



## BritNed Interconnector Archaeological Assessment

Archaeological Monitoring and Mitigation:  
Archaeological Watching Brief Report





**BRITNED INTERCONNECTOR**

**ARCHAEOLOGICAL ASSESSMENT**

**ARCHAEOLOGICAL MONITORING AND MITIGATION:**

**Archaeological Watching Brief Report**

Prepared for  
**BritNed Developments Ltd.**

by  
**Wessex Archaeology**  
Portway House  
Old Sarum Park  
Salisbury  
SP4 6EB

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### QUALITY ASSURANCE

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\* I= Internal Draft E= External Draft F= Final

# BRITNED INTERCONNECTOR

## ARCHAEOLOGICAL ASSESSMENT

### ARCHAEOLOGICAL MONITORING AND MITIGATION:

## Archaeological Watching Brief Report

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Figure 1: Site location plan showing monitored areas

## **BRITNED INTERCONNECTOR**

### **ARCHAEOLOGICAL ASSESSMENT**

# **Archaeological Watching Brief Report**

## **Summary**

Wessex Archaeology was commissioned by The Environment Partnership (TEP), on behalf of BritNed Developments Limited, to undertake a watching brief on the construction of the proposed BritNed Interconnector on the Isle of Grain, Kent between NGR's 589267 176286 and 588463 174550.

Subsequent to an archaeological Desk-Based Assessment (DBA), which identified a low potential for the survival of archaeological remains along the proposed route, an archaeological watching brief, which comprised monitoring visits to works undertaken in the region of the Isle of Grain Scheduled Monument (34297) comprising Coastal Artillery Defences and during entry pit construction for Horizontal Directional Drilling (HDD) works followed by implementation of a reporting protocol covering the remainder of the works, was completed by Wessex Archaeology to provide further information on any buried archaeological remains along the route.

Three monitoring visits were made during the course of the groundworks on the route, covering approximately 10% of its entire length. Small quantities of modern pottery and ceramic building material (CBM) were noted within modern made ground deposits. Underlying brickearth or chalk substrata was not encountered.

The majority of the remaining route was below existing roads or areas of deep modern overburden and did not impact upon possible archaeological levels. No archaeological features or deposits were identified during any of the watching brief visits, no finds were retained and no environmental samples were taken.

Following these visits no reports were made by construction staff via the agreed protocol.

The watching brief visits were undertaken between 14<sup>th</sup> July 2009 and 4<sup>th</sup> August 2009 with the subsequent reporting protocol in place from 4<sup>th</sup> August 2009 to 24<sup>th</sup> August 2010.

## **BRITNED INTERCONNECTOR**

### **ARCHAEOLOGICAL ASSESSMENT**

# **Archaeological Watching Brief Report**

### **Acknowledgements**

Wessex Archaeology was commissioned by BritNed Developments Limited to carry out the archaeological watching brief and reporting protocol and thanks are due to Sophie Clayton, Bobby Clayton and Mike Railton for their assistance during the works.

The fieldwork was undertaken by Ruth Panes and Vaughan Birbeck. This report was compiled by Vaughan Birbeck. The illustrations were prepared by Kitty Brandon. The project was managed for Wessex Archaeology by Caroline Budd.

# BRITNED INTERCONNECTOR

## ARCHAEOLOGICAL ASSESSMENT

### Archaeological Watching Brief Report

#### 1 INTRODUCTION

##### 1.1 Project Background

1.1.1 Wessex Archaeology (WA) was commissioned by BritNed Developments Limited (hereafter the Client), to undertake a watching brief on the construction of the proposed BritNed Interconnector on the Isle of Grain, Kent between NGR's 589267 176286 and 588463 174550.

1.1.1 The scheme comprises a high voltage submarine electricity cable link designed to transmit electrical power in both directions across the North Sea between the transmission grids of TenneT in the Netherlands and National Grid Transco (NGT) in the United Kingdom. The cable landfall will be on the Isle of Grain, Kent, and requires new infrastructure consisting of a substation and associated High Voltage Direct Current (HVDC) and High Voltage Alternating Current (HVAC) electricity land cables, a converter station and an access road. The land cables will be connected to the marine cables in a 'transition jointing pit' buried in the ground above high water mark (Figure 1).

1.1.2 An earlier phase of archaeological monitoring was completed by Wessex Archaeology (WA 2006) during works related to geotechnical investigations. No pre-Modern archaeological features or finds were observed. However, peat or peat-like deposits with archaeological potential were observed in both shallow test pits and bore holes and recommendations were made for the further investigation of a single U4/100 sample from c.28 metres below ground level. These works have subsequently been carried out and identified layers dating to the Early Mesolithic period. The publication is now pending final acceptance from the Quaternary Newsletter (Russell 2010).

1.1.3 A Written Scheme of Investigation (WSI, WA 2005) provided a Project Design for the archaeological watching brief during the groundworks and was submitted to and approved by Kent County Council prior to works commencing.

##### 1.2 The Route

1.2.1 The UK terrestrial development is within an area that lies between mean low water and Grain Road, including the inter-tidal area crossed by the cables, the terrestrial cable's route, the converter station and access road, and the new substation (**Figure 1**). The main part of this area lies within an extensive landholding belonging to NGT subsidiaries, Grain LNG and Second Site Properties.

- 1.2.2 NGT has offered BritNed connection into the national grid via a new substation, covering approximately 0.8 hectares, adjacent to the existing Grain substation. High voltage AC electricity land cables will be installed to connect the substation to the converter station, either in underground trenches or in concrete ‘troughs’, 1m deep and approximately 5m wide.
- 1.2.3 The proposed converter station is located on a brown field site, owned by NGT, and will be linked to the B2001, Grain Road, by a 3km long access road. The converter station will occupy an area of approximately 4 hectares although a temporary lay down area of approximately 0.5 hectares will also be required during construction. A drainage ditch running across the centre of the site was re-routed to the north east and north west of the converter station.
- 1.2.4 High voltage DC electricity land cables ran north from the converter station up Port Victoria Road, passing close to the sea wall. The two cables were installed in a trench approximately 1m wide and 1m deep. The cables then crossed the edge of playing fields owned by Grain Parish Council, passing to the south of a Scheduled Monument (**Figure 1**). The width of the trenches in this area was approximately 2m.
- 1.2.5 The transition pit between land and marine cables was buried in the ground behind the existing sea defences, above high water mark (**Figure 1**). Conduits were installed beneath the sea defences using directional drilling or other boring technique. The bore entrance area lay inland of the sea defences comprising a site area of c. 20m x 20m and was used to bore seaward.
- 1.2.6 The marine approach to the Grain landfall takes a direct route across 1500m of intertidal mudflats to the north east of Grain Tower, avoiding the causeway of the Coastal Artillery Defences Scheduled Monument (**Figure 1**). Cables were laid and buried across the mudflats to a depth of c. 0.5m to 1m.

### 1.3 Archaeological Background

- 1.3.1 A baseline review of the known and potential archaeology was carried out for each prehistoric and historical period from the Palaeolithic to modern times, in a Study Area which included a 2km buffer zone around the maximum extent of the proposed scheme area (Figure 1). The baseline review indicated a total of 461 terrestrial sites and 350 maritime related records within the Study Area, including the Coastal Artillery Defences on the Isle of Grain Scheduled Monument.
- 1.3.2 Following the baseline review a walkover survey of the proposed development areas was undertaken, along with a more general survey to locate known archaeological sites and to identify new sites in the vicinity of the proposed development areas. This walkover survey located 24 known sites and identified 27 new sites.



- Palaeolithic*
- 1.3.2 Throughout most of the development area the Palaeolithic '2nd Terrace' gravels lie below a thick layer of alluvium. Geophysical survey (Pelorus 2004) and geotechnical investigations (Gardline Geosciences 2004) have revealed no evidence for buried land surfaces or gravels in areas where London Clay has been identified closer to the surface.
- Mesolithic, Neolithic and Bronze Age*
- 1.3.3 Potential buried land surfaces or primary deposits of prehistoric date are found deep within the alluvium in this area. In the areas where geophysical survey (Pelorus 2004) has indicated thinner alluvial cover however, deposits of Mesolithic, Neolithic or Bronze Age date may lie much closer to the surface. In the inter-tidal area, sites may also lie closer to the surface than expected as a result of tidal erosion.
- Iron Age and Roman*
- 1.3.4 Across much of the development area there is evidence of built up deposits laid down in the 20th century. Outside the NGT subsidiaries, Grain LNG and Second Site Properties landholding however, where there has been less ground disturbance, and where geophysical survey (Pelorus 2004) has indicated much shallower depths of alluvium, it is possible that archaeological deposits of Iron Age or Roman date survive. In addition, there is potential for preserved organic and maritime related remains in the soft deposits of the inter-tidal mudflats.
- Early medieval and medieval*
- 1.3.5 As indicated above, across much of the development area there is evidence of built up deposits laid down in the 20th century. However, the possibility of impacting early medieval and medieval deposits increases outside the NGT subsidiaries, Grain LNG and Second Site Properties landholding, where there has been less ground disturbance, and where geophysical survey (Pelorus 2004) has indicated much shallower depths of alluvium. In addition, there is potential for preserved organic and maritime related remains in the soft deposits of the inter-tidal mudflats.
- Post medieval and modern*
- 1.3.6 Several known sites fall directly within the development area. In particular, the northern arm of the land cable crosses earthworks associated with Wing Battery (**WA 1153**) and the line of the covered way (**WA 1404**)/military road (**WA 1282**) between Grain Fort (**WA 1152**) to Dummy Battery (**WA 1285**). These are associated with the Grain coastal defences Scheduled Monument. Outside the NGT subsidiaries, Grain LNG and Second Site Properties landholding however, where there has been less ground disturbance, and where geophysical survey (Pelorus 2004) has indicated much shallower depths of alluvium, excavations are more likely to impact post medieval and modern deposits. In addition, there is high potential for preserved remains in the soft deposits of the inter-tidal mudflats.

## **2 AIMS AND OBJECTIVES**

### **2.1 Aims**

2.1.1 The aim of the watching brief as outlined in the WSI (WA 2005) was to establish, within the constraints of the development strategy, the presence, absence, location and depth of any surviving archaeological remains which may be disturbed by the proposed groundworks in the development area, and ensure their preservation by record.

### **2.2 Objectives**

2.2.1 The objectives of the watching brief as outlined by the WSI (WA 2005) were:

- To fulfil the likely requirements of a condition expected to be placed on this development by the Planning Authority in respect of archaeological monitoring and mitigation of works;
- To ensure that any further geo-technical investigations proposed for the development areas were subject to archaeological review, recording and sampling and to propose measures for the mitigation of archaeological remains encountered during further geo-technical sampling or investigations, or during the construction work associated with this development;
- To ensure that measures to mitigate the effects upon the archaeological resource of the proposed development are in place and to establish archaeological watching briefs for all works in the development areas that may affect buried archaeological remains;

## **3 METHOD**

### **3.1 Introduction**

3.1.1 The archaeological works were undertaken as required by Condition 16 of the planning consent. A brief was sought from Simon Mason of Kent County Council in order to fulfil the requirements of the condition. The agreed programme of works comprised an intermittent watching brief which targeted the deeper sequences along the route, especially in the areas for the Horizontal Directional Drilling entry adjacent to the Coastal Artillery Defences Scheduled Monument (SM 34297).

3.1.2 The cable route ran through an area in the south of the Scheduled Monument and Scheduled Monument Consent (HSD 9/2/8016) was granted for this part of the works.

3.1.3 Arrangements were made with the Client to ensure all groundwork connected with the development was monitored in addition to those areas as specified by Simon Mason of Kent County Council. This monitoring was undertaken either by a qualified archaeologist or via construction workers who had been briefed by a qualified archaeologist.

- 3.1.4 As a result of these briefings a reporting protocol was agreed in consultation with the Client. The protocol included provision of fact sheets and an archaeological 'Site Champion' who would be contacted should anything of an archaeological nature be revealed during the course of the works.
- 3.1.5 The monitoring carried out included observing clearance, grubbing out, earthmoving, and excavation. Special provision was made for excavation under continuous observation in the area of the Isle of Grain Scheduled Monument (**Figure 1**).
- 3.1.2 The upcast spoil from excavations for the development was monitored and any artefacts retained.
- 3.1.3 All watching brief activities were conducted in compliance with the standards outlined in the Institute for Archaeologist's Standard and Guidance for an Archaeological Watching Brief (as amended 2008), excepting where they are superseded by statements made below.
- 3.1.4 The archaeologist kept a record of the date, time and duration of all archaeological monitoring visits undertaken.

## 3.2 Survey

- 3.2.1 Areas where archaeological observations were carried out were surveyed using a Global Positioning System (GPS) and tied in to the Ordnance Survey National Grid.

## 3.3 Monitoring of Development

- 3.3.1 The fieldwork consisted of the intermittent monitoring of ground works beneath the present ground surfaces for the purposes of excavation of topsoil stripping and trench excavation. This monitoring was undertaken by experienced archaeologists and where practicable without causing unreasonable delay to the ground works programme.
- 3.3.2 The watching brief was maintained intermittently during the initial stripping in the area of the Isle of Grain Scheduled Monument (**Figure 1**) and at each visit was concluded when it was clear that the potential for archaeological remains to be exposed on that day had been exhausted.
- 3.3.3 Monitoring by construction workers via the reporting protocol was carried out on the remainder of the works.
- 3.3.4 Recording was undertaken using Wessex Archaeology pro-forma record sheets. A full photographic record was maintained using digital images. The photographic record illustrates both the detail and the general context of the Route.

## **4 RESULTS**

### **4.1 Introduction**

4.1.1 An initial watching brief visit was paid to the site at the commencement of groundworks. The attending archaeologist gave a brief “tool box talk” to the groundworkers in advance of excavation of the first short section of trenching, where he was able to demonstrate the depth of the modern overburden and identify undisturbed alluvial deposits into which archaeological features could be cut or within which they could be sealed. This briefing was carried out in order that the groundworkers would be able to identify other such deposits as they encountered them and to call in an archaeologist as required, a brief advice sheet (see Appendix 1) was also distributed among the groundworkers.

4.1.2 A follow-up Tool Box Talk was given later in the course of the project to encourage the groundworkers to call-in an archaeologist where deposits of archaeological significance were encountered. Further watching briefs were undertaken where the cable route passed through the Scheduled Monument (Figure 1). The majority of the remaining route was below existing roads or areas of deep modern overburden and did not impact upon possible archaeological levels. No archaeological features or deposits were identified during any of the watching brief visits, no finds were recovered and no environmental samples were taken. However, small quantities of modern pottery and ceramic building material (CBM) were noted within modern made ground deposits. No reports were made by construction workers via the reporting protocol.

### **4.2 The Soil Sequence**

4.2.1 The general soil sequence observed on the site comprised alluvial clay and gravel subsoil deposits overlain by a variable thickness (0.60m to over 1.10m) of dark yellowish brown sandy clay with occasional modern brick inclusions, which was clearly a modern made ground deposit.

4.2.2 Excavation of cable trenches within the remainder of the scheme did not impact upon any deposits of archaeological significance below the existing roads or other areas of groundworks, being entirely within modern made ground deposits. Underlying brickearth or chalk substrata was not encountered.

## **5 CONCLUSIONS**

5.1.1 No traces of prehistoric, Romano-British, medieval or post-medieval activity were recorded during the watching brief. Elsewhere only modern features and deposits were noted. At no point did the groundworkers identify possible deposits of archaeological significance; consequently little archaeological attendance was required for the majority of the Route.

5.1.2 Despite the intermittent nature of the watching brief, the section of the Route in the vicinity of the Scheduled Monument was observed.

- 5.1.3 The results of the watching brief largely reflect the low potential for the presence of significant archaeological remains within the line of the Route identified by the DBA (WA 2006).

## 6 ARCHIVE

### 6.1 Preparation and Deposition

- 6.1.1 The complete project archive will be prepared in accordance with Wessex Archaeology's Guidelines for Archive Preparation and in accordance with Guidelines for the preparation of excavation archives for long-term storage (UKIC 1990).

- 6.1.2 The project archive is currently held at the offices of Wessex Archaeology in Salisbury under the site code **71300**. Currently no depositories for archives in the Kent region are accepting any archives. Once this has been addressed deposition of the archive will be carried out.

### 6.2 Copyright

- 6.2.1 The full copyright of the written/illustrative archive relating to the site will be retained by Wessex Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. The Museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profit making, and conforms to the Copyright and Related Rights regulations 2003.

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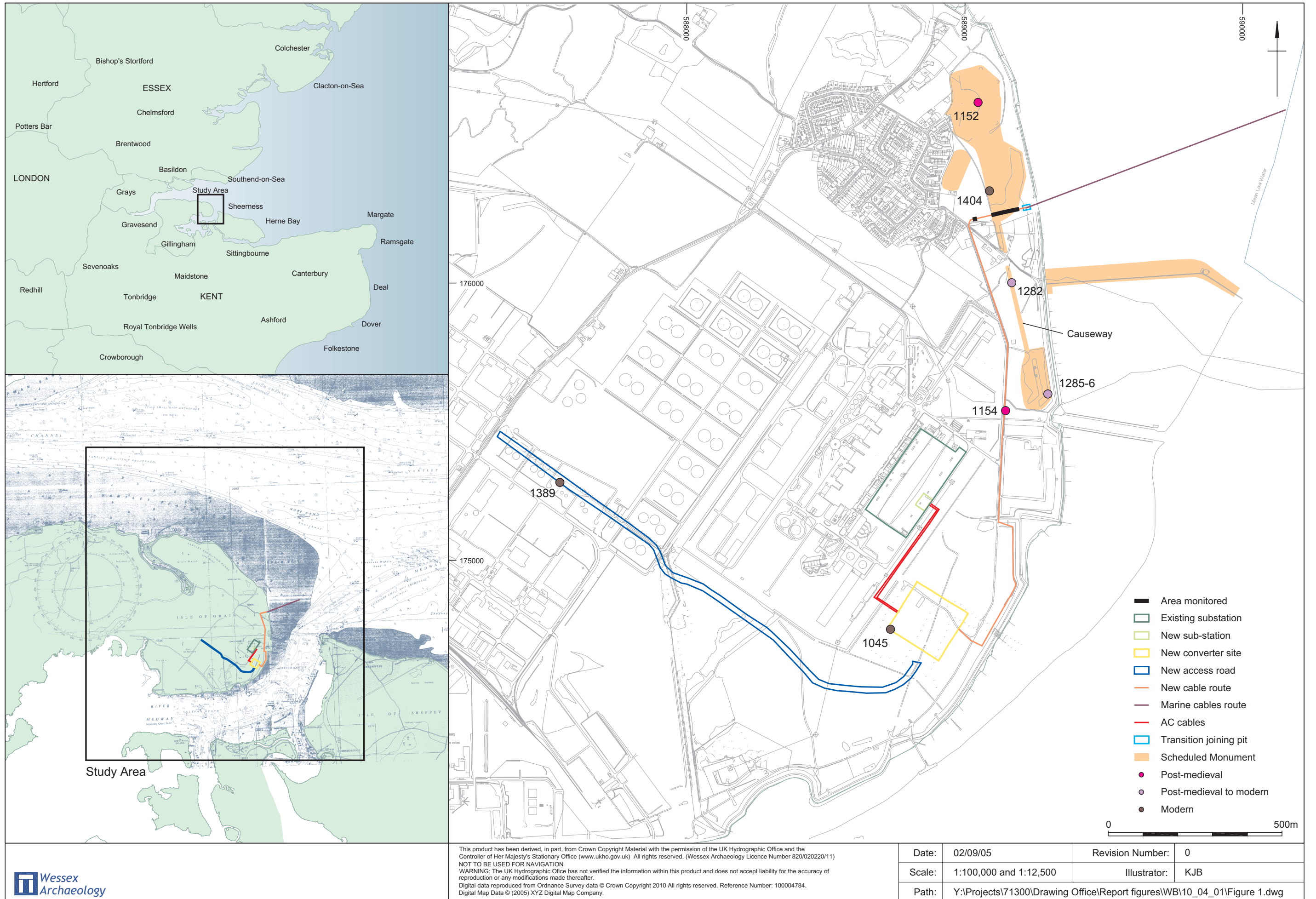
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Site location plan showing monitored areas

Figure 1



**WESSEX ARCHAEOLOGY LIMITED.**

**Registered Head Office:** Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB.

Tel: 01722 326867 Fax: 01722 337562 [info@wessexarch.co.uk](mailto:info@wessexarch.co.uk)

Regional offices in **Edinburgh, Maidstone and Sheffield**

For more information visit [www.wessexarch.co.uk](http://www.wessexarch.co.uk)

