

Bannister Hall Watercourse, Higher Walton, Preston, Lancashire

Archaeological Watching Brief



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SUMMARY

The Environment Agency requested Oxford Archaeology North (OA North) maintain an archaeological watching brief during excavation of trial pits (TP 1-7) during site investigation (SI) works in advance of the construction of a new open channel, parallel to an existing culvert. The site is located to the east of a housing estate at Bannister Hall and to the north of the River Darwen, Higher Walton, Lancashire (NGR centred SD 5794 2769). Apart from a possible late medieval field boundary to the west of the site, information provided by the Specialist Advisor (Archaeology) at the Lancashire County Archaeology Service (LCAS) would suggest that there is no archaeological potential within the site. However, a mill race is shown on the Ordnance Survey First Edition (1849), which led from the Bannister Hall Printworks ponds to the east, and then crossed the River Darwen via an aqueduct to the south of the site (NGR SD 57933 27573). The course of the mill race, seen on nineteenth and early twentieth century mapping, appeared to have been constructed to possibly deviate around a former obstruction that was no longer in existence, rather than take a direct route to the river. Should such an obstruction have existed, this would have been within the site of the SI works. Therefore, it was believed that there may be sub-surface remains of archaeological potential. The watching brief was carried out on 7th November 2008, from which a short summary of the results has been produced to accompany the results of the SI works.

All of the trial pits were machine excavated, apart from TP7 which was manually excavated through initial deposits preceding a borehole, which inhibited a detailed archaeological examination and subsequent recording. The topsoil varied in thickness between each excavated pit from 0.1m-0.8m, and the natural geology appeared to be alluvial gravels and sands. No features or deposits of archaeological significance were encountered and there were no finds retrieved.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Robert Fox of the Environment Agency for commissioning the project and to Peter Iles of the Lancashire County Archaeology Service.

Mark Oldham undertook the watching brief. Marie Rowland produced the drawings. The project was managed by Emily Mercer, who also wrote the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 The Environment Agency commissioned Oxford Archaeology North (OA North) to undertake an archaeological watching brief of the excavation of trial pits during site investigation (SI) works in advance of the proposed construction of a new open channel, running parallel to an existing culvert. The site is located to the east of a housing estate at Bannister Hall and to the north of the River Darwen, Higher Walton, Lancashire (NGR centred SD 5794 2769; Fig 1). The watching brief was maintained during excavation to enable any archaeological remains disturbed by the groundworks to be recorded in mitigation of the exploratory works.
- 1.1.2 Advice from the Specialist Advisor (Archaeology) at the Lancashire County Archaeology Service (LCAS) suggested that there was no known archaeological potential within the site, although the field boundary to the west of the proposed works may be of later medieval date. However, a mill race is shown on the Ordnance Survey First Edition (1849), which led from the Bannister Hall Printworks ponds, upstream of the River Darwen to the east, then across the river via an aqueduct to the south of the site (NGR SD 57933 27573; Fig 2). A small portion of the mill race is still extant, forming a drain parallel with the north bank of the River Darwen, upstream of the former crossing point. The course of the mill race from the 1849 OS map appeared to run around an apparent former obstruction no longer in existence, rather than taking a more direct route to the river. The possible obstruction causing a deviation in the mill race would have been situated in the area of the SI works. Therefore, it was believed that there may be sub-surface remains in existence of archaeological potential.
- 1.1.3 The following report provides a short summary of the results of the watching brief carried out on 7th November 2008, which will accompany the all encompassing results of the SI works.

1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

1.2.1 The site is located to the east of a housing estate at Bannister Hall, to the north of the River Darwen, north-east of junction 30 of the M6 motorway at Higher Walton, near Preston, Lancashire (NGR centred SD 5794 2769; Fig 1, Plate 1). At the time of the SI works the site was laid down to flat pasture land. The underlying geology is Permian and Triassic undifferentiated sandstone (IGS 1979).

2. METHODOLOGY

2.1 **PROJECT DESIGN**

2.1.1 In response to a request from the client, OA North issued a project design (*Appendix 1*), the methodology of which was adhered to in full. The work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

2.2 WATCHING BRIEF

- 2.2.1 A programme of field observation recorded accurately the location, extent and character of any surviving archaeological features and/or deposits exposed during the course of the excavation. The work comprised the systematic examination of any subsoil horizons exposed during the course of the groundworks, and the accurate recording of all archaeological features and horizons, and any artefacts, identified during observation.
- 2.2.2 Seven trial pits were excavated (TP 1-7) on the site (Fig 3) under constant archaeological supervision and comprised the excavation of topsoil and natural geology to a maximum depth of between 2.4m to 4.8m. All exposed soil horizons were examined and described, and spoilheaps were carefully checked for any unstratified finds.
- 2.2.3 A record of the nature, extent and depths of groundworks was maintained throughout the duration of the project. All archaeological contexts were recorded on OA North's *pro-forma* sheets, using a system based on that of the English Heritage Centre for Archaeology. A monochrome and digital photographic record was maintained throughout.

2.3 ARCHIVE

2.3.1 A full and professional archive has been compiled in accordance with the project design and current English Heritage guidelines (1991). The original record archive will be deposited in the County Record Office (CRO) in Preston, and a copy of the report will be sent to the Historic Environment Records (HER) also in Preston, on completion of the project.

3. RESULTS

3.1 INTRODUCTION

3.1.1 An archaeological watching brief was maintained during the excavation of trial pits 1-7 (Fig 3). The location of TP1 was moved 2m to the south of its original position due to the discovery of a water pipe. All of the trial pits were machine excavated, apart from TP7 which was manually excavated through initial deposits preceding a borehole preventing detailed examination and recording (Plate 4). The topsoil varied in thickness between each excavated pit from 0.1m-0.8m, and the natural geology appeared to be alluvial gravels and sands. No features or remains of archaeological significance were encountered and no finds were retrieved (Plates 2 and 3).

3.2 **RESULTS**

3.2.1 The table below, Table 1, shows the differing thickness of topsoil encountered during the trial pit excavation. The table also includes details of the character of the natural geology.

TP no.	Dimensions (m)	Max. depth (m)	Description
1	3.8 x 0.9	4.0	Topsoil, <i>101</i> , 0.1m thick; Sandy, gravelly subsoil with some boulder inclusions, <i>102</i> , 2.8m thick; Stiff, sandy brown clay, <i>103</i> , >3.1m.
2	4.8 x 0.7	4.0	Topsoil, <i>201</i> , 0.8m thick; Soft, grey clay, <i>202</i> , 1.6m thick; Stiff grey clay, <i>203</i> , >1.6m.
3	4.85 x 1.2	2.4	Topsoil, <i>301</i> , 0.8m thick; Orangey-brown, soft, slightly gravelly-sand, <i>302</i> , 1.2m thick; Gravel with some sand, <i>303</i> , >0.4m.
4	3.7 x 1.9	2.4	Topsoil, <i>401</i> , 0.3m thick; Mid brown, sandy-clay, <i>402</i> , 1.7m thick; Gravel with some sand, <i>103</i> , >1.4m.
5	3.6 x 1.0-1.3	2.6	Topsoil, <i>501</i> , 0.3m thick; Mid brown compacted sand, <i>502</i> , 1.8m thick; Gravel with some brown sand, <i>503</i> , >0.5m.
6	4.6 x 1.4	3.4	Topsoil, <i>601</i> , 0.3m thick; Mid brown sand, <i>602</i> , 1.4m thick; Soft grey clay, <i>603</i> , 1.2m thick; Gravel with sand, <i>604</i> , >0.5m.
7	0.4 x 0.4	4.8	Topsoil, 701 ; Mid brown sand, 702 ; Clay, 703 .

Table 1: Summary of results

3.3 CONCLUSIONS

3.3.1 The watching brief recorded no archaeological features, structures or deposits during the course of monitoring the site investigation works. Consequently, there will be no adverse impact on sub-surface remains during any further works associated with the watercourse improvement, along the proposed route.

English Heritage, 1991 The Management of Archaeological Projects, second edition, London

IGS (Institute of Geological Sciences), 1979 Geological Map of the UK; Solid, 3rd ed

Ordnance Survey, First Edition, 6" map 1849

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Figure 2: Extract from the First Edition Ordnance Survey map of 1849



Figure 3: Plan showing the location of trial pits subject to watching brief

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Plate 1: View of site, facing south-west



Plate 2: North-facing view of Trench 2



Plate 3: North-facing view of the excavation of Trench 6



Plate 4: South-west-facing view of the excavation of Trench 7

APPENDIX 1: PROJECT DESIGN

1. INTRODUCTION

1.3 **PROJECT BACKGROUND**

- 1.3.1 The Environment Agency (hereafter the 'client') has requested that Oxford Archaeology North (OA North) submit proposals to undertake an archaeological watching brief of the excavation of trial pits for the purpose of site investigation (SI) works in advance of proposals to build a new open channel parallel to an existing culvert. The site is located to the east of a housing estate at Bannister Hall, to the north of the River Darwen, Higher Walton, Lancashire (NGR centred SD 5794 2769).
- 1.3.2 The watching brief will be maintained during excavation to enable any archaeological remains disturbed during the groundworks to be recorded in mitigation of the exploratory works.

1.4 **OXFORD ARCHAEOLOGY NORTH**

- 1.4.1 OA North has considerable experience of fieldwork and post-excavation, having undertaken a great number of small and large-scale projects during the past 30 years. In particular, OA North has carried out watching briefs and excavations on similar flood alleviation schemes for the Environment Agency across the country, some recent examples include Burton-upon-Trent FAS and Abbey Inn excavation, Staffordshire; Lochinvar FAS, Longtown, Cumbria; Durranhill Hill FAS, Carlisle, Cumbria. Such projects have taken place to fulfil the requirements of the clients to rigorous timetables.
- 1.4.2 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is an Institute of Field Archaeologists (IFA) registered organisation, registration number 17, and all its members of staff operate subject to the IFA Code of Conduct.

2. OBJECTIVES

- 2.1 The following programme has been designed to identify any archaeological deposits or features that may be present during the excavation of the trial pits for the SI works. It will be undertaken in order to mitigate the impact by means of preservation by record of any such archaeological features or deposits. The work will be carried out in line with current IFA guidelines and in line with the IFA Code of Conduct.
- 2.2 **Archaeological Watching Brief:** to maintain a permanent archaeological presence during excavation of the trial pits. The purpose is to identify, investigate and record any archaeological remains that may be encountered. Where such remains cannot be adequately recorded under watching brief conditions it will be necessary to undertake consultation with all interested parties to determine and implement the appropriate mitigation.
- 2.3 **Report:** the results of the fieldwork and any post-excavation assessment will culminate in a final report to be submitted within eight weeks of completion of the fieldwork (subject to any specialist reports outstanding), unless an alternative deadline is agreed with the client for the submission of a results section to be incorporated in the general SI works report.
- 2.4 *Archive:* a site archive will be produced to English Heritage guidelines (MAP 2 (1991)). The information will be finally disseminated through the deposition of the archive at a local museum, and report at the Historic Environment Record (HER) Office in Preston.

3. METHOD STATEMENT

3.1 HEALTH AND SAFETY

3.1.1 **Risk assessment:** OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological

Unit Managers (1997). OA North will liase with the client to ensure all health and safety regulations are met. The outline risk assessment to accompany these proposals will be updated in advance of any on-site works, with continuous monitoring during the fieldwork.

- 3.1.2 *Services:* full regard will, of course, be given to all constraints (services etc) during the evaluation trenching as well as to all Health and Safety considerations. It is assumed that the client and main contractor on site will have identified and hold full information as to the location of services as per the plans provided to OA North.
- 3.1.3 *Contamination:* any contamination issues must also be made known to OA North in order that adequate PPE can be supplied prior to commencement. Should any presently unknown contamination be discovered during excavation, it may be necessary to halt the works and reassess the risk assessment. Any specialist safety requirements may be costed as a variation.

3.2 ARCHAEOLOGICAL WATCHING BRIEF

- 3.2.1 *Introduction:* a programme of field observation will accurately record the location, extent, and character of any surviving archaeological features and/or deposits during the ground disturbance for the trial pits for the SI works. These will be carried out under constant archaeological observation unless, with consultation and agreement of the client and other interested parties, it is identified that a more targeted and timetabled archaeological investigation would be more appropriate.
- 3.2.2 *Methodology:* the work will comprise archaeological observation during the excavation, to include the systematic examination of any subsoil horizons exposed during the course of the groundworks, and the accurate recording of all archaeological features and horizons, and any artefacts, identified.
- 3.2.3 Discovery of archaeological remains will require stoppage of the excavation. Areas of potential archaeological remains will require fencing-off from any construction works, preferably with netlon-type fencing, to allow OA North archaeologists sufficient time to undertake adequate recording under safe conditions. This will be carried out as efficiently as possible in order to minimise disruption. Depending on the deposits revealed, it is anticipated that the average time for the suspension of works will be approximately 2-4 hours.
- 3.2.4 Clearance will be given for construction to proceed once the archaeologist is satisfied that either no remains are present, or that they have been adequately recorded, or that the level of impact will not disturb any deeper remains that can be preserved *in situ*.
- 3.2.5 *Complex or extensive remains:* should the remains be too complex or extensive to be investigated and recorded under watching brief conditions then the area will be fenced-off and the client will be immediately contacted in order to determine the requirements for further investigation. All further construction works within the marked area will cease until clearance is given to proceed. All further works would be subject to a variation to this project design.
- 3.2.6 *Investigation and recording:* putative archaeological features and/or deposits identified by the machining process, together with the immediate vicinity of any such features, will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and where appropriate sections will be studied and drawn. Any such features will be sample excavated (i.e. selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal).
- 3.2.7 During this phase of work, recording will comprise a full description and preliminary classification of features or materials revealed, and their accurate location (either on plan and/or section, and as grid co-ordinates where appropriate). Features will be planned accurately at appropriate scales and annotated on to a large-scale digital plan provided by the client. A photographic record will be undertaken simultaneously.
- 3.2.8 Levels will be recorded and reduced to their OD heights, with all benchmark and TBMS to be shown. The location of all features excavated will be recorded by Total Station with appropriate spot heights and tied into the OS grid. Altitude information will be established with respect to OS Datum. The location of the remains within the areas of construction will be based on site plans provided by the client containing OS information.

3.2.9 A plan will be produced of the areas of groundworks showing the location and extent of the ground disturbance and one or more dimensioned sections will be produced.

3.3 GENERAL PROCEDURES

- 3.3.1 *Environmental Sampling:* samples (bulk samples of 40 litres volume, to be sub-sampled at a later stage) will be collected from stratified undisturbed deposits and will particularly target negative features (gullies, pits and ditches). Monolith samples will be collected from freshly exposed sections through all buried soils/old ground surfaces by trained staff. These will be returned to OA North's offices for processing.
- 3.3.2 Deposits of particular interest may incur additional sampling, on advice from the appropriate in-house specialist.
- 3.3.3 The location of all samples will be recorded on drawings and sections with heights OD etc.
- 3.3.4 Between 50%-100% of bulk samples shall be selected for processing, based on the advice from OA North's in-house environmental manager. However, the basis of the advice will be agreed with the client prior to processing commences, which will be included in the final report. An assessment of the environmental potential would include soil pollen analysis and the retrieval of charred plant macrofossils and land molluscs from former dry-land palaeosols and cut features. In addition, the samples would be assessed for plant macrofossils, insect, molluscs and pollen from waterlogged deposits.
- 3.3.5 In order to achieve the aims of the programme of work, it may be required to obtain dating evidence through radiocarbon dating, dendrochronological or other such techniques. This would only be undertaken in consultation with the client.
- 3.3.6 *Human Remains:* any human remains uncovered will be left *in situ*, covered and protected. No further investigation will continue beyond that required to establish the date and character of the burial. The client, curator and the local Coroner will be informed immediately. If removal is essential the exhumation of any funerary remains will require the provision of a Home Office license, under section 25 of the Burial Act of 1857. An application will be made by OA North for the study area on discovery of any such remains and the removal will be carried out with due care and sensitivity under the environmental health regulations. Any delays caused by unforeseen and complex excavation of inhumations may be subject to a variation to the cost of the contract and will be agreed with the client.
- 3.3.7 *Finds:* all finds recovered during the evaluation investigation (metal detecting and trial trenching) will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the recipient museum's guidelines.
- 3.3.8 Finds recovery and sampling programmes will be in accordance with best practice (current IFA guidelines) and subject to expert advice. OA has close contact with Ancient Monuments Laboratory staff at the Universities of Durham and York and, in addition, employs in-house artefact and palaeoecology specialists, with considerable expertise in the investigation, excavation, and finds management of sites of all periods and types, who are readily available for consultation. Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC). Emergency access to conservation facilities is maintained by OA North with the Department of Archaeology, the University of Durham.
- 3.3.9 Neither artefacts nor ecofacts will be collected systematically during the mechanical excavation of the topsoil unless significant deposits, for example clay pipe waster dumps, are encountered. In such an eventuality, material will be sampled in such a manner as to provide data to enhance present knowledge of the production and dating of such artefacts, although any ensuing studies will not be regarded as a major element in any post-excavation analysis of the site. Other finds recovered during the removal of overburden will be retained only if of significance to the dating and/or interpretation of the site. It is not anticipated that ecofacts (eg unmodified animal bone) will be collected during this procedure.
- 3.3.10 Otherwise, artefacts and ecofacts will be collected and handled as per specification. All material will be collected and identified by stratigraphic unit during the evaluation trenching process. Hand collection by stratigraphic unit will be the principal method of collection, but targeted on-site sieving could serve as a check on recovery levels. Objects deemed to be of

potential significance to the understanding, interpretation and dating of individual features, or of the site as a whole, will be recorded as individual items, and their location plotted in 3-D. This may include, for instance, material recovered from datable medieval pit groups.

- 3.3.11 All finds will be treated in accordance with OA standard practice, which is cognisant of IFA and UKIC Guidelines. In general this will mean that (where appropriate or safe to do so) finds are washed, dried, marked, bagged and packed in stable conditions; no attempt at conservation will be made unless special circumstances require prompt action. In such case guidance will be sought from OA North's consultant conservator.
- 3.3.12 All waterlogged finds will be treated as appropriate. In the case of large deposits of waterlogged environmental material (eg unmodified wood), advice will be sought with the OA North consultant with regard to an appropriate sampling strategy.
- 3.3.13 Where possible, spot dates will be obtained on pottery and other finds recovered from the site. Artefacts will be examined and commented upon by OA North in-house specialists. Initial artefact dating shall be integrated into the site matrix.
- 3.3.14 Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft.

3.4 REPORT

- 3.4.1 The report will present, summarise, and interpret the results of the programme of work detailed above in order to come to as full an understanding as possible of the archaeology of the development area. There are two options for the presentation of the results of the watching brief, which will be agreed with the client at the outset of the project or following completion of the fieldwork. Either;
 - **Results section:** a short report will be produced for inclusion into the general SI works report, to include the methodology and results of the fieldwork, in a style/template provided by the client. Illustrations as necessary and plates will be also provided. Or;
 - *Full client report:* this option is more detailed, to include;
 - (i) a front cover to include the NGR,
 - (ii) a concise, non-technical summary of the results,
 - (iii) the circumstances of the project and the dates on which the fieldwork was undertaken,
 - (iv) description of the methodology,
 - (v) a summary of the historical background of the study area if available,
 - (vi) a statement, where appropriate, of the archaeological implications of the proposed development
 - (vii) a site location plan related to the national grid,
 - (viii) appropriate plans showing the location and position of features or sites located,
 - (ix) plans and sections showing the positions of deposits and finds,
 - (X) illustrative photographs as appropriate,
 - (xi) a copy of this project design, and indications of any agreed departure from that design,
 - (xii) the report will also include a complete bibliography of sources from which data has been derived, and a list of any further sources identified but not consulted,

- (Xiii) one bound and one unbound copy of this written synthetic report will be submitted to the client, together with a copy on CD, within eight weeks of completion of the survey fieldwork, unless an alternative deadline is agreed with the client beforehand. Three copies will also be submitted to the Lancashire HER for reference purposes.
- 3.4.2 *Confidentiality:* all internal reports to the client are designed as documents for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

3.5 ARCHIVE

- 3.5.1 The results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, Appendix 3, 2nd edition, 1991). The archive will contain site matrices, and summary reports of the artefact record, context records, and any other records or materials recovered.
- 3.5.2 This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the Lancashire HER (the index to the archive and a copy of the report). OA North will deposit the original record archive of projects (paper, magnetic and plastic media), and a full copy of the record archive (microform or microfiche), together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum, probably the Museum of Lancashire.

4. WORK TIMETABLE

- 4.1 *Archaeological Watching Brief:* the duration of the archaeological presence for the watching brief will be dictated by the client's schedule of works.
- 4.2 **Report:** should a full client report be required this will be completed within approximately eight weeks following completion of the fieldwork, subject to any outstanding specialist reports. Should the client require a report section instead, to be incorporated into the SI report, this could be issued approximately 4-6 weeks following fieldwork completion.
- 4.3 *Archive:* the archive will be deposited within six months.

5. STAFFING

- 5.1 The project will be under the direct management of **Emily Mercer BA (Hons) MSc AIFA** (OA North Senior Project Manager) to whom all correspondence should be addressed.
- 5.2 The fieldwork will be undertaken by an OA North supervisor or assistant supervisor experienced in this type of project, who will be responsible for liaison with the site contractors and the client, and other relevant interested parties with regards to on-site work and procedures.
- 5.3 The site teams will be supported by specialist staff based both on site and in the office in Lancaster. Finds management will be undertaken by **Christine Howard-Davis** who will also provide specialist input on certain finds categories. Environmental management will be undertaken by **Elizabeth Huckerby**, who will also provide specialist input on charred remains and pollen. Elizabeth will advise on site sampling procedures and co-ordinate the processing of samples and organise internal and external specialist input as required.

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