Land at Mandarin Way, Washington, Sunderland: Archaeological Field Evaluation

April 2008

For and on behalf of CgMs Consulting

Minerva Heritage Project Code: MW0408

Contents

Non-Technical Summary

Minerva Heritage was invited by CgMs Consulting in April 2008 to conduct a programme of archaeological evaluation on a parcel of land at Mandarin Way, Washington, Sunderland, Tyne and Wear. Planning permission had been granted for the construction of a service centre, yard and car park, and archaeological evaluation was required to determine the presence of potential archaeological deposits on the site.

A previous geophysical survey of the site (GBS Prospection 2008) had identified the presence of ridge-and-furrow cultivation. It was considered possible that earlier archaeological deposits could have survived beneath the area of cultivation. This present programme of archaeological evaluation sought to establish the character, date, extent, nature, depth and degree of survival of potential archaeological deposits on the development site.

Minerva Heritage conducted the fieldwork element of the programme in April 2008. A total of five trenches were excavated, recorded and then backfilled. The ridge-and-furrow cultivation previously identified was observed in the trenches as shallow cuts into the natural clay geology. A small number of artefacts dating from the late medieval period onwards were recovered from topsoil and other deposits. No other archaeologically significant features or deposits were encountered, and no further work was recommended.

1 Introduction

1.1 *Planning and Project Background*

1.1.1 In April 2008, Minerva Heritage was invited by CgMs Consulting to conduct a programme of archaeological evaluation at land at Mandarin Way, Washington, Sunderland, Tyne and Wear. Minerva Heritage undertook the work in April 2008 according to a specification issued by the Tyne and Wear Specialist Conservation Team (Appendix 1). This document has been produced to meet the reporting requirements detailed in the original brief, and has been issued to follow a previous interim statement (Appendix 2).

1.1.2 ASDA is to construct a service centre, yard and car park on a parcel of land at Mandarin Way, Washington, Sunderland, Tyne and Wear (centred on NGR NZ 334 568). The site comprises a trapezoidal parcel of land aligned approximately north-west/south-east, situated immediately south of the A1231, 6km west of Sunderland and 4km east of Washington. On the northern sides of the site the boundary comprises Barmston Lane, whilst the southern boundaries are formed by Mandarin Way and the adjacent industrial units (Figure 1). The site gently slopes down in the direction of the river Wear to the south, and occupies an area of clayey loamy soils of the Foggathorpe 1 (712h) association (Soils of England and Wales 1983). These soils overlie glacial drift and till (*ibid*) which in turn overlies Westphalian Coal Measures (British Geological Survey Geoindex 2008).

1.1.3 Planning permission (Application no 08/00129/FUL) had been granted for the development, with the condition that a programme of archaeological works was secured. A geophysical survey, undertaken in March 2008 by GSB Prospection, identified ridge-and-furrow cultivation which had potentially disturbed earlier archaeological features or deposits. A programme of archaeological evaluation was thus required to further characterize the archaeological potential of the site.

1.2 *Archaeological Evaluation*

1.2.1 The Institute of Field Archaeologists defines archaeological field evaluation as:

> "*a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land, inter-tidal zone or underwater. If such archaeological remains are present*

field evaluation defines their character, extent, quality and preservation, and enables an assessment of their worth in a local, regional, national or international context as appropriate."

1.2.2 The purpose of the current programme was to investigate the possibility that the development, situated in a Greenfield area, would disturb and/or remove sensitive archaeological remains comprising significant features or deposits. Archaeological remains had been previously identified by geophysical survey as ridge and furrow cultivation, and the potential for earlier activity was noted (GSB Prospection 2008, 1). In order to further investigate the presence or absence of potential archaeological remains on the development site, a programme of intrusive evaluation was recommended by the Tyne and Wear Specialist Conservation Team, and a specification for the requisite works was issued (Appendix 1). The results of the intrusive field evaluation aimed to enable the formulation of recommendations for any further works considered necessary.

1.3 *Other Matters*

1.3.1 The archaeological evaluation work comprising this project was undertaken by Minerva Heritage according to the written specification issued by the Tyne and Wear Specialist Conservation Team (Appendix 1). The project was supervised and managed by Chris Healey, who was assisted by Richard Cherrington. Dot Bruns examined the artefacts, and Chris Healey and Richard Cherrington produced this report.

1.3.2 Thanks are due to Paul Gajos and Forbes Marsden of CgMs Consulting for commissioning Minerva Heritage to undertake the project, and to Jennifer Morrison of the Tyne and Wear Specialist Conservation Team for her support during the project. Minerva Heritage would also like to thank Dave Malone, Site Manager for Mclarens, Jacqui Huntley, Regional Science Adviser for English Heritage, and Roger, the Deecons plant operator, for their assistance.

2 Methodology

2.1 *Evaluation Trenches*

2.1.1 The purpose of the evaluation trenches was to establish the character, nature, date, depth, degree of survival of potential archaeological deposits on the site. The evaluation trenches examined the archaeological deposits within the trenches to the level of the geological subsoil.

2.1.2 Five trenches were positioned strategically, perpendicular to the ridge-and-furrow features, and beneath the footprint of the planned main service building (Fig 2). Prior to excavation the area comprising the trenches, in addition to the vicinity of individual trenches, was scanned for services using a Cable Avoidance Tool. Each trench measured 20m by 2m, and the topsoil was carefully removed using a tracked 360° excavator fitted with a toothless 2m-wide bucket.

2.1.3 Trenches were cleaned by hand using trowels, hoes, shovels and mattocks, and subsequent manual excavation removed slots across cut features in a stratigraphic manner in order to enable recording. The maximum depth reached during excavation was 0.65m below the height of the existing ground surface. Trenches were backfilled using the mechanical excavator subsequent to recording.

2.2 *Site Recording Techniques*

2.2.1 The project brief (Appendix 1) was adhered to in full, and was undertaken in accordance with the standards and guidance for archaeological field evaluation (IFA 2001). All trenches and deposits were recorded using appropriate pro forma recording sheets and forms. The process of written recording principally comprised the completion of pro forma context sheets and trench record sheets. Each trench was planned at a scale of 1:20 and sections of the long axes were produced at a scale of 1:10. All illustrations were drawn using a hard (6H) pencil on draughting film. The manually excavated interventions through archaeological features were also sectioned and drawn at a 1:10 scale; where appropriate, illustrated recording of interventions through features was incorporated into the trench sections. Levels were recorded from the base of each trench and at the height of each deposit. These were translated using a temporary bench mark into relative heights above Ordnance Datum using the nearest Ordnance Survey bench mark. Trenches and individual features were photographed using manual 35mm film (colour

transparency and monochromatic print film) and digital cameras.

2.3 *Artefacts and Ecofacts*

2.3.1 All artefacts encountered during the excavation were recovered and retained in appropriate containers, which were numbered on site with a unique context number allocated to the originating deposit. All artefacts were treated according to the United Kingdom Institute for Conservation guidance (UKIC 1998), and standards and guidance issued by the Institute of Field Archaeologists (2001). Spoilheaps were scanned for artefacts after machine excavation. Some expressly modern material was not retained.

2.3.2 The finds were processed at Minerva Heritage offices and packed in appropriate materials. Examination was undertaken by Dot Bruns, a finds specialist with a wide experience of artefacts from all periods. Her report has been incorporated into this document.

2.3.3 An environmental sampling strategy was agreed with the English Heritage Regional Scientific Advisor, Jacqui Huntley, prior to project commencement. Environmental samples were not to be collected from any furrow deposits, and no other deposits considered suitable for environmental sampling were encountered.

2.4 *Project Archive*

2.4.1 An archaeological archive will be produced according to the original project brief (Appendix 1). All of the records, including the photography, written pro forma recording sheets, illustrated material and site notes, and the artefacts will be collated, curated and indexed prior to the submission of a copy of the final report to the Tyne and Wear Historic Environment Record.

2.4.2 All documents, records and data will be marked with the site code and the recipient museum's accession number, and finds will be marked or labelled with the project and context codes. The archive resulting from the project will be deposited in a suitable form with Tyne and Wear Museums within a reasonable time of project completion, following consultation with the Planning Authority.

2.4.3 The copy of the final report will be accompanied by an index to the documentary archive. On completion of the project Minerva Heritage Ltd will complete the obligatory fields of the OASIS form and submit an electronic version of the report to OASIS (http://ads.ahds.ac.uk/oasis).

3 Evaluation Results

3.1 *Introduction*

3.1.1 Five trenches were positioned across the ridge-and-furrow features beneath the footprint of the proposed building. The trenches measured a total of 200m^2; each trench measured 20m by 2m. The positions of the trenches are shown in Figure 2.

3.1.2 The topsoil deposits were carefully removed from each trench by a mechanical excavator under close archaeological supervision. These deposits comprised dark brown clayey loams up to a maximum 0.35m thick, containing occasional (<1%) stone inclusions and some late post-medieval artefacts.

3.1.3 For the most part, topsoil deposits were encountered directly above the natural subsoil, although in places the geological subsoil had been weathered or otherwise disturbed, and an interface deposit was observed up to 0.20m thick in places. The natural subsoil comprised homogenous firm reddish-brown clay.

3.2 *Trench 1*

3.2.1 The natural subsoil (**107**) was reached at a depth of c 0.30m below the existing ground surface in this trench. Weathered or disturbed natural subsoil mixed with topsoil formed an interface deposit (**102**) above the natural subsoil level, measuring up to 0.10m thick. A single fragment of modern drain was retrieved from this disturbed deposit (see Section 4).

3.2.2 Two parallel linear features (**104** and **106**), aligned approximately north-west/south-east, were observed cut into the natural subsoil (Figure 3). Linear feature **104** comprised a shallow channel some 1.80m across and up to 0.20m deep. This channel was filled by a soft, medium brown, silty sandy clay (**103**), containing occasional stone inclusions. A single fragment of pottery was recovered from this context (see Section 4). Linear feature **106** also comprised a shallow channel, measuring 2.80m across and up to 0.20m deep. The feature was filled with a soft, medium brown, silty sandy clay (**105**) containing occasional stone inclusions.

3.2.3 Trench 1 was sealed by a layer deposit comprising friable, dark brown, silty sandy clay topsoil (**101**), measuring 0.30m thick on average up to 0.35m thick maximum. A single fragment of pottery was recovered from this deposit (see Section 4).

3.3 *Trench 2*

3.3.1 The natural subsoil (**209**) was reached at a depth of c 0.30m below the existing ground surface in this trench. Weathered or disturbed natural subsoil mixed with topsoil formed an interface deposit (**202**) immediately above the level of the natural subsoil, measuring up to 0.20m thick.

3.3.2 A group of three parallel linear features (**204**, **206** and **208**) were observed traversing Trench 2 on approximate north-west/south-east alignments (Figure 3), cut into the natural subsoil. Linear feature **204** comprised a shallow channel measuring 2.40m across and up to a maximum of 0.20m deep. The channel was filled with a medium orangey-brown sandy clay deposit (**203**) with occasional stone inclusions. Linear feature **206** also comprised a shallow channel measuring 5.10m wide and up to 0.15m deep. This channel was filled with an orangey-brown sandy clay deposit (**205**). Linear feature **208** comprised a shallow channel measuring 3.10m across and up to 0.25m deep. This channel was filled with an orangey-brown sandy clay deposit (**207**). A single fragment of pottery was recovered from deposit **207** (see Section 4).

3.3.3 Trench 2 was sealed beneath layer deposit (**201**), which comprised friable, dark brown silty sandy clay topsoil containing occasional stone inclusions.

3.4 *Trench 3*

3.4.1 The natural subsoil (**309**) was reached at a depth of c 0.30m below the existing ground surface in this trench. Weathered or disturbed natural subsoil mixed with topsoil formed an interface deposit (**302**) above the natural subsoil level, measuring up to 0.20m thick.

3.4.2 A group of three parallel linear features (**304**, **306** and **308**) were observed traversing Trench 3 on approximate north-west/south-east alignments (Figure 4), cut into the natural subsoil. Linear feature **304** comprised a shallow channel measuring 3.00m across and up to a maximum of 0.30m deep. The channel was filled with a soft, medium brown sandy clay deposit (**303**) with occasional stone inclusions. Linear feature **306** also comprised a shallow channel measuring 3.20m wide and up to 0.25m deep. This channel was also filled with a medium brown sandy clay deposit (**305**). Linear feature **308** comprised a shallow channel measuring 2.30m across and up to 0.20m deep; the channel was filled with a soft, medium orangey-brown sandy clay deposit (**307**).

3.4.3 Trench 3 was sealed beneath layer deposit (**301**), which comprised friable, dark brown silty sandy clay containing occasional stone

inclusions. No artefacts were recovered from the deposits within Trench 3 although a single ceramic fragment was recovered from the spoilheap (see Section 4).

3.5 *Trench 4*

3.5.1 The natural subsoil (**407**) was reached at a depth of c 0.30m below the existing ground surface in this trench. Weathered or disturbed natural subsoil mixed with topsoil formed an interface deposit (**402**) above the natural subsoil level, measuring up to 0.20m thick.

3.5.2 A group of two parallel linear features (**404** and **406**) were observed traversing Trench 4 on approximate north-west/south-east alignments (Figure 4), cut into the natural subsoil. Linear feature **404** comprised a shallow channel measuring 3.00m across and up to a maximum of 0.20m deep. The channel was filled with a soft, medium orangey-brown sandy clay deposit (**403**) with occasional stone inclusions. Linear feature **406** also comprised a shallow channel, measuring 2.70m wide and up to 0.20m deep; this channel was filled with a medium brown sandy clay deposit (**405**).

3.5.3 Trench 4 was sealed beneath layer deposit (**401**), which comprised friable, dark brown silty sandy clay containing occasional stone inclusions. No artefacts were recovered from the deposits within Trench 4.

3.6 *Trench 5*

3.6.1 The natural subsoil (**507**) was reached at a depth of c 0.30m below the existing ground surface in this trench. Weathered or disturbed natural subsoil mixed with topsoil formed an interface deposit (**502**) above the natural subsoil level, measuring up to 0.10m thick.

3.6.2 A group of two parallel linear features (**504** and **506**) were observed traversing Trench 5 on approximate north-west/south-east alignments (Figure 5), cut into the natural subsoil. Linear feature **504** comprised a shallow channel measuring 3.00m across and up to a maximum of 0.10m deep. The channel was filled with a soft, medium orangey-brown sandy clay deposit (**503**) with occasional stone inclusions. Linear feature **506** also comprised a shallow channel, measuring 2.10m wide and up to 0.20m deep; this channel was filled with a light orangey-brown sandy clay deposit (**505**).

3.6.3 Trench 5 was sealed beneath layer deposit (**501**), which comprised friable, dark brown silty sandy clay containing occasional stone inclusions. Two fragments of pottery and a single piece of clay tobacco pipe stem (see Section 4) were recovered from topsoil deposit **501**.

4 Finds

4.1 Introduction

4.1.1 In total, the finds comprised 8 fragments of artefacts predominantly recovered from the topsoil deposits in Trenches 1-3 and 5. Their distribution is shown below.

TRENCH	POTTERY	CLAY TOBACCO PIPE	OTHER	TOTALS
1	2		1	3
2	1			1
3	1			1
4				
5	2	1		3
Totals	6	1		**8**

Table 1: Summary of finds distribution

4.2 Results

4.2.1 The majority of the material recovered was pottery. These comprised small fragments, unabraded and in generally fair condition. The majority of the finds examined (the pottery and fragment of clay tobacco pipe from topsoil **501**, the pottery recovered from the Trench 3 spoil heap, and the drain fragment from disturbed deposit **102**) are likely to date to no earlier than the mid-late nineteenth century. Earlier material comprised a single sherd from a late medieval storage jar from topsoil **501**, and two fragments of ceramic vessels from furrow fill deposits **103** and **207**, dating from the 16-18th centuries and the late 17th century respectively.

4.3 Conclusion

4.3.1 No two sherds come from the same vessel, and each sherd is from a different vessel type. The entire assemblage is typical of an assemblage comprising stray finds. The majority of the finds were from recovered from the topsoils, which represent relatively insecure contexts, and finds recovered from more secure deposits are highly likely to be residual. As a small post-medieval assemblage from rural Tyne and Wear it has limited significance. The finds add very little to the interpretation and dating of the site, and none warrant further analysis.

5 Conclusion

5.1 *Discussion*

5.1.1 The programme of archaeological field evaluation demonstrated that archaeological remains survived beneath the development site. These remains comprised ridge and furrow cultivation which had been previously identified through geophysical survey (GSB Prospection 2008). The narrowness of the ridges between the furrows would seem to indicate that this cultivation regime is more characteristic of nineteenth century ploughing than of pre-enclosure activity. Whilst ridge and furrow is commonly considered to be a characteristically medieval practice, the ploughing of open fields in this manner continued in parts of the country well into the nineteenth century (Hall 1998). Contemporary Ordnance Survey cartography shows that the fields were enclosed prior to 1857, and the ceramic evidence from within these features represents deposition probably occurring between the late 17th century and the early 19th century. The alignment of the ridge and furrow is parallel to the extant Barmston Lane as it leads towards Low Barmston Farm, and the ridge and furrow probably respected the adjacent lane as an existing boundary.

5.2 Recommendations

5.2.1 The evaluation demonstrated that the ridge and furrow had not disturbed any earlier deposits or features. As a result, no recommendations for further archaeological mitigation work were made.

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Figure 1:
Location Plan

Mandarin Way,
Washington,
Sunderland

MW0408

North

not to scale

Minerva Heritage
www.minervaheritage.com

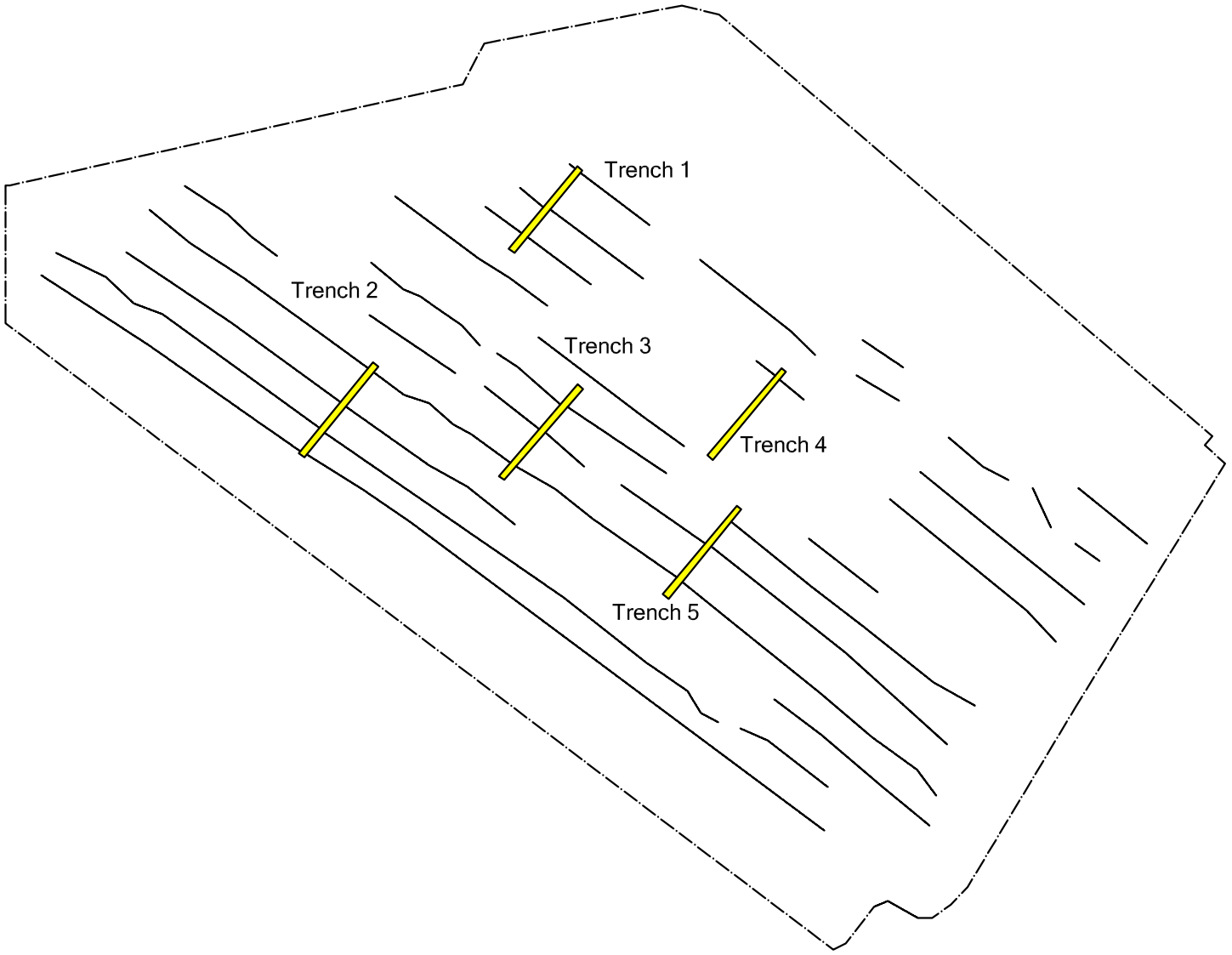

Figure 2:
Trench Location Plan

Mandarin Way,
Washington,
Sunderland

MW0408

0 20 m

North

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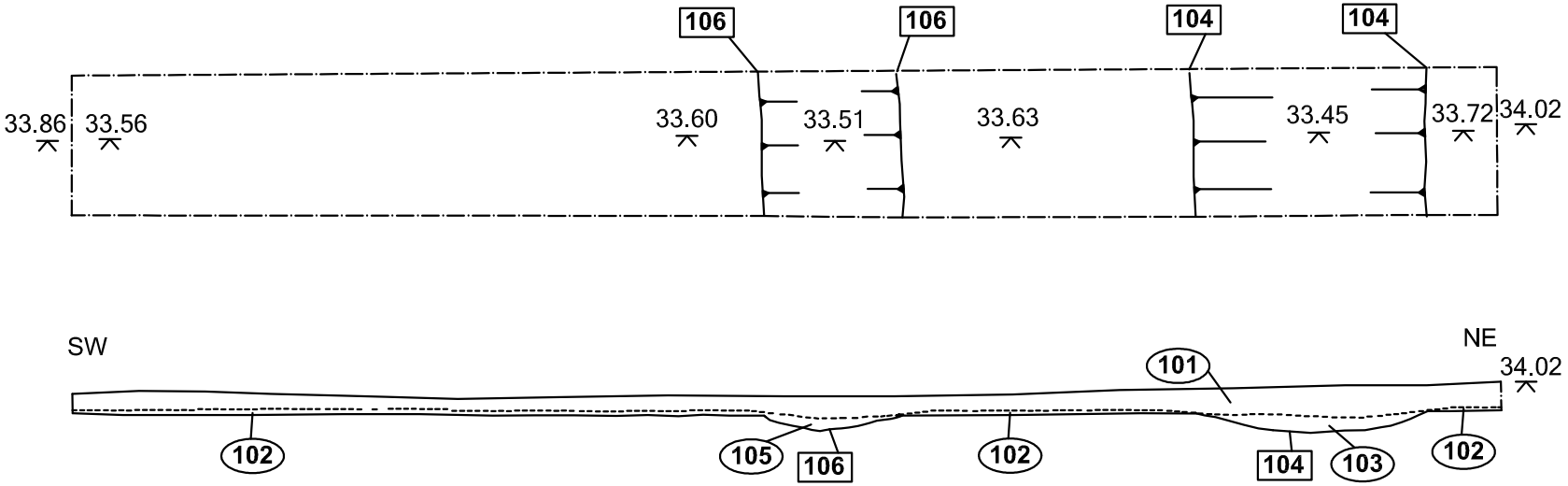
Trench 1



Trench 2

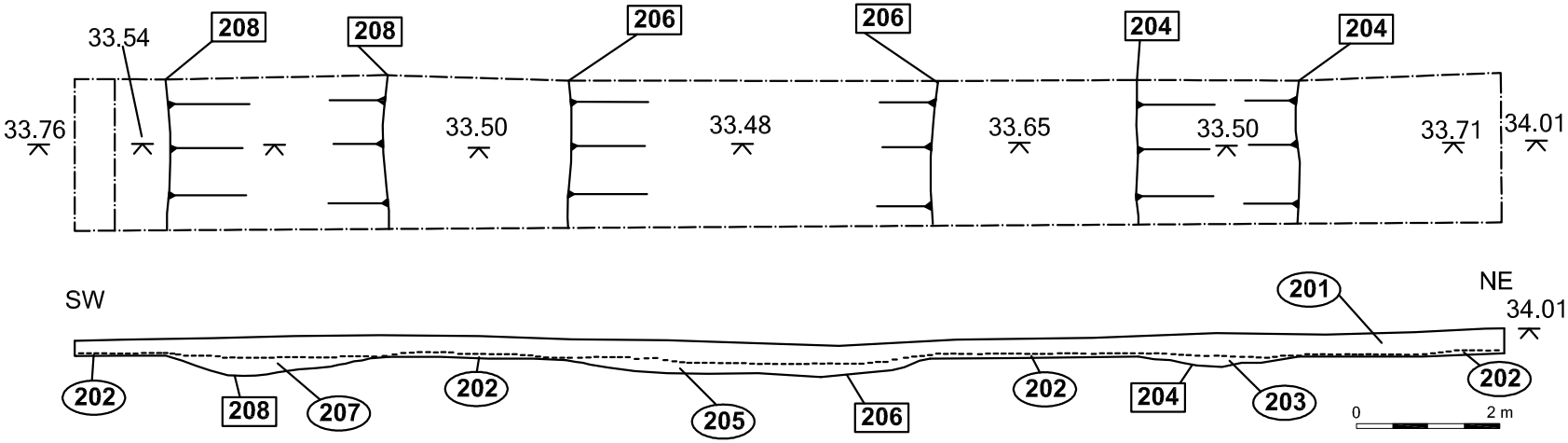
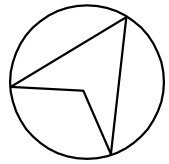


Figure 3: Trenches 1 and 2, Plans and Longitudinal Sections

Mandarin Way, Washington, Sunderland

MW0408



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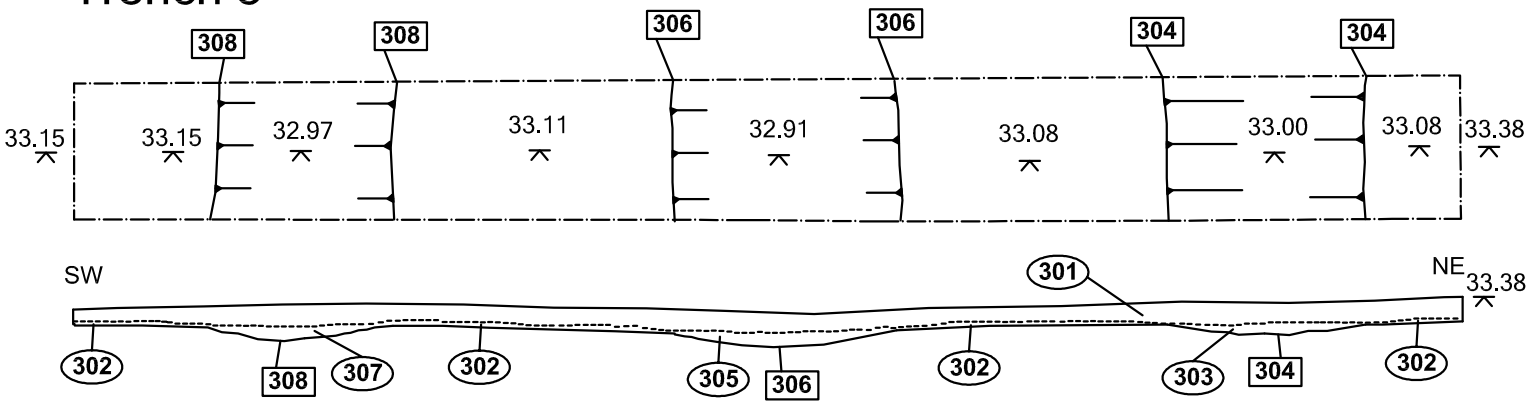
Trench 3



Trench 4

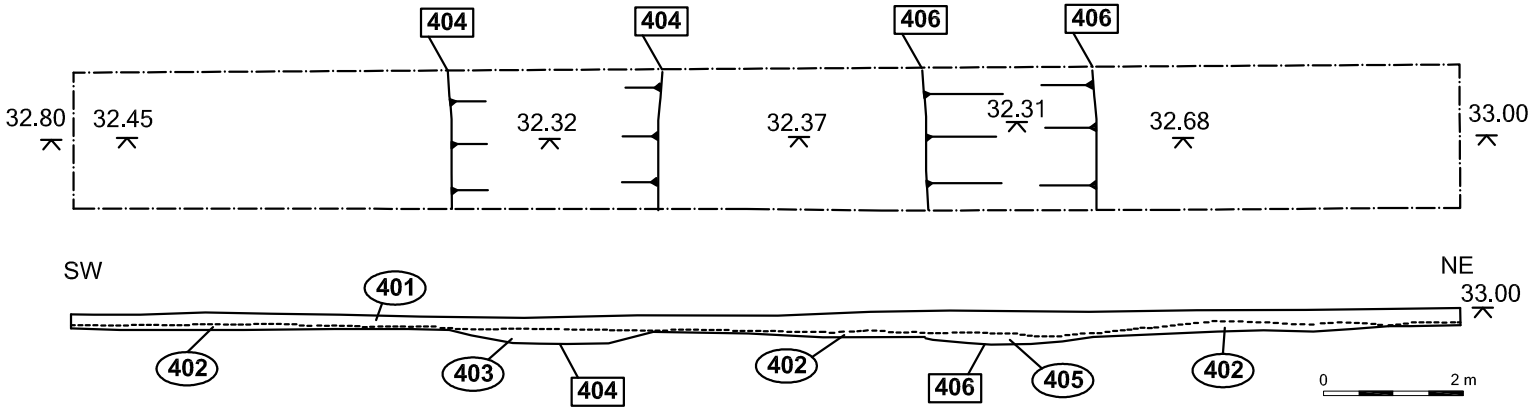


Figure 4: Trenches 3 and 4, Plans and Longitudinal Sections

Mandarin Way, Washington, Sunderland

MW0408

North

Minerva Heritage
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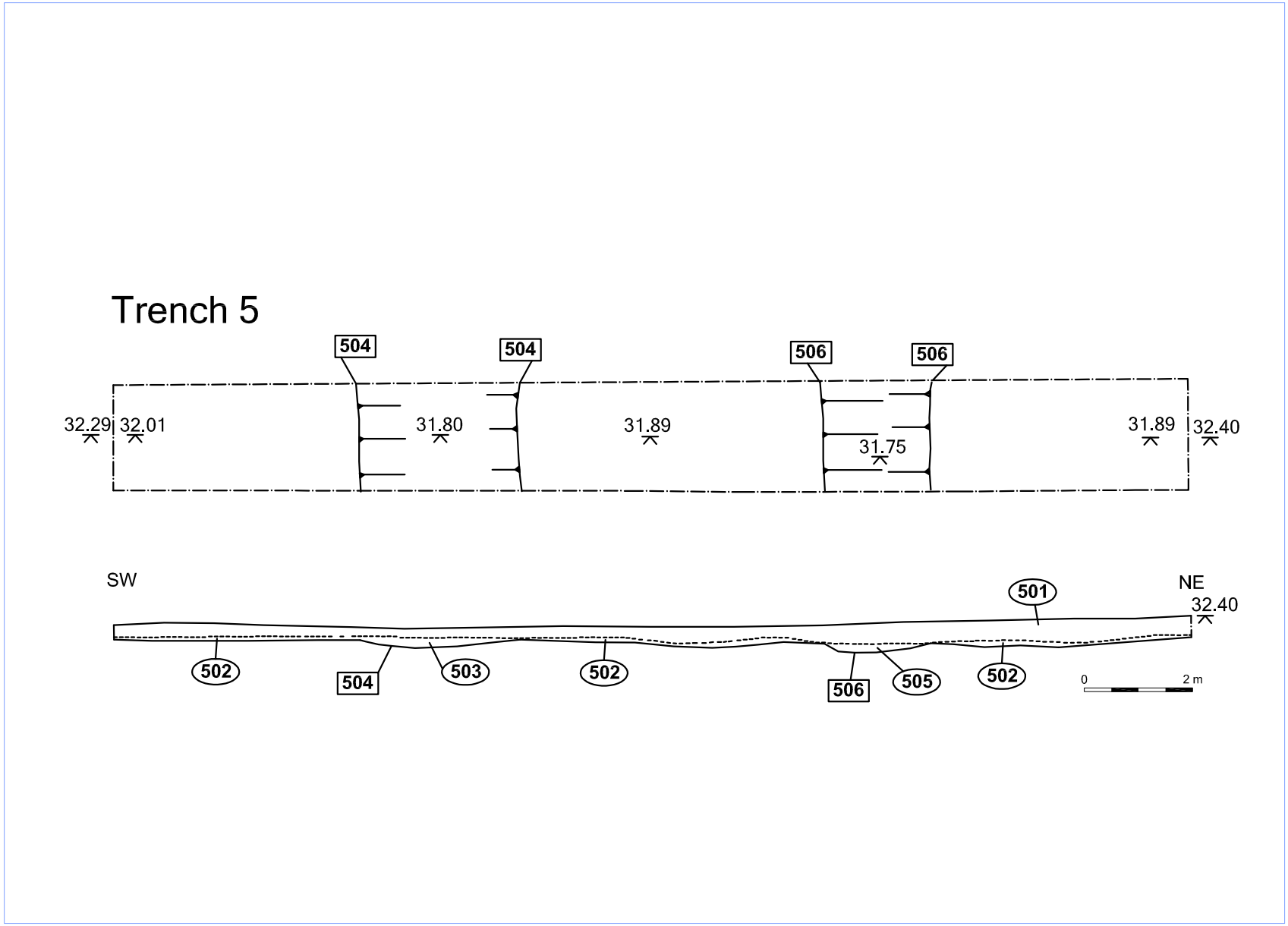

Figure 5: Trench 5, Plan and Longitudinal Section

Mandarin Way, Washington, Sunderland

MW0408

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Plate 1: Trench 1, facing north-east

Plate 2: Trench 2, facing north-east

Plate 3: Trench 3, facing south-west

Plate 4: Trench 4, facing south-west

Plate 5: Trench 5, facing south-west

Plate 6: Section through furrow 306, facing south-east

Plate 7: Section through furrow 406, facing north

Appendix 1: Project Brief

TYNE AND WEAR SPECIALIST CONSERVATION TEAM

SPECIFICATION FOR EVALUATION WORK TO RECORD SUSPECTED ARCHAEOLOGICAL DEPOSITS AT MANDARIN WAY, WASHINGTON, SUNDERLAND

Introduction

Planning permission has been granted for a service centre, yard and car park. There are no known archaeological features within the site, but as a Greenfield area there is a possibility that archaeological features survive. GSB Prospection Ltd has carried out a geophysical survey (March 2008) which identified ridge and furrow. In some places the ridge and furrow response levels are elevated possibly indicating the presence of disturbed deposits pre-dating the cultivation. The appointed contractor must consult this report before starting the evaluation. In accordance with PPG16 and UDP Policies B13 and B14, a programme of archaeological trial trenching is required to ascertain if archaeological deposits underlie the ridge and furrow. The appointed archaeologist must familiarise themselves with the results of previous archaeological work on the site before starting work. All staff on site must understand the project aims and methodologies. All work must be carried out in compliance with the codes of practice of the Institute of Field Archaeologists and must follow the IFA Standard and Guidance for Archaeological Field Evaluations, Excavation or Watching Briefs as appropriate. The North-East Regional Research Framework for the Historic Environment (2006) notes the importance of research as a vital element of development-led archaeological work. It sets out key research priorities for all periods of the past allowing commercial contractors to demonstrate how their fieldwork relates to wider regional and national priorities for the study of archaeology and the historic environment. The aim of NERRF is to ensure that all fieldwork is carried out in a secure research context and that commercial contractors ensure that their investigations ask the right questions. Five evaluation trenches are needed to inform the Planning Authority of the character, nature, date, depth, degree of survival of archaeological deposits on this site. The excavation must be carried out by a suitably qualified and experienced archaeological organisation. The work will record and environmentally sample any archaeological deposits of importance found on the plot. The purpose of this brief is to obtain tenders for this work. The report must be the definitive record for deposition in the Tyne and Wear HER, and it must contain recommendations for any further work needed on this site before development destroys any archaeological remains.

Notification

The County Archaeologist needs to know when archaeological fieldwork is taking place in Tyne and Wear so that he can inform the local planning authority and can visit the site to monitor the work in progress. The Archaeological Contractor must therefore inform the County Archaeologist of the start and end dates of the Evaluation. He must also keep the County Archaeologist informed as to progress on the site. The CA must be informed of the degree of archaeological survival and of any significant finds. The Client will give the County Archaeologist reasonable access to the development to undertake monitoring.

ARCHAEOLOGICAL BRIEF

The work can be split into two sections;

1) evaluation of archaeologically sensitive deposits
2) post-evaluation analysis and report production including recommendations for further work on the site, if appropriate.

1) Archaeological evaluation

The commissioning client will provide a plan of the proposed development.

Five trenches are required, to be spaced out evenly across the development site focusing mostly on the site of the proposed new building. The appointed contractor will send a proposed trench location plan to the

County Archaeology Officer before starting work.
Services should be avoided.
Areas of recent disturbance (infilled geotechnical pits?) should be avoided.
Trenches should be placed at right angles to the direction of ridge and furrow.
The dimensions of each of the trenches are 2m x 20m in plan at base.
Trenches can be widened in order to step the sides to reach depths over 1.2m where necessary.
Trench positions should be accurately surveyed prior to excavation and tied in to the national grid.
The trenches should be excavated to the depth of natural subsoil if this can be reached safely.
Tasks
Hand excavation, recording and environmental sampling (as stipulated below) of deposits down to the depth specified above.
Any modern overburden or levelling material can be machined-off using a wide toothless ditching bucket under strict archaeological supervision and the remaining deposits are to be excavated by hand.
Excavation is to be carried out with a view to avoid damage to any archaeological features which appear to worthy of preservation in-situ.
Excavation is to be carried out by single context planning and recorded on pro forma context sheets.
Features over 0.5 m in diameter can be half sectioned.
The spoil can be kept close-by and rapidly backfilled into the trenches at the conclusion of this work.

Fieldwork - General Conditions

The Archaeological Contractor will provide an outline methodology of excavation and provide details of recording procedures employed.
The Archaeological Contractor must detail measures taken to ensure the safe conduct of excavations, and must consult with the client's structural engineers concerning working in close proximity to the foundations of the surrounding buildings. The Client may wish to see copies of the Archaeological Contractor's Health and Safety Policies.
The Archaeological Contractor must be able to provide written proof that the necessary levels of Insurance Cover are in place.
The Archaeological Contractor must maintain a Site Diary for the benefit of the Client, detailing the nature of work undertaken on a day by day basis, with full details of Site Staff present, duration of time on site, etc. and contact with third parties.
All staff employed by the Archaeological Contractor shall be professional field archaeologists with appropriate skills and experience to undertake work to the highest professional standards.

Recording

A full written, drawn (accurate scale plans, elevations and section drawings) and photographic record (of all contexts in black and white print and colour transparency with clearly visible graduated metric scale) will be made.
Pro-forma context sheets will be used.
All deposits and the base of the trench will be levelled. Levels will be expressed as metres above Ordnance Datum.
Stratigraphy shall be recorded even when no archaeological features have been recognised.
A ‘Harris’ matrix will be compiled where stratified deposits are recorded.

Environmental Sampling and Scientific Dating
This is a compulsory part of the evaluation exercise.
Scientific investigations should be undertaken in a manner consistent with “The Management of Archaeological Projects”, English Heritage 1991 and with “Archaeological Science at PPG16 Interventions: Best Practice for Curators and Commissioning Archaeologists”, English Heritage, 2003.

Aims of environmental sampling – to determine the abundance/concentration of the material within the features and how well the material is preserved, to characterise the resource (the site) and each phase, to determine the significance of the material and its group value, what crop processing activities took place on the site? What does this tell us about the nature of the site? Is there any evidence for changes in the farming

practice through time? How did people use this landscape? Can we place certain activites at certain locations within the site? Function and date of individual features such as pits, hearths etc. Are the charred assemblages the result of ritual deposition or rubbish? Is the charcoal the result of domestic or industrial fuel?

Advice on the sampling strategy for environmental samples and samples for scientific dating etc. must be sought from Jacqui Huntley, English Heritage Regional Advisor for Archaeological Science (0191 3341137 or 07713 400387) before the evaluation begins. The sampling strategy should include a reasoned justification for selection of deposits for sampling.

Deposits should be sampled for retrieval and assessment of the preservation conditions and potential for analysis of biological remains (English Heritage 2002). Flotation samples and samples taken for coarse-mesh sieving from dry deposits should be processed at the time of fieldwork wherever possible. Sieving recovers fish, amphibian, small bird and mammal bone, small parts of adult mammals and young infused bones which may be under-represented otherwise. However it is noted that clay soils in this region make sieving difficult. Discuss the potential for sieving with Regional Advisor for Archaeological Science.

Environmental samples (bulk soil samples of 30 litres volume, to be sub-sampled at a later stage) will be collected by the excavator from suitable (i.e. uncontaminated) deposits. It is suggested that a large number of samples be collected during evaluation from which a selection of the most suitable (uncontaminated) can be processed. All tenders will give a price for the full analysis, report production and publication per sample.

Deposits will be assessed for their potential for radiocarbon, archaeomagnetic (guidance is available in the Centre for Archaeology Guideline on Archaeometallurgy 2001) and Optically Stimulated Luminescence dating. Timbers will be assessed for their potential for dendrochronology dating. Sampling should follow procedures in "Dendrochronology: guidelines on producing and interpreting dendrochronological dates", Hillam, 1998. All tenders will quote the price of these techniques per sample.

The following information should be provided with the environmental samples to be processed – brief account of nature and history of the site, aims and objectives of the project, summary of archaeological results, context types and stratigraphic relationships, phase and dating information, sampling and processing methods, sample locations, preservation conditions, residuality/contamination etc.

Laboratory processing of samples shall only be undertaken if deposits are found to be reasonably well dated, or linked to recognisable features and from contexts the derivation of which can be understood with a degree of confidence.

A range of features, and all phases of activity, need to be sampled for charred plant remains and charcoal. Aceramic features should not be avoided as the plant remains from these features may help to date them. Deep features should be sampled in spits to pick up changes over time. Part, or all of each of the contexts should be processed. In general samples should be processed in their entirety. All flots should be scanned, and some of the residues.

Pollen samples can be taken from features such as lakes, ponds, palaeochannels, estuaries, saltmarshes, mires, alluvium and colluvium, and from waterlogged layers in wells, ditches and latrines etc. Substances such as honey, beer or food residues can be detected in vessels. Activities such as threshing, crop processing and the retting of flax can be identified. When taken on site, pollen samples should overlap. Your regional science advisor can advise on the type of corer or auger which would be most appropriate for your site. Samples need to be wrapped in clingfilm and kept dark and cool. Make a description of the sediments in which the pollen was found, and send this with the sample to be assessed.

Coastal or estuary sites (even those which are now well drained) are suitable for sampling for foraminifera. Diatoms can also be found on marine sites, but also in urban settings (sewers, wells, drains, ditches etc). They only survive in waterlogged conditions. These aquatic microfossils are used as proxy indicators of the former aquatic ecological conditions on site, changes in sea levels and temperature, salinity, PH and pollution. Forams are taken from cores, monolith tins or bulk samples. Diatoms are cut from monolith tins or cores or taken as spot samples.

Insects, which are useful as palaeoenvironmental indicators, survive best in waterlogged deposits such as palaeochannels and wells. They can provide information on climate change and landscape reconstruction as some species are adapted to particular temperatures, habitats or even particular trees. Certain insects can indicate the function of a feature or building (eg. Weevils, which were introduced by the Romans, often indicate granary sites, parasites will indicate the presence of particular animals such as sheep or horse, latrine flies survive in the mineral deposits in latrines, or in the daub of medieval buildings etc). Samples need to be sealed (eg. in a plastic box).

Where there is evidence for industrial activity, macroscopic technological residues should be collected by hand. Separate samples should be collected for micro-slags (hammer-scale and spherical droplets). Guidance is available in the English Heritage "Archaeometallurgy" guidelines, 2001.
Buried soils and sediment sequences should be inspected and recorded on site by a recognised geoarchaeologist. Procedures and techniques in the English Heritage document "Environmental Archaeology", 2002 and "Geoarchaeology", 2004 should be followed.
Sampling strategies for wooden structures should follow the methodologies presented in "Waterlogged wood. Guidelines on the recording, sampling, conservation and curation of waterlogged wood" R. Brunning, 1996. If timbers are likely to be present on your site, contact a wood specialist beforehand. Pre-excavation planning – determine questions to ask, agree on a sampling strategy, allocate reasonable time and budget. Soil samples should be taken of the sediments surrounding the timber. Keep the timbers wet! Record them asap on-site – plan, photograph, record the size and orientation of the wood (radial, tangential,transverse), any toolmarks, joints, presence of bark, insect damage, recent breaks, and if another piece of wood was on top of or below the piece sampled. Both vertical and horizontal positioning of wattling must be recorded. Wood samples can provide information on woodland management such as medieval coppicing, type of taxa (native or foreign), conversion technology (how the wood was turned into planks), building techniques and type of tools used.
Waterlogged organic materials should be dealt with following recommendations in "Guidelines for the care of waterlogged archaeological leather", English Heritage and Archaeological Leather Group 1995.

Animal Bone

Animal bone can explore themes such as hunting and fowling, fishing, plant use and trade, seasonality, diet, age structures, farrowing areas, species ratios, local environment.
Animal bone assemblages should be assessed by a recognised specialist.

The specialist will need to know a brief account of the nature and history of the site, an account of the purpose, methods (details of sampling) for recovery of animal bones, and the main aims and results of the excavation, details of any specific questions that the excavator wants the animal bone specialist to consider, information about other relevant finds from the excavation (e.g. bone tools, fishing equipment, weaving equipment), specific information about each context that has produced significant quantities of animal bone (recovery method, phase, context type, position in relation to major structures, contamination by more recent material, some indication of the amount of bone (by weight or by container size). See "Ancient Monuments Laboratory Advisory Note, "Assessment of animal bone collections from excavations", Sebastian Payne, 1991and "The Assessment of a collection of animal bones", S. Davis, n.d., Ancient Monuments Laboratory.

Human Remains

Human remains must be treated with care, dignity and respect.
Excavators must comply with the relevant legislation (essentially the Burial Act 1857) and local environmental health concerns. If found, human remains must be left in-situ, covered and protected. The archaeological contractor will be responsible for informing the police, coroner and County Archaeologist. If it is agreed that removal of the remains is essential, the archaeological contractor will apply for a licence from the Home Office and their regulations must be complied with.
Site inspection by a recognised osteologist is desirable for isolated burials and essential for cemeteries. The remains will be recorded in-situ and subsequently lifted, washed in water (without additives). They will be marked and packed to standards compatible with "Excavation and post-excavation treatment of cremated and inhumed human remains", McKinley and Roberts, 1993. After excavation, the remains will be subject to specialist assessment.
Analysis of the osteological material should take place according to published guidelines "Human Remains from Archaeological Sites, Guidelines for producing assessment documents and analytical reports, English Heritage, 2002.
Some of the potential benefits from the study of human skeletons – demography, growth profiles, patterns of disease, genetic relationships, activity patterns, diet, burial practices, human evolution. New scientific techniques available include DNA and stable isotope analyses.

The final placing of the remains after scientific study and analysis will be agreed beforehand.
Further guidance is available in:
"Guidance for best practice for treatment of human remains excavated from
Christian burial grounds in England", The Church of England and English Heritage, 2005 (www.english-heritage.org.uk/upload/pdf/16602_HumanRemains1.pdf)
"Church Archaeology: its care and management", Council for the Care of Churches, 1999
The Advisory Panel on the Archaeology of Christian burials in England can provide free well-informed advice with consideration of relevant religious, ethical, legal, archaeological and scientific issues. Panel's website:
http://www.britarch.ac.uk/churches/humanremains/index.html
or email the secretary simon.mays@english-heritage.org.uk

Treasure

Defined as:
- Any metallic object, other than a coin, provided that at least 10% by weight of metal is precious metal and that is at least 300 years old when found
- Any group of two or more metallic objects of any composition of prehistoric date that come from the same find
- All coins from the same find provided that they are at least 300 years old when found, but if the coins contain less than 10% gold or silver there must be at least ten
- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is Treasure
- Any object that would previously have been treasure trove, but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category

If anything is found which could be Treasure, under the Treasure Act 1996, it is a legal requirement to report it to the local coroner within 14 days of discovery. The Archaeological Contractor must comply with the procedures set out in The Treasure Act 1996. Any treasure must be reported to the coroner and to The Portable Antiquities Scheme Finds Liaison Officer, Rob Collins (0191 2225076 or Robert.Collins@newcastle.ac.uk) who can provide guidance on the Treasure Act procedures.

2) Post-excavation and report production

Finds Processing and Storage
Finds shall be recorded and processed in accordance with the IFA Guidelines for Finds Work
Finds will be assessed by an experienced finds specialist.
The Archaeological Contractor will process and catalogue the finds in accordance with Museum and Galleries Commissions Guidelines (1992) and the UKIC Conservation Guidelines, and arrange for the long term disposal of the objects on behalf of the Client. A catalogue of finds and a record of discard policies, will be lodged with the finds for ease of curation.
Assessment should include x-radiography of all iron objects (after initial screening to excluse recent debris) and a selection of non-ferrous artefacts (including all coins). Refer to "Guidelines on the x-radiography of archaeological metalwork, English Heritage, 2006.
If necessary, pottery sherds and bricks should be recommended for Thermo-luminescence dating.
Finds processing, storage and conservation methods must be broadly in line with current practice, as exemplified by the IFA "Standard and guidance for the collection, documentation, conservation and research of archaeological materials", 2001. Finds should be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication "First Aid for Finds" (Watkinson and Neal 1998). Proposals for ultimate storage of finds should follow the UKIC publication "Guidelines for the Preparation of Excavation Archives for Long-term Storage" (Walker 1990). Details of methodologies may be requested from the Archaeological Contractor.
Other useful guidance – "A Strategy for the Care and Investigation of Finds", English Heritage, 2003, "Finds and Conservation Training Package", English Heritage, 2003.

All objects must be stored in appropriate materials and conditions to ensure minimal deterioration. Advice can be sought from Jacqui Huntley of English Heritage (0191 3341137 or 07713 400387) where necessary.

The report

1. The Archaeological Contractor must produce an interim report of 200 words minimum, two weeks after the completion of the field-work, for the Client and the Planning Authority, with a copy for information to the County Archaeologist. This will contain the recommendations for any further work needed on site.

2. The production of Site Archives and Finds Analysis will be undertaken according to English Heritage Guidelines (Managing Archaeological Projects 2nd Edition).

3. A full report with the following features should be produced within six months of the completion of the field-work. All drawn work should be to publication standard. The report must include:

* Location plans of trenches and grid reference of site
* Site narrative – interpretative, structural and stratigraphic history of the site
* Plans showing major features and deposit spreads, by phase, and section locations
* Sections of the two main trench axes and through excavated features with levels
* Elevation drawings of any walls etc. revealed during the excavation
* Artefact reports – full text, descriptions and illustrations of finds
* Tables and matrices summarising feature and artefact sequences.
* Archive descriptions of contexts, grouped by phase (not for publication)
* Deposit sequence summary (for publication/deposition)
* Colour photographs of trenches and of archaeological features and finds
* Laboratory reports and summaries of dating and environmental data, with collection methodology.
* A consideration of the results of the field-work within the wider research context (ref. NERRF).
* Recommendations for further work on site, or further analysis of finds or environmental samples
* Copy of this specification

4. Three bound and collated copies of the report need to be submitted:
• one for the commissioning client
• one for the planning authority (Jamie Reed, Senior Planner, Sunderland City Council, Development and Regeneration Services, PO Box 102, Civic Centre, Sunderland SR2 7DN)
• one for deposition in the County HER at the address below. A digital copy of the report on CD is also required by the HER in a plastic case. Please do not attach this to the report.
The report and CD for the HER must be sent by the archaeological consultant or their client directly to the address below. If the report is sent via the planning department, every page of the report will be stamped with the planning application number which ruins the illustrations. The HER is also often sent a photocopy instead of a bound colour original which is unacceptable.

5. If significant archaeological features are found during the evaluation, the results may also warrant publication in a suitable archaeological journal. The tender should therefore include an estimated figure for the production of a short report of, for example 20 pages, in a journal such as Archaeologia Aeliana, the Arbeia Journal, Industrial Archaeology Review or Durham Archaeological Journal. This is merely to give the commissioning client an indication of potential costs.
Before preparing a paper for publication, the archaeological contractor must discuss the scope, length and suitable journal with the County Archaeologist.

Site Archive

The archive should be a record of every aspect of an archaeological project – the aims and methods, information and objects collected, results of analysis, research, interpretation and publication. It must be as complete as possible, including all relevant documents, records, data and objects {Brown, 2007, 1}.

The site archive (records and materials recovered) should be prepared in accordance with Managing Archaeological Projects, Second Edition, 5.4 and appendix 3 (HBMC 1991), "Archaeological documentary archives" IFA Paper No. 1, "Archaeological Archives – creation, preparation, transfer and curation" Archaeological Archives Forum etc., Guidelines for the Preparation of Excavation Archives for Long Term Storage (UKIC 1990) and "Archaeological Archives – A guide to best practice in creation, compilation, transfer and curation" by Duncan H. Brown, Archaeological Archives Forum, July 2007.

Documentary Archive

The documentary archive comprises all records made during the archaeological project, including those in hard copy and digital form.
This should include written records, indexing, ordering, quantification and checking for consistency of all original context sheets, object records, bulk find records, sample records, skeleton records, photographic records (including negatives, prints, transparencies and x-radiographs), drawing records, drawings, level books, site note-books, spot-dating records and conservation records, publication drafts, published work, publication drawings and photographs etc.
A summary account of the context record, prepared by the supervising archaeologist, should be included.
All paper-based material must at all times be stored in conditions that minimise the risk of damage, deterioration, loss or theft.
Do not fold documents
Do not use self-adhesive labels or adhesive or tape of any kind
High quality paper (low-acid) and permanent writing materials must be used.
Original drawings on film must be made with a hard pencil, at least 4H.
Do not ink over original pencil drawings.
Use polyester based film for drawings (lasts longer than plastic).
Store documents in acid-free, dust-proof cardboard boxes
Store documents flat
All documents must be marked with the project identifier (e.g. site code) and/or the museum accession number.
All types of record must use a consistent terminology and format.
Use non-metal fastenings, and packaging and binding materials that ensure the longevity of documents.
Copies of reports and appropriate drafts, with associated illustrative material, must be submitted for inclusion with the archive.

Material Archive

The material archive comprises all objects (artefacts, building materials or environmental remains) and associated samples of contextual materials or objects.
All artefacts and ecofacts retained from the site must be packed in appropriate materials.
All finds must be cleaned as appropriate to ensure their long-term survival
All metal objects retained with the archive must be recorded by x-radiograph (except gold or lead alloys or lead alloys with a high lead content and objects too thick to be x-rayed effectively e.t.c.)
All finds must be marked or labelled with the project and context identifiers and where relevant the small-finds number
Use tie-on rot-proof labels where necessary
Bulk finds of the same material type, from the same context, may be packed together in stable paper or polythene bags
Mark all bags on the outside with site and context identifiers and the material type and include a polyethylene label marked with the same information
Use permanent ink on bags and labels
Sensitive finds must be supported, where appropriate, on inert plastic foam or acid-free tissue paper. It is not advisable to wrap objects in tissue as the unwrapping could cause damage.
The archive will be placed in a suitable form in the appropriate museum (typically Museum of Antiquities for Newcastle and Tyne and Wear Museums for the rest of Tyne and Wear (check with these institutions) with the landowner's permission.

A letter will be sent to the County Archaeology Officer within six months of the report having been submitted, confirming where the archive has been deposited.

OASIS

The Tyne and Wear County Archaeologist supports the Online Access to the Index of Archaeological Investigations (OASIS) project. This project aims to provide an online index/access to the large and growing body of archaeological grey literature, created as a result of developer-funded fieldwork.
The archaeological contractor is therefore required to register with OASIS and to complete the online OASIS form for their evaluation at http://ads.ahds.ac.uk/project/oasis/. Please ensure that tenders for this work takes into account the time needed to complete the form.
Once the OASIS record has been completed and signed off by the HER and NMR the information will be incorporated into the English Heritage Excavation Index, hosted online by the Archaeology Data Service. The ultimate aim of OASIS is for an online virtual library of grey literature to be built up, linked to the index. The unit therefore has the option of uploading their grey literature report as part of their OASIS record, as a Microsoft Word document, rich text format, pdf or html format. The grey literature report will only be mounted by the ADS if both the unit and the HER give their agreement. The grey literature report will be made available through a library catalogue facility.
Please ensure that you and your client understand this procedure. If you choose to upload your grey literature report please ensure that your client agrees to this in writing to the HER at the address below.
For general enquiries about the OASIS project aims and the use of the form please contact: Mark Barratt at the National Monuments Record (tel. 01793 414600 or oasis@english-heritage.org.uk). For enquiries of a technical nature please contact: Catherine Hardman at the Archaeology Data Service (tel. 01904 433954 or oasis@ads.ahds.ac.uk). Or contact the Tyne and Wear Archaeology Officer at the address below.

The tender
Tenders for the work should contain the following:-
1. Brief details of the staff employed and their relevant experience
2. Details of any sub-contractors employed
3. A quotation of cost, broken down into the following categories:-
    * Costs for the excavation, incl. sub-headings of staff costs on a person-day basis, transport, materials, and plant etc.
    * Post-excavation costs, incl. storage materials
    * Cost of Environmental analysis and scientific dating per sample
    * Estimated cost for full publication of results in an archaeological journal
    * Overheads
4. An indication of the required notification period (from agreement to start date) for the field-work; the duration of fieldwork and the expected date for completion of the post-excavation work (a maximum of 6 months after completion of the fieldwork)

Monitoring
The Archaeological Contractor will inform the County Archaeologist of the start and end dates of the excavation to enable the CA to monitor the work in progress.
Should important archaeological deposits be encountered, the County Archaeologist must be informed. If further archaeological evaluation is required on this site, then the archaeological contractor must submit a written scheme of investigation for approval by the CA before extending the size of the trenches.

Jennifer Morrison
Tyne and Wear Archaeology Officer
West Chapel
Jesmond Old Cemetery
Jesmond Road
Newcastle upon Tyne
NE2 1NL
Tel (0191) 2816117
jennifer.morrison@newcastle.gov.uk
Ref: MON6129
April 2008
Planning Application: 08/00129/FUL

Appendix 2: Interim Statement

Land at Mandarin Way, Washington, Sunderland: Archaeological Evaluation Interim Report

Minerva Heritage Ltd was invited by CgMs Consulting in April 2008 to undertake an Archaeological Evaluation on a parcel of land at Mandarin Way, Washington, Sunderland. The purpose of the evaluation programme was to establish whether archaeological deposits underlay the ridge-and-furrow cultivation identified during a geophysical survey undertaken by GSB Prospection in March 2008. The project comprised the excavation of five 20 metre long trenches aligned north-east/south-west, perpendicular to the ridge-and-furrow alignment. Each trench measured 2 metres in width and a total area of 200m^2 was excavated. The project was carried out between 7 and 8 April 2008, and this interim statement was produced in advance of a full report.

Topsoil was removed from each of the five trenches by mechanical excavator, under strict supervision by a qualified and experienced archaeologist. Topsoil deposits measuring up to 0.35m deep directly overlay weathered geological subsoil across the majority of the excavated areas. The ridge-and-furrow cultivation identified by geophysical survey was evident in all of the five trenches. These features comprised broad and shallow cuts into the natural geology situated between 2.50 and 5.70 metres apart. The cuts measured between 1.80 and 5.10 metres wide, and up to 0.20 metres deep from the top breaks of slope. Two fragments of ceramic material, provisionally dating from the early post-medieval period, were recovered from two separate furrow deposits. A small quantity of later ceramic material and a small fragment of clay tobacco pipe stem were recovered from topsoil deposits and spoilheap material.

No archaeological features or deposits other than ridge-and-furrow features were encountered within the five evaluation trenches. On this basis no further works are recommended.

Interim Report produced for and on behalf of CgMs Consulting by Minerva Heritage 10 April 2008

Appendix 3: Summary Context List

Context number	Description	Maximum thickness	Context type
Trench 1			
101	Dark brown silty sandy clay loam	0.35m	Topsoil
102	Clayey sandy silt	0.10m	Disturbed Natural
103	Soft medium brown silty sandy clay, with occasional stone inclusions	0.20m	Fill of furrow **104**
104	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
105	Soft medium brown silty sandy clay, with occasional stone inclusions	0.20m	Fill of furrow **106**
106	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
107	Firm reddish-brown clay	33.56-33.72 aOD	Natural subsoil
Trench 2			
201	Dark brown silty sandy clay loam	0.35m	Topsoil
202	Clayey sandy silt	0.20m	Disturbed Natural
203	Soft medium orangey-brown silty sandy clay, with occasion stone inclusions	0.20m	Fill of furrow **204**
204	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
205	Soft medium orangey-brown silty sandy clay, with occasion stone inclusions	0.15m	Fill of furrow **206**
206	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
207	Soft medium orangey-brown silty sandy clay, with occasion stone inclusions	0.25m	Fill of furrow **208**
208	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
209	Firm reddish-brown clay	33.54-33.71 aOD	Natural subsoil

Trench 3			
301	Dark brown silty sandy clay loam	0.35m	Topsoil
302	Clayey sandy silt	0.20m	Disturbed Natural
303	Soft, medium brown sandy clay, with occasion stone inclusions	0.30m	Fill of furrow **304**
304	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
305	Soft medium brown sandy clay, with occasion stone inclusions	0.25m	Fill of furrow **306**
306	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
307	Soft medium orangey-brown silty sandy clay, with occasion stone inclusions	0.20m	Fill of furrow **308**
308	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
309	Firm reddish-brown clay	33.08-33.15 aOD	Natural subsoil

Trench 4			
401	Dark brown silty sandy clay loam	0.35m	Topsoil
402	Clayey sandy silt	0.20m	Disturbed Natural
403	Soft, medium brown sandy clay, with occasion stone inclusions	0.30m	Fill of furrow **404**
404	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
405	Soft medium brown sandy clay, with occasion stone inclusions	0.25m	Fill of furrow **406**
406	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
407	Firm reddish-brown clay	32.37-32.68 aOD	Natural subsoil

Trench 5			
501	Dark brown silty sandy clay loam	0.35m	Topsoil
502	Clayey sandy silt	0.20m	Disturbed Natural
503	Soft, medium orangey-brown sandy clay, with occasion stone inclusions	0.10m	Fill of furrow **504**
504	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
505	Soft, light orangey-brown sandy clay, with occasion stone inclusions	0.20m	Fill of furrow **506**
506	Shallow, "U-shaped" linear cut with diffuse sides and concave base		Furrow
507	Firm reddish-brown clay	31.89-32.01 aOD	Natural subsoil

Appendix 4: Summary Finds Catalogue

The following report considers a small assemblage of pottery recovered by Minerva Heritage Ltd in April 2008 (MW0408). The finds examination was undertaken by Dot Bruns, Finds Liaison Officer (Lancs./Cumbria), Museum of Lancashire, Preston, PR1 4YP, 01772 532175, dot.bruns@mus.lancscc.gov.uk

The eight objects have been given consecutive catalogue numbers: Trench 1, (101) = 1; Trench 1 (102) = 2; etc.

No laboratory analysis was carried out on the pottery and thus, any observation of its fabric will only be tentative.

1. Vessel fragment (potsherd); TR1 (101)

Small fragment of glazed white earthenware, probably creamware or pearlware. Lower part of handle of teapot or jug. Handle was of asymmetrical floral form and not integral but attached separately before firing.
Late Post Medieval (18th century).

LE: 35.71mm; WI: 23.26mm; Thickness: 3.39mm; WE: 8.33g

2. Fragment of drainage pipe; TR1 (102)

Creamy-yellow fabric, only some of the glaze/coating remains. Gritty fabric.
Late Modern (20th century).

LE: 37.07mm; WI: 29.51; Thickness: 6.95mm; WE: 8.04g

3. Vessel fragment (potsherd); TR1 (103)

Small fragment of glazed(?) vessel, possibly grit and shell (?) tempered. Obverse is orange, inside grey in colour. Although no glaze remains, the vessel may have been glazed as small specks of glaze in the upper part indicate.
Late Medieval(?)/Post-Medieval (?16th-17th/18th century).

LE: 29.52mm; 20.96mm; Thickness: 5.72mm; WE: 6.22g

4. Vessel fragment (potsherd); TR2 (207)

Large fragment of salt-glazed stoneware. Part of body and lower part of handle with finger-tip impressions. Handle was integral to pot, not made separately. Fragment comes off a large bottle or jar.
Late Post-Medieval (late 17th century; c. ?1690s).

LE: 83.17mm; WI: 39.75mm; Thickness: 9.16mm; WE: 44.49g

5. Vessel fragment (potsherd); TR3 (spoil-heap recovery)

Rim sherd, unglazed red earthenware. Probably off flower or storage vessel.
Early Modern (19th century)

LE: 39.93mm; WI: 37.14mm; Thickness: 5.76mm, WE: 8.23g

6. Vessel fragments (potsherd); TR5 (501)

Body sherd, unglazed red earthenware. Possibly off drinking vessel or bottle.
Early Modern (19th century)

LE: 41.27mm; WI: 22.22mm; Thickness: 5.38mm; WE: 8.22g

7. Vessel fragment (potsherd); TR5 (501)

Body sherd, unglazed white earthenware. Very sandy fabric; grit/sand tempered. Inside of grey, outside of creamy colour. Curvature difficult to ascertain, but present. Fragment may have come from larger storage vessel, flask or bowl. Larger inclusions, type of fabric and basic make may suggest an earlier date.
Late Medieval (?15th/16thcentury).

LE: 50.16mm; WI: 35.5mm; Thickness: 6.3mm; WE: 10.91g

8. Clay pipe fragment; TR5 (501)

Stem fragment of clay pipe, slightly bent. Perforation perfectly central. No distinguishing marks present.
Early Modern (19th century)

LE: 37.47mm; Diameter: 7.46mm; WE: 4.48g

Abbreviations:

LE: Length WI: Width HE: Height WE: Weight