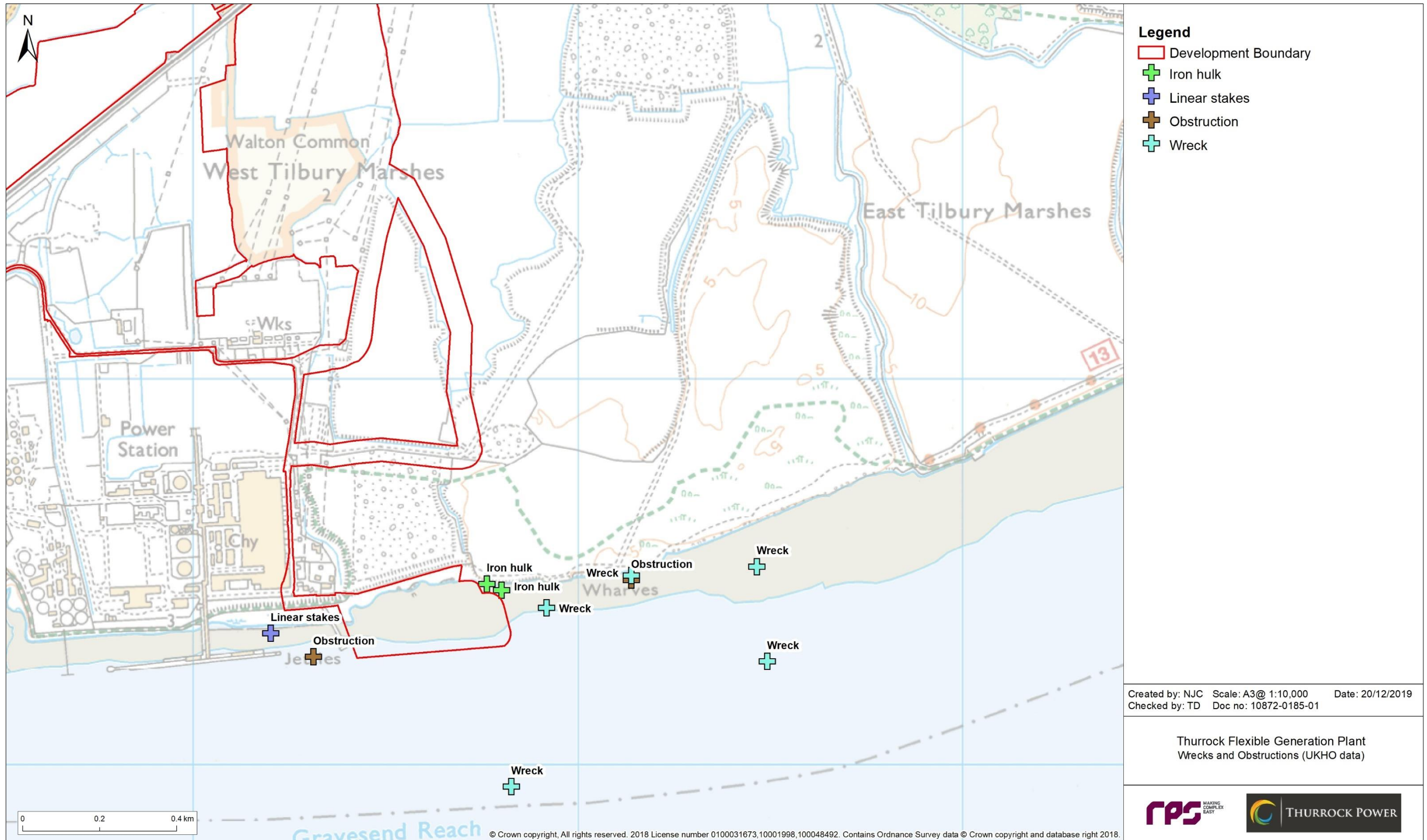


Figure 4.25: Wrecks and Obstructions recorded within the marine and intertidal zones

- 4.6.7 The marine context of the Site comprises an area of saltmarsh and mudflats extending from the upper shore to the low tide mark. The phases of changing sea levels and in the coastline throughout the Palaeolithic period within the Thames Estuary would have allowed areas of relatively dry salt marsh to become established before being inundated again. There is therefore good potential for deposits of archaeological and palaeoenvironmental interest to be present within this part of Zone G, as well as the intertidal area containing preserved waterlogged organic deposits/remains, including possible wooden structures, artefacts and ecofacts, which are sensitive receptors to the proposed development. The Site has the potential to contain deep sediments relating to various prehistoric and Roman inundation events which occurred as the land was repeatedly reclaimed and re-flooded, as well as providing a stepping stone for integrating offshore and onshore geoarchaeological records, allowing unified reconstructions, identified as an important research aim for palaeolandscapes research (Dix and Sturt 2013, Bicket and Tizzard 2015).
- 4.6.8 The presence of three bands of peat (Lower, Middle and Upper), dating to the middle-late Mesolithic, late Mesolithic to early Bronze Age and Iron Age respectively were identified at the Tilbury2 site (Quest 2017) and the same pattern was found within Zone A (Quest 2019). The Quest reports note the regional potential of all three of these layers of peat for containing palaeoenvironmental evidence for occupation, habitat and sea transgression, and their potential for containing associated artefacts. The reports also note the recent analysis of human remains (Schulting 2013) found within the Lower Peat during the construction of Tilbury Docks in the 1880s which have dated these remains to the Late Mesolithic, a period for which minimal human remains have been found in the UK (Quest 2017, 2019).
- 4.6.9 The intertidal area is likely to have been marsh/swamp for much of the Mesolithic and Neolithic, periods which saw extensive use of coastal and estuarine zones for subsistence. The estuarine silts are likely to preserve any features present from these periods, such as fish traps, tracks, or possible wooden craft, if they are present
- 4.6.10 Within the intertidal area, as noted previously in para.4.4.56 and at Plate 3, there are large spreads of Roman pottery on the foreshore, and the proposed jetty and causeway lie close to an area of recorded Roman settlement within the saltmarsh. These archaeological remains are sensitive receptors to the proposed development. Plate 11 shows the foreshore and saltmarsh looking west and Zone G from the area around **HA236**, and there is visible Romano-British pottery as well as other material on the surface. These features are highly significant, with the potential for high quality survival of organic material in the protective riverine silts. If the site was a landing point for goods, then there is potential for damaged, lost or abandoned examples to be preserved within the river bed sediments in the immediate area.



Plate 11: Foreshore at low tide, looking west towards zone G and HA235



Plate 12: View west towards Gravesend, showing salt marsh and foreshore

- 4.6.11 The Thames was an important waterway for maritime trade and the potential for Romano-British wrecks has been noted previously (Marsden 1993: 222). The presence of a Romano-British settlement, artefacts relating to trade, and burial material in the marine and intertidal study area would also suggest that there may be further burials, particularly within the inter-tidal deposits, as the sea level would have been lower in this period.
- 4.6.12 During the Saxon and Medieval periods, the terrestrial area around the Site was marshland and would have been utilised for fishing and grazing, with the medieval counter wall and sea walls along the coastline having been constructed to protect the reclaimed land from episodes of flooding. There may be some limited evidence of medieval fish-traps covered by the intertidal muds and silts within the area of Zone G, as well as evidence relating to the saltings noted on historic maps, which lay seaward of the counter wall (see Figure 4.17).
- 4.6.13 The National Record of the Historic Environment (NRHE, formerly the National Monuments Record (NMR)) is currently held by Historic England, but is beginning a process of transfer to local HERs. The NRHE contains a large number of Recorded Losses for this section of the tidal Thames, but the positional information for the reported wreck losses has very poor accuracy, meaning that records relevant to the marine study area for the Site are largely clustered in a generic polygon centred at NGR 565610, 174340. As such their locations are currently just inland at Gravesend. The data comprises c.80 records of various and mostly 19th century barges and cargo vessels, as well as some 18th century wooden vessels and 20th century remains, including a possible WWII bomber aircraft.
- 4.6.14 While marine losses were routinely recorded from the late 18th century onwards in resources like the Lloyd's Lists, the accuracy of their recorded locations is largely unreliable. While there are a number of craft listed within the NRHE Recorded Losses data which were clearly large sea-going ships, it is likely that the majority of craft using the river during the Post-Medieval and preceding periods would have been small coastal craft. The large number of reported losses of barges reflects this, and as these vessels were only occasionally insured (and therefore their loss recorded), there is the potential for many more unreported losses of these types of craft within the marine study area. There is also the potential for debris falling off ships and boats into the sediments, given that the surrounding area was well used by maritime craft throughout history.
- 4.6.15 During WWII a spigot mortar base is recorded as an emplacement at Tilbury Fort, and it is possible that ammunition from this, as well as possible unexploded ordnance (UXO) in the form of aerial bombs and anti-aircraft fire, may be present within the area of Zone G, and also elsewhere across the Site
- 4.6.16 Although rare, there remains a low potential for the remains of prehistoric watercraft within the area of Zone G. The chances of preservation within the marsh sediments, alluvial intertidal and marine sediments, if the vessels were ever present, is also likely due to their anaerobic nature. The Graveney boat, a well-preserved example of a 9th century coastal trading boat, was found in very similar marshes further east close to Faversham, Kent (Wessex Archaeology 2017). This example was covered in 2m of marsh clay, showing the amount of sediment which can build up in these areas (Fenwick 1972). As these remains are still rare in the UK, the potential is considered low, however should such remains be found it would be of national significance.
- 4.6.17 A hydrodynamics and sediment study report by HR Wallingford in 2017 for the adjacent Tilbury2 site suggested that the secondary effects of the Tilbury2 project on the sediment regime will be limited and localised in nature, resulting only in the re-depositing of fine sediments within the dredge pockets for the construction of the Tilbury2 extended jetty. As such, the proposed effects of the construction and operation of the marine and intertidal elements of the proposed development on hydrology and sediments are assessed to be low to neutral. It is not anticipated that the operation of the causeway will cause drying out or degrading of any waterlogged archaeological, organic and/or palaeoenvironmental deposits which remain following its construction.
- 4.6.18 Analysis of historic mapping and known terrestrial archaeological data suggests that there was continued human activity within the general intertidal and marine context of the Site comprising hunter-gathering, gradual reclamation, pastoral farming and salt production, as well as trade and exchange, during the prehistoric and Roman periods, and particularly during the Medieval period when the land was actively protected with the construction of a sea wall and counter wall flood defences.
- 4.6.19 During the Post-Medieval and later periods there has been increasing volumes of maritime traffic, and the disused wharves, jetties and hulks attest on both sides of the river, and the large number of Recorded Losses are representative of the long and extensive use of the Thames as a trade route, which intensified from the 18th century. Activity increased during the Modern period, with the development of the Tilbury A and Tilbury B power stations during the 1950s and 1960s, which radically changed the nature of this part of the Estuary, and continued the creep of the industrialisation of this part of the Thames, which had first begun a century earlier with the construction of the railway, and then Tilbury docks and the sewage plant to the west.
- 4.6.20 The intertidal and marine parts of the adjacent Tilbury2 site have been extensively studied geoarchaeologically, which has demonstrated the potential for peat deposits and artefacts within the intertidal zone and along the mean high water edge, and for Mesolithic and Neolithic environmental material within the wider Tilbury levels.

4.7 Assessment of Significance and Potential

4.7.1 Existing national policy and guidance for the historic environment (as referenced in Section 2) enshrines the concept of the ‘significance’ of heritage assets. Significance as defined in the NPPF centres on the value of an archaeological or historic asset for its ‘heritage interest’ to this or future generations.

4.7.2 All heritage assets considered to be sensitive receptors to the proposed development have been ascribed a significance based on the assessment methodology and criteria as set out in Section 3 of this report.

Designated assets

4.7.3 No relevant nationally significant designated archaeological sites or monuments, as defined in the NPPF, are recorded within the Site.

4.7.4 The following designated heritage assets are considered to be potential sensitive receptors to the proposed development, in terms of their setting:

- Earthworks near West Tilbury Church, Scheduled Monument;
- Tilbury Fort, Scheduled Monument;
- Bowaters Farm WWII HAA battery, Scheduled Monument;
- Coalhouse Fort, Scheduled Monument; and,
- St James’ Church, West Tilbury Grade II* listed building.

4.7.5 Their designations confer a high, national significance to these assets.

4.7.6 West Tilbury Conservation Area is also a sensitive receptor to the proposed development, as the proposed development lies within its setting. The Conservation Area is of medium, regional significance.

Non-designated assets – palaeoenvironmental (terrestrial)

4.7.7 Zone A of the Site lies within an area of archaeological palaeoenvironmental potential as identified within the QUEST 2019 report, and any remains encountered here are likely to be of overall medium, regional significance.

Non-designated assets – intertidal and marine

4.7.8 The area identified for the causeway (Zone G) comprises an area of saltmarsh and mudflat extending from the upper shore to the low tide mark. There are deposits of archaeological and palaeoenvironmental interest present in these areas, as well as the potential for waterlogged organic deposits/remains to be preserved. Any remains encountered in the intertidal zone are likely to be of overall medium, regional significance.

4.7.9 There is a low to medium potential to encounter previously unknown marine assets relating to the maritime history of the Thames from the prehistoric to the modern period during the construction of the causeway in the area of Zone G.

4.7.10 Prehistoric and Roman wrecks are rare, and there is a low potential that such discoveries would be made during the construction phase. However, they would be of high national significance if encountered. Medieval and Post-Medieval wrecks have a medium potential due to their greater known numbers within the Thames estuary, and also because of the known disused wharves and hulks to the east of Zone G. They would be of low (local) to medium (regional) significance if encountered.

Non-designated assets – archaeological potential

4.7.11 The limited extent of the archaeological evaluation at the Site is insufficient to fully determine its archaeological potential, which should be assessed further using non-intrusive methods in the first instance (GPR geophysical survey), supplemented by a geoarchaeological assessment of any further ground investigations undertaken (boreholes, cores, etc) when ascertaining the suitability of the Site to withstand the proposed development and suggested engineering/foundation solutions. A targeted trial trench evaluation should also be considered based on the results of these investigative works, and an overarching archaeological mitigation strategy submitted as part of the Application.

4.7.12 As identified by desk-based work, archaeological potential by period and the likely significance of any non-designated archaeological remains which may be present is summarised in Table 4.2.

Table 4.2: Archaeological potential by period and likely significance of non-designated remains

| Period: | Identified Archaeological Potential | Identified Archaeological Significance |
|----------------|-------------------------------------|--|
| Prehistoric | Low-medium | Medium (Regional) |
| Romano-British | Medium-High | Medium (Regional) |
| Anglo-Saxon | Medium | Medium (Regional) |
| Medieval | Medium-High | Medium (Regional) |
| Post Medieval | Medium | Low (Local) |
| WWII | Low-medium | Low (Local) |

4.7.13 Given the location of the Site within an area that was heavily defended during WWII and also saw large volumes of both Allied and Axis military air traffic overhead, there is a high potential for UXO, both from aerial attacks and from anti-aircraft fire, and consideration should be given to a specialist UXO survey across any areas of potential ground disturbance, with associated archaeological monitoring.

4.8 Review of Potential Development Impacts on the Historic Environment

4.8.1 It is enshrined in the NPPF that heritage assets are an irreplaceable resource and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations (NPPF, para 184).

4.8.2 The policies set out in the Section 16 of the NPPF relate, as applicable, to the heritage-related consent regimes for which local planning authorities are responsible under the Planning (Listed Building and Conservation Areas) Act 1990, as well as to plan-making and decision-making.

4.8.3 In a recent good practice note relating to the settings of heritage assets, Historic England has advised that 'Cases involving more significant assets, multiple assets, or changes considered likely to have a major effect on significance will require a more detailed approach to analysis, often taking place within the framework of Environmental Impact Assessment procedures. Each of the stages may involve detailed assessment techniques and complex forms of analysis such as viewshed analyses, sensitivity matrices and scoring systems. Whilst these may assist analysis to some degree, as setting and views are matters of qualitative and expert judgement, they cannot provide a systematic answer. Historic England recommends that, when submitted as part of the Design and Access Statement, Environmental Statement or evidence to a public Inquiry, technical analyses of this type should be seen primarily as material supporting a clearly expressed and non-technical narrative argument that sets out 'what matters and why' in terms of the heritage significance and setting of the assets affected, together with the effects of the development upon them' (Historic England, 2017: 8).

4.8.4 Heritage assets can be affected in a number of ways, principally:

- Physical loss of, or damage to, archaeological remains, historic buildings and historic landscapes;
- Changes within the settings of heritage assets resulting in loss of significance (of the asset); and
- Effects on the quality and integrity of the overall historic landscape.

4.8.5 The Site may contain buried archaeological, environmental and palaeoenvironmental deposits which will potentially be impacted by the proposed development, where such deposits exist. Such an impact is always substantial harm, as ultimately these deposits are destroyed. However, a suitable mitigation strategy can offset this harm through preservation by record, or by design to avoid impacts on the buried archaeological resource, where it is known.

4.8.6 As such, a comprehensive Written Scheme of Investigation will accompany the DCO application to set out future mitigation measures and offsetting for all elements of the historic environment. A draft Written Scheme of Investigation is provided as application document A8.11

5. Conclusion and Summary

- 5.1.1 The proposal site does not contain any designated assets. There are no World Heritage Sites, Registered Battlefields or Registered Parks and Gardens located within the vicinity of the proposal site.
- 5.1.2 There are a number of scheduled monuments, listed buildings and conservation areas in the vicinity of the proposal site.
- 5.1.3 There are no recorded remains of prehistoric date within the proposal site, although records from the wider area and geological records indicate that there is some potential for deeply buried remains of palaeoenvironmental significance, and a Bronze Age channel within Zone A which is of archaeological and environmental interest.
- 5.1.4 There is an area of recorded Roman settlement adjacent to Zone G and the area of the proposed causeway and jetty: the landscape was exploited for salt production from at least the Roman period, and possibly as early as the Bronze and Iron Ages as evidenced by the ‘Salterns’ and ‘Red hills’ depicted on historic maps and sites recorded in the EHER.
- 5.1.5 There are few sites or finds of Medieval date in the vicinity of the proposal site. Later mapping indicates that the proposal site was probably marshland used for common grazing during the later medieval period. There is no evidence for medieval settlement activity within the proposal site, with settlements focused on the higher ground to the north, e.g. at West Tilbury.
- 5.1.6 There is no recorded evidence for post-medieval activity, other than use as agricultural land over the proposal site until the Second World War when parts of it were used for defensive purposes.
- 5.1.7 On this basis the potential for the survival of coherent below ground archaeological remains that may be affected by the proposed development is as follows:
- Prehistoric – low-medium
 - Roman - medium-high
 - Anglo-Saxon –medium
 - Medieval – medium-high
 - Post Medieval – medium
 - WWII – low-medium.

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Appendix 1: Gazetteer

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|--|----------|--------------|--------------|--|---------|---------|----------|
| HA01 | MEX6249 | 1732 | FS | 57 and 67 Sabina Road, Chadwell St Mary | FINDSPOT | Palaeolithic | Palaeolithic | Pointed Palaeolithic hand-axes found in gardens at 57 (1960's) and 67 (c1962) Sabina Road. Drawings of the finds by a finder, axes identified as Acheulian by the British Museum on this basis. | HANDAXE | 565100 | 178500 |
| HA02 | MEX5915 | 1638 | FS | Chadwell St Mary | FINDSPOT | Palaeolithic | Palaeolithic | 3 Palaeolithic hand-axes. Exact NGR not known. In Thurrock Museum. | HANDAXE | 564388 | 177994 |
| HA03 | MEX6203 | 1719 | FS | Chadwell St Mary | FINDSPOT | Palaeolithic | Palaeolithic | Hand-axes and flints. Chadwell St Mary is the richest area for hand-axes in Thurrock. However, most discoveries are only recorded as 'Chadwell', so it is unknown if finds are from the 70ft (21m) or 100ft (30m) level gravels, both have been quarried | HANDAXE | 564500 | 178400 |
| HA04 | MEX6453 | 1776 | FS | Chadwell St Mary | FINDSPOT | Palaeolithic | Palaeolithic | Hand-axes and flints found. | HANDAXE | 564515 | 178546 |
| HA05 | MEX6286 | 1744 | FS | North of Church, East Tilbury | FINDSPOT | Palaeolithic | Palaeolithic | Acheulian hand-axe found 1969. | HANDAXE | 568900 | 177100 |
| HA06 | MEX6633 | 1830 | FS | Pigg's Pit, Chadwell St Mary | FINDSPOT | Palaeolithic | Palaeolithic | Hand-axe, Colchester Museum. Pointed, 18cm, slightly rolled and stained. Similar to examples from the Swanscombe Middle Gravels. The pit was the second large pit west of the church towards Gun Hill in the 21m level (Wymer 1985) | HANDAXE | 565300 | 178500 |
| HA07 | MEX1032236 | 18617 | FS | Sandy Lane, Chadwell St. Mary | FINDSPOT | Palaeolithic | Palaeolithic | An ovate Palaeolithic axe found at Sandy Lane, Chadwell St. Mary. Now in Thurrock Museum. | HANDAXE | 564800 | 177900 |
| HA08 | MEX6235 | 1729 | FS | South of Herringham School, Chadwell St Mary | FINDSPOT | Palaeolithic | Palaeolithic | Palaeolithic hand-axes found. Acheulian, pointed, tip missing, found in 1971 during construction of a housing estate. One slightly rolled E type hand-axe, other is a fine ficron, "in sharp condition". Found north east of the church. | HANDAXE | 564800 | 178900 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|----------|---------|-------------|-----------------------------|----------|--------------|--------------|---|------------------|---------|----------|
| HA09 | MEX6015 | 1669 | FS | Tilbury | FINDSPOT | Palaeolithic | Prehistoric | Palaeolithic implements found at Tilbury". | LITHIC IMPLEMENT | 565000 | 176000 |
| HA10 | MEX6238 | 1730 | FS | Tilbury - Feenan Highway | FINDSPOT | Palaeolithic | Palaeolithic | "Acheulian pointed hand-axe found 1967". | HANDAXE | 564600 | 176700 |
| HA11 | MEX6475 | 1786 | FS | West Tilbury - Gun Hill | FINDSPOT | Palaeolithic | Palaeolithic | Palaeolithic hand-axe, Acheulian, found in Gun Hill gravel pit, 1968. Earliest finds from Gun Hill-4 Acheulian hand-axes and possible palaeolithic flint flakes. Derived from Thames gravel. Some are abraded and so are not in primary contexts. | HANDAXE | 565539 | 177962 |
| HA12 | MEX28558 | 8932 | FS | Orsett Causewayed Enclosure | FINDSPOT | Mesolithic | Mesolithic | Three flints - a Mesolithic tranchet axe, Early Neolithic axe, and Late Neolithic/Early Bronze Age knife - collected from the ploughed surface by Randall Bingley in winter 1992/3. | AXE (WEAPON) | 565120 | 180550 |
| HA13 | MEX17957 | 5204 | FS | Orsett-Heath Place Farm | FINDSPOT | Mesolithic | Mesolithic | Short flint blade, probably Mesolithic, found south west of Heath Place Farm in 1970. Cropmarks noted on RCHM air photographs. Cropmarks comprise linear features, rectilinear features, ring ditch, double ditched trackways. | BLADE | 564700 | 180000 |
| HA14 | MEX6484 | 1787 | FS | West Tilbury - Gun Hill | FINDSPOT | Mesolithic | Mesolithic | Worked flints found in residual contexts in excavation of cropmark complex (see 1790 for general context). 2 blades were found, possibly Mesolithic. | WORKED OBJECT | 565539 | 177962 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|-----------------------------|---|-----------|------------------------------------|---|---|---------|----------|
| HA15 | MEX1031028 | 5158 | SM | Orsett Causewayed Enclosure | CAUSEWAYED ENCLOSURE; DITCH; POST HOLE; PALISADE; BUILDING?; PIT; EARTHWORK?; PORTAL | Neolithic | Middle Neolithic | Neolithic Causewayed Enclosure, identified as a cropmark. The site survives only as a cropmark and was discovered during aerial reconnaissance in the early 1970's. The site lies at the southern edge of a remnant of the 30m Thames Terrace. It consists of three irregularly concentric circuits of interrupted ditches. The two outer circuits conform with each other in terms of their layout, not so the inner one. Behind the middle ditch was the faint line of a palisade slot or trench. Gaps in it matched with gaps in the ditch circuit. There was no sign of the outer ditch circuit to the south and east and the innermost circuit appears open on the south. Scheduled. | WORKED OBJECT; WORKED OBJECT; GRAIN RUBBER; QUERN; KNIFE; FLAKED AXEHEAD; WORKED OBJECT; BURIN; VESSEL; TRANSVERSE ARROWHEAD; PLANT REMAINS; BARBED AND TANGED ARROWHEAD; VESSEL; VESSEL | 565018 | 180585 |
| HA16 | MEX6006 | 1667 | MON | East Tilbury | BURIAL | Neolithic | Neolithic | "Possible Neolithic burial found at East Tilbury in 1982". | | 568000 | 177000 |
| HA17 | MEX5917 | 1640 | FS | Chadwell [Barking, London] | FINDSPOT | Neolithic | Neolithic | Polished flint axehead. | POLISHED AXEHEAD | 564000 | 178000 |
| HA18 | MEX6418 | 1768 | FS | Mucking Creek Valley | FINDSPOT | Neolithic | Neolithic | Neolithic axehead. | AXE (WEAPON) | 566342 | 179611 |
| HA19 | MEX1032235 | 18616 | FS | Mucking Creek Valley | FINDSPOT | Neolithic | Early Mesolithic to Late Neolithic | Prehistoric macehead found at Mucking. | MACE | 566400 | 179540 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|----------|---------|-------------|-----------------------------------|--|-----------|------------------------------------|--|---|---------|----------|
| HA20 | MEX6539 | 1801 | MON | Orsett | RING DITCH; TRACKWAY; HOUSE; PIT; DITCH; LINEAR FEATURE; RECTILINEAR ENCLOSURE | Neolithic | Unknown | Cropmarks of enclosure and ring ditches. Subrectangular or cello-shaped enclosure orientated north west-south east, trackways lead out at both the short ends, on approximately the same alignment. The enclosure is c105 x 50m, has small internal compounds in the south west corner, has pennanular ditches also (house gullies?). The enclosure is unparalleled by any known enclosure form in Essex, and in view of the flint assemblage may well be Neolithic. | | 564575 | 179737 |
| HA21 | MEX6544 | 1802 | FS | Orsett - (see 1801 for cropmarks) | FINDSPOT | Neolithic | Neolithic | Flint tools - blades, scrapers scrapers, cutters, arrowheads, cores and hammer stones. Associated with cropmarks of enclosure and ring ditches. | HAMMERSTONE; BLADE | 564575 | 179737 |
| HA22 | MEX28562 | 8933 | FS | Orsett Causewayed Enclosure | FINDSPOT | Neolithic | Early Neolithic | Three flints - a Mesolithic tranchet axe, Early Neolithic axe, and Late Neolithic/Early Bronze Age knife - collected from the ploughed surface by Randall Bingley in winter 1992/3. | AXE (WEAPON) | 565050 | 180610 |
| HA23 | MEX6018 | 1670 | FS | Tilbury | FINDSPOT | Neolithic | Neolithic | "Neolithic flint arrowhead from Tilbury". | ARROWHEAD | 567000 | 177000 |
| HA24 | MEX6022 | 1671 | FS | Tilbury | FINDSPOT | Neolithic | Neolithic | Neolithic, small chipped flint axe or chisel, length 3.75 ins dredged from the Thames off Tilbury. Of roughly chipped grey flint with olive brown patina...Early Neolithic", small axe or chisel. In Colchester Museum. | AXEHEAD; CHISEL | 569000 | 177000 |
| HA25 | MEX6488 | 1788 | FS | West Tilbury - Gun Hill | FINDSPOT | Neolithic | Early Neolithic to Late Bronze Age | Worked flints found in residual contexts in excavation of cropmark complex (see 1790) or general context). Neolithic-bronze age activity indicated by finds of an unfinished leaf-shaped arrowhead, 2 scrapers, knife(?). | KNIFE; LEAF ARROWHEAD; SCRAPER (TOOL) | 565539 | 177962 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|--|--------------------------|------------------------------------|--|---------------------------|---------|----------|
| HA26 | MEX1032105 | 17775 | MON | Land east of Sabina Road, Chadwell St. Mary | FEATURE | Neolithic | Prehistoric | A total of 46 evaluation trenches were excavated across the development area. A prehistoric feature dated to the early neolithic was excavated. | | 565223 | 178913 |
| HA27 | MEX6567 | 1808 | FS | West Tilbury Marsh | FINDSPOT | Neolithic | Neolithic | Neolithic flint axe from West Tilbury marsh. Also at Thurrock, polished flint axe from the Thames at Tilbury, bought in 1915 by B O Wymer. | POLISHED AXEHEAD | 565200 | 176000 |
| HA28 | MEX6574 | 1810 | FS | Within Chadwell St Mary | FINDSPOT | Neolithic/ Bronze Age | Prehistoric | Neolithic-bronze age flake with fine secondary working. | FLAKE | 565100 | 178800 |
| HA29 | MEX6294 | 1746 | FS | East Tilbury - Muckingford Lane | FINDSPOT | Neolithic/ Bronze Age | Early Neolithic to Late Bronze Age | Found 1972? Neolithic-bronze age? flints. | WORKED OBJECT | 567339 | 178841 |
| HA30 | MEX6272 | 1739 | FS | East Tilbury - Near Picon's Pit | FINDSPOT | Neolithic/ Bronze Age | Early Neolithic to Late Bronze Age | Neolithic-bronze age flints. | WORKED OBJECT | 568651 | 177633 |
| HA31 | MEX39649 | 14550 | MON | Cropmarks NW of High House | RING DITCH | Bronze Age | Bronze Age | Cropmarks of two ring-ditches, one (TQ65097985) being c.20 metres in diameter; the other (TQ 65087999) being c.10 metres in diameter <1-2>.. | | 565088 | 179878 |
| HA32 | MEX6312 | 1750 | MON | Cropmarks to the north of Mill House Farm | RING DITCH; GULLY; CIRCULAR ENCLOSURE; PIT; CIRCULAR ENCLOSURE; LINEAR FEATURE; TRACKWAY; ENCLOSURE; DITCH; RECTANGULAR ENCLOSURE | Bronze Age | Late Bronze Age to Early Iron Age | Cropmarks centred on above NGR-ring ditches, linear-curved features, trackway, enclosures, pits. Archaeological evaluation found Bronze Age features | VESSEL; BURNT FLINT; DAUB | 566023 | 179030 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|--|--------------------------------------|------------|--------------------------|--|---|---------|----------|
| HA33 | MEX6295 | 1747 | MON | East Tilbury - Muckingford Lane | ROUND BARROW; CREMATION; DITCH | Bronze Age | Middle Bronze Age | Late bronze age burial (barrow). Site lay in corner of a field and was indicated by cropmarks of a double ring ditch. Trenches were excavated across the ditches to the centre of the ring in 1959-1960. The site was flat with no traces of a mound. A box was opened in the centre to reveal a cairn or cist of large pebbles and flint. It contained an inverted urn standing on a saddle quern and pieces of "flat tile" 0.5" thick to keep the contents in. The latter were calcined bones of an adult and child, a faience segmented bead and "a suggestion in the calcined mass of a metal content, but this had completely oxidised". Barrow was levelled and disturbed during the Iron Age. | VESSEL; CREMATION; BEAD; QUERN | 567339 | 178841 |
| HA34 | MEX1039326 | 46650 | MON | Land at East Tilbury and Linford Area of Prehistoric ritual landscape and Roman field boundaries | FIELD SYSTEM; FIELD SYSTEM | Bronze Age | Late Bronze Age to Roman | Archaeological evaluation by trenching and excavation revealed occupation from the Neolithic, late Bronze Age ditches belonging to superimposed field systems and limited Roman features. | VESSEL; LITHIC IMPLEMENT; BURNT FLINT; MOLLUSCA REMAINS; LOOMWEIGHT; PLANT MICRO REMAINS; VESSEL; VESSEL; VESSEL; TILE; SLAG | 567559 | 178561 |
| HA35 | MEX6309 | 1749 | MON | East Tilbury - Muckingford Lane | TRACKWAY; DITCH; RING DITCH | Bronze Age | Unknown | 2 double ring-ditches visible on 1980 AP, with a 3rd incomplete ring ditch situated next to a curving double-ditched trackway. One of the ring ditches was excavated (see above). | | 567339 | 178841 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|--|---|------------|-------------------|--|---|---------|----------|
| HA36 | MEX40514 | 14985 | MON | Linford - Cremation Cemetery (H-CHF93) | CEMETERY; CREMATION; PIT; HUMAN REMAINS | Bronze Age | Middle Bronze Age | The site may be regarded as part of a larger cremation cemetery dating to the Bronze Age, presumably associated with the three ring ditches immediately to the east (1747-9) at Muckingfield Lane. Of the 6 cremation burials found 3 survived relatively intact. 2 of these were similar, consisting of an inverted urn buried directly in the subsoil. The other cremation demonstrated a significant variation in burial practice with a pit, substantially larger than the contained vessel, which was lined with flint nodules prior to the interment. The burial appears to be very similar to that described from the centre of the nearby double ring ditch. | VESSEL; CREMATION; VESSEL; HUMAN REMAINS | 567339 | 178841 |
| HA37 | MEX1040410 | 46649 | MON | Land at Bata Field East Tilbury | ENCLOSURE | Bronze Age | Bronze Age | Evidence of a possible Bronze Age enclosure. Previous geophysical survey (small area) identified a possible ditch. Trial trenching across the field in 2005 <1> uncovered a possible Bronze Age enclosure ditch (though the full extent of this was not confirmed) and possible associated field boundaries. No conclusive evidence for later (Iron Age, Roman, Saxon, Medieval) activity was revealed, though several undated ditch features were identified. Further geophysical survey in 2010 (5ha sample block) in order to define the full extent of the postulated Bronze Age enclosure and identify any other anomalies associated with known excavated features revealed only a few isolated short linear responses which could be archaeology. | | 567750 | 178650 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|-----------------------------|---|------------|------------------------------------|--|----------------|---------|----------|
| HA38 | MEX6530 | 1798 | MON | North of Holford Farm | DITCH; RING DITCH; LINEAR FEATURE | Bronze Age | Unknown | Cropmarks centred on the NGR. The double ditched ring-ditch was recorded on 2008 aerial photography. Part of a complex of enclosures, ring ditches and other cropmarks east of Mill House, Chadwell St Mary (1753) | | 566040 | 1 |
| HA39 | MEX18140 | 5254 | MON | West of Brook Farm | RING DITCH | Bronze Age | Unknown | Cropmark of a ring ditch. | | 565385 | 180234 |
| HA40 | MEX6489 | 1789 | MON | West Tilbury - Gun Hill | POST HOLE; BUILDING; FIELD SYSTEM; FIELD BOUNDARY; DITCH; POST HOLE | Bronze Age | Prehistoric | Excavations of cropmark complex 1969-1970 (see 1790 for general context). Bronze Age and Iron Age settlement complex. The earliest excavated feature was a late bronze age (probably) field boundary ditch. A scatter of pottery was found at one point. Several post hole structures must be of this period. Some post holes were cut by early- middle iron age ditches. Isolated post holes contained late bronze age pottery. Other bronze age features would have been removed by later ploughing if they were shallow. A field system may have been created by the late bronze age or the early iron age. | VESSEL; VESSEL | 565539 | 177962 |
| HA41 | MEX6028 | 1673 | FS | East Tilbury | FINDSPOT | Bronze Age | Bronze Age | "Perforated whetstone probably Bronze age found at East Tilbury". | WHETSTONE | 568000 | 177000 |
| HA42 | MEX1031025 | 18125 | FS | Thurrock finds | FINDSPOT | Bronze Age | Bronze Age | Bronze torc and pins from Thurrock. Four bronze torcs and a bronze pin in the V and A presented in 1901 by the Geology Museum. One definitely from Thurrock, others in view of the accession numbers seem likely to form part of the same donation by R. Micson. | TORC | 565000 | 180000 |
| HA43 | MEX28563 | 8934 | FS | Orsett Causewayed Enclosure | FINDSPOT | Bronze Age | Late Neolithic to Early Bronze Age | Three flints - a Mesolithic tranchet axe, Early Neolithic axe, and Late Neolithic/Early Bronze Age knife - collected from the ploughed surface by Randall Bingley in winter 1992/3. | KNIFE | 565120 | 180520 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|----------|---------|-------------|-----------------------------------|-------------------------------|----------|-----------------|--|---|---------|----------|
| HA44 | MEX6264 | 1738 | MON | East Tilbury - East Tilbury Place | PIT; ENCLOSURE | Iron Age | Iron Age | Part of a subrectangular enclosure, part destroyed by gravel digging. Small scale excavations by R Bingley showed ditch c5ft wide, approx 2.5ft deep. Pits outside the enclosure excavated by the Wickford Archaeological Society. Much soft red undecorated pottery, charcoal and mammal bones found. | VESSEL; ANIMAL REMAINS | 568199 | 177653 |
| HA45 | MEX6308 | 1748 | MON | East Tilbury - Muckingford Lane | WOOD; SETTLEMENT | Iron Age | Iron Age | Excavation of a bronze age barrow-occupation and levelling of part of the barrow found, "with pottery, burnt clay, and wood in ditch infill. | VESSEL | 567339 | 178841 |
| HA46 | MEX6401 | 1764 | MON | High House Lane, Chadwell St Mary | TRACKWAY | Iron Age | Middle Iron Age | High House Lane is on the line of a middle iron age trackway running up from Gun Hill | | 565600 | 178700 |
| HA47 | MEX6251 | 1733 | MON | Mucking - Rainbow Wood | PIT; POST HOLE | Iron Age | Iron Age | Iron age pits, post holes etc. The main Mucking site located to the east, was originally thought to be a Neolithic henge (it eventually proved to be a Late Bronze Age ringwork), the site at Mucking, in southern Essex, contains remains dating from the Neolithic to the Middle Ages—a period of some 3,000 years—and the Bronze Age and Anglo-Saxon features are particularly notable. | POT; LITHIC IMPLEMENT | 566325 | 179842 |
| HA48 | MEX17761 | 5159 | MON | Orsett-Causewayed Enclosure | PIT; POST HOLE; HOLLOW; HOUSE | Iron Age | Early Iron Age | Early iron age occupation of the southern central area of the causewayed enclosure was found. The upper level of the inner ditch contained early iron age domestic rubbish. Most of the early iron age finds came from a scatter of pits. Only 3 of these seemed to have been typical storage pits. Many of the pits were no more than scoops or hollows. Many of the 140 or so post holes in this area were thought to be early iron age. | LOOMWEIGHT; RING; PIN; PLANT REMAINS; MOLLUSCA REMAINS; ANIMAL REMAINS; SPINDLE WHORL; QUERN; WHETSTONE; VESSEL; BROOCH | 565018 | 180585 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|-------------------------|--|----------|-----------------------------------|---|---|---------|----------|
| HA49 | MEX41474 | 1790 | MON | West Tilbury-Gun Hill | FIELD SYSTEM; DITCH; FIELD BOUNDARY; HOUSE; PIT; BUILDING; WORKSHOP; PIT; POST HOLE; ENCLOSURE | Iron Age | Early Iron Age to Middle Iron Age | Cropmark complex discovered in the late 1950s. Enclosures, trackways, pit-like cropmarks. Much of the area was worked without archaeological observation and some cropmark features were quarried away in 1967-68 (see 1792). The main features were excavated in 1969 and 1970 before the major cropmarks were destroyed. | VESSEL; ANIMAL REMAINS; WORKED OBJECT; VESSEL; LOOMWEIGHT | 565539 | 177962 |
| HA50 | MEX6529 | 1797 | FS | West Tilbury - Gun Hill | FINDSPOT | Iron Age | Early Iron Age | Early Iron Age pottery from the south side of Gun Hill gravel pit, West Tilbury. | VESSEL | 565400 | 177700 |
| HA51 | MEX6279 | 1743 | FS | East Tilbury | FINDSPOT | Iron Age | Late Iron Age | I A pottery (Belgic) pres. by Thurrock Council Estates Dept from E. Tilbury excavation 1971. Gravel quarry excavated for 1903 remodelling of Coalhouse Fort (see 1760). The east face was resurfaced during construction of North Sea gas pipeline, revealing deep stratification with large quantities of Late Iron Age and Roman pottery (on as 9006); a potin coin; an early amphora fragment (Late Iron Age import); fired clay fragments relating to salt manufacture. Site extends into field east of quarry. | COIN; BRIQUETAGE; VESSEL | 569000 | 177050 |
| HA52 | MEX6090 | 1687 | FS | East Tilbury Foreshore | FINDSPOT | Iron Age | Iron Age | Iron Age C pottery. | VESSEL | 569200 | 177250 |
| HA53 | MEX1034076 | 19472 | FS | Heath Place | FINDSPOT | Iron Age | Iron Age | Large quantities of very high status Celtic material, including very well preserved gold staters and jewelry, has been found by metal detectorists in a potato field. | JEWELLERY; COIN | 564450 | 180350 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|---------|---------|-------------|--|---|-------------|---------|--|-------|---------|----------|
| HA54 | MEX6327 | 1753 | MON | East of Mill House, Chadwell St Mary | CIRCULAR ENCLOSURE; RING DITCH; PIT; DITCH; LINEAR FEATURE; HUT CIRCLE; TRACKWAY; RECTILINEAR ENCLOSURE | Prehistoric | Unknown | Enclosures, ring ditches and other cropmarks. Dense settlement. Complex of cropmarks at Mill House Farm north of Muckingford Road. Rectilinear enclosures and ditch alignments. Also linear features, ring ditches, pennanular ditches and pits. Cropmarks of a ring ditch cut by Linford Road, others of rectangular and circular enclosures, parallel ditches. | | 566158 | 178776 |
| HA55 | MEX6521 | 1796 | MON | West Tilbury - Gun Hill, Cropmarks east of Turnpike Lane | ROAD; PIT; GRUBENHAUS; DITCH; TRACKWAY; RING DITCH; LINEAR FEATURE; RECTANGULAR ENCLOSURE; CIRCULAR ENCLOSURE | Prehistoric | Unknown | Undated cropmark features to the east of Turnpike Lane. Undated cropmark features to the east of Turnpike Lane. Part of a large complex, some of which, to the west of Turnpike Lane, has been destroyed (with some rescue excavation-see 1787-1795). Features east of Turnpike Lane included 2 parallel ditches, they are shown on old maps as a boundary. They may indicate a road of Roman origin. They stretch from Rectory Lane in the south to Muckingford Road in the north. The early date is shown by the appearance on a map of 1584 of the boundary, virtually as it was shown on the OS map of 1897. In the angle formed by the junction of Muckingford Road and Turnpike Lane is the cropmark of a polygonal enclosure. There are possible entrances to east and south east. The probably Roman road and a north-south trackway pass over it. Its relationship to these features is not known but from its plan "a prehistoric date seems most likely". | | 565837 | 178302 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|---|-------------|-------------|---|--------|---------|----------|
| HA56 | MEX39688 | 14572 | MON | Cropmarks to SE of Old House Wood | RECTANGULAR ENCLOSURE; RING DITCH; LINEAR FEATURE; PIT | Prehistoric | Prehistoric | Cropmarks, appearing on RAF vertical photography from 1946, showing a rectangular enclosure (c. 55x30 metres) with sub-division. To the E, is an annexe enclosure with a terminal defined entrance to the E. In addition, there are further linear features and pits' and a ring-ditch. The site is now destroyed and under residential development | | 564874 | 179708 |
| HA57 | MEX18122 | 5247 | MON | North of Heath Place | LINEAR FEATURE; RECTILINEAR ENCLOSURE; TRACKWAY; DITCH; RING DITCH | Prehistoric | Unknown | Cropmarks noted on RCHM air photographs. Cropmarks comprise linear features, rectilinear features, ring ditch, double ditched trackways | | 564768 | 180794 |
| HA58 | MEX6409 | 1766 | MON | East of West Tilbury | LINEAR FEATURE; TRACKWAY; RING DITCH; PIT; DITCH; RECTILINEAR ENCLOSURE | Prehistoric | Unknown | Cropmarks centred on TQ 661 779 (166m by 404m), including linear and rectilinear features, possible trackway, ring ditches. | | 566179 | 177914 |
| HA59 | MEX6596 | 1817 | MON | Linford | TRACKWAY; PIT; DITCH; RECTILINEAR ENCLOSURE | Prehistoric | Unknown | Cropmarks involving rectilinear enclosure. AP and cropmark plot show possible double ditched trackway and pits. | | 567160 | 179048 |
| HA60 | MEX6084 | 1685 | FS | Sandy Lane, Chadwell St Mary | POST HOLE; GRANARY; SETTLEMENT; PIT; DITCH | Prehistoric | Prehistoric | Some of the pottery found here in 1922, in Christian and Neilson's gravel-pit, when a Roman 'oven' was found, "retains traces of late Celtic traditions". | VESSEL | 564882 | 178338 |
| HA61 | MEX1036414 | 45379 | FS | HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline. | FINDSPOT | Prehistoric | Prehistoric | Flint small blade with retouched edge, 37x13x4mm. Mottled grey flint. | BLADE | 568030 | 177510 |
| HA62 | MEX1036415 | 45380 | FS | HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline. | FINDSPOT | Prehistoric | Prehistoric | Flint: convex side scrapper on secondary flake, 46x42x14mm. Mottle grey flint. | FLAKE | 567800 | 177710 |
| HA63 | MEX1036416 | 45381 | FS | HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline. | FINDSPOT | Prehistoric | Prehistoric | Flint secondary blade retouched on both edges, 39x20x9mm. Mottled black flint. | BLADE | 567530 | 178150 |
| HA64 | MEX1036418 | 45382 | FS | HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline. | FINDSPOT | Prehistoric | Prehistoric | Flint . Regular ovoid side/ end scraper, 50x41x16mm. Black flint | FLAKE | 567810 | 177590 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|---|--------------|-------------|---|---------------------------------|---------|----------|
| HA65 | MEX1036420 | 45383 | FS | HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline. | FINDSPOT | Prehistoric | Prehistoric | Flint. Broken blade/point? Bifacial retouch on both edges, prepared stiking platform. 35x 26 x 5 mm. Mottled grey flint. | BLADE | 567420 | 178640 |
| HA66 | MEX1036421 | 45384 | FS | HCF: Horndon - Tilbury (Coalhouse Fort) Gas Pipeline. | FINDSPOT | Prehistoric | Prehistoric | Flint. Snapped end of blade, retouched on one edge, 22x18x4mm. Mottled grey flint. | BLADE | 567240 | 178910 |
| HA67 | MEX6256 | 1736 | MON | West Tilbury - Coal Road, East of Low Street Lane | RING DITCH; RECTANGULAR ENCLOSURE; DITCH | Prehistoric? | Unknown | "Rectangular cropmark recorded by Thurrock Local History Society. | | 566918 | 178316 |
| HA68 | MEX6411 | 1767 | MON | Mucking Creek Valley | TRACKWAY; LINEAR FEATURE; DITCH; RECTANGULAR ENCLOSURE | Prehistoric? | Unknown | Cropmarks centred on TQ 663 796 (353m by 316m). Subrectangular enclosure, trackway. The enclosure has one entrance in the southern side and two in the western side. The trackway cuts through the western side of the enclosure and joins internal linear features. | | 566342 | 179611 |
| HA69 | MEX6549 | 1803 | MON | Mucking, East Tilbury | ROAD | Roman | Roman | Roman road running inland (north west) from ford or ferry at East Tilbury. Corresponding road approaching the north Kent coast at Higham (burial evidence found). Topographical hypothesis based on modern road line. | | 567950 | 178500 |
| HA70 | MEX28729 | 9010 | MON | East Tilbury - Field West of Coalhouse Fort | FINDSPOT | Roman | Roman | Reclaimed Thames river marsh field west of Coalhouse Fort, straightening of ditch revealed large quantity of Roman pottery and tile. JPJ Catton observed stratification in ditch sides c. 40cms below ground level in 1988. Agricultural field, depth of stratigraphy 0.4m, should be below plough depth and therefore is unlikely to be damaged. | VESSEL | 568750 | 176800 |
| HA71 | MEX6102 | 1694 | MON | East Tilbury Foreshore | SETTLEMENT; HUT CIRCLE; WOOD; FLOOR; OVEN; TRACKWAY | Roman | Roman | Below 'present' high tide level, remains of settlement of hut circles, associated with much 1st-2nd century pottery. | VESSEL; OVEN; VESSEL; VESSEL | 567290 | 175645 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|-------------------------------|--------|--------------------------|---|---|---------|----------|
| HA72 | MEX1039326 | 46650 | MON | Land at East Tilbury and Linford Roman field boundaries | FIELD SYSTEM; FIELD SYSTEM | Roman | Late Bronze Age to Roman | A late Bronze Age settlement surrounded by a substantial enclosure ditch was identified in the eastern part of the area evaluated. Part of a field system dating to the Roman period was recorded to the north. In the northern part of Tranche 1 evidence was found for a complex of field boundaries dating from the Roman period. The presence of a number of pits and postholes in this area, combined with pottery evidence hints at the existence of a settlement in the vicinity. | VESSEL; LITHIC IMPLEMENT; BURNT FLINT; MOLLUSCA REMAINS; LOOMWEIGHT; PLANT MICRO REMAINS; VESSEL; VESSEL; VESSEL; TILE; SLAG | 567559 | 178561 |
| HA73 | MEX1049097 | 48575 | MON | Barvilles Solar Farm, East Tilbury, Thurrock | SALTERN | Roman | Roman | Geophysical assessment identified potential red hills , comprising two possible salterns. The location on the margins of a marsh and their general morphology make this identification quite likely. However, the strength of the magnetic signal is quite low compared to similar features on other sites. This can be explained if the salterns are buried particularly deeply (possibly over 1m below present ground level). A single faint linear has been identified which might be a ditch of unknown date. It does not seem to conform to the modern field boundaries, which suggests the possibility of pre-dating them | | 568893 | 177514 |
| HA74 | MEX6289 | 1745 | MON | East Tilbury - Bowaters Farm | SALTERN; RED HILL | Roman | Roman | Red hills. Roman Red Hills with occup. Sherds | VESSEL | 567532 | 176864 |
| HA75 | MEX6094 | 1691 | MON | East Tilbury | SALTERN; RED HILL | Roman | Unknown | Red hill. One or more red hills noted at East Tilbury | | 569244 | 177300 |
| HA76 | MEX6632 | 1829 | MON | West side of East Tilbury Marshes | SALTERN; RED HILL | Roman? | Unknown | Red hill potential. Briquetage + sherds". | VESSEL; BRIQUETAGE | 567131 | 176518 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|----------|---------|-------------|-------------------------------------|--|--------|---------|---|--|---------|----------|
| HA77 | MEX6391 | 1762 | MON | East Tilbury, St Catherine's Church | MOSAIC | Roman | Roman | Roman tesserae. The church contains Roman brick (see 1740). "It was reported in the 18th cent. that gravel-digging near it often uncovered tessellated pavement". Also Roman bricks within the Church walls. | | 568961 | 176939 |
| HA78 | MEX6198 | 1717 | MON | Chadwell St Mary | MOSAIC | Roman | Roman | Roman tessellated floor uncovered west of the parish church. | | 564534 | 178445 |
| HA79 | MEX41456 | 1686 | MON | Sandy Lane, Chadwell St Mary | SETTLEMENT; SETTLEMENT; POTTERY KILN | Roman | Roman | RCHM reports finding of an 'oven' in Christian and Neilson's gravel-pit in 1922. It contained complete and fragmentary vessels and a decorated clay lamp. Pottery in Colchester Museum, mostly 3rd-4th C, probably, some 'retain traces of late Celtic traditions'. No evidence that pottery made on site, purpose of oven not apparent. Roman coins of all dates found in the parish and a site c100yds SE of the area yielded much Samian, mainly late 1st to early 2nd C with many stamps. No traces of buildings noticed. | COIN; CHEST; MOUNT; NAIL; LAMP; VESSEL | 564882 | 178338 |
| HA80 | MEX6505 | 1791 | MON | West Tilbury - Gun Hill | POTTERY KILN; PIT; DITCH; FIELD SYSTEM; FIELD BOUNDARY; RECTILINEAR ENCLOSURE | Roman | Roman | Cropmark complex discovered in the late 1950's. In the late 1st century AD the mid 1st century enclosure (see 1790) was mainly used for industrial purposes. RB pottery kilns were built in its backfilled enclosure ditches. 3 kilns are known for certain but others were destroyed without record. The upper layers of the northern ditch were filled with kiln debris which spread down the eastern and western ditches and occurred in patches in the southern one. Shallow pits were excavated, they contained charcoal, ash and kiln debris. | VESSEL; KILN WASTE; KILN FURNITURE; VESSEL; QUERN; ANIMAL REMAINS | 565539 | 177962 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|----------|---------|-------------|---|---------------|--------|---------|---|-----------------------|---------|----------|
| HA81 | MEX28716 | 9004 | MON | Field West of St Catherine's Church, Thurrock | HUMAN REMAINS | Roman | Roman | Some Roman pottery, plus medieval sherds, and human bone was collected from the area during drainage works in the late 1980s nearest the road line by the church. | VESSEL; HUMAN REMAINS | 568725 | 176927 |
| HA82 | MEX6025 | 1672 | MON | West Tilbury | BURIAL | Roman | Roman | "Roman burials with iron and bronze bracelets found 1910 at West Tilbury". Approximate location given | BRACELET; BRACELET | 566000 | 177000 |
| HA83 | MEX6095 | 1692 | MON | West Tilbury - Low Street | BURIAL | Roman | Roman | Urns from burials found in gravel-digging during building of railway, exhibited 1858, one vessel given to Essex Archaeol Society, c1863. From gravel pit near the Railway at Low Street. | VESSEL | 567149 | 177829 |
| HA84 | MEX6263 | 1737 | FS | West Tilbury - Coal Road, East of Low Street Lane | FINDSPOT | Roman | Roman | "RB pottery. . Barton says `old gravel pit, the bank of which produced small quantities of RB pot, 2nd C" | VESSEL | 566918 | 178316 |
| HA85 | MEX6630 | 1828 | FS | Tilbury Foreshore | FINDSPOT | Roman | Roman | "Roman pottery reported from foreshore along frontage. Notable collection of RB Burial material by P Benton of Southend-on-Sea. Mid 19th S.end of West Tilbury Manor Way". Part of a wide spread of material. | VESSEL | 566500 | 175400 |
| HA86 | MEX6091 | 1688 | FS | East Tilbury Foreshore | FINDSPOT | Roman | Roman | Roman 4th century pottery. Part of a wide spread of material along this part of the foreshore | VESSEL | 569200 | 177250 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|----------|--------|------------------------|--|--------------------|---------|----------|
| HA87 | MEX6255 | 1735 | FS | East of Tilbury Fort | FINDSPOT | Roman | Roman | Roman, Samian ware found in 1912, 1 mile east of Tilbury Fort. On banks of Thames, c1 mile east of Tilbury fort, much Roman pottery found, including 1st century Samian, Salopian' and 'Durobrivian' wares. Some in Thurrock Museum, some in Colchester Museum-including 49 stamps. They are listed in the VCH. Most of them belonged to the 2nd half of the 1st century. In number this exceeds many important forts. "The evidence suggests a population of some density, able to buy Samian ware but otherwise falling into line with a grouping of native huts, like those at East Tilbury | VESSEL; VESSEL | 566700 | 175600 |
| HA88 | MEX1032098 | 17282 | FS | Chadwell St. Mary County Primary School, River View | FINDSPOT | Roman | Roman | A 3rd-4th century coin and small quantities of Roman pot and tile residual in Saxon features. | VESSEL; TILE; COIN | 564500 | 178540 |
| HA89 | MEX6227 | 1726 | FS | Palmer's Sixth Form College, Chadwell St Mary | FINDSPOT | Roman | Roman | Pottery from gravel pit east of Palmer's Girls' School (now Sixth Form College). 3rd century pottery flask with human figure decoration and other flask. | VESSEL; VESSEL | 563838 | 178492 |
| HA90 | MEX6201 | 1718 | FS | Purleby Pit, Chadwell St Mary | FINDSPOT | Roman | Roman | Roman pottery. 922-fragmentary urns, including 7 pieces of red Salopian ware and 3 of Samian found in Purleby's Gravel Pit | VESSEL | 564600 | 178400 |
| HA91 | MEX6206 | 1720 | FS | Rectory, Chadwell St Mary | FINDSPOT | Roman | Late Iron Age to Roman | Roman coin found. Coin of Claudius, 41-50AD, found 1955. | COIN | 564550 | 178817 |
| HA92 | MEX6275 | 1740 | FS | Church of St Margaret, now St Catherine, East Tilbury | FINDSPOT | Roman | Roman | Walls contain some Roman and later bricks. VCH records 18th century reports of tessellated pavements uncovered during grave-digging | BRICK | 568912 | 176968 |
| HA93 | MEX28725 | 9007 | FS | St Catherine's Church Cemetery, East Tilbury | FINDSPOT | Roman | Roman | Extension of the cemetery to the east, over-running a small searchlight/gun battery. | TILE; ROOF TILE | 568930 | 176990 |
| HA94 | MEX1032122 | 18615 | FS | East or West Tilbury | FINDSPOT | Roman | Roman | Fragment of a Roman lamp with lion relief. Site not plotted, exact location unknown. | LAMP | 566000 | 177000 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|--|--------|---------|--|-----------------------|---------|----------|
| HA95 | MEX28721 | 9006 | FS | East Tilbury - Quarry and Field East of St Catherine's Church | FINDSPOT | Roman | Roman | Gravel quarry excavated for 1903 remodelling of Coalhouse Fort, revealing large amounts of Iron Age and Roman pottery. | VESSEL; BRIQUETAGE | 569000 | 177050 |
| HA96 | MEX17775 | 5161 | FS | Orsett | FINDSPOT | Roman | Roman | Roman finds made north of Seaborough Hall, Orsett Heath. 1st century pottery | VESSEL | 565400 | 180600 |
| HA97 | MEX17774 | 5160 | FS | Orsett-Causewayed Enclosure | FINDSPOT | Roman | Roman | A bronze fibula, dated c100BC-60AD was a residual find from a Saxon ring ditch (see 5162). Five sherds of RB pottery also found. | VESSEL; BROOCH | 565300 | 180600 |
| HA98 | MEX1032293 | 18625 | FS | South Stifford | FINDSPOT | Roman | Roman | Copper coins of Carausius found in 1906 (not plotted-location unknown) | COIN | 565000 | 180000 |
| HA99 | MEX6195 | 1716 | FS | Tilbury - Quebec Road | FINDSPOT | Roman | Roman | Roman 3rd century coin found. | COIN | 564400 | 176600 |
| HA100 | MEX6098 | 1693 | FS | West Tilbury - Condover's Pit | FINDSPOT | Roman | Roman | RB 2nd century pottery ound in banks of old gravel pit. . | VESSEL | 566540 | 177500 |
| HA101 | MEX6254 | 1734 | FS | West Tilbury - Foreshore | FINDSPOT | Roman | Roman | Found 1968(?), RB rim sherd. | VESSEL | 566600 | 175500 |
| HA102 | MEX18051 | 5235 | MON | Near Heath Place | TRACKWAY; PIT; RING DITCH; LINEAR FEATURE; RECTILINEAR ENCLOSURE | Roman? | Unknown | Cropmarks of a large rectilinear enclosure with internal subdivisions, a double ditched trackway forms its southern boundary, possibly the northern boundary also. A third double ditched trackway cuts through the feature from south to north. 1 ring ditch to the west enclosure, pits. | | 564412 | 180414 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|----------|---------|-------------|-----------------------------|---|-------------|----------------|---|--|---------|----------|
| HA103 | MEX17776 | 5162 | MON | Orsett-Causewayed Enclosure | RING DITCH; ROUND BARROW; COFFIN; INHUMATION; POST HOLE | Anglo-Saxon | Early Medieval | Within the southern half of the inner circuit of the neolithic causewayed enclosure 4, possibly 5 ring ditches were recognised as cropmarks. Central pits were visible within 3 of them. It was observed that the ring ditches were not like normal ring ditches from ploughed out barrows, their diameters being rather small. In 1975 during trial excavation of the neolithic enclosure 3 of the ring ditches were excavated. They proved to be of Saxon date. Graves were located in 2 ring ditches, only part of the third's ditch being dug. The graves were centrally situated, aligned east-west, contained traces of skeletons with the stain left by wooden coffins. Metalwork was found. Of the finds, less than 10 sherds of Anglo-Saxon pottery were found. <1> The southern ring ditch burial contained a small knife, the northern one an iron sword in poor condition. The ring ditches appeared to belong to Hogarth's group 116, probably dating to the late 7th-early 8th centuries. | ANIMAL REMAINS; PLANT REMAINS; OYSTER SHELL; SWORD; TEXTILE; COFFIN; VESSEL; HANGING BOWL; RING; CHATELAINE; KNIFE; BEAD | 565018 | 180585 |
| HA104 | MEX6510 | 1792 | MON | West Tilbury - Gun Hill | GRUBENHAUS; POST HOLE; WALL | Anglo-Saxon | Early Medieval | Cropmark complex discovered in the late 1950's. The 1969-1970 excavations produced a sherd of Anglo-Saxon pottery from the main north-south ditch indicating that it was still visible in some form in this period | VESSEL; LOOMWEIGHT; WHETSTONE; BODKIN; METAL WORKING DEBRIS | 565539 | 177962 |
| HA105 | MEX6520 | 1795 | MON | West Tilbury - Gun Hill | GRUBENHAUS; DITCH; PIT; LINEAR FEATURE | Anglo-Saxon | Unknown | Cropmark complex discovered in the late 1950s. Undetermined possible grubenhaus | | 565539 | 177962 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|--------------------------|-------------|---------------------------|--|-----------------------------------|---------|----------|
| HA106 | MEX1032042 | 17281 | MON | Chadwell St Mary County Primary School | PIT; POST HOLE; BUILDING | Anglo-Saxon | Early Medieval | The former playground and a small grassed area were evaluated by trial trenching. Only four archaeological features were recorded: three small pits or postholes and an early Saxon sunken floored building. Further excavation recorded the full extent of the building, two small pits to its north and a series of intercutting pits at its SW corner. The pottery is of C6-C7 date; other finds include a ceramic spindle whorl and a fired clay 'donought shaped' loomweight from the bottom fill of the sunken floored building. Environmental evidence suggests the presence of a granary, oats, barley, rye cereals present, (probably destroyed by fire) and indicates the presence of heathland from ericaceous charcoal | VESSEL; SPINDLE WHORL; LOOMWEIGHT | 564515 | 178546 |
| HA107 | MEX5927 | 1646 | FS | Chadwell St Mary | FINDSPOT | Anglo-Saxon | Early Medieval | Fragment of Anglo-Saxon cinerary urn of coarse brown ware found at Chadwell St Mary. | VESSEL | 564000 | 178000 |
| HA108 | MEX28712 | 9001 | FS | Field West of St Catherine's Church, Thuurock | FINDSPOT | Anglo-Saxon | Early Medieval | At least 20 early Saxon sceattas have been found, plus a range of C14- C17 metal objects. Site may be a potential early Saxon settlement/religious site as it lies on the ancient highway from the East Tilbury ferry to Mucking and beyond. Arable field, heavily worked by metal detecting group. | COIN | 568850 | 176920 |
| HA109 | MEX5940 | 1650 | FS | Tilbury Marshes | FINDSPOT | Anglo-Saxon | Early Medieval | "Anglo-Saxon bronze bowl, found 1925 at Tilbury (W or E?)". | BOWL | 564000 | 177000 |
| HA110 | MEX1042101 | 48403 | LND | Mucking Marsh | MARSH | Medieval | Medieval to Post Medieval | An area of improved grassland located to the east of East Tilbury and north of Coalhouse Fort. A sea wall survives on the eastern edge of the area, and a number of straight and sinuous drainage ditches remain. | | 569019 | 177516 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|--|----------|---------------------------|--|---|---------|----------|
| HA111 | MEX1042099 | 48400 | LND | West and East Tilbury Marsh | MARSH | Medieval | Medieval to Post Medieval | A small, heavily improved grazing marsh, situated on the north-west edge of the built up area of Tilbury, with cultivated land to the north and east. The marsh contains a surviving counter wall and ditch. | | 565107 | 177057 |
| HA112 | MEX1010724 | 35317 | LB | Church of St Catherine, East Tilbury | CHURCH | Medieval | Medieval | C12 and later church. The walls are flint and ragstone-rubble with Roman (see 1740) and later brick. Dressings are mostly Reigate stone. Nave is early 12th century, late in the 12th century the north arcade was built and the north aisle added. The chancel was rebuilt and probably enlarged in the 1st half of the 13th century. In the 14th century the south arcade was built, the south aisle was added and the tower also, the chancel arch was rebuilt and widened. | | 568909 | 176966 |
| HA113 | MEX6276 | 1741 | MON | Church of St Margaret, now St Catherine, East Tilbury | CHURCH; COFFIN; FONT; ARCHITECTURAL FRAGMENT; ARCHITECTURAL FRAGMENT | Medieval | Medieval | The walls are flint and ragstone-rubble with Roman (see 1740) and later brick. The south aisle and the west tower were reputedly destroyed by the Dutch fleet in 1667., excavation in 2015 found only disturbed soil. | WINDOW; COFFIN; FONT; ARCHITECTURAL FRAGMENT; BRICK; ARCHITECTURAL FRAGMENT | 568918 | 176982 |
| HA114 | MEX28719 | 9005 | MON | Field West of St Catherine's Church, East Tilbury | HUMAN REMAINS | Medieval | Medieval | Some Roman and medieval pottery, plus human bone was collected from the area. | VESSEL; HUMAN REMAINS | 568725 | 176927 |
| HA115 | MEX28714 | 9003 | FS | Field West of St Catherine's Church, East Tilbury | FINDSPOT | Medieval | Post Medieval | A range of C14-C17 metal objects being found, also Saxon sceattas (see 9001). | WORKED OBJECT | 568850 | 176920 |
| HA116 | MEX5948 | 1652 | MON | St Mary's Hospital, East Tilbury | HOSPITAL; CHAPEL | Medieval | Medieval | Hospital dedicated to St Mary founded c1213. Latterly used as a chapel. Last mentioned 1456. | | 568000 | 177000 |
| HA117 | MEX6629 | 1827 | MON | Tilbury | SEA DEFENCES | Medieval | Medieval | Medieval sea wall. | | 566552 | 175754 |
| HA118 | MEX1010778 | 35368 | LB | Church of St James, West Tilbury | CHURCH | Medieval | Medieval | Late C11/early C12 and later church. | | 566136 | 177704 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|-------------------------------------|---|----------|----------|---|--------------------------|---------|----------|
| HA119 | MEX6037 | 1675 | MON | Church of St James, West Tilbury | CHURCH; COFFIN | Medieval | Medieval | Walls are of flint and ragstone rubble with limestone dressings. Walls are of flint and ragstone rubble with limestone dressings. Chancel and nave built in late 11th or early 12th century. The chancel was lengthened in the 14th century and the nave widened towards the north, "perhaps at some period". Features and fittings: windows and parts of windows of the late 11th or early 12th century, 13th century, 14th century, herring-bone masonry of the late 11th or early 12th century, a brass indent of the 14th century, a coffin lid of the 13th century, a piscina of the 14th century | WINDOW; BRASS; COFFIN | 566130 | 177714 |
| HA120 | MEX6047 | 1677 | MON | Tilbury Fort, West Tilbury | ROAD; DITCH | Medieval | Medieval | The earliest road and causeway was located on the redan outwork. | | 565147 | 175477 |
| HA121 | MEX6513 | 1793 | MON | West Tilbury - Gun Hill | DITCH; FIELD BOUNDARY; FIELD SYSTEM; TRACKWAY; ROAD | Medieval | Medieval | Multi-period cropmark complex, discovered in the late 1950's. The major features were excavated in 1969-1970. Site proved to be multi-phase-see 1787-1792 for earlier phases. The only medieval excavated feature was a ditch that replaced an earlier field boundary on the southern edge of the Gun Hill plateau. It was recut several times. It was sited 2m north of the present hedgerow boundary, to the south of which is a negative lynchet of unknown date. The ditch produced a large pitcher sherd of the 14th century. It seems that the area was given over to agriculture during this period. Nearby lanes and a footpath are medieval in origin. | VESSEL | 565539 | 177962 |
| HA122 | MEX1010679 | 35273 | LB | Church of St Mary, Chadwell St Mary | CHURCH | Medieval | Medieval | Early C12 and later church. | | 564626 | 178498 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|---------------------------------------|----------|---------------|--|---|---------|----------|
| HA123 | MEX1010574 | 35168 | LB | Marshalls Cottages, West Tilbury | HALL HOUSE | Medieval | Medieval | Early C15 hall house. West Tilbury | | 566061 | 178225 |
| HA124 | MEX1010597 | 35191 | LB | Walnut Tree Cottage, West Tilbury | TIMBER FRAMED HOUSE | Medieval | Medieval | C15 timber framed house. | | 566714 | 177610 |
| HA125 | MEX6404 | 1765 | MON | St Chads Well, Hobhill Farm, Chadwell St Mary | MOAT | Medieval | Medieval | Moat at St Chads Well. | | 564548 | 177943 |
| HA126 | MEX1010578 | 35172 | LB | Sleepers Farmhouse, Chadwell St Mary | TIMBER FRAMED HOUSE | Medieval | Medieval | C15 timber framed house. | | 564562 | 178501 |
| HA127 | MEX1040495 | 47544 | MON | Sleeper's Farm, River View, Chadwell St. Mary | DITCH | Medieval | Post Medieval | An archaeological trial trenching evaluation undertaken in advance of residential development revealed one ditch that contained late medieval/early post-medieval pottery and one sherd of possible Saxon pot. The Saxon pot is thought to be residual. | VESSEL | 564552 | 178462 |
| HA128 | MEX6551 | 1804 | MON | Chadwell St Mary | MOUND; PIT; MILLSTONE; WINDMILL MOUND | Medieval | Medieval | Small mound, on fairly prominent site. Excavated by the Morant Club, 1913. A patch of marsh mud contained medieval pottery, decayed bone, oyster shells. Otherwise few finds were made. Some of the material in the pit (marsh mud) was brought from a distance but the reason why was somewhat puzzling. The mound was seen as too small and low for a mill mound (as suggested by the French burr fragments) | VESSEL; MILLSTONE; OYSTER SHELL; ANIMAL REMAINS; NAIL | 564909 | 179629 |
| HA129 | MEX1032105 | 17775 | MON | Land east of Sabina Road, Chadwell St. Mary | FINDSPOT | Medieval | Medieval | A total of 46 evaluation trenches were excavated across the development area. Three sherds of late medieval pottery were identified. | VESSEL | 565223 | 178913 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|--|---------------|---------------------------|--|--|---------|----------|
| HA130 | MEX17779 | 5163 | MON | Orsett-Causewayed Enclosure | FIELD BOUNDARY; TRACKWAY; DITCH | Medieval | Medieval | The neolithic causewayed enclosure was overlain by cropmarks of linear features. On excavation of the neolithic causewayed enclosure in 1975 parallel ditch alignments proved to be medieval and-or post medieval trackways. Other medieval ditches seemed to be field boundaries. | PLANT REMAINS; ANIMAL REMAINS; WORKED OBJECT; VESSEL; VESSEL; TILE; VESSEL; VESSEL | 565018 | 180585 |
| HA131 | MEX1032217 | 14842 | FS | Orsett Causewayed Enclosure | FINDSPOT | Medieval | Medieval | A whetstone was a surface find after ploughing from Orsett Causewayed Enclosure. It is a fine grained schist of unknown provenance, tapering and perforated at the wider end. The shape, stone type and presence of perforation suggest it is medieval in date. | WHETSTONE | 565080 | 180490 |
| HA132 | MEX41440 | 1678 | SM | Tilbury Fort | BLOCKHOUSE; FORT; CHAPEL; GATEHOUSE; BASTION OUTWORK; BASTION OUTWORK; BATTERY; ROAD; DITCH; BASTION OUTWORK | Post Medieval | Post Medieval | 1539- A 16th century fort rebuilt 1672. A plan of fortifications before the 17th century fort was constructed shows a blockhouse (built 1539) within an area enclosed by a rampart and a ditch | BRICK; BRICK; BRICK; BRICK | 565147 | 175477 |
| HA133 | MEX6347 | 1756 | SM | East Tilbury - Coalhouse Fort | BLOCKHOUSE | Post Medieval | Medieval to Post Medieval | 1539-Henry VIII ordered a blockhouse to be erected at East Tilbury. "The earliest blockhouse of 1539 lies nearer to the foreshore". It was hoped in 1984 that a trial trench would be able to locate it. Later rebuilt in 19th century to its present form | | 569000 | 176500 |
| HA134 | MEX1010696 | 35290 | LB | Chadwell Place, Marshfoot Row, Chadwell St Mary | TIMBER FRAMED HOUSE | Post Medieval | Medieval to Post Medieval | C16/C17 brick and timber framed house. Grade II listed | | 563819 | 178375 |
| HA135 | MEX1010598 | 35192 | LB | West Tilbury Hall | TIMBER FRAMED HOUSE | Post Medieval | Post Medieval | C17 or earlier timber framed house. Grade II Listed. | | 566074 | 177724 |
| HA136 | MEX1010599 | 35193 | LB | Barn to N of West Tilbury Hall | TIMBER FRAMED BARN | Post Medieval | Medieval to Post Medieval | C17 timber framed barn. Grade II listed | | 566048 | 177739 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|--|---|---------------|---------------|--|--|---------|----------|
| HA137 | MEX1010619 | 35213 | LB | Manor Farmhouse, The Green, West Tilbury | TIMBER FRAMED HOUSE | Post Medieval | Post Medieval | C17 timber framed house. Grade II listed | | 566102 | 177975 |
| HA138 | MEX1010596 | 35190 | LB | Polwicks, Church Road, West Tilbury | TIMBER FRAMED HOUSE | Post Medieval | Post Medieval | C17 or earlier timber framed house. Grade II Listed. | | 566826 | 177657 |
| HA139 | MEX1010567 | 35161 | LB | Weatherboarded barn at Barehams Boarding Kennels, Orsett | TIMBER FRAMED BARN | Post Medieval | Post Medieval | C17 timber framed barn. Grade II listed | | 566010 | 180822 |
| HA140 | MEX6556 | 1806 | MON | Mill House, Linford Road, Chadwell St Mary | WINDMILL | Post Medieval | Post Medieval | Site of wind mill at Mill House. Noted on 1777 map | | 565905 | 178715 |
| HA141 | MEX17782 | 5164 | MON | Orsett-Causewayed Enclosure | FIELD BOUNDARY; TRACKWAY; DITCH | Post Medieval | Post Medieval | The neolithic causewayed enclosure was overlain by cropmarks of linear features. On excavation of the enclosure in 1975 parallel ditch alignments proved to be medieval and/or post medieval trackways. Other ditches (post medieval?) seemed to be field boundaries. Post medieval tile and clay pipe were found, also fired clay, glass and metal. | CLAY PIPE (SMOKING); WORKED OBJECT; VESSEL; VESSEL; TILE | 565018 | 180585 |
| HA142 | MEX6627 | 1826 | MON | Tilbury - Wick House | HOUSE | Post Medieval | Unknown | Wick House. From documentary sources but not shown on the Chapman and Andre map of 1777 nor later OS mapping. Mentioned in ECC FAU 2008 report on new substation. | | 566461 | 176046 |
| HA143 | MEX6361 | 1760 | SM | Coalhouse Fort, East Tilbury | BARRACKS; BATTERY; FORT; MAGAZINE; MOAT | 18th century | Post Medieval | Site of a series of fortifications dating back to the time of Henry VIII (see 1756, 1757). In 1795 an open, earthen battery was built to take 4 32 pounder guns. In 1855 it was demolished, to be replaced by a 2nd open battery for 17 guns. | | 570600 | 179600 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Eastings | Northing |
|--------|------------|---------|-------------|---|-----------------------|--------------|-------------------------|---|------------------------|----------|----------|
| HA144 | MEX28730 | 9011 | MON | Church Green, East Tilbury | BATTERY; WAR MEMORIAL | 18th century | Post Medieval to Modern | Area between church cemetery boundary and Coalhouse Fort (1760, 1761) scheduled area. Area between church cemetery boundary and Coalhouse Fort (1760, 1761) scheduled area. Large amounts of architectural stone blocks, derived from the final construction of Coalhouse Fort, 1860-74. They consist of granite gun floor blocks with racers for gun carriage wheels and anchoring points; others relate to the caponiers constructed in the forts dry ditch system - Kentish ragstone elements also exist for the caponiers. One stone (monolith) is a memorial to the Great War. Lead letters have been removed but attaching points allow the inscription to be read. | ARCHITECTURAL FRAGMENT | 568999 | 177012 |
| HA145 | MEX1032009 | 39302 | LB | Granary to NE of Manor Farmhouse, The Green, West Tilbury | GRANARY | 18th century | Post Medieval | Late C18 timber framed granary. | | 566128 | 177996 |
| HA146 | MEX1010563 | 35157 | LB | Biggin Farmhouse, Biggin Lane, Chadwell St Mary | TIMBER FRAMED HOUSE | 18th century | Post Medieval | C18 brick and timber framed house. Grade II Listed. | | 565154 | 177688 |
| HA147 | MEX1010579 | 35173 | LB | Chadwell House, Chadwell Hill, Chadwell St Mary | HOUSE | 18th century | Post Medieval | C18 brick house. Grade II listed. | | 564602 | 178474 |
| HA148 | MEX1010678 | 35272 | LB | Heath Place, Hornsby Lane, Chadwell St Mary | TIMBER FRAMED HOUSE | 18th century | Post Medieval | Late C18 brick and timber framed house. Grade II listed | | 564620 | 180389 |
| HA149 | MEX1010626 | 35220 | LB | High House, High House Lane, Chadwell St Mary | TIMBER FRAMED HOUSE | 18th century | Post Medieval | C18 timber framed house. Grade II listed | | 565710 | 179206 |
| HA150 | MEX1010765 | 35355 | LB | Murrells Cottages, Stanford Road, Orsett. | TIMBER FRAMED HOUSE | 18th century | Post Medieval | Early C18 timber framed house. Grade II listed | | 564904 | 181057 |
| HA151 | MEX1010620 | 35214 | LB | Kings Head Public House, The Green, West Tilbury | HOUSE | 18th century | Post Medieval | Late C18 house, altered in C19. Grade II listed | | 566066 | 177989 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|--|-------------------------------|--------------|-------------------------|---|-------|---------|----------|
| HA152 | MEX1010621 | 35215 | LB | The Cottages, 1-2 The Green, West Tilbury | HOUSE | 19th century | Post Medieval | Early C19 house in grey gault brick. House immediately west of Kings Head PH. Grade II listed | | 566052 | 178002 |
| HA153 | MEX1010622 | 35216 | LB | Well House, The Green, West Tilbury | HOUSE | 19th century | Post Medieval | Early C19 house in yellow stock brick. Grade II listed | | 566053 | 177921 |
| HA154 | MEX1010623 | 35217 | LB | The Bakery, The Green, West Tilbury | HOUSE | 19th century | Post Medieval | Early C19 house in yellow stock brick. Grade II listed | | 566029 | 177942 |
| HA155 | MEX1010624 | 35218 | LB | Gun Hill Farmhouse, West Tilbury | HOUSE | 19th century | Post Medieval | Early C19 house in grey gault brick. Grade II listed | | 565611 | 177687 |
| HA156 | MEX1010680 | 35274 | LB | Mill House, Linford Road, Chadwell St Mary | HOUSE | 19th century | Post Medieval | Early C19 house in grey gault brick. Grade II listed | | 565844 | 178694 |
| HA157 | MEX1010767 | 35357 | LB | Buckland, Station Road, East Tilbury | HOUSE | 19th century | Post Medieval | Early C19 gault brick house. Grade II listed | | 567443 | 177246 |
| HA158 | MEX1010725 | 35318 | LB | Old Rectory, Princess Margaret Road, East Tilbury | HOUSE | 19th century | Post Medieval | Early C19 house in yellow stock brick. Grade II listed | | 568819 | 176961 |
| HA159 | MEX1010726 | 35319 | BLD | Boundary stone, Princess Margaret Road, East Tilbury | BOUNDARY STONE | 19th century | Post Medieval | Early C19 Whitechapel Charity School property boundary stone. In hedge, 220 yards from road by Old Rectory. Grade II listed | | 568930 | 177184 |
| HA160 | MEX1010748 | 35339 | LB | Post House, Rectory Road, West Tilbury | HOUSE; SHOP | 19th century | Post Medieval | Early C19 house and shop. Grade II listed | | 565988 | 177988 |
| HA161 | MEX1035591 | 19997 | BLD | Old Methodist Chapel, East Tilbury | WESLEYAN METHODIST CHAPEL | 19th century | Post Medieval to Modern | Mid C19 Wesleyan Methodists Chapel. A historic building survey of the Methodist Church, East Tilbury, was undertaken prior to its demolition and replacement by a house. | | 568590 | 177334 |
| HA162 | MEX6612 | 1823 | MON | East Tilbury Battery | MAGAZINE; BATTERY | 19th century | Post Medieval | Dismantled battery for 6 guns, built 1889-1890. Towards 1900 the two 6in sections were remounted on barbette carriages, the 10in guns being left alone, being removed when the guns were declared obsolete in the 1920s | | 568658 | 177360 |
| HA163 | MEX28731 | 9012 | MON | St Catherine's Church Boundary (N, E, S), East Tilbury | FORTIFICATION; DYKE (DEFENCE) | 19th century | Post Medieval | Earthwork, defensive ditch, probably late C19 to protect searchlight/gun battery east of church (see 9008). | | 569001 | 177020 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|--|---|--------------------|---------|--|-------|---------|----------|
| HA164 | MEX1032994 | 15138 | CA | Bata Estate - Factory and Model Settlement | SHOE FACTORY; HOUSING ESTATE; LEATHER FACTORY; RUBBER WORKS | Early 20th century | Modern | Factory and Model Settlement designed by Gahura and Karfik. | | 568003 | 178569 |
| HA165 | MEX1010730 | 35323 | LB | 12 to 14 Bata Avenue | HOUSE; WORKERS COTTAGE | Early 20th century | Modern | Early C20 semi-detached houses by Karfik and Gahura in International Modern style. | | 567833 | 178485 |
| HA166 | MEX1010731 | 35324 | LB | 16 and 18 Bata Avenue | HOUSE; WORKERS COTTAGE | Early 20th century | Modern | Early C20 semi-detached houses by Karfik and Gahura in International Modern style. | | 567820 | 178477 |
| HA167 | MEX1010728 | 35321 | LB | 2 Bata Avenue | HOUSE; WORKERS COTTAGE | Early 20th century | Modern | Early C20 house by Karfik and Gahura in International Modern style. | | 567886 | 178516 |
| HA168 | MEX1010732 | 35325 | LB | 24 and 26 Bata Avenue | HOUSE; WORKERS COTTAGE | Early 20th century | Modern | Early C20 semi-detached houses by Karfik and Gahura in International Modern style. | | 567793 | 178460 |
| HA169 | MEX1010733 | 35326 | LB | 28 and 30 Bata Avenue | HOUSE; WORKERS COTTAGE | Early 20th century | Modern | Early C20 semi-detached houses by Karfik and Gahura in International Modern style. | | 567779 | 178453 |
| HA170 | MEX1010734 | 35327 | LB | 32 and 34 Bata Avenue | HOUSE; WORKERS COTTAGE | Early 20th century | Modern | Early C20 semi-detached houses by Karfik and Gahura in International Modern style. | | 567765 | 178444 |
| HA171 | MEX1032008 | 39303 | LB | 4 and 6 Bata Avenue | SEMI DETACHED HOUSE; WORKERS COTTAGE | Early 20th century | Modern | Early C20 semi detached houses by Karfik and Gahura in International Modern style. | | 567861 | 178501 |
| HA172 | MEX1010729 | 35322 | LB | 8 and 10 Bata Avenue | SEMI DETACHED HOUSE; WORKERS COTTAGE | Early 20th century | Modern | Early C20 semi-detached houses by Karfik and Gahura in International Modern style. | | 567847 | 178493 |
| HA173 | MEX1010727 | 35320 | LB | Building 13 Bata Factory | FACTORY | Early 20th century | Modern | Early C20 factory by Gahura in International Modern style. | | 567965 | 178307 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|--|----------------------|--------------------|---------|--|-------|---------|----------|
| HA174 | MEX1033058 | 15474 | MON | Low Street Brick Works | BRICKWORKS | Early 20th century | Modern | Low Street Brick Works at East Tilbury were situated south east of the London, Tilbury and Southend Railway, east of Low Street Station and north west of Gravelpit Farm. It operated between the early 1900s and the early 1930s to 1967. It was owned by Harry G. Miller in the early 1900s and he manufactured pressed red facing bricks. He was also a gravel and flint merchant. The brickworks was closed during the 1910s and 1920s and had re-opened by 1933. It finally closed in 1967. Between the 1930s and 1967 it manufactured sand faced reds, facing stocks, squints and bull noses as well as ordinary yellow stock bricks. The bricks are marked 'L.S.B.' (Low Street Brickworks) | | 567330 | 177699 |
| | MEX1031027 | 16685 | MON | WWI landing ground at Orsett | MILITARY AIRFIELD | Early 20th century | Modern | Landing ground in use from 1916 to 1919. | | 565941 | 181114 |
| HA175 | MEX1040870 | 48071 | LB | Listed Building - Sunspan, Sandy Lane, Chadwell St Mary, Essex | HOUSE | 1930s | Modern | Sunspan, Sandy Lane, Chadwell St Mary, Essex. A Sunspan house, built to the designs of Wells Coates and David Pleydell-Bouverie, erected between 1934-38. A two storey house with a flat roof, possibly used as a terrace. Grade II listed | | 565105 | 178072 |
| HA176 | MEX1042101 | 48403 | LND | Mucking Marsh | MARSH | WWII | WWII | Second World War anti landing ditch | | 569019 | 177516 |
| HA177 | MEX1042099 | 48400 | LND | West and East Tilbury Marsh | MARSH | WWII | WWII | Cropmarks of WWII anti-landing ditches | | 565107 | 177057 |
| HA178 | MEX28728 | 9009 | MON | Alan Williams Turret, Love Lane/Princess Margaret Road, East Tilbury | ALAN WILLIAMS TURRET | WWII | Modern | Gun cupola, 'Alan Williams Dome'. | | 568267 | 177832 |
| HA179 | MEX31821 | 10295 | MON | Alan-Williams Steel Turret (destroyed), Love Lane/Prin. Marg | ALAN WILLIAMS TURRET | WWII | Modern | It is reliably reported that an Alan-Williams steel turret once stood on the NW corner of the junction of Love Lane and Princess Margaret Road. | | 568260 | 177850 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|--------------|-------------|--|---------------------------|--------|---------|---|-------|---------|----------|
| HA180 | MEX39672 | 14558 | MON | Anti-Glider Ditches SE of Bowaters Farm | AIRCRAFT OBSTRUCTION | WWII | Modern | Spread of anti-glider ditches appearing as earthworks on vertical aerial photography. | | 568287 | 176585 |
| HA181 | MEX39674 | 14559 | MON | Anti-glider ditches west of Bowaters Farm | AIRCRAFT OBSTRUCTION | WWII | Modern | Spread of anti glider ditches to the North and North-East of Tilbury Power Station. | | 566053 | 176835 |
| HA182 | MEX31833 | 10300 | MON | Concrete Building, Coalhouse Fort | BUILDING | WWII | Modern | Standing 50 yards to the NE of the minefield control tower, at the W end of the moat around Coalhouse Fort, is a small concrete building - clearly of WWII vintage. | | 569074 | 176576 |
| HA183 | MEX1041248 | 21498 | MON | D-Day Assembly Area, Tilbury | MILITARY CAMP | WWII | Modern | D-Day assembly area. | | 564626 | 176615 |
| HA184 | MEX1041251 | 21500 | MON | Eighteen Air Raid Shelters (destroyed), Recreation Ground, Tilbury | AIR RAID SHELTER | WWII | Modern | The site of eighteen air raid shelters. | | 564586 | 176272 |
| HA185 | MEX1041256 | 21499 | MON | Military Camp (destroyed), junc St. Chads Road / Feenan Highway, Tilbury | MILITARY CAMP | WWII | Modern | A small military camp of approximately ten huts. | | 564536 | 177453 |
| HA186 | MEX1041240 | 21491 | MON | Military Camp (destroyed), S of Stanford Road, Orsett | MILITARY CAMP | WWII | Modern | A military camp of over 300 buildings. | | 565940 | 180924 |
| HA187 | MEX31803 | 10279, 10280 | MON | Spigot Mortar Base, NE and SW Bastion, Tilbury Fort | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | The SE bastion of Tilbury Fort has two pre-WWII 6" gun pits and the eastern pit has been converted to a spigot mortar position. Thus the mortar could have fired across the parapet onto the eastern approaches and the Thames. | | 565140 | 175470 |
| HA188 | MEX31812 | 10287 | MON | Pillbox, S of Tilbury Power Station | PILLBOX | WWII | Modern | An unusual pillbox standing on the mud at the river's edge. | | 566320 | 175360 |
| HA189 | MEX31807 | 10283 | MON | Road Barrier (destroyed), Cooper's Lane, West Tilbury | ROAD BARRIER | WWII | Modern | Contemporary records state, "Blocks and sockets. | | 565770 | 177470 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|----------|---------|-------------|--|---------------------------|--------|---------|---|-------|---------|----------|
| HA190 | MEX31811 | 10286 | MON | Road Barrier (destroyed), Muckingford Road, West Tilbury | ROAD BARRIER | WWII | Modern | Contemporary records state, "Blocks and sockets. | | 565710 | 178630 |
| HA191 | MEX31805 | 10281 | MON | Road Barrier (destroyed), Nr Level Crossing, Fort Rd, W. Tilbury | ROAD BARRIER | WWII | Modern | Contemporary records state, "Blocks and sockets. | | 565302 | 176379 |
| HA192 | MEX31809 | 10284 | MON | Road Barrier (destroyed), Rectory Road, West Tilbury | ROAD BARRIER | WWII | Modern | Contemporary records state, "Blocks and sockets. | | 565690 | 177970 |
| HA193 | MEX31810 | 10285 | MON | Spigot Mortar Base, Top of Gun Hill, West Tilbury | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | Just to the NW of the junction of Gun Hill and Rectory Road is a Home Guard spigot mortar position. The central pedestal surmounted by the stainless steel pintle projects a few inches above ground level. | | 565640 | 177990 |
| HA194 | MEX31793 | 10270 | MON | Spigot Mortar Base, W of St. Chad's Rd/Feenan Highway junction | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | 100 yards NW of the St. | | 564380 | 177460 |
| HA195 | MEX31814 | 10289 | MON | Spigot Mortar Pit, Church Road, West Tilbury | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | In overgrown bushes on the S side of Church Road is a 29mm spigot mortar position guarding the road approach to West Tilbury from the E. | | 566210 | 177710 |
| HA196 | MEX31813 | 10288 | MON | Spigot Mortar Pit, corner of field, St. James Church, W. Tilbury | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | A spigot mortar pit with central pedestal surmounted by pintle. | | 566190 | 177710 |
| HA197 | MEX31800 | 10276 | MON | Spigot Mortar Site (destroyed), 24 Brentwood Rd, Chadwell | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | Contemporary records state, "Spigot Mortar. | | 564600 | 178630 |
| HA198 | MEX31798 | 10274 | MON | Spigot Mortar Site (destroyed), Chadwell House, Chadwell St. | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | Contemporary records state, "Spigot Mortar. | | 564590 | 178480 |
| HA199 | MEX31815 | 10290 | MON | Spigot Mortar Site (destroyed), Manor Farm, West Tilbury | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | Contemporary records state, "Spigot Mortar. | | 566110 | 178000 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|---|--------|---------|---|-------|---------|----------|
| HA200 | MEX31801 | 10277 | MON | Spigot Mortar Site (destroyed), N of Chadwell St. Mary | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | Contemporary records state, "2 Spigot Mortars. | | 564630 | 179070 |
| HA201 | MEX31802 | 10278 | MON | Spigot Mortar Site (destroyed), N of Chadwell St. Mary | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | Contemporary records state, "2 Spigot Mortars. | | 564610 | 179120 |
| HA202 | MEX31799 | 10275 | MON | Spigot Mortar Site (destroyed), N of Cross Keys Inn, Chadwell | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | Contemporary records state, "Spigot Mortar. | | 564580 | 178590 |
| HA203 | MEX31796 | 10272 | MON | Spigot Mortar Site (destroyed), OS138 Grassland E of Chadwell | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | Contemporary records state, "Spigot Mortar. | | 564532 | 177493 |
| HA204 | MEX31816 | 10291 | MON | Spigot Mortar Site x 2 (destroyed), Muckingford Road | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | Contemporary records state, "2 Spigot Mortars. | | 567233 | 178932 |
| HA205 | MEX28727 | 9008 | MON | St Catherine's Church Cemetery, East Tilbury - a small searchlight/ gun battery | SEARCHLIGHT BATTERY; BATTERY | WWII | Modern | The cemetery has been extended to the east over-running a small searchlight/ gun battery. | | 569001 | 177020 |
| HA206 | MEX31795 | 10271 | MON | Tett Turret (destroyed), Adj. junc. St. Chad's Rd/Feenan Hig | TETT TURRET | WWII | Modern | Contemporary records state, "Tett Turret. | | 564460 | 177420 |
| HA207 | MEX31797 | 10273 | MON | Tett Turret (destroyed), S of Chadwell St. Mary | TETT TURRET | WWII | Modern | Contemporary records state, "Tett Turret. | | 564480 | 177950 |
| HA208 | MEX31806 | 10282 | MON | Turret (destroyed), Allotments, Fort Road | TETT TURRET?; ALAN WILLIAMS TURRET? | WWII | Modern | Contemporary records state, "Turret. | | 565336 | 176429 |
| HA209 | MEX1032172 | 18882 | MON | WWII anti-aircraft ditches N of Little Thurrock Marshes | AIRCRAFT OBSTRUCTION | WWII | Modern | The whole area is crossed by WWII anti-aircraft ditches. | | 563479 | 177344 |
| HA210 | MEX28877 | 9082 | SM | WWII HAA Gun Site "TN13 Bucklands", Bowaters Farm, Thurrock. | GUN EMPLACEMENT; ANTI AIRCRAFT BATTERY; HEAVY ANTI AIRCRAFT BATTERY | WWII | Modern | The monument included 8 concrete emplacements in 2 groups, with their connecting roads and vehicle parks, magazine, and command post. | | 567865 | 177077 |
| HA211 | MEX31832 | 10299 | SM | Minefield Control Tower at Coalhouse Fort | Minefield Control Tower | WWII | Modern | A two-storey minefield control tower which still stands 50 yards to the N of Coalhouse Fort. | | 569074 | 176576 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|---|--|---------|---------|--|--------|---------|----------|
| HA212 | MEX31824 | 10297 | SM | Spigot Mortar Pedestals (2) at Coalhouse Fort | SPIGOT MORTAR EMPLACEMENT | WWII | Modern | There are two spigot mortar pedestals in the grass near the NW wall of Coalhouse Fort. | | 569074 | 176576 |
| HA213 | MEX1032967 | 15093 | MON | Tilbury Power Station | COAL FIRED POWER STATION; OIL FIRED POWER STATION | Modern | Modern | Mid twentieth century power station. Assessment of borehole logs and a walkover survey was undertaken. Now being demolished and redeveloped | | 565987 | 175917 |
| HA214 | | | MON | Tilbury Power Station | SUBSTATION | Modern | Modern | Planning consent to build a 400kv Gas Insulated Switchgear (GIS) substation resulted in an archaeological evaluation in 2008, but no trace of any remains related to Wick House were found | | 566190 | 176158 |
| | | | MON | Tilbury2 site | DOCKS | Modern | Modern | Redevelopment of the former Tilbury Power Station to a new port terminal, comprising a Ro-Ro terminal located south of Substation Road and a Consturction Materials and Aggregates Terminal to the north of Substation Road. Scheme consented. | | 565835 | 175866 |
| HA215 | MEX5919 | 1642 | FS | East Tilbury | FINDSPOT | Unknown | Unknown | Pottery from East Tilbury near the Coal House Fort. | VESSEL | 568000 | 177000 |
| HA216 | MEX5957 | 1654 | FS | West Tilbury | FINDSPOT | Unknown | Unknown | "A bronze buckle, of uncertain date, found at Tilbury (TQ 6477). | BUCKLE | 564000 | 177000 |
| HA217 | MEX6079 | 1684 | MON | Chadwell St Mary | RECTILINEAR ENCLOSURE | Unknown | Unknown | Rectilinear cropmark shows here on air photographs. Trial trenching in 2004 failed to find significant archaeological deposits, although Iron Age and RB settlement known nearby | | 564882 | 178338 |
| HA218 | MEX39661 | 14554 | MON | Cropmarks N of High House | LINEAR FEATURE; ENCLOSURE? | Unknown | Unknown | Cropmarks of linear features <1>. | | 565829 | 179442 |
| HA219 | MEX39663 | 14555 | MON | Cropmarks N of Linford Road | RING DITCH; LINEAR FEATURE; FIELD BOUNDARY | Unknown | Unknown | Cropmarks of a sub-circular ring-ditch and various linear features (some of which are former field-boundaries which appear on the OS 1 ed) <1-2>.. | | 565508 | 178829 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|------------|---------|-------------|--------------------------------------|--|---------|---------|---|------------------|---------|----------|
| HA220 | MEX18220 | 5287 | MON | East of Brook Farm | TRACKWAY; RECTANGULAR ENCLOSURE; LINEAR FEATURE; DITCH | Unknown | Unknown | Cropmarks of 2 widely spaced parallel ditches aligned north east-south west, cut by a rectangular enclosure, with an entrance (?) in the southern side. There is a narrow, double ditched trackway in the same field. | | 565879 | 180095 |
| HA221 | MEX6607 | 1821 | MON | East of West Tilbury | ENCLOSURE | Unknown | Unknown | Cropmarks-enclosures. | | 566528 | 177899 |
| HA222 | MEX5920 | 1643 | MON | East Tilbury | HUMAN REMAINS | Unknown | Unknown | Skulls from East Tilbury. | HUMAN REMAINS | 568000 | 177000 |
| HA223 | MEX6343 | 1755 | MON | East Tilbury | PIT; RING DITCH; WINDMILL MOUND; WINDMILL; LINEAR FEATURE; DITCH; TRACKWAY; RECTILINEAR ENCLOSURE | Unknown | Unknown | Rectilinear features, pits, ring ditches etc. On APs- features also appear to include cross-trees of wind mill within a ring ditch (wind mill mound?) and a double-ditched trackway. | | 568290 | 177254 |
| HA224 | MEX6609 | 1822 | MON | East Tilbury - 'Soldier's Graves' | EARTHWORK | Unknown | Unknown | "An abrupt partly artificial scarp with a ditch and external rampart at the fort". Runs west of the church, can be traced for 0.5 mile or more. Faces south, overlooks the river, probably not defensive. | | 568574 | 176962 |
| HA225 | MEX1041364 | 48317 | MON | Herringham Primary School | FIELD BOUNDARY | Unknown | Unknown | Cropmarks of former field boundaries | | 564939 | 178957 |
| HA226 | WA1019 | | MON | Linear stakes | FISHTRAP? | Unknown | Unknown | A line of small stakes within the intertidal mud to the east of the covered conveyor belt on the coaling jetty. May be part of a fish trap or revetment. Recorded by WA during Tilbury2 walkover survey. | | 566202 | 175340 |
| HA227 | MEX18031 | 5226 | MON | Mucking Heath | LINEAR FEATURE; DITCH; RING DITCH; TRACKWAY; RECTANGULAR ENCLOSURE | Unknown | Unknown | Cropmarks: small rectangular enclosure. Monitoring of a single house in NW corner found no archaeology | | 565865 | 180452 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|-----------|---------|-------------|---|--|---------|---------|--|--------|---------|----------|
| HA228 | MEX17783 | 5165 | MON | Orsett-Causewayed Enclosure | DITCH; RECTANGULAR ENCLOSURE; POST HOLE; LINEAR FEATURE; RING DITCH; PIT; FIELD BOUNDARY | Unknown | Unknown | Cropmarks of a double-ditched trackway to the north-east of the causewayed enclosure. | | 565018 | 180585 |
| HA229 | MEX39665 | 14556 | MON | Oyster beds c. 1km E of Tilbury Power Station | OYSTER BEDS | Unknown | Unknown | A linear series of oyster beds appearing on vertical aerial photography from 1953 and 1955 (RAF 1953 series is low level and shows good detail). Pre-date the 1777 map | | 567001 | 176281 |
| HA230 | MEX6603 | 1820 | MON | West of Gravel Pit Farm | SETTLEMENT | Unknown | Unknown | Cropmarks (?). | | 567360 | 177323 |
| HA231 | MEX6533 | 1799 | MON | West of High House | LINEAR FEATURE | Unknown | Unknown | Cropmarks centred on the above NGR. | | 565520 | 179257 |
| HA232 | MEX6031 | 1674 | MON | West Tilbury | EARTHWORK; FORTIFICATION | Unknown | Unknown | Earthworks south and west of the church and the hall, obscured by gravel diggings and farm buildings. | VESSEL | 566028 | 177733 |
| HA233 | MEX6420 | 1769 | MON | West Tilbury - Mill House Farm | PIT; LINEAR FEATURE; RECTANGULAR ENCLOSURE | Unknown | Unknown | Cropmarks centred on the above NGR, including ring ditch, pits, linear features. | | 565747 | 179804 |
| HA234 | MEX6325 | 1752 | MON | West Tilbury- High House | ENCLOSURE | Unknown | Unknown | "Enclosures". | | 565976 | 179677 |
| HA235 | UKHO13336 | | WRK | Iron hulk | WRECK | Modern | Unknown | Hulked iron/steel barge on the north Thames foreshore to east of Tilbury B power station. Overgrown with vegetation and partially covered with gravel and inter-tidal mud. Pointed bow and rounded stern with straight stem. | | 566764 | 175468 |
| HA236 | UKHO13337 | | WRK | Iron hulk | WRECK | Modern | Unknown | Hulked iron/steel barge on the north Thames foreshore to east of Tilbury B power station. Overgrown with vegetation and partially covered with gravel and inter-tidal mud. Pointed bow and rounded stern with straight stem. | | 566802 | 175452 |

| HA No. | MonUID | EHCR_No | Record Type | Site_Name | Mon Type | Period | Period2 | Summary | Finds | Easting | Northing |
|--------|-----------|---------|-------------|-------------|-------------|---------|---------|--|-------|---------|----------|
| HA237 | UKHO12776 | | WRK | Wreck | WRECK | Modern | Unknown | 25.11.63 2 STF HULKS, OF OLD BARGES, SHOWN CENTRED IN 512711N, 002415E ON SURVEY K3034/47C - NE2151, 20.3.92 SHOWN AS 3 AREAS OF WRECKAGE ON PLA SURVEY - NE1186. | | 567139 | 175490 |
| HA238 | UKHO13400 | | FOU | Obstruction | OBSTRUCTION | Unknown | Unknown | FOUL AREA CENTRED ON 512711.2N, 002421E. ORIENTATED 083/263DEGS. 80MTRS LONG, 30MTRS WIDE. SHOWN ON PLA 337/13 [APR-SEP'97, REC'D 9.3.98]. BR STD | | 567139 | 175478 |
| HA239 | UKHO56738 | | FOU | Obstruction | OBSTRUCTION | Unknown | Unknown | 3 x 8m long concrete piles. 5.3m depth. UKHO record says lifted | | 566313 | 175279 |
| HA240 | UKHO79651 | | WRK | Wreck | WRECK | Unknown | Unknown | 30.10.12 ST SHOWN IN 5127.182N, 0024.059E [WGD] ON BA 1186 [EDN 11 DTD 12.5.11] | | 566919 | 175406 |
| HA241 | UKHO12777 | | WRK | Wreck | WRECK | Unknown | Unknown | Barge wreck. 14.11.63 DWP SHOWN IN 512713.8N, 002432E [OGB] ON SURVEY [K2954]. NE 2151. 14.8.78 NO LONGER SHOWN ON PLA 337 DTD 19.9.77. AMENDED TO DEAD. DELETE. BR STD. | | 567465 | 175513 |
| HA242 | UKHO13228 | | WRK | Wreck | WRECK | Unknown | Unknown | Barge wreck. Listed as dead. 9.2.90 STBD HAND BUOY, FL G 5S, TEMPORARILY ESTABLISHED IN POSN 318 DEG, 1000MTRS FROM MILTON MILE MARK, TO MARK SUNKEN BARGE LYING CLOSE W. (PLA NAV WARNING NO.2 OF 1990). NCA YET. | | 567492 | 175267 |
| HA243 | UKHO69976 | | WRK | Wreck | WRECK | Unknown | Unknown | Motor vessel wreck. Listed as lifted. 13.2.56 WK IN 512656N, 002358E [OGB], LYING IN MID CHANNEL, GRAVESEND REACH, IS NOW REMOVED. (LLOYDS LIST & PLA NM 1/56). AMENDED TO LIFT. NFA | | 566827 | 174942 |