East Sussex County Council

# Bexhill to Hastings Link Road (NGR TQ756 108)

## Outline Written Scheme of Investigation for Archaeological Evaluation

**April 2008**

**Issue 2**

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# Bexhill to Hastings Link Road, East Sussex

# Outline Written Scheme of Investigation for Archaeological Evaluation

## 1 INTRODUCTION

1.1.1 East Sussex County Council (ESCC) have commissioned an outline Written Scheme of Investigation (WSI) to suggest an approach for an archaeological field evaluation of the route of the proposed link road between Bexhill and Hastings, East Sussex. Here after referred to as the Scheme.

1.1.2 This WSI provides an outline strategy for the archaeological evaluation of the Scheme. The first part is Scheme specific while the appendices provide ESCC standards and procedures for undertaking such work. A detailed WSI will need to be prepared and agreed with the ESCC County Archaeologist and English Heritage prior to any work commencing.

### 1.2 Proposed Scheme

1.2.1 The Preferred Route Option for the BHLR will be 5.58 km long from its junction with the A259 in Bexhill to its junction with the B2092 Queensway in Hastings (refer to Figure 3A.1I in the ES). The first 1.4km section of the road (the Bexhill Connection) will be located along the bed of an abandoned railway line cutting to pass through the built up area of Bexhill and constructed to a standard single two lane carriageway standard. The remainder of the road will be constructed to wide two lane single carriageway standard.

1.2.2 The BHLR is seen as part of a "green" access corridor between Bexhill and Hastings and will be accompanied by a Greenway to accommodate recreational activities such as cycling, walking and horse riding. This has been designed as a fenced and gated corridor with a metalled cycleway/footpath and a soft horse track plus safety margins running along the south side of the Main Scheme.

1.2.3 The Scheme will also include significant landscaping of the surrounding area including the excavation of a number of balancing ponds.

### 1.3 Location, topography and geology

1.3.1 The proposed development runs along the lower slopes of the Battle-Hastings ridge that forms an intricate pattern of minor valleys and ridges. The scheme crosses the river valleys of the Combe Haven (Zone C), Watermill Stream (Zone E), Powdermill Stream (Zone G) and Decoy Pond Stream (Zone I); skirting around the main Combe Haven basin. It consists of a series of broad low ridges that separate three deeply incised river valleys, which in turn gradually extend down into the low-lying area of the main Combe Haven Valley.

1.3.2 The Combe Haven Valley itself is a low lying, poorly drained, flat wetland, where much of the land lies just above sea level. The Combe Haven River runs through the main valley, towards Bulverhythe, from where it flows into the sea. The majority of the land is unimproved pasture with small farmsteads located on the higher ridges of the valleys. To the west and east are the major coastal urban areas of Bexhill and Hastings.

1.3.3 The British Geological Survey of Great Britain (BGS 320/321) maps the underlying geology of the area as predominantly floodplain valley deposits, surrounded by ridges of predominately Wadhurst Clay overlying Ashdown Sands. These are part of the Hastings Beds formation, that were former Cretaceous sea bed deposits, uplifted through tectonic movement into what now forms parts of south east England.

## 2 ARCHAEOLOGICAL AND GEOARCHAEOLOGICAL BACKGROUND

### 2.1 Summary of previous archaeological work

2.1.1 Previous archaeological work in connection with the Scheme has consisted of the following:

- Archaeological Desk Based Assessment (Blandford Associates, 2004)
- Archaeological Watching Brief of Geotechnical Test Pitting (Archaeological South East, 2006)
- Updated Archaeological Desk Based Assessment (OA, 2006)
- Geophysical Survey of the Proposed Route (Geophysical survey) (OA, 2006)
- Cultural Heritage Walkover Survey (OA, 2006)
- Geoarchaeological Assessment (OA, 2007)
- LiDAR Survey Analysis (OA, 2007)
- Surface Collection Survey (Fieldwalking) (OA, 2007)
- Geoarchaeological Field Assessment (OA, 2007; Rev 2008)
- Geoarchaeological Geophysical Survey (Bates M, Bates R, 2008).
- Environmental Impact Assessment. Chapter 14, Cultural Heritage (OA, 2007)

## 2.2 Geoarchaeological background

2.2.1 In order to understand the character and distribution of archaeological activity in the Sussex Levels and the reasons behind major changes in settlement patterns in the past, it is necessary to understand the changing nature of the South Coast. Fluctuations in sea level throughout the Holocene have created an exceptionally full and complex sedimentary sequence.

2.2.2 The present day topography of the area has undergone significant modification and bears little resemblance to the landscape of the prehistoric past. Evidence of early prehistoric surfaces and sites can be deeply buried below later accumulations of alluvium and made-ground. The surface of the bedrock formed a "topographic template", depressions in which were filled with alluvial and estuarine sediments during the Holocene. The mapping of the underlying bedrock topography is therefore a key aim in understanding and interpreting the site sedimentary sequence.

2.2.3 The Holocene sediments in the area consist of a complex sequence of estuarine sandy clays, organic clays, and peats, deposited in a variety of environments representing alder carr, fen, reedswamp, intertidal saltmarsh and mudflats. The currently adopted stratigraphic sequence for the Combe Haven is based on work undertaken by Jennings and Symth (1987a, 1987b, and 1990). At least three discrete lithostratigraphic formations, predominantly of sands, organic deposits and silty clays, have been identified along the shores of the estuary in the intertidal zone to depths up to 10 metres.

2.2.4 The sediment sequence identified within the area of the Scheme is comparable to other sequences along the South East Coast and has been broadly divided into three main lithological units. The lower sequence consists of estuarine and marine sands that would have been deposited during the early Holocene. The middle part is characterised by silty clay alluvium and peat reflecting periods of changing sea-level and river flooding and the upper deposits consist of a return to estuarine silty clays that began to accumulate 2500-3000 years ago. The present landscape developed following the later reclamation of the area that began in the medieval period.

2.2.5 The geoarchaeology desk-based assessment identified significant archaeological potential could be associated with valley bottoms. The assessment identified deep Holocene sedimentation now fills the valley sequences potentially burying early archaeological deposits. Thick peat deposits (c 1.80 to 5.60m in depth) were identified within three of the valleys, which could have significant palaeoenvironmental and archaeological potential. Evidence could include deposits relating to the early prehistoric exploitation of the wetland environment and the use of the valleys for water transport (eg wooden structures or track ways), as well as palaeoenvironmental material dating from the Mesolithic period onwards

2.2.6 The valley edges and wetland interface zone were identified as provided an attractive location for early settlement activity, associated with the exploitation of the lower valley wetland environment, and therefore have a significant archaeological potential. The assessment noted that without suitable mitigation, the valley sequences and any associated archaeological or palaeoenvironmental deposits could be vulnerable to direct primary impacts resulting in the partial or complete destruction of such deposits (eg through ground intrusion), and direct secondary impacts (eg, the compression of buried deposits through earthworks, or the de-watering of sensitive, waterlogged remains through drainage).

2.2.7 A geoarchaeological field assessment was undertaken in order to gain more specific information about the archaeological potential of the wetland zone and its palaeoenvironmental potential. The geoarchaeological assessment identified a typical tripartite system of sedimentation. Two main phases of rising sea level (marine transgression) and one phase of falling sea level (regression) were identified. Previous studies have noted that early prehistoric utilisation of the Levels was dependent on episodes of marine regression. The main period of regression was characterised by the accumulation of peats and organic deposits that represent a mosaic of different wetland environments. The formation of these deposits was radiocarbon dated to between c 4390±60 BC (Late Mesolithic) and c 1790±100 BC (early Bronze Age).

2.2.8 The first signs of direct human impact within the assessed sequence were identified at -3.12 m depth (-0.80 m OD) associated with the peat accumulation. The pollen assessment provides evidence of small clearings within the valley bottoms radiocarbon dated to c 3430±90 BC (Early-Mid Neolithic). Such clearings can occur naturally through fires or animal activity. However, in this sequence it coincided with an increase in charcoal and other anthropogenic indicators. Based on comparisons with other palaeoenvironmental studies the elevation and deposits are similar to those which have also been dated to the Neolithic / Bronze Age periods.

2.2.9 Test pits were positioned on the edges of the valley sequences to look for signs of human activity. Two of these test pits produced archaeological material. A Late Neolithic / Early Bronze Age flint scatter, burnt flint and charcoal, were recovered from a test pit at the edge of the Watermill Stream Valley which also produced the environmental evidence noted above. A second test pit on the edge of the Combe Haven Stream Valley identified an archaeological deposit buried beneath the topsoil, which produced a quantity of fired clay. The assessment concluded that the Combe Haven peat sequence and valley edges have the potential to produce evidence of significant early prehistoric exploitation and occupation.

2.2.10 The most recent work completed along the Scheme is a geophysical survey undertaken across the valley bottoms in order to map the significant wetland interface zones and identify areas of high ground or islands that may have a greater

archaeological potential. This baseline information has been used to inform the location of trenches in this WSI.

## 2.3 Archaeological background

2.3.1 The archaeological and historic background to the project has been extensively covered previously by Desk Based Assessment (Chris Blandford Associates 2004, OA 2006), a brief summary is presented here to help place this work within a wider archaeological context:

2.3.2 Previously it has been assumed that the heavy soils of the Weald were less favoured for early prehistoric activity and settlement, compared to areas like the South Downs with its lighter soils (Armstrong, 1974). The lack of archaeological sites discovered within the area has tended to reinforce this view, with only isolated find spots hinting at low-levels of archaeological activity in the area. This is however in contrast to palaeoenvironmental studies (Jennings, 1987a, 1987b & 1990) that have identified potentially early prehistoric impacts on the vegetation history of the Combe Haven Valley. The absence of significant evidence is very likely therefore to reflect a lack of investigation rather than a true absence of activity and settlement in the area.

### Prehistoric period

2.3.3 Early prehistoric activity within the area is likely to have been focused around the valley edges and wetlands, utilising areas of higher ground to exploit the wetland environment of the low-lying valleys. These environments would have offered rich resources for foraging, hunting and fishing. By the Iron Age, these environments were being inundated by estuarine conditions, creating natural inlets to act as harbours. This would have helped to facilitate development of transport and trade routes in the area.

2.3.4 At Upper Wilting Farm several possible hearths and pottery finds dated to the Bronze Age (and possibly the Early Iron Age) have been located on the valley edges and at the interface with the wetland zone. This suggests that there may have been a Bronze Age farming settlement located on the higher ground overlooking the Combe Haven river, possibly on land between Monkland Wood and Upper Wilting Farm (to the south of the Scheme).

2.3.5 Islands or promontories overlooking wetlands have previously produced evidence of extensive Bronze Age activity within the Sussex Levels. A peaty layer at Pococks Field, in Eastbourne, produced significant quantities of Bronze Age pottery. Nationally important remains were also excavated at Shinewater, in Eastbourne, including a large wooden platform and trackway running east-west towards

Willingdon. The platform, estimated to cover an area of *c* 2000 sqm, was associated with the upper peat surface and was overlain by marine silty clays. On the platform surface a 0.20 m thick accumulation of cultural material was identified dating to the late Bronze Age. Finds included several bronze axe heads and a sickle reaping hook with its wooden handle intact. Human remains were also recorded, deliberately placed on to the platform (Jennings et al, 2003).

2.3.6 The waterlogged conditions at the site provided excellent conditions for the preservation of wooden artefacts and ecofactal remains. The site was interpreted as a harbour or quay site, perhaps used by boats crossing the Channel. Excavation of the trackway in 1996, on the route of a new bypass, revealed a trackway surface and triple row alignment of vertical timbers. The trackway would have provided safe access across the wetland zone, connecting the platform to higher dry ground. Further evidence of trackways has been found at Ditton, to the northwest of Shinewater (Jennings et al, 2003)..

**Late Iron Age and Roman Period**

2.3.7 The Combe Haven Valley was inundated in the early Iron Age, with salt marsh and reed swamp environments replacing areas of former alder and willow woodland in the valley bottoms. These conditions then persisted until some point in the middle of the Medieval period, possibly the 11th century. Further forest clearance for agricultural use resulted in the deposition of colluvium, possibly including that recorded south-west of Upper Wilting Farm. Rising river water levels during this period could have facilitated the transportation of iron exports and enhanced trading over a wider area.

2.3.8 The remains of a thriving Iron Age economy have been identified in the Combe Haven Valley based on the establishment of an early iron smelting industry. The area contains the essential raw materials that are required for iron smelting, including a plentiful supply of fuel wood. During the Roman period, the iron extraction industry continued to be the main focus of economic activity in the area, and was likely to have expanded.

**Medieval Period**

2.3.9 In the Early Medieval period the lower-lying parts of the Combe Haven Valley were largely reclaimed from the sea, with only certain parts of the valley retaining any maritime links. There is a paucity of archaeological and historical evidence for this period.

### Post-Medieval / Modern Period

2.3.10 The Combe Haven Valley appears to have remained relatively stable since the Medieval period, although some minor variation in sea-levels has been recorded.

## 3 AIMS

3.1.1 The principle aims of the evaluation are summarised below:

1. Identify any archaeological remains (if present) or significant deposits that the development may remove or impact during the construction of the Scheme.

2. To record the extent, condition, nature, character, quality and date of any archaeological remains encountered as dictated by current best archaeological practice.

3. Identify significant variations in the deposit sequence indicative of localised features such as topographic features or palaeochannels.

4. Identify the location and extent of any waterlogged organic deposits and address the potential and likely location for the preservation of archaeological and palaeoenvironmental remains.

5. Clarify the relationships between alluvial/fluvial/dryland sediment sequences and other deposit types, including periods of 'soil' development, peat growth and archaeological deposits.

6. Assess the wider significance of any archaeological features or deposits in the context of the potential impacts of the Scheme.

7. Where appropriate recommend or suggest possible strategies for mitigating the impacts of the Scheme on the archaeological resource.

More specific research questions could include:

8. Investigate and characterise a representative sample of the archaeology and valley sequences within the area to be affected by road construction with particular priority being given to remains of early prehistoric date in the valley bottoms.

9. To investigate the potential of prehistoric activity on the higher ground overlooking the valleys and valley margins as indicated by the flint assemblage collected during fieldwalking and the evidence from the geoarchaeological test pitting.

10. To test and assess the impact of the balancing ponds in the deep valley sequences.

11. To look for evidence of significant timber platforms, trackways, structures and boats within the deep valley sequences.

12. To test and investigate the nature of the anomalies highlighted in the geophysical survey of the route.

13. To help to further understanding of past human activity and changing environments and landscapes within the Combe Haven Valley.

14. Investigate the nature of human activity in the river valleys in East Sussex during the prehistoric period and determine the nature and chronology of any such structures or placed or patterned deposits.

15. Contribute our knowledge of the chronology of the Combe Haven peat sequence.

16. Investigate the role of human agency with regard to the possible evidence for extensive tree clearance within the pollen record, and determine the nature of any woodland management during the Neolithic.

17. Assess the influence of sea-level change both directly and indirectly on the sedimentation and vegetation history of the valley and provide an updated model of sea-level change within the valley.

18. Undertake palaeo-topographic reconstruction along the route of the road and adjacent area.

19. Establish the source of the fine sandy sediment, interpreted as colluvium in the geoarchaeological field assessment, which appears to be accumulating in the valley edges during the early prehistoric period.

# 4 METHODOLOGY

## 4.1 Evaluation strategy

4.1.1 The following is an outline, suggested approach. The Scheme may be subject to changes and it may be possible to determine that some areas within the Scheme boundary will not be subject to any impacts and can therefore be omitted from the evaluation.

4.1.2 The evaluation will consist of a total of 393 trial trenches, of which 217 will be standard trenches, 56 further standard trenches will be targeted on anomalies, 100 trenches will investigate deeper deposits and 20 test pits will evaluate the deep valley bottoms. The proposed strategy is designed to provide a comprehensive evaluation of

the higher ground of the Scheme providing good overall coverage. In addition, trenches have been targeted on any known features or areas of interest, in particular the anomalies from the geophysics survey and locations of flint 'finds' from the geoarchaeological test pitting. Our understanding of the potential of areas of the Scheme to reveal archaeological deposits is well informed by the work already undertaken. The trenching strategy, which samples approximately 2 % of the non-valley area, reflects this and should be fully adequate to address the aims of the evaluation.

4.1.3 An additional contingency (suggested as 10% of the agreed budget for the evaluation) should be set aside to enable additional trenching to be carried out, either by excavating in new locations or enlarging existing trenches in order to properly qualify any archaeological deposits found and provide adequate information for future action to be determined. This contingency will be used in agreement with ESCC and English Heritage.

4.1.4 An indicative trench layout for the Scheme is shown in Figure 1 with the results of the geoarchaeological geophysics mapping. These can be seen at a smaller scale in Figures 2a-2c.

4.1.5 The margins surrounding the valleys have been identified by mapping the underlying deposits using geophysics. Trenches have been positioned in this 'transitional zone' and extending out into the areas of previous marshland to evaluate activity on the valley edges and also identify features such as trackways which may extend out into the marsh. In areas where insufficient information can be gained from the geophysical results about the nature of the deposits, these have been deep trenched as a precaution. In the event that the trenches in these areas confirm deep valley bottom sequences, then these trenches may be abandoned. This is the case in two areas of the Scheme in particular where the mapping could not be undertaken or is not clear; just north of the Decoy Pond Stream and a thin section of the Greenway to the southwest of the Scheme.

4.1.6 The marsh areas have specific potential to contain trackways and platforms giving access to the wet areas in prehistory and these would constitute a very significant archaeological resource. The conditions in the valley botttoms would make traditional trenching difficult. The strategy therefore is to excavate deep trenches at the margins of the valleys to evaluate the possibilities of trackways leading into the marsh. In addition a number of test pits are proposed in the location of the major impacts such as the balancing ponds in order to test these locations for the presence of large wooden structures such as platforms within the upper peat.

4.1.7 If wooden trackway or platform evidence is found the excavation area will be extended (using the contingency) to qualify the extent of such features and enable

future work to be quantified. If extensive evidence is found a further phase of evaluation work may be required.

### 4.2 Traditional evaluation trenches

4.2.1 A program of up to 217 traditional trenches (depending on site conditions and access issues) are to be excavated within the Scheme boundaries, as indicated on Figure 1, each of which will be 2 m x 30 m. The evaluation trench locations will be varied where necessary to avoid obstructions and any significant changes agreed with the County Archaeologist and English Heritage.

4.2.2 All archaeological fieldwork and reporting will be conducted in accordance with ESCC *Standards for Archaeological Fieldwork, Recording and Post-Excavation Work in East Sussex* which are reproduced at the end of this WSI and in line with the relevant English Heritage guidance.

4.2.3 The County Archaeological Officer and English Heritage will be kept informed as to the progress of the fieldwork; site visits for monitoring purposes will be arranged as appropriate.

4.2.4 The archaeological work will need to be assessed and monitored where appropriate by an ecological specialist.

### 4.3 Targeted evaluation trenches

4.3.1 A total of 56 targeted trenches are proposed on landscape and sub-surface features identified during the field walking, LiDAR survey and geophysical survey. The trenches have been orientated in order to best investigate and interpret the features.

4.3.2 The targeted evaluation trenches will be undertaken using the same methodology as the standard evaluation trenching. If necessary a qualified geoarchaeologist may attend in order to help interpret the deposits revealed.

### 4.4 Deep Evaluation trenches

4.4.1 A total of 100 'deep' trenches are targeted on the margins of the wetland zone along the edges of the four valley sequences. These trenches are located on the wetland interface zone and potential islands identified within the Scheme by the Geoarchaeological geophysical mapping. The field investigation identified the significance of these areas to early communities and that there was therefore high potential for archaeological remains to be located there. These zones are also most likely to be affected first by any localised changes in the hydrology caused by the

construction of the Scheme. It is therefore important to evaluate all the interface zones within the Scheme.

4.4.2 These trenches will be excavated using a tracked mechanical excavator. The key difference of these trenches over the standard trenches is that they will probably need to go to a greater depth. It is probable that the parts of the trenches heading towards the wetland zones will extend to a much greater depth than the dry land ends of the trenches.

4.4.3 As there are few space restrictions, these evaluation trenches will generally be carried out using stepped (or battered) sides rather than being shored to provide safe access. They may require fencing off if they need to be left over night. In terms of the type of archaeology that is likely to be recovered within the sediment zone the geoarchaeological field assessment has already identified one potential early prehistoric flint scatter. Evidence of further activity in the forms of burnt mounds, prehistoric wooden trackways, and settlement platforms that may have been associated with the exploitation of the wetland zone may be encountered. If archaeology is identified it may be necessary to expand or dig additional contingency trenches in order to more fully characterise and define the limits of the activity.

4.4.4 In the event of the discovery of waterlogged timbers forming trackways or other structures, the structure will be exposed and cleaned to allow it to be identified and characterised. Samples of waterlogged timbers, and bulk soil samples from associated deposits, will be recovered for possible radiocarbon and dendrochronological dating. Excavation will aim to establish the extent, depth, orientation, context and preservation of the structure, in line with the aims of the evaluation. If appropriate an ancient woodworking specialist will be asked to visit and advise on recording and treatment of worked wooden structures. A conservation specialist will advise as necessary.

## 4.5 Archaeological test pitting

4.5.1 20 machine excavated test pits will also be excavated in the areas to be impacted by the proposed ponds. These will be dug to a maximum depth of 5 m below ground level (dimensions in plan specified as 4 m x 4 m). The test pitting is designed to evaluate the possibility of a major archaeological deposit or feature such as a timber platform being located within the upper peat. Test pit locations may be adjusted in response to results obtained from the trenches on the valley margins.

4.5.2 In the event that archaeology is identified within any of the test pits these may be supported to allow manual access to a maximum depth of 6 m below ground level. Further mechanical excavation may be carried out to a maximum depth of 8 m (with

no manual access). Sufficient investigation will be carried out at this stage to inform a further course of action.

## 5 RESOURCES AND PROGRAMME

5.1.1 The fieldwork will be undertaken by a team of qualified archaeologists supported by relevant specialists (including ecologists to monitor the work) as appropriate. The skills base available for the project should include:

| Subject |
|---|
| Palaeolithic Specialist |
| Geoarchaeologist |
| Soil micromorphologist |
| Plant remains analysis |
| Waterlogged wood |
| Molluscs |
| Pollen analysis |
| Osteoarchaeological manager |
| Animal bone analysis |
| Computer manager |
| Surveyor |
| Finds manager |
| Environmental manager |
| Conservator |
| Lithic analysis |
| Prehistoric pottery |
| Roman pottery |
| Saxon/medieval/post-medieval pottery |
| Slag |
| Glass |
| Metalwork |
| C14 dating |
| Thermoluminescence dating |

5.1.2 The timing of the archaeological evaluation will be determined by the Scheme program. This will be advised at a later date.

*5.1.3* If a significant archaeological find is made during the work which cannot adequately be dealt with under the terms of this WSI the archaeological contractor will immediately inform ESCC, the County Archaeologist and English Heritage.

## 6 REPORTING

6.1.1 All assessment, reporting and archiving will comply with the ESCC *Standards for Archaeological Fieldwork, Recording and Post-Excavation Work in East Sussex* which are reproduced at the end of this WSI and will follow the English Heritage guidance for archaeological projects.

### 6.2 Environmental sampling and assessment

6.2.1 Bulk and incremental samples will be taken for plant macrofossils, insects, ostracods, forams, molluscs, small and large mammals from a range of features and deposits during the evaluation.

6.2.2 Where necessary specialist samples will be taken by the archaeological contractor/geoarchaeological specialist for pollen, diatom, geochemical and sedimentological analysis where appropriate. Samples for radiocarbon dating and dendrochronology will be taken as appropriate and processed as agreed with the County Archaeologist and English Heritage.

6.2.3 A team of qualified and experienced specialists will undertake the finds and environmental analysis.

### 6.3 Reporting

6.3.1 The evaluation report will be completed within 8 weeks of the end of on-site work (although if specialist input is required this may be forwarded at a later date as an addendum).

### 6.4 Archive

6.4.1 The site archive will be prepared to according to best practice and deposited, at an appropriate time, with an appropriate Museum Service. A microfilm copy of the site archive and narrative will be issued to RCHME and submitted to the Sites and Monuments Record and the National Monuments Record. An OASIS form will also be submitted to the Archaeology Data Service.

# 7 MITIGATION RESPONSES

## 7.1 Introduction

7.1.1 In the event that archaeological deposits or features are identified along the proposed route during the evaluation there are various mitigation strategies which could be adopted. Where appropriate the evaluation report will suggest possible mitigation measures for consideration.

## 7.2 Preservation in-situ

7.2.1 As specified within PPG16 all efforts should first be made to preserve archaeological features and deposits in-situ. This could be accomplished by design changes in the Scheme or by changes in construction methodology depending on the nature of the impact. Major design changes may be difficult to achieve, particularly where the main road Scheme is concerned, but redesign / relocation of landscape features or ponds may offer greater scope. This mitigation option would clearly be preferable should a significant waterlogged site be discovered in the valley areas. However, any preservation in-situ strategy must also ensure the long-term survival of the deposits and measures such as monitoring of subsequent water levels will need to be considered.

## 7.3 Excavation

7.3.1 Any significant archaeological site or feature identified along the proposed route may require further mitigation through excavation. The strategy will need to be formulated according to the particular site circumstances. Generally a two stage methodology will be implemented; the initial stage of work will consist of the stripping and planning of the area followed by the detailed excavation of the revealed archaeological features.

7.3.2 Fieldwork and reporting will be undertaken in accordance with ESCC *Standards for Archaeological Fieldwork, Recording and Post-Excavation Work in East Sussex* which are reproduced at the end of this WSI and in line with the relevant English Heritage guidance.

***Additional considerations for waterlogged sites***

7.3.3 In the case of the discovery of a waterlogged site within the valley bottoms then a site specific methodology would need to be developed.

7.3.4 In order to define the excavation a series of test pits may need to be dug in order to delimit the site.

7.3.5 On defining the limits of the excavation, an area will be opened up (extending out from one of the test pits) down to the first archaeological horizon. Hand excavation will then commence.

7.3.6 The area excavation may need to be supported by a cofferdam or pilling. This will be designed to permit maximum accessibility to the excavation sections for the purposes of archaeological recording.

7.3.7 The machining of the site would either need to proceed in stages or excavation may have to occur from the sides.

7.3.8 The excavation area may need to be de-watered or drained prior to and during any hand excavation.

7.3.9 The recording of waterlogged wood will be undertaken by a suitable specialist.

7.3.10 A geoarchaeologist should be on site during the excavation, in order to advise on the interpretation of the stratigraphy of the site.

7.3.11 Any waterlogged finds of wood or organic material recovered would need to be appropriately stored on site prior to conservation. This may involve a wood specialist being on site to supervise the recording and treatment of wooden artefacts. A conservator may need to be consulted about the storage and transportation of more fragile organic remains.

7.3.12 On site processing of finds and environmental samples may have to be undertaken.

***Environmental Sampling***

7.3.13 A targeted programme of palaeo-environmental sampling should be implemented in accordance with best practice. Decisions regarding which contexts are suitable for environmental sampling will be made on site in consultation with the County Archaeologist and the EH regional scientific advisor, where appropriate. The sampling strategy will be implemented in accordance with the agreed strategy for the site in order to address the project research aims.

7.3.14 Environmental sampling may include: bulk samples (charred plant remains, cremation, waterlogged remains, bones and artefacts); series samples (waterlogged plant remains, snails); monolith samples (palynology, soil micromorphology); or for analysis of diatoms, (pedology, metalworking and chemicals).

7.3.15 Waterlogged deposits: appropriate sampling of most contexts for environmental analysis in consultation with the appropriate specialists. Waterlogged wood will be recorded, sampled and conserved in accordance with English Heritage guidelines.

7.3.16 A contingency should be costed for to allow for more intensive sampling. The use of this contingency would be agreed with ESCC, the County Archaeologist and English Heritage prior to implementation

7.3.17 After stripping and planning, in agreement with all parties, the sampling strategy may be altered to target the significant aspects of the archaeological remains as revealed.

### 7.4 Watching brief

7.4.1 After field evaluation and any subsequent mitigation of highlighted archaeological deposits there is clearly still the possibility that construction work may uncover previously unknown archaeological remains.

7.4.2 The scope of archaeological monitoring during construction is dependent on the design, construction methodology, and the results of the evaluation.

7.4.3 Generally, any intrusive works in areas which have the potential to contain archaeological remains should be subject to archaeological monitoring. This can be constant or intermittent depending on the circumstances. Such works will include topsoil stripping, service installations and the excavation of ponds.

7.4.4 The County Archaeologist and English Heritage will be informed immediately if significant archaeology is encountered and a strategy and resources agreed to deal with the deposits. This could include immediate excavation and recording at an agreed level or possibly a change in design to reduce or remove the impact.

## 8 STANDARDS AND CONDITIONS

8.1.1 Arrangements for conducting fieldwork, monitoring, reporting, and professional standards are dealt with in ESCC *Standards for Archaeological Fieldwork, Recording and Post-Excavation Work in East Sussex* which are reproduced at the end of this WSI. These will apply unless superseded by text within an agreed WSI.

## 9 REFERENCES

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OA (2006) Cultural Heritage Walkover Survey Report. Bexhill to Hastings Link Road

OA (2006) Updated Desk Based Assessment. Bexhill to Hastings Link Road