

**APPENDIX 10. PROFORMA METHOD STATEMENT FOR
PALAEOLOGIC/PLEISTOCENE FIELD EVALUATION**

[**From:** Wenban-Smith, F.F., Bates, M.R. & Marshall, G. 2007. *Medway Valley Palaeolithic Project Final Report: The Palaeolithic Resource in the Medway Gravels (Essex)*. Report submitted to English Heritage, and made available March 2009 through ADS.]

1 BACKGROUND

Development situation, planning application reference and planning condition. Refer to need for programme of archaeological work and involvement of appropriate specialists; a Palaeolithic/Pleistocene specialist is generally required for work with a Palaeolithic angle.

2 IMPACT REVIEW

Recap of development, usefully divided by stages/phases or different landscape zones, and description of impact on existing deposits. Important to also consider impact of ancillary works that might not be covered in specific planning proposals — drainage, other services, crane towers, access roads, ground-take for building material, road network improvement.

3 GEOLOGICAL AND LANDSCAPE BACKGROUND

Bedrock and Pleistocene geology — regional context and local details. Reference to background information already known from:

- Geological mapping
- Previous boreholes and geotechnical investigations
- Previous local archaeological investigations
- Project dedicated boreholes and geotechnical investigations

4 ARCHAEOLOGICAL BACKGROUND

Palaeolithic archaeology — regional context and local details, including previous find-spots.

5 AIMS AND OBJECTIVES

The primary objectives of the field evaluation are:

- To assess the nature and significance of the Pleistocene deposits and Palaeolithic remains present at the site
- To establish the distribution and depth across the site of Pleistocene deposits
- To assess the Palaeolithic archaeological significance of any deposits

More specifically, the work also aims to:

- Determine the presence and potential of lithic artefact evidence and faunal remains in the sediments encountered
- Determine the presence and potential of palaeo-environmental micro-biological evidence in the sediments encountered
- Determine the presence of, or potential for, undisturbed primary context Palaeolithic occupation surfaces in the sediments encountered

- Establish the horizontal and vertical extent, sequence and sedimentological character of Pleistocene deposits across the site
- Interpret the depositional and post-depositional history of any artefactual or biological evidence found
- Establish correlations of any Pleistocene deposits found with reference to adjacent and regional sequences, and to national frameworks
- Assess in local, regional and national terms, the archaeological and geological significance of any Pleistocene deposits encountered, and their potential to fulfil current research objectives

6 METHODS

XXX test pits will be excavated across the site (Figure).

[These should be situated so as to at least provide major orthogonal transects across the site, and to cover all parts of it. Palaeolithic/Pleistocene test pits would usually be dug at one end of conventional evaluation trenches. Minor variations of the test pit positions may be required in the field to avoid services, trees, later archaeological evidence or any other features obstructing the intended locations]

Each test pit will be dug by a tracked 10–20 tonne 360° mechanical excavator with a 5-foot wide toothless ditching bucket. Each test pit will be one bucket-width wide, 3–4m long and up to 5m deep. Excavation will cease at a shallower depth if it is clear that Pleistocene deposits are not present, and that pre-Quaternary deposits have been reached. Excavation will cease if primary context Palaeolithic evidence is encountered, and the County Archaeological Service informed.

[Test pits may also be dug by a JCB, for which access is often easier, and which are more easily introduced to most sites. However, for deeper deposits and ones where higher numbers of samples are required, the extra power and 360° rotational capability of a tracked excavator carry out the job more effectively. If the impact is less than 5m below ground surface (bearing in mind soakaways, services, basements, lift-shafts *etc.*) one can dig the majority of the test pits to a shallower depth such as 2.5m, but it is important to retain a proportion of test pits to the full depth, to try and reach the base of any Pleistocene sediments, and to increase the chances of gathering information that will help in the interpretation, dating and correlation of the full sequence]

Each test pit will be taken down in horizontal spits of 10cm, respecting the interface between sedimentary units when unit changes are encountered. The work will be directed by a recognised specialist in Palaeolithic archaeological excavation with experience of recording and interpreting Pleistocene sediments, who will record and number the sequence of sedimentary units as excavation progresses following standard descriptive practices. Test pits will be entered at the maximum safe depth (usually *c.* 1.2m, but less if loose sands/gravel are present) to record the upper stratigraphy. After excavation has progressed beyond this depth, recording will take place without entering the trench.

The test pit programme should also be supported by attendance of a Pleistocene geo-archaeological specialist who should see at least 20% of the test pits being excavated, and who should consult with the Palaeolithic specialist on-site over interpretation of the sedimentary sequence.

Spit-samples of at least 150 litres will be numbered, their position in the stratigraphic sequence recorded, and set aside at regular 25cm intervals as excavation progresses. 100 litres from each spit-sample will be dry-sieved on site through a 1cm mesh for recovery of lithic artefacts and faunal remains. If the sediment encountered is not suitable for dry-sieving (ie. too clayey), excavation will proceed in shallower spits of 5cm, looking carefully for the presence of any archaeological evidence, and the spit samples will also be carefully investigated by hand (using archaeological trowels) for any archaeological evidence. The remainder of the spit-sample may be sampled for palaeo-environmental biological remains, if appropriate.

The presence/potential for palaeo-environmental micro-biological evidence such as pollen, insects, molluscs and small vertebrates will be assessed for each sediment unit by field inspection. Such evidence, if present, is of critical importance to the potential of a site, and it is necessary to establish presence/quality as part of the evaluation process. Different forms of evidence are present in different types of sediment, and an important aspect of the work of the Palaeolithic/geo-archaeological specialists is to consider the potential of the sediments encountered, and to guide the sampling as appropriate (cf. ANNEX 1). Provision should be built into the archaeological programme for processing any samples taken and reporting on the results at the evaluation stage.

Consideration should also be given to the suitability of any sediment units encountered for optically stimulated luminescence dating (OSL). In the absence of suitable biological evidence, this is likely to be the only and most reliable way of dating many sequences. Samples for analysis should ideally be taken with *in situ* dosimetry readings using a portable gamma ray spectrometer. This can be done under the guidance of the Palaeolithic specialist in the field at the evaluation stage, if the appropriate equipment is available, or carried out at a later point by the OSL specialist. However, if an interesting sediment is encountered, it is advisable to take an OSL sample anyway, even without *in situ* dosimetry measurement, as this sample can still provide a date, and there may not be a future opportunity for renewed investigation.

A representative section from each test pit will be photographed in colour (digital) once excavation has reached its full depth, and at appropriate stages in the course of excavation if features of interest are revealed.

Each test pit will be dug in turn, and backfilled level with the pre-existing ground surface as soon as possible following excavation and the completion of recording. No test-pits will be left open untended or overnight.

7 REPORTING

Following completion of the fieldwork, the Palaeolithic specialist will produce a 1-page interim report on the preliminary interpretation of the sediments encountered, with particular reference to the nature and correlation of any Pleistocene sediments encountered and the nature and significance of any Palaeolithic archaeological evidence. The Palaeolithic specialist will also report verbally to the County Archaeological Service during and at the end of fieldwork.

Within one month of completion of the fieldwork a written evaluation report will be produced, addressing the evaluation aims and objectives, and including as a minimum:

- a site location plan showing test pit locations at an appropriate scale
- a descriptive summary and interpretation of the Palaeolithic archaeology and Pleistocene geology of the site, including provisional dating of major sedimentary units
- a table showing, per test pit, the quantity and nature of any artefactual and/or biological evidence noted or recovered
- a 1-page summary for each test pit of the stratigraphic sequence, sampling locations and archaeological evidence recovered, if any
- a consideration of the methods used, including a confidence rating
- a 100 word summary

APPENDIX 10, ANNEX 1. FIELD EVALUATION — PALAEO-ENVIRONMENTAL SAMPLING GUIDELINES AND PROCESSING PROTOCOLS

<i>Type of remains</i>	<i>Characteristic sediment</i>	<i>Sampling procedure</i>	<i>Processing protocol</i>
Small vertebrate	Calcareous clays, silts, fine sands, clayey/silty gravels	40-litre samples should be taken at <i>c.</i> 25cm intervals through the relevant horizon	Processed off-site by wet-sieving through a graded sieve-series of mesh sizes 1cm, 4mm, 2mm, 1mm and 0.5mm. Sieving should be with gentle water pressure and a fine spray, and residues should be dried at room temperature for subsequent sorting by the Palaeolithic specialist. Chemical decoagulants should not be used.
Molluscs	Calcareous clays, silts, fine sands, clayey/silty gravels	1-litre samples should be taken at <i>c.</i> 25cm intervals through the relevant horizon *	By specialist
Ostracods	Calcareous clays, silts, fine sands, clayey/silty gravels	200g samples should be taken at <i>c.</i> 25cm intervals through the relevant horizon *	By specialist
Pollen/diatoms	Humic acidic clays, silts, peaty deposits	100g samples should be taken at <i>c.</i> 25cm intervals through the relevant horizon *	By specialist
Insects	Humic acidic clays, silts, peaty deposits	10-litre samples should be taken at <i>c.</i> 25cm intervals through the relevant horizon	By specialist
OSL	Fine sands, well-drained	Tube sample <i>c.</i> 10cm long by 4cm diameter, sealed with light-proof wrap; supplemented by <i>c.</i> 50g sample of surrounding sediment, sealed to retain moisture	By specialist; or appropriately trained Palaeolithic/Pleistocene specialist, with <i>in situ</i> dosimetry readings of background radiation with a portable gamma ray spectrometer

* If direct access to the relevant sediment is possible, not always the case for field evaluation, a monolith sample series through the sediment should be taken. Then samples at 25cm intervals through the monolith sequence can be assessed for presence and quality of micro-palaeontological remains. It should be emphasised that this is not a full analysis at this stage, but an attempt to establish the presence and potential of the remains, with a view to clarifying the scope of subsequent mitigation.