# STEART PENINSULA, SOMERSET

# WRITTEN SCHEME OF INVESTIGATION FOR A PROGRAMME OF ARCHAEOLOGICALTRIAL TRENCH EVALUATION

Prepared for

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PRN: 30379

TTNCM 46/2011

Report reference: 77220.01

**March 2011** 

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**FIGURES** 

Figure 1 Proposed location of evaluation trenches



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#### 1 INTRODUCTION

### 1.1 Project Background

- 1.1.1 Wessex Archaeology has been commissioned by May Gurney (hereafter 'the Client') to carry out a programme of archaeological evaluation at Steart Point, an area of low-lying coastal land situated at the mouth of the River Parrett in Somerset. The area of investigation comprises a 1.8ha area of land which is to be used as a borrow pit for the construction of a trial embankment and a c 6ha area within which invertebrate translocation ponds are going to be created. The areas of investigation are situated either side of Steart Drove. The borrow pit is centred Ordnance Survey National Grid Reference (NGR) 326043 44123 (hereafter 'the Borrow Pit Site') and NGR 324920 144078 (hereafter the Pond Site; **Figure 1**).
- 1.1.2 The purpose of the archaeological evaluation is to provide information on the archaeological interest of this known site to inform the assessment of impacts to the heritage resource resulting from the creation of an intertidal saltmarsh environment through the managed realignment of existing flood defences on the River Parrett to the east of the two Sites.

#### 1.2 Scope of Document

- 1.2.1 This Written Scheme of Investigation (WSI) sets out the strategy and methodology by which Wessex Archaeology will implement a programme of archaeological evaluation.
- 1.2.2 The scope of this work has been agreed with Richard Brunning, Senior Levels and Moors Heritage Officer. A broad scope of works drawn up by Ed Wilson of the Environment Agency in consultation with Richard Brunning. This scope requires a total of 18 trenches to be excavated within the two areas



#### 1.3 Site Location, Topography and Geology

- 1.3.1 The two Sites are situated within the Central Somerset Levels, in an area of low lying, flat, artificially drained land, generally used as pasture. The Pond Site is located adjacent to Steart Drove just to the south of Marsh Farm, and the Borrow Pit Site is situated *c*.600m to the east of Steart Drove at Marsh Farm.
- 1.3.2 The solid geology of the area around Steart consists of Triassic mudstones with Rhaetic and Dolomitic conglomerate. To the west, around Stolford, the solid geology is Lower Lias (Geological Survey 1957). For the majority of the Site, the solid geology is overlain by alluvial deposits, with the area around Wall Common overlain by blown sand (Institute of Geological Sciences 1977). The coast consists of shingle storm beaches, dune sands and salt marsh.

# 1.4 Development Proposals

- 1.4.1 The habitat creation scheme is being developed by the Environment Agency to help mange flood water and provide additional salt marsh environment for birds within the Severn Estuary.
- 1.4.2 The final scheme design is still in development. However, in general terms the scheme will entail the excavation of a breach in the flood defences on the River Parrett. Water will then flow into a network of excavated tidal creeks and the area will be enclosed by a new sea wall.

#### 2 HERITAGE INTEREST

#### 2.1 Steart peninsula

- 2.1.1 The geomorphological evolution of the Severn Estuary, at the mouth of which Steart Peninsula is located has, over many millennia, provided a dynamic environment within which humans have lived.
- 2.1.2 The Severn Levels, within which the Steart Peninsula is situated, are a manmade landscape and the result of sustained drainage and sea defence that began in some areas as early as the Romano-British period (AD43 410). In order to understand the archaeological potential of the Site it is necessary to understand the development of the landscape.
- 2.1.3 During the Pleistocene epoch for the 500,000 years prior to the beginning of the Holocene epoch (12,000 BP) the climate cycled through relatively frequent glacial (cold) and inter-glacial (warm) periods. The variance in climatic temperature was accompanied by fluctuating sea levels as water was periodically taken up and then released by the ice sheets. Evidence from hydrographic, geophysical and borehole surveys from Gloucester to the central Bristol Channel indicates that within the Severn Levels the Lower and Middle Palaeolithic landscape would have been dominated by a main river valley cut into bedrock geology with a network of subsidiary valleys feeding



- into it from the English and Welsh sides in the location of the present estuary (Brunning 2008, 44).
- 2.1.4 This very early landscape is now buried beneath deep Holocene marine sediments which make up the Severn Levels. The start of the Holocene is marked by the onset of a warm interglacial period starting at around 12,500BP. This warming phase was accompanied initially by rapidly rising sea-levels. The remains of a submerged Mesolithic forest just off the coast at Hinkley illustrate the huge change in the environment from the wooded landscape which dominated 10,000 years ago. The marine sediment sequence is, on average, 10–15 m thick, and largely comprises soft estuarine mineral sediments and peats described as the Wentlooge Formation (Allen & Rae 1987). The sediments essentially represent the remains of former high tidal mudflats and salt-marsh environments with peats overlain with recent estuarine alluvium.
- 2.1.5 Within the intertidal zone the importance of the sea as a resource is evident with the remains of fish weirs and small vessels of medieval and later date giving clues as to how the people who lived on this coastline used the sea. On the peninsula itself surviving field boundaries, banks, ditches, lanes and settlements are the product of hundreds of years of reclamation and land improvement. Couple this with physical ground conditions which favour the survival of organic and environmental remains, and the significance of the heritage resource at a location such as the Steart Peninsula is clear.
- 2.1.6 The wider setting of the Steart Peninsula, particularly Bridgwater Bay and the River Parrett, has been the subject of a number of heritage research projects, from which a great deal has been learnt about the nature and extent of the heritage resource both in the intertidal and terrestrial environments. The peninsula itself has also been the focus of some detailed desk-based research projects as part of the Environment Agency's work to assess the suitability of the peninsula for habitat creation use. The results of this recent work have served to define the known heritage resource, but also to highlight the potential that exists for the presence and survival of further buried archaeological and palaeoenvironmental remains.
- 2.1.7 It is this appreciation of the potential archaeological value of the Steart Peninsula which has informed the overall approach to the assessment of significant effects to the resource resulting from the proposed habitat creation scheme. This approach has been developed on consultation with English Heritage and Historic Environment advisors at Somerset County Council ('the curators').
- 2.1.8 A list of recently completed, relevant the reports which can provide more understanding of the archaeological and historical background of the Steart Peninsula is provided in **Section 10**.



#### 3 AIMS AND OBJECTIVES

#### 3.1 Overview

- 3.1.1 Overall the aim of the package of phased archaeological evaluative surveys, of which this project forms part, is to gather additional baseline information to enable the value of the heritage resource to be established and appropriate mitigations strategies put in place. The overall evaluation strategy is governed by two research questions agreed with the curators and are as follows:
  - To date the chronology of land reclamation on the Steart Peninsula; and
  - To understand and date the environmental changes within which the reclaimed landscape developed.
- 3.1.2 Each phase of the evaluation is designed to provide information which will help to answer these key questions. The following section sets out the specific objectives of the archaeological watching brief and geoarchaeological assessment.

#### 3.2 Archaeological Field Evaluation

- 3.2.1 The aim of the evaluation is to provide further information concerning the presence/absence, date, nature and extent of any buried archaeological remains and to investigate and record these.
- 3.2.2 The aims of the archaeological field evaluation are to:
  - clarify the presence/absence and extent of any buried archaeological remains within the Site that may be threatened by development.
  - identify, within the constraints of the evaluation, the date, character, condition and depth of any surviving remains within the Site.
  - assess the degree of existing impacts to sub-surface horizons and to document the extent of archaeological survival of buried deposits.
  - establish the distribution of archaeological remains and place these within our current understanding of landscape development in the region.
  - target anomalies identified in the geophysical survey to establish if they are archaeological features and their nature.
  - gather sufficient evidence to establish the extent and scope of any investigations that may be required to mitigate the proposed development

#### 4 METHODOLOGY

#### 4.1 Introduction

4.1.1 This section sets out the general methodology that will apply to the excavation and recording of archaeological remains in the field, and post-fieldwork including archive preparation.



4.1.2 The evaluation will be carried out in accordance with the relevant guidance given in the Institute for Archaeologist's Standard and Guidance for Archaeological Field Evaluation (IfA 2008).

# 4.2 Health and Safety

- 4.2.1 Health and Safety considerations will be of paramount importance in conducting all fieldwork. Safe working practices will override archaeological considerations at all times.
- 4.2.2 All work will be carried out in accordance with the Health and Safety at Work etc. Act 1974 and the Management of Health and Safety Regulations 1992, and all other relevant Health and Safety legislation, regulations and codes of practice in force at the time.
- 4.2.3 Wessex Archaeology will supply a copy of their Health and Safety Policy and a Risk Assessment to the Client before the commencement of any fieldwork. The Risk Assessment will have been read and understood by all staff attending the Site before any groundwork commences.

#### 4.3 Service Location

4.3.1 Before any fieldwork begins, statutory authorities will be consulted, where this has not already been done, for information regarding the presence of any below/above ground services. The Site will be walked over and inspected to visually identify, where possible, the location of above and below ground services.

#### 4.4 Access

4.4.1 The Client will make all access arrangements for the works, Wessex Archaeology will not deal directly with any landowners etc. unless instructed to do so by the Client.

#### 4.5 Permission and notifications

#### Human Remains

- 4.5.1 In the event of discovery of any human remains, it is proposed they will be left in situ, covered and protected. Following discussions the Client, Coroner and Local Planning Authority Advisor, the need for and appropriateness of their excavation/removal as part of the evaluation will be determined. Where deemed appropriate they will be fully recorded, excavated and removed from the Site subject to compliance with the relevant Ministry of Justice Licence which should be obtained by the Archaeological Contractor.
- 4.5.2 Should human remains be excavated at the evaluation stage, all excavation and post-excavation will be in accordance with the standards set out in IfA Technical Paper 13 Excavation and post-excavation treatment of cremated and inhumed remains. The final placing of human remains following analysis will be subject to the requirements of the Ministry of Justice Licence.



#### Treasure

4.5.3 In the event of discovery of artefacts covered or potentially covered by The Treasure Act 1996, their excavation and removal will be undertaken following notification of the Client, Coroner and Somerset Historic Environment Services (HES).

#### 4.6 Fieldwork

- 4.6.1 A total of 10 x 30 x 1.8m trenches have been positioned within the Borrow Pit Site to give an even sample coverage. In the Pond Site 8 x 10 x 1.8m trenches have been arranged to coincide with the locations of ponds and ditches.
- 4.6.2 The trench locations (**Figure 1**) may be moved slightly in light of ground conditions, but any new locations will be approved by Somerset HES prior to excavation.
- 4.6.3 All overburden (topsoil and subsoil) will be carefully removed by mechanical excavator fitted with a toothless bucket to the top of the first significant archaeological horizon or natural geology, whichever is encountered first. Any trench requiring excavation beyond 1.2m in depth will be stepped or battered.
- 4.6.4 All machine work will be under constant archaeological supervision and will cease immediately if significant evidence is revealed.
- 4.6.5 Particular care will be taken not to damage any areas containing significant remains that might merit preservation *in situ*. Such evidence would normally include deep or complex stratification, settlement evidence and structures. Such areas should be protected and not left open to the weather, or other forms of deterioration.
- 4.6.6 Stripped material will be visually examined for archaeological material and a metal detector will be used to enhance artefact recovery.
- 4.6.7 Each trench will be cleaned by hand where appropriate and planned prior to any hand-excavation. All pre-modern stratified deposits will be excavated by hand. A representative section, not less than 1m in length, of deposits through each trench from ground surface to the top of the natural geology will be recorded.
- 4.6.8 A sample of each feature type, for example pits, postholes, and ditches, will be excavated and recorded. The selection of features for excavation will be determined on the basis of their form, fill, and stratigraphic relationship and in order to ensure a broad characterisation. Where high numbers of features and/or a complexity of archaeological deposits is experienced, sample excavation will be more circumspect and will aim to be minimally intrusive. Excavation will, however, be sufficient to resolve the principal aims of the evaluation. If appropriate, trenches may be extended or widened in order to clarify certain details.



#### 4.7 Record Photographs

4.7.1 A photographic record will be maintained during the evaluation using 35mm, colour slide and digital cameras equipped with an image sensor not less than 10 megapixels. Digital images will be subject to managed quality control and curation process which will embed appropriate metadata within the image and ensure long term accessibility of the image set.

## 4.8 Survey

- 4.8.1 All investigation areas will be set-out in advance within the OS NGR system, using GPS. Area co-ordinates will be digitally uploaded to minimise re-keying errors.
- 4.8.2 All as-dug locations, associated archaeological remains and other features of relevance to the project will be digitally surveyed using either GPS or TST, again within the OS NGR system, but also including heights above OS datum (Newlyn). The electronic survey record will be periodically downloaded and retained within the site archive, with co-ordinate and/or datum information transposed onto the appropriate paper archives.

# 4.9 Recording

- 4.9.1 Wessex Archaeology will allocate a unique site code for all aspects of the project archive. All exposed archaeological deposits will be recorded using Wessex Archaeology's pro forma recording system.
- 4.9.2 A complete drawn record of excavated archaeological features and deposits will be compiled. This will include both plans and sections, drawn to appropriate scales (1:20 for plans, 1:10 for sections), and with reference to a site grid tied to the Ordnance Survey National Grid. The Ordnance Datum (OD) height of all principal features and levels will be calculated and plans/sections will be annotated with OD heights.
- 4.9.3 A full photographic record will be maintained using both digital format and black and white negatives (on 35 mm film). The photographic record will illustrate both the detail and the general context of the principal features, finds excavated, and the site as a whole.

#### 4.10 Monitoring

- 4.10.1 Wessex Archaeology will inform Somerset HES of the commencement of fieldwork and the progress of the investigations on the Site.
- 4.10.2 Reasonable access to the Site will be arranged for representatives of Somerset HES who may wish to make Site visits to inspect and monitor the archaeological investigations as they progress.
- 4.10.3 Variations to the WSI will be agreed in advance with Somerset HES.



#### 4.11 Reinstatement

4.11.1 Once the trenches had been competed to the satisfaction of Somerset HES they will be backfilled and left level on completion using the excavated material. No other reinstatement or surface treatment will be undertaken.

#### 5 FINDS AND ENVIRONMENTAL SAMPLING

#### 5.1 Finds

- 5.1.1 Appropriate strategies for the recovery of artefacts and environmental samples will be devised and implemented by Wessex Archaeology's Finds and Environmental Specialists.
- 5.1.2 All artefacts from excavated contexts will be retained, except those from features or deposits of obviously modern date. In such circumstances, sufficient artefacts will be retained in order to elucidate the date and/or function of the feature or deposit. Material of undoubtedly modern date observed on the spoil heap of each trench would not be noted or retained.
- 5.1.3 All retained artefacts will, as a minimum, be washed, weighed, counted and identified. Any artefacts requiring conservation or specific storage conditions will be dealt with immediately in line with *First Aid for Finds* (Watkinson & Neal 1998). Ironwork from stratified contexts will be X-rayed and stored in a stable environment along with other fragile and delicate material. The X-raying of objects and other conservation needs will be undertaken by the staff of the Wiltshire Museums and Library Service Conservation Consortium, Chippenham or other appropriate approved conservation centre. Suitable material, primarily the pottery, worked flint and non-ferrous metalwork, will be scanned to assess the date range of the relevant assemblages.
- 5.1.4 Assessment of all medieval and earlier artefacts will be made by appropriately qualified specialists who will be identified on request.
- 5.1.5 All artefacts recovered during the excavations on the Site are the property of the landowner. They are to be suitably bagged, bowed in accordance with the *United Kingdom Institute for Conservation, Conservation Guidelines nos.2* and, on completion of the archaeological post-excavation programme, will be deposited with Somerset County Museum.

#### 5.2 Environmental Sampling

- 5.2.1 Bulk environmental soil samples for plant macro fossils, small animal bones and other small artefacts will be taken from appropriate dateable archaeological contexts.
- 5.2.2 Bulk environmental soil samples of a minimum of 40 litres will be processed by flotation and scanned to assess the environmental potential of deposits,



but will not be fully analysed. The residues and sieved fractions will be recorded and retained with the project archive. A statement on the environmental potential of excavated deposits will be appended to the evaluation report.

5.2.3 Where suitable organic remains are identified within a secure context these will be submitted to a radiocarbon dating technique as appropriate. Suitable samples of future Optically Stimulated Luminescence (OSL) dating will also be taken and retained.

#### 6 POST-EXCAVATION AND REPORTING

#### 6.1 Content

- 6.1.1 Following completion of the archaeological works, a detailed report will be prepared, even if there should be negative evidence.
- 6.1.2 The report will, as a minimum, include the following elements:
  - A non technical summary
  - The aims and methods employed during the fieldwork
  - The results of the fieldwork to include:
    - detailed tabulated context data
    - plans and section drawings at appropriate scales to locate the site, trenches and excavated deposits
    - > tabulation of all artefacts recovered from the trenches and listed by context and material type
    - > specialist reports
  - A discussion/conclusion to include:
    - > the archaeological and environmental potential of the deposits
    - the Site's significance in it broader archaeological and landscape setting
    - The location and size of archive

#### 6.2 Timescale

6.2.1 It is intended that a draft client report on the investigation will be prepared within four weeks of the completion of the fieldwork, although the exact programme for the report preparation will be dependent on the nature of the



findings. Sufficient copies of the report will be supplied to allow distribution to Somerset HES.

#### 6.3 Copyright

- 6.3.1 Wessex Archaeology shall retain full copyright of the client report under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides an exclusive licence to the Client for the use of the report by the Client in all matters directly relating to the project as described in the specification.
- 6.3.2 The information will be deposited within the relevant local authority (SMR) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research or Development Control within the planning process.
- 6.3.3 If considered appropriate, a short report on the results of the programme of archaeological recording will be prepared, following agreement with the Client and SCC, for publication in an appropriate national journal.
- 6.3.4 Details of the Site will be submitted online to the OASIS (Online Access to the Index of Archaeological Investigations) database.

#### 7 ARCHIVE

#### 7.1 Museum deposition

- 7.1.1 Arrangements will be made, on commencement of the fieldwork, with the Somerset County Museum Service for the deposition of the archive. An accession number will be requested and issued prior to the commencement of the fieldwork.
- 7.1.2 On completion of the report a cross-referenced and internally consistent archive will be produced. The primary archive, including copies of all photographs, will be deposited with the relevant museum, no later than six months after completion of the work.
- 7.1.3 The completed project archive will be prepared in accordance with the guidelines outlined in Appendix 3 of *Management of Archaeological Projects* (English Heritage 1991) and in accordance with the *Guidelines for the preparation of excavation archives for long term storage* (UKIC 1990).

#### 7.2 OASIS

7.2.1 Details of the Site and the proposed archaeological investigations have been submitted online to the OASIS (Online Access to the Index of Archaeological Investigations) database. The OASIS reference number for this project is Wessexar1-314359.



#### 8 QUALITY ASSURANCE PROCEDURES

# 8.1 Project management system

- 8.1.1 Wessex Archaeology operates a Project Management system. Projects are assigned to individual managers who monitor their progress and quality, and control budgets from inception to completion, in all aspects including Health and Safety etc. Projects are managed in accordance with English Heritage guidelines outlined in the document *Management of Research Projects in the Historic Environment* (EH 2006). At all stages the manager will carefully assess and monitor performance of staff and adherence to objectives, timetables and budgets, while the manager's performance is monitored in turn by the Salisbury Office Regional Director who will ensure that the project meets Wessex Archaeology's quality standards and is adequately programmed and resourced within Wessex Archaeology's portfolio of project commitments. A formal written report is made to the Executive Management Group once a month by the Regional Director.
- 8.1.2 The work will be directed in the field by a Steve Thompson (Project Officer), who is a member of the Institute for Archaeologists and holds a valid CSCS card. Overall project supervision and monitoring will be undertaken by Abigail Rolland (Project Manager) based in Salisbury who will undertake monitoring visits if and when appropriate. Monitoring visits may also be undertaken by Wessex Archaeology's Health and Safety Co-ordinator. Details and CVs of project staff will be made available prior to the commencement of the project, as required.
- 8.1.3 Wessex Archaeology is registered as an archaeological organisation with the Institute for Archaeologists. Wessex Archaeology endorses the Code of Practice and the Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology of the Institute for Archaeologists.
- 8.1.4 All work will be carried out in line with the Institute for Archaeologists' Standard and Guidance for an Archaeological Field Evaluation (2008).

#### 9 INSURANCE AND HEALTH AND SAFETY

### 9.1 Policy and Risk Assessment

- 9.1.1 Health and safety considerations will be of paramount importance in conducting all fieldwork. Safe working practises will override archaeological considerations at all times.
- 9.1.2 All work will be carried out in accordance with the Health and Safety at Work etc. Act 1974 and the Management of Health and Safety Regulations 1992, and all other relevant Health and Safety legislation, regulations and codes of practice in force at the time.



- 9.1.3 Wessex Archaeology will supply a copy of their Health and Safety Policy and a Risk Assessment to the Client before the commencement of any fieldwork. The Risk Assessment will have been read and understood by all staff attending the Site before any groundwork commences.
- 9.1.4 Wessex Archaeology has both public liability (£10,000,000) and professional indemnity insurance (£5,000,000).
- 9.1.5 Wessex Archaeology will ensure that all work is carried out in accordance with the Health and Safety at Work etc. Act 1974 and the Management of Health and Safety Regulations 1992.

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