
CONTENTS

SUMMARY	3
ACKNOWLEDGEMENTS.....	5
1. INTRODUCTION	6
1.1 Circumstances of Project.....	6
2. METHODOLOGY.....	7
2.1 Project Design	7
2.2 Evaluation	7
2.3 Palaeoenvironmental Assessment	8
2.4 Archive.....	8
3. BACKGROUND.....	9
3.1 Introduction.....	9
3.2 Location, Topography and Geology	9
3.3 Historical and Archaeological Background	9
4. EVALUATION RESULTS.....	13
4.1 Archaeological Evaluation.....	13
4.2 Finds.....	18
4.3 Environmental Assessment Results	20
5. DISCUSSION.....	21
5.1 Introduction.....	21
5.2 Conclusions	21
5.3 Impact.....	22
6. BIBLIOGRAPHY	23
ILLUSTRATIONS	24
Figures.....	24
Plates	24

APPENDIX 1: PROJECT DESIGN	25
APPENDIX 2: CONTEXT INDEX	38
APPENDIX 3: FINDS SUMMARY	40
APPENDIX 4: PRIMARY ARCHIVE INVENTORY	42

SUMMARY

Oxford Archaeology North was commissioned by Jacobs Babbie, on behalf of the Environment Agency, to carry out an archaeological evaluation of the proposed repair and improvements to the existing Flood Alleviation Scheme, Burton upon Trent, Staffordshire, running parallel to Derby Road (NGR SK 2550 2600) and to the north of Meadow Lane (NGR SK 2624 2613). The archaeological programme of work was required in order to identify any areas of archaeological interest that might be affected by the proposed scheme, following the results of a desk-based assessment carried out by Jacobs Babbie in 2004. The evaluation took six days and was carried out in December 2005.

The main site is bounded to the north-west by a mainline railway, with modern residential development to the south-west and the Meadow Lane sewage works to the north-east. The archaeological investigation comprised ten evaluation trenches (Trenches 1-10) on a parcel of arable land parallel to Derby Road and beside the existing flood defences to the south-east. An eleventh trench (Trench 11) was located at existing flood defences positioned on pasture land to the north of Meadow Lane. Trenches 5 and 7 measured 20m by 2m with the remainder (Trenches 1-4, 6 and 8-11) measuring 30m by 2m. Trenches 2, 4-5 and 7-8 (gazetteer site 29, after Jacobs Babbie 2004) and 10 (gazetteer site 30, after Jacobs Babbie 2004) were positioned to investigate cropmarks observed from aerial photographs, with the trench north of Meadow Lane, Trench 11 positioned to ascertain the course of the Roman Road of Ryknild Street in this area.

In total, seven features of archaeological significance were located within the Derby Road site (Trenches 1-10). These included one possible palaeochannel (Trench 1), two shallow furrows (**603** and **609**, Trench 6), three moderately large ditches (**605** and **607**, Trench 6, and **806**, Trench 8) for both drainage and possibly to act as boundary markers, and a stone bank (Trench 9) that was likely to be a boundary feature. A single undiagnostic sherd of medieval pottery was recovered from the stone bank but it could not be dated with any precision, although it is most likely to date to the period from the mid-twelfth to the mid-fourteenth century. The sherd was seen to be unabraded, suggesting that it had not traveled far from its original place of deposition. However, it is thought to be residual as the rest of the finds assemblage dates from the post-medieval period.

Precise dating of the features of archaeological potential was not possible as most of the finds were from within the topsoil. Of the pottery evidence, mainly representing a restricted range of late kitchen and tableware, few fragments dated earlier than the late eighteenth century, with the majority being considerably later. The fragments of glass recovered reflected the general dating of the pottery, with a single fragment of modern window glass, a late nineteenth/early twentieth century mould-blown bottle fragment, and a complete brown half-pint beer bottle of late twentieth century date. Ironwork from the site was clearly very recent, as were three red quarry tiles and a brick. It is likely that the finds assemblage resulted from manuring practices in the area, and this suggests that the furrows, **603** and **609**, and ditches, **603**, **609** and **806**, may date to this period.

Despite sampling of the features in Trenches 6 and 8, the palaeoenvironmental assessment found there to be no potential for any further analysis or radiocarbon dating, and only the sample from the single fill for the ditch in Trench 8 (**805**) contained any charred plant remains; a single indeterminate cereal grain, a fragment of a culm node and a single charred legume seed (possibly cultivated) were recorded. This sample also contained very large numbers of waterlogged seeds of elderberry (*Sambucus niger*) and blackberry pips (*Rubus*), which did not appear to be modern. Both taxa have woody seeds that are more resistant to decay than many other types, which suggests that there was a high level of differential preservation in the fill with other more delicate seeds not preserved, and resulting in a skewed data set. The remaining samples from the ditch fills in Trench 6 (**602**, **604**, and **610**) contained no charred plant remains, and were largely made up of modern plant remains of roots, stems, leaves and seeds.

More recent features recorded included three ceramic land drains (Trench 9 and 10), as well as a fairly modern stake hole (Trench 8) with the stake intact. One modern service (Trench 10) was located associated with the sewerage works. Trench 11 (Meadow Lane) was seen to be positioned in an area of made ground associated with the existing flood defences and a localised dumping area, containing moderately modern material. Consequently, the course of the Roman Road of Ryknild Street remains inconclusive.

The proposed repairs and improvements will probably have an impact on the archaeological features found towards the north-east of the Derby Road site, (Trenches 6, 8 and 9). To this end, further work within the vicinity of Trenches 5-10, where the presence of subsoil was revealed, thus protecting the archaeology to some degree from modern farming methods, should be carried out under conditions of an archaeological watching brief. The course of the Roman road north of Meadow Lane (Trench 11) has not been verified and, therefore, it is recommended that further groundworks in this area may require an archaeological watching brief.

ACKNOWLEDGEMENTS

Oxford Archaeology North would like to thank Rob McNaught of Jacobs Babbie for commissioning the project, on behalf of the Environment Agency, and his guidance on site, together with Ed Wilson of the Environment Agency for his support. We would also like to thank Steve Garrigan and Sean Waring of Volker Stevin for their logistical help on site, and Steve Dean at the Staffordshire County Council for help and information.

The archaeological evaluation was undertaken by Andy Lane who was assisted on site by Emily Betts and Jason Clarke. The report was written by Andy Lane and the drawings produced by Mark Tidmarsh. The finds were assessed by Chris Howard-Davis and the palaeoenvironmental samples processed by Sandra Bonsall and assessed by Elizabeth Huckerby. Emily Mercer managed the project, who also edited the report, together with Alan Lupton.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 The Environment Agency propose to repair and improve the Flood Alleviation Scheme parallel to Derby Road (NGR SK 2550 2600) and north-east of Meadow Lane (NGR SK 2624 2613), Burton upon Trent, Staffordshire. Jacobs Babtie were, therefore, commissioned to manage a programme of archaeological evaluation. A desk-based assessment undertaken in 2004, as part of an Asset Condition Survey by Jacobs Babtie, found the area to be of archaeological potential. Namely, various cropmarks were noted in the vicinity of the Derby Road site, and the course of the Ryknild Street Roman road ran through the site at Meadow Lane. In order to test the nature, survival and extent of these remains or features, a trenching strategy was compiled by Jacobs Babtie and, to this end, Oxford Archaeology North (OA North) submitted proposals to undertake the work (*Appendix 1*). The work was commissioned by Jacobs Babtie on behalf of the Environment Agency, and was carried out in December 2005 for a period of six days.
- 1.1.2 The archaeological evaluation comprised a total of eleven trenches, ten of which were positioned parallel to Derby Road, immediately south-east of the existing flood defences, to identify areas of archaeological interest (Trenches 1-10), with Trench 11 sited to the north of Meadow Lane to ascertain the course and level of preservation of the Roman Road (Fig 2).
- 1.1.3 This report sets out the results of the archaeological evaluation in the form of a short document, outlining the findings, followed by a statement of the archaeological potential and significance.

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 OA North submitted a project design (*Appendix 1*) in response to a request by Jacobs Babtie, in accordance with their Written Scheme of Investigation (WSI). These were adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

2.2 EVALUATION

2.2.1 The programme of archaeological evaluation involved trial trenching to test the nature, extent and characteristic of the remains identified in the desk-based assessment along with the presence or absence of any previously unsuspected archaeological deposits and, if established, will then aim to mitigate the impact of the proposed scheme. The WSI has established the location and size of the trenches following the results of the client's desk-based assessment:

- Trenches 1-4, 6, 8-11 = 30m x 2m
- Trenches 5 and 7 = 20m x 2m

2.2.2 **Methodology:** the topsoil was be subjected to careful excavation in a stratigraphical manner (with a toothless ditching bucket on a mechanical excavator) down to the depth of the first significant archaeological deposits or natural subsoils, depending on whichever was encountered first. This was carried out under constant archaeological supervision, by a member of OA North staff experienced in such work.

2.2.3 The deposits were cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. Thereafter, all excavation was carried out manually in a stratigraphic manner.

2.2.4 The trenches were excavated to a depth sufficient to achieve the objectives of the evaluation. The maximum depth of unsupported trenches was 2.38m, which allowed for visual inspection only (observing health and safety constraints).

2.2.5 The trench locations were established from the client's digital plans and located by Differential Global Positioning System (DGPS). GPS instrumentation uses electronic distance measurement along radio frequencies to satellites to enable a positional fix in latitude and longitude, which can be converted mathematically to the National Grid. It uses a post-processed system by comparing a roving station with a similar station on a fixed known point in order to achieve high levels of accuracy, which are typically $\pm 0.25\text{m}$.

2.2.6 **Recording:** the recording comprised a full description and preliminary classification of the features and materials revealed on OA North *pro-forma* sheets. A plan was produced showing the location of all the trenches, with at

least one long section being drawn at a scale of 1:50 for each trench. Sections were drawn at an appropriate scale 1:10/1:20 for each feature encountered along with a trench plan at 1:50. A photographic record using monochrome print and colour slide formats was maintained.

2.3 PALAEOENVIRONMENTAL ASSESSMENT

2.3.1 Four environmental bulk samples (14 to 30 litres in volume) from the fills of ditches **602**, **604**, **610** and **805** were hand floated. The flots were collected on a 250 μ mesh and air-dried. A representative sample of each flot was scanned using a Leitz/Wild binocular microscope, plant material was recorded on a scale of 1 to 4, where 1 is rare (less than 5 items) and 4 is abundant (more than 100), and provisionally identified. Plant nomenclature follows Stace (1991). The data are shown in Table 2 (*Section 4.3*).

2.3.2 The matrix of the flot was noted and the samples were assessed as to their potential for further analysis. The residues of the samples (fractions greater than 4mm, 2mm and 500 μ) were checked for small finds and scanned with a magnet to record any magnetic remains.

2.4 ARCHIVE

2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 1*), and in accordance with current IFA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited with County Record Office on completion of the project. Copies of the report will be deposited with the Staffordshire County Council SMR in Stafford.

3. BACKGROUND

3.1 INTRODUCTION

3.1.1 The following background information below has mostly been taken from the WSI supplied by Jacobs Babtie (2005), which in turn derived from a desk-based assessment undertaken as part of an Asset Condition Survey by Jacobs Babtie in 2004, placing the site within its topographical, historical and archaeological setting.

3.2 LOCATION, TOPOGRAPHY AND GEOLOGY

3.2.1 The proposed improvements to the flood defences are situated to the south-east of Derby Road, and to the north of Meadow Lane, Burton upon Trent, Staffordshire, approximately 16km south-west of Derby and 32km east of Stafford (Fig 1; NGR SK 2550 2600, SK 2624 2613 respectively). The historic centre of Burton lies approximately 1.5km to the south-west of the site itself, and Derby Road continues onto the course of the Roman Road of Ryknild Street. The land within the proximity of the Flood Alleviation Scheme is low lying and relatively flat, sloping down towards the River Trent with heights of approximately 45m aOD.

3.2.2 The site lies within the confines of the river terrace, covered with alluvium and glacial drift. The underlying geology of the site comprises Permian (298 to 251 million years age) and Triassic (251 to 210 million years age) New Red Sandstone, Triassic mudstones (including 'keuper Marl', Dolmitic Conglomerate and Rhaetic (Institute of Geological Sciences, 1979). The majority of the soil coverage is a permeable loamy soil (Jacobs Babtie 2005). The land at Derby Road is currently cultivated, with the land at Meadow Lane laid to pasture. This is consistent with the land use for this area, being mostly agricultural with extensive areas of arable land within low hedges and few hedgerow trees (Countryside Commission 1998, 103)

3.3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.3.1 **Prehistoric period:** within the Burton area there is little evidence for human activity in the Mesolithic period, although flints have been found. A possible Mesolithic burial of a woman on an elevated platform beside the river Trent was found in Branston (Jacobs Babtie 2005, 3).

3.3.2 During the early Bronze Age, activity seems to have concentrated on at the river terraces in the form of burials, with a settlement in the late Bronze Age and early Iron Age south of Catholme Farm. Probable Bronze Age objects have been recovered north of Burton and there seems to have been an Iron Age cremation cemetery south of Stretton village (*ibid*). However, no prehistoric activity has been identified on the Derby Road and Meadow Lane site.

3.3.3 **Roman period:** the course of the Roman road known as Ryknild Street forms part of Derby Road, immediately to the north-west of the main site, and cutting through the Meadow Lane site. The course of the road has been targeted with

Trench 11 in the evaluation. The Roman Road ran diagonally through the later parish of Burton linking Wall, near Lichfield, and the fort at Little Chester, near Derby. Spurious documentary sources suggest the existence of a Roman fort at Branston, south of Burton deriving from a Roman settlement in an area called 'Ad Trivonam' (*ibid*).

- 3.3.4 At Clay Mills in Stretton a bronze torc was recovered dating from the first or early second century, possibly of Celtic origin. Within the Burton area Romano-British settlements were located at Stapenhill and Catholme, both of which may have continued to exist in the early Anglo-Saxon period (*ibid*).
- 3.3.5 **Post-Roman Period:** after the end of the Roman occupation, England was gradually overtaken by Anglo-Saxon invaders and German settlers. The kingdom of Mercia formed by the Anglo-Saxons enveloped most of the Midlands by the early seventh century. Monasteries or ministers in Mercia were established by Bishop Wilfred of York during the 660's, probably including one at Burton. An island near the parish church in the River Trent was named Andresey or 'Andrew's isle', and refers to a church there dedicated to St Andrew. Andresey came to be associated with the legendary St Modwen, and 'Mudwennstow' (Moden's holy place) was an early name for the settlement. The name Burton, coined in the eighth century, means 'a settlement at a fortified place' and indicates that it had acquired a civilian importance as a defensible site. By that date the main settlement was possibly on the west bank of the river, where a monastery was later established (*op cit*, 4).
- 3.3.6 England was subjected to a series of major invasions by mainly Dutch Vikings during the ninth century. The fortified status of Burton may have attracted the attentions of the Vikings, with Burton falling under Viking control after the dispersal of the 'great army' at Repton in 874. Several personal names of Scandinavian origin were still used in the twelfth century, and place names indicate a Scandinavian influence. The royal grant of estates in the Burton area made by King Edmund about the time of the restoration of the Five Boroughs to English control in 942 may suggest that Burton too had only just been recovered. The estates were granted to Wulfsige the Black, possibly an ancestor of the Mercian nobleman Wulfric Spot, who owned Burton later in the tenth century and re-founded the minister there before the year 1000 as a Benedictine abbey, probably as a family mausoleum (*ibid*).
- 3.3.7 **Medieval period:** the Domesday Book of 1086 records the assessment of tax for Burton Abbey and its manors around Burton, as Burton Abbey did not retain an area of privileged jurisdiction like some other large monasteries. There was also tax-assessed land at Burton itself. Surveys of the early twelfth century show that smallholdings had been created in the outlying settlements (Branston, Stretton, Wetmore, and Winshill) and in Burton itself. Bond End and Shobnall, on the edge of town, had granges belonging to the abbey, also owing ones in the outlying townships (*ibid*).
- 3.3.8 The inhabitants of Burton used part of the nave of the abbey church as no parish church was established. The abbey church and conventual buildings dominated the town, with the number of monks ranging from 30 in the earlier

twelfth century to 12 at the Dissolution in 1539, even though the abbey was never large (*ibid*).

- 3.3.9 The cloth trade was important to Burton in the later thirteenth century the abbey was included in a list of English monasteries which supplied wool to the Florentine market, coming second only to Croxden Abbey in Staffordshire. There were clothworkers in the town in the thirteenth century and in the 1340s the abbey acquired a fulling mill on the Trent (*ibid*).
- 3.3.10 Burton was involved in the rebellion of Thomas, earl of Lancaster, against Edward II, due to its strategic relationship with the Lancastrian stronghold at Tutbury. In March 1322 the earl barricaded the west end of Burton bridge to prevent its use by Edward II and his army. Although no battle had taken place, a year later in March 1323 the king granted the advowson of the nearby church of Tatenhill to Burton Abbey in commemoration of ‘the glorious victory’ over his rebels at the town (*op cit*, 5).
- 3.3.11 Henry IV stopped at Burton in 1402 and 1403 during his campaign against rebels in the Midlands. In 1414 Henry V stayed in the abbey when supervising the work of justices of the king’s bench sitting at Lichfield. It was probably from the later king’s visit that one of the rooms in the abbey was called the ‘king’s chamber’, a name recorded in 1545 (*ibid*).
- 3.3.12 **Post-Medieval period:** the reformation saw control of Burton transferred from ecclesiastical to secular hands. The site of the college and all its lands, including the manor of Burton, were duly granted to the Paget family in January 1546, and the Pagets thereafter were content to use the remaining claustral buildings when they occasionally visited Burton (*ibid*).
- 3.3.13 Possessing a strategic river crossing that was noted in the 1640s as ‘the chief passage from South to North’, and situated between parliamentary Stafford and Derby and royalist Lichfield, Tutbury, and Ashby-de-la-Zouch, it is not surprising that Burton was fought over throughout the civil war and lacking walls or, except on its east side, natural defences, it changed hands at least a dozen times between 1642 and 1646 (*ibid*).
- 3.3.14 The sixteenth century saw the main industry in Burton as the production of woollen cloth, principally kersey, probably for the local market, and in 1610 Burton was described by its constables as ‘a town using the trade of clothing’. The textile trade expanded in the second half of the sixteenth century, with the existing medieval fulling mill on the River Trent supplemented by two new ones, built in the mid 1550s and 1574. By 1700 the fulling mills were in poor repair, and shortly thereafter all three ceased cloth production. In the later seventeenth century the effects of the civil war were blamed for the collapse of the industry (*ibid*).
- 3.3.15 The town’s economy was boosted with the advent of the Trent being made navigable for boats in the early 1710s, under an act of 1699. George Hayne, the Derbyshire merchant who effected the navigation, was particularly involved in transporting cheese and salt from Cheshire to London, and it was the cheese trade through Burton which attracted Daniel Defoe’s attention in the mid

1720s, although Hayne also carried Burton ale. Writing in the 1730s the Staffordshire antiquary Richard Wilkes remarked that the navigation was of 'infinite service' to the town and its neighbourhood, making Burton a distribution point for goods sent to places in the Midlands and especially enabling the import of timber and bar iron chiefly from Scandinavia. A visitor to the town in 1801 thought that the mainly eighteenth century houses along the riverside meadow on the east side of High Street were handsome and formed a pleasing picture. Several manufactures were conducted with 'briskness and success', and the town had a 'flourishing appearance' (*op cit*, 5-6).

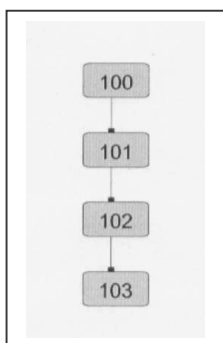
- 3.3.16 With the expansion of the brewing industry in the nineteenth century, the combined population of the town and Burton Extra was almost three times that in 1801, and a doubling of the 1861 figure had taken place by 1878, when a municipal borough was created to include the newly built-up areas of Horninglow, Stapenhill, and Winshill. A further doubling to 50,000 had taken place by 1900, enabling the adoption of county borough status in 1901 (*op cit*, 6).

4. EVALUATION RESULTS

4.1 ARCHAEOLOGICAL EVALUATION

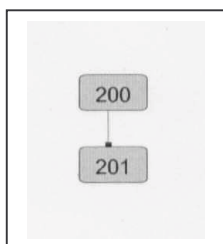
4.1.1 **Introduction:** two separate areas were investigated during the fieldwork. Trenches 1-10 within an area running parallel with Derby Road, and Trench 11 situated north of Meadow Lane (Fig 2). Each trench will be discussed in turn, accompanied by a matrix, in accordance with the WSI (Jacobs Babbie 2005). For a full list of contexts and their descriptions see *Appendix 2*.

4.1.2 **Trench 1:** aligned north-east/south-west, Trench 1 measured 30m by 2m. The maximum depth was 2.38m excavated within a sondage at the southern end of the trench. A wide linear feature, thought to be a palaeochannel, was revealed at the south end (Fig 3; Plate 1) measuring 20m in width, and the purpose of the sondage was to examine the depth of deposits within it. The palaeochannel was aligned north-west/south-east and comprised 0.9m of alluvial deposits, **102**, a mid-grey-brown silty-sand. The build up of silt deposits demonstrates a slow accumulation of material. Beneath this was the natural geology, **103**, consisting of an orange loose sand with pea grit inclusions. Overlying **102** was 1.18m of relatively modern dumped material, **101**, mixed with a mid dark brown silty-sand, which appeared to have been rapidly deposited. This is likely to have resulted from a levelling phase to infill the natural depression, possibly during the construction of the access to the bridge adjacent to Trench 1. This in turn was overlain by topsoil, **100**.



Matrix for Trench 1

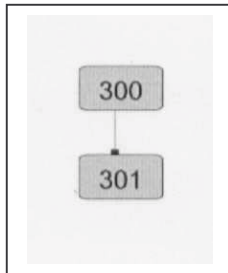
4.1.3 **Trench 2:** aligned north-east/south-west, and measured 30m by 2m. Trench 2 was excavated to a depth of 0.30m. This aim was to investigate two cropmarks observed on the aerial photographs (Fig 2). However, the trench revealed no archaeological features or deposits.



Matrix for Trench 2

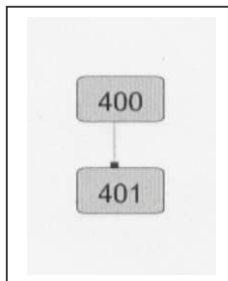
4.1.4 A sondage was excavated towards the north-east of the trench to a depth of 1.2m to test the natural deposits; a mid-orange brown silty-sand with pebbles, **201**, which was sealed by 0.3m of topsoil, **200**.

4.1.5 **Trench 3:** aligned north-east/south-west and measured 26m by 2m. Trench 3 was excavated to a depth of 0.35m. This trench revealed no archaeological features or deposits. The natural deposits, **301**, consisted of light yellowish-orange sand with bands of gravels, and was sealed by 0.35m of topsoil, **300**. The trench was reduced in length by 4m to avoid a sewer pipe that lay within the south-west section of the trench.



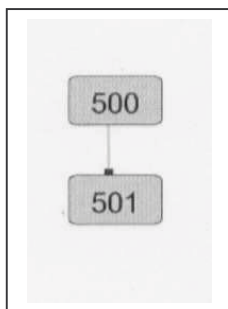
Matrix for Trench 3

4.1.6 **Trench 4:** aligned north-east/south-west and measured 30m by 2m. Trench 4 was excavated to a depth of 0.44m. The trench was positioned to target a possible cropmark, but it revealed no archaeological features or deposits. Topsoil, **400**, 0.44m thick, overlay a yellowish-orange sand, with some gravel banding, **401**.



Matrix for Trench 4

4.1.7 **Trench 5:** aligned approximately east/west and measured 20m by 2m. Trench 5 was excavated to a depth of 0.45m, and was located to target cropmarks.

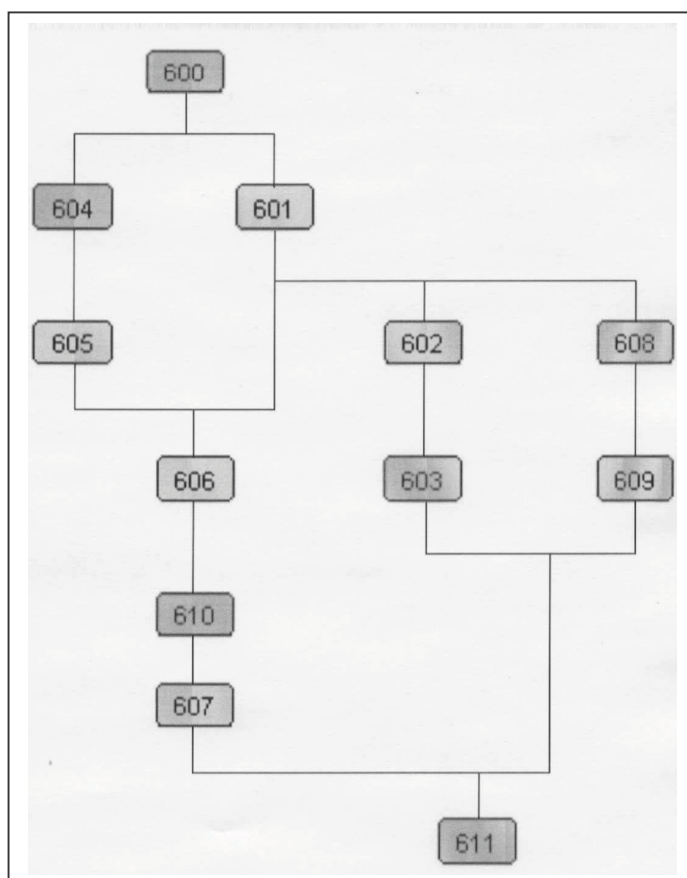


Matrix for Trench 5

4.1.8 No archaeological features or deposits were observed, but the natural deposit, **501**, consisting of yellowish-orange sand, contained bands of gravel (Plate 3).

This may have affected the growth of the crops, although it is possible that the cropmarks may have been all but ploughed out. The natural deposit was tested by means of a sondage and was sealed by 0.4m of mid-greyish-brown silty-sand topsoil, **500**.

- 4.1.9 **Trench 6:** aligned north-east/south-west and measured 30m by 2m. Trench 6 was excavated to a depth of 0.7m (Plate 4; Fig 4). Despite no cropmarks having been identified previously, the evaluation revealed four features; two shallow furrows in the south-west of the trench, **603** and **609**, a wide shallow ditch in the centre of the trench **605**, which cut a deeper narrower ditch **607**, to its immediate south-west. The trench contained 0.25m of a brown-grey sandy-silt subsoil, **601**, sealed by 0.4m of topsoil, **600**. The natural geology was a yellowish-orange/mid-buff sand, **611**.



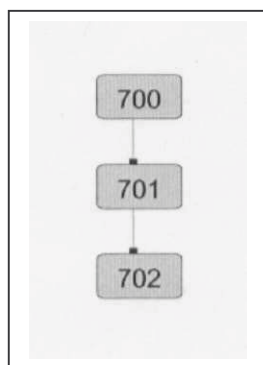
Matrix for Trench 6

- 4.1.10 Furrow **603** was aligned north/south and measured 2.65m long, 1.15m wide and 0.12m deep. It was filled by **602**, a yellow-grey silty-sand (Plate 5; Fig 5). Furrow **609** (Plate 6; Fig 5) was 2.25m long, 2m wide and 0.1m deep, and ran parallel to the south-west of furrow **603**, at a distance of 3.65m. The fill **608**, a light yellowish-grey sandy-silt, was similar to **602**. These furrows may form part of a medieval agricultural system.

- 4.1.11 Ditch **605**, aligned north/south, was 4.02m wide, 2.40m long and 0.5m deep, and contained a mid-brownish-grey sandy-silt, **604**, sealed by topsoil, **600** (Plate 7). It was observed cutting ditch **607** (Fig 5), which was aligned

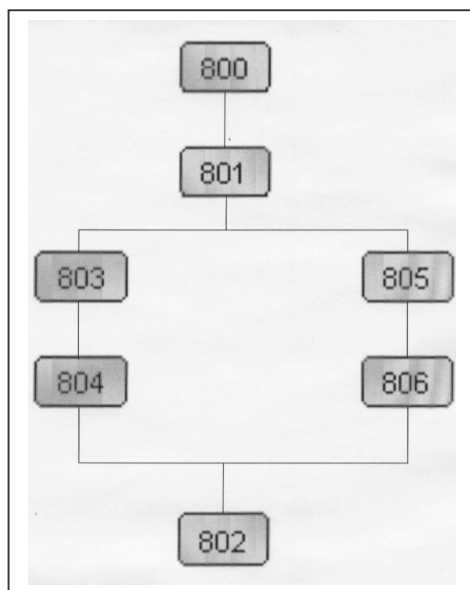
north/south, measuring 1.34m wide, 2.4m long and 0.4m deep, and sealed by subsoil, **601**. The bottom fill of ditch **607**, a pale grey sand (waterlogged deposit) **610**, was 0.14m thick. Overlying this was a 0.3m layer of dark buff-grey sand, **606**, probably representing washed-in natural deposits. It is possible that these ditches may form a boundary to a medieval field system. The earlier ditch, **607**, may have silted up quite rapidly due to the proximity of the river and the likelihood of flooding, and was replaced by ditch **605**.

- 4.1.12 **Trench 7:** aligned roughly east/west and measured 20m by 2m. Trench 7 was excavated to a depth of 0.46m. This trench was located to pick up cropmarks observed from aerial photographs. However, no archaeological deposits or features were encountered. The trench revealed an orange brown sand with 75% small rounded pebbles and pea grit natural geology, **702**, overlain by a dark orangey-brown silty-sand subsoil, **701**, 0.19m thick. This was, in turn, sealed by dark brown sandy-silt topsoil, **700**, 0.27m thick. A sondage was excavated to the east of the trench, to a depth of 0.6m to test the natural deposits.



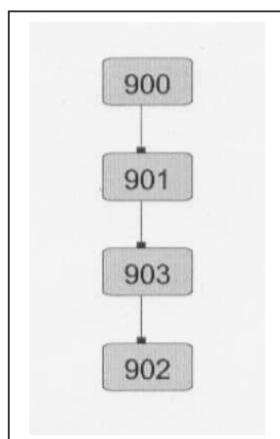
Matrix for Trench 7

- 4.1.13 **Trench 8:** aligned east-north-east/west-south-west and measured 30m by 2m. Trench 8 was excavated to a depth of 0.6m (Plate 8, Fig 6). This trench revealed a wooden stake, **803**, towards the centre of the trench and a ditch, **806**, to the west-south-west of the trench. The natural geology, **802**, was a yellowish-orange/dark buff sand, overlain by **801**, a 0.2m thick mid-brown silty-sand subsoil, which in turn was sealed by **800**, a 0.25m thick dark brown silty-sand topsoil.
- 4.1.14 Stake **803**, appeared to be fairly modern, probably for a temporary boundary fence, driven straight into the ground creating a stakehole, **804**, which was 'V' shaped and tapered in cross-section. It was 0.26m deep and 0.1m square in plan.
- 4.1.15 Ditch **806** was aligned north/south 2.5m in length, across the width of the trench, 2.85m wide, extending into the trench baulk, and 0.3m deep with a concave 35° side coming down to a gentle break of slope to a flat base (Plate 9, Fig 6). The ditch was filled by a single context of a light grey silty-sand, **805**, indicating a fairly rapid inwash from the surrounding deposits.



Matrix for Trench 8

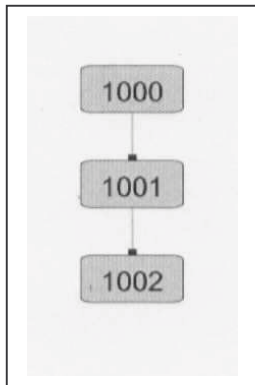
4.1.16 **Trench 9:** aligned north-east/south-west and measured 30m by 2m. Trench 9 was excavated to a depth of 0.51m (Plate 10, Fig 7). This trench revealed two twentieth century ceramic field drains; one aligned approximately north/south and abutting the second aligned north-west/south-east, indicating the poor drainage of this field. This was indicated by the change in natural geology, **902**, which was a grey clay overlying orange/grey sand and gravels, observed by a sondage in the south-west of the trench. This was overlain by **901**, a 0.21m thick layer of brownish-grey sandy-clay subsoil, which was in turn overlain by 0.3m of mid-blackish-grey silty-sand topsoil, **900**.



Matrix for Trench 9

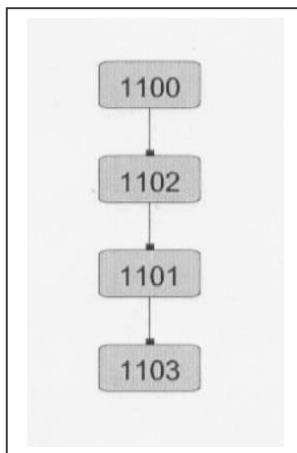
4.1.17 Also revealed was a stone bank, **903**, aligned north-west/south-east, which was observed for 2.2m in length, across the width of the trench, 0.66m in width and 0.15m deep (Plate 11; Fig 7). It was constructed of medium (*c*160mm by 140mm by 100mm) and large (*c*280mm by 250mm by 140mm) sandstone boulders laid directly into the natural clay, **902**. The dating of the stone bank remains inconclusive as no finds were recovered. The bank terminates north of the trench.

- 4.1.18 **Trench 10:** aligned approximately east/west and measured 30m by 2m, Trench 10 was excavated to a depth of 0.75m. One ceramic land drain was observed in the west end of the trench, aligned north/south, and a service cut was located in the east of the trench most probably for the sewerage works. The natural geology, **1002**, a yellowish-brown sandy-clay, with frequent manganese stains in the west of the trench, was overlain by 0.2m of brown-grey clay subsoil, **1001**, this was in turn overlain by **1000**, a mid-blackish grey silty-sand topsoil, 0.2m in depth.



Matrix for Trench 10

- 4.1.19 **Trench 11:** aligned west-north-west/east-south-east and measured 30m by 2m. Trench 11 was excavated to a depth of 0.6m (Plate 12). This trench revealed a natural geology of mixed pale grey/buff clay and yellowish-orange sandy-gravels, **1103**, overlain by **1101**, a 0.2m thick layer of made ground. This was cut by a modern dumping layer, **1102**, 2.2m from the west-north-west extent of the trench, consisting of mixed mortar, brick, concrete, metal and black-grey silty-sand, which was in turn sealed by **1100**, a 0.15m thick layer of greyish-black silty-sand topsoil.



Matrix for Trench 11

4.2 FINDS

- 4.2.1 **Introduction:** a total of 38 fragments of artefacts or ecofacts was recovered during the evaluation, the majority being small fragments of pottery. Their distribution is tabulated below, in Table 1.

Context	Pottery	Glass	Iron	Other	Total
101	4	1	0	0	5
200	3	0	0	0	3
300	3	2	0	0	5
400	1	0	0	0	1
500	1	0	0	1	2
700	4	0	0	0	4
800	3	0	0	0	3
803	0	0	0	1	1
805	3	0	1	1	5
900	0	0	0	1	1
903	1	0	0	1	2
1102	0	0	2	3	5
US	0	0	0	1	1
	24	3	3	9	38

Table 1: Distribution of the finds

- 4.2.2 There is little of interest amongst the pottery, with few fragments dating earlier than the late eighteenth century, and most considerably later. A single undiagnostic sherd of medieval pottery was recovered from **903**. It cannot be dated with any precision, but seems most likely to date to the period from the mid-twelfth to the mid-fourteenth century. The sherd is fresh and unabraded, suggesting that it had not traveled far from its original place of deposition. The only other artefact from the same context was a small fragment of field drain.
- 4.2.3 Fragments of a thin-walled black-glazed tankard were recovered from **805**, and probably dates to the earlier part of the eighteenth century. Otherwise the pottery represents a restricted range of late kitchen and tablewares, except for the presence of a white hard-paste porcelain miniature jug, presumably a child's toy, from **200**.
- 4.2.4 The glass reflects the general dating of the pottery, with a single fragment of modern window glass, a late nineteenth/early twentieth century mould-blown bottle fragment, and a complete brown half-pint beer bottle of late twentieth century date from **101**. Ironwork from the site was clearly very recent, as were three red quarry tiles and a brick. Part of a tobacco pipe, made from plastic or composition, was recovered from **900**.
- 4.2.5 A single wooden stake was also recovered, from **803**. Only partially wet, it had not survived well and was probably recent, perhaps from a fence line.
- 4.2.6 None of the finds examined are considered to have any potential for further detailed assessment or analysis.

4.3 ENVIRONMENTAL ASSESSMENT RESULTS

- 4.3.1 Four environmental samples were assessed from contexts **602**, **610**, **604** and **805**, Samples 1-4 respectively (see Table 2 below). Sample 4, from the single fill, **805**, of feature **806** was the only sample to contain charred plant remains; a single indeterminate cereal grain, a fragment of a culm node and a single charred legume seed (possibly cultivated). The sample also contained very large numbers of waterlogged seeds of elderberry (*Sambucus niger*) and blackberry pips (*Rubus*), which did not appear to be modern. Both taxa have woody seeds that are more resistant to decay than many other types. Their presence suggests that there was a high level of differential preservation in the fill with other more delicate seeds not preserved, and resulting in a skewed data set. Some fragments of comminuted charcoal, coal and calcined bone were noted in the matrix, together with some modern roots.
- 4.3.2 The remaining samples from the ditch fills **602**, **604**, and **610** were largely made up of modern plant remains of roots, stems, leaves and seeds. The matrices of the four samples were very sandy and all included fragments of coal. There were no small finds or diagnostic remains recorded in any of the residues. However, a few flint fragments (unworked) and low numbers of magnetic pieces, some of which are clearly related to coal and cinder, were noted.
- 4.3.3 The four environmental samples were assessed as having no potential for further analysis or radiocarbon dating.

Sample No.	Context	Vol. (l)	Flot description	Plant remains	Potential
1	602	30	Modern contamination of roots, seeds and stems, sand + coal	No charred plant remains	None
2	610	14	Modern contamination of roots, seeds and leaves, sand + coal	No charred plant remains	None
3	604	30	Modern contamination of roots, seeds and stems, sand + coal	No charred plant remains	None
4	805	18	Charcoal (2), calc bone, metal, coal, sand, modern contamination	Cereals (1), chaff (1), legume (1)	None

Table 2: Assessment of plant remains from environmental bulk samples. The remains are recorded on a scale of 1-4 where 1 is rare less than 5 items and 4 is abundant more than 100 items

5. DISCUSSION

5.1 INTRODUCTION

5.1.1 The primary objective of the archaeological assessment was to identify, investigate and record any archaeological remains, as well as determine their extent, condition, nature, character, quality and date, and establish any ecofactual and environmental potential of archaeological deposits and features. Specific aims from the Derby Road Trenches 1-10 was to determine the nature, extent and survival of the cropmarks identified in the desk-based assessment undertaken by Jacobs Babbie in 2004 as part of the Asset Condition Survey, and to determine whether the Roman Road survives at the Meadow Lane site, Trench 11 (Fig 2).

5.2 CONCLUSIONS

- 5.2.1 **Derby Road, Trenches 1-10:** Trenches 2, 4-5, 7-8 and 10 targeted known cropmarks with only Trenches 8 and 10 exhibiting any evidence for their survival. Trenches 1-5 displayed no subsoil, with the natural geology immediately underlying the ploughsoil, which may explain the lack of evidence for the cropmarks as they have most probably been ploughed out. Trenches 6-10 revealed subsoil along with a gradual change in the natural geology, from moderately sandy in Trench 1 becoming increasingly gravelly, to being overlain by clay in Trenches 9-10. This is reflected in the presence of twentieth century ceramic land drains in Trench 9 and 10 due to the lack of natural drainage in this area.
- 5.2.2 A possible palaeochannel was located in Trench 1, to a depth of 2.38m, revealing a build-up of silts, suggestive of a rapid inwash from the surrounding flood plains. This was sealed by fairly modern building rubble and general rubbish probably from the landscaping for access to the bridge.
- 5.2.3 The two shallow furrows, **603** and **609** observed in Trench 6, were aligned north/south and running parallel at a distance of 3.65m apart. They obviously form part of an earlier field system, and may be contemporary with the three north/south ditches revealed in Trenches 6 and 8. In Trench 6, a shallow wide ditch, **605**, was observed superseding a moderately narrow steep-sided ditch, **607**. Ditch **607** contained a silty waterlogged deposit, which would have formed fairly rapidly from in-washed material overlain by an upper deposit thought to be more slow forming, probably resulting from agricultural practices. The ditches have a similar alignment, which is likely to respect a boundary, and appear to be associated with agricultural practices. Ditch **806**, located in Trench 8, possibly identifies another field boundary or drainage ditch, used to drain these low lying fields. It seems to have been fairly rapidly infilled by washed-in material and silts. Unfortunately, no finds were retrieved, and no palaeoenvironmental evidence was available to enable the features to be dated, but it is possible that they are early post-medieval in date, due to general dating of the finds from the site.

- 5.2.4 A modern stake, **803**, driven into the ground and obscured by plough soil was found within Trench 8, probably forming part of a temporary boundary within this field. Trench 9 revealed a stone bank, **903**, constructed of medium to large sandstone boulders, probably found locally, aligned north-west/south-east. The stone bank most probably marks the boundary of an old field system, although the boundary of a settlement for instance cannot be ruled out. A single undiagnostic sherd of possible mid-twelfth to mid-fourteenth century pottery was recovered from the stone bank which, due to its appearance, had not travelled far from its original place of deposition. However, no other finds of this date were recovered, from the bank or across the remainder of the site, suggesting that it is residual.
- 5.2.5 A modern service trench, associated with the sewage works, was located in Trench 10 and may possibly relate to the cropmark identified in this area, aligned approximately north/south.
- 5.2.6 It is evident that the likelihood of encountering surviving archaeological remains increases towards the north-east of the site along Derby Road, probably due to the occurrence of subsoils, inhibiting the ploughing out of archaeological features.
- 5.2.7 **Meadow Lane, Trench 11:** this site appeared to be covered entirely by made ground that may be associated with the construction of the existing flood defences. A fairly modern dumping area was seen in the west-north-west extent of Trench 11, consisting of mortar, brick, concrete, metal and a black-grey silty-sand. As a result of these intrusions the course of the Roman road could not be verified. It may be possible that the disturbance/truncation has removed all evidence of the road or that it is positioned to the east or west of the trench and therefore not located.

5.3 IMPACT

- 5.3.1 Of the ten trenches excavated along the Derby Road site, only two revealed features that could be attributed to the cropmarks; ditch **806**, within Trench 8, and a service trench associated with the sewerage works in Trench 10. Nevertheless, additional archaeological features were recorded to the north-east of Trench 6 due to the presence of subsoils, which had provided some protection from modern farming methods. It is probable that these will be impacted upon by the works. The palaeochannel found in Trench 1 was overlain by 1.48m of dumped material and it is likely that this will not be impacted upon.
- 5.3.2 Trench 11 to the north of Meadow Lane, revealed made ground and a dumping area, **1102**, and no evidence of the Ryknild Roman road. However, it is possible that the course of the road is outside the evaluated area, as the Ordnance Survey map may not show its precise position.

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ILLUSTRATIONS

FIGURES

Figure 1: Location map

Figure 2: Plan showing location of trenches in relation to cropmarks

Figure 3: Plan of Trench 1 and south-east-facing Section 101

Figure 4: Plan of Trench 6 and north-west facing Section 106

Figure 5: North-west-facing Section 107, south-east-facing Section 108 and north-east-facing Section 109 of Trench 6

Figure 6: Plan of Trench 8 and Section 112 of ditch **806**

Figure 7: Plan of Trench 9 and north-west-facing Section 114 of **903**

PLATES

Plate 1: General view of Trench 1, looking north-east

Plate 2: South-east-facing section of palaeochannel within Trench 1

Plate 3: General view of Trench 5, looking west

Plate 4: General view of Trench 6, looking north-east

Plate 5: South-east-facing section of furrow **603**, within Trench 6

Plate 6: North-east-facing section of furrow **609**, within Trench 6

Plate 7: North-west-facing section of ditches **605** and **607**, within Trench 6

Plate 8: General view of Trench 8, looking east-north-east

Plate 9: South-facing section of ditch **806**, within Trench 8

Plate 10: General view of Trench 9, looking north-east

Plate 11: Stone bank **903**, looking south

Plate 12: General view of Trench 11, looking west

APPENDIX 1: PROJECT DESIGN

1. INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.1.1 Jacobs Babtie (hereafter the 'client'), on behalf of the Environment Agency, has requested that Oxford Archaeology North (OA North) submit proposals for an archaeological evaluation on the Burton upon Trent Flood Alleviation Scheme (FAS). There are two elements to the evaluation, positioned to the north-east of the town and to the west of the River Trent. The first is a series of trenches on a parcel of arable land parallel to Derby Road and beside the existing flood defences. The second is a single trench where the flood defences are positioned on pasture land at Meadow Lane.
- 1.1.2 The proposed scheme is to repair and raise the existing flood defences to increase the bund height and width. Although no excavation below topsoil is proposed, it is possible that in some areas the underlying soil may not be suitable for surcharge and may require removal.
- 1.1.3 This project design has been prepared in accordance with a detailed and comprehensive Written Scheme of Investigation (WSI) prepared by Jacobs Babtie. In order to avoid unnecessary repetition, this project design should be read in conjunction with the WSI.
- 1.1.4 The proposed FAS is within an area of archaeological potential, and was subject to a desk-based assessment carried out by Jacobs Babtie in 2004. In particular, the course of the Roman road of Ryknild Street, which links Wall, near Lichfield, and the fort at Little Chester, near Derby, runs to the north-west of the Derby Road site and through the Meadow Lane site. The desk-based assessment located ten sites of cultural heritage significance within the vicinity of the proposed improvement works. Two sites pertaining to cropmarks will be examined during the trial trenching at Derby Road, and the projected line of Ryknild Street Roman road will be examined at Meadow Lane. A comprehensive archaeological background has been provided in Section 2 of the WSI.

2. OXFORD ARCHAEOLOGY

2.1 SUMMARY OF COMPANY HISTORY

- 2.1.1 Oxford Archaeology was constituted in July 1973 as the Oxfordshire Archaeological Unit, supported by a single county grant from the Department of Environment and by Oxfordshire County Council. The first Chairman was Professor Barry Cunliffe with Tom Hassall as Director and David Miles as Senior Field Officer. The new Unit set itself the task to work in a coherent and problem-orientated research framework unlike much of the small-scale rescue archaeology of the 1960s. In the early years the research focused on the Iron Age and Roman landscape mainly in Oxfordshire.
- 2.1.2 The late 1970s saw the emergence of job creation programmes in archaeology and the Unit took full advantage of these undertaking several major projects. Towards the end of 1970s the Department of Environment, still the principal backer of archaeology in England, moved away from supporting organisations towards single project funding. The Unit adopted this change and continued to flourish with major research funded projects in Oxfordshire and the Upper Thames.
- 2.1.3 In March 1980 Oxfordshire County Council withdrew its financial services and support. Oxfordshire Archaeological Unit undertook a modest name change to Oxford Archaeological Unit (OAU), became a Limited Liability Company and undertook to administer itself and its cash flow.
- 2.1.4 During the 1980s, with the creation of English Heritage and the introduction of Planning Policy Guidance Note 16 (PPG 16), developer funding and contract archaeology became the norm in an increasingly competitive commercial and professional environment. In 1986 Tom Hassall resigned to become Secretary of the Royal Commission for Historic Monuments (England) and two years later David Miles became the new Director. Throughout the 1980s OAU responded rapidly to the changing face of archaeology and continued to thrive and expand its range of services.

- 2.1.5 In the 1990s OAU continued to expand and established itself as one of the leading archaeological organisations in Britain, undertaking major strategic studies and infrastructure projects across most of Southern England and abroad. In 1996 the Unit moved to a single large office facility in Osney Mead providing sufficient capacity to continue its expansion. In 1999 David Miles left OAU to become Chief Archaeologist at English Heritage and David Jennings, formerly Head of the Post-Excavation Department, was appointed as the new Director and Chief Executive. One of David's first challenges was to refocus OAU's broad range of activities and establish some even more demanding challenges as set out in 'The Vision - 2005'.
- 2.1.6 In November 2001 OAU merged with one of the largest and most highly respected archaeological businesses in the North of England, Lancaster University Archaeological Unit. This had been formed in 1979 as the Cumbria and Lancashire Archaeological Unit, to provide an archaeological service for these counties. In 1988 it changed its name to the Lancaster University Archaeological Unit, to reflect the widening scope of many of the rescue units, and became a regional leader in archaeological practice of all kinds, though with a growing specialism in buildings and industrial archaeology, as well as landscape survey, to complement its traditional excavation skills.
- 2.1.7 With two main regional offices, Oxford Archaeology (OA), as the business was renamed following the merger, is now the largest archaeological contractor in Britain employing over 250 staff, and provides a comprehensive professional archaeological service to anyone requiring assistance and advice in the study of the past and heritage resource management in both Britain and overseas.

2.2 SUMMARY OF COMPANY EXPERIENCE

- 2.2.1 The following represents a brief summary of the types of archaeological, conservation and heritage-related projects undertaken by OA. It is by no means exhaustive and further details of any of the services can be provided if necessary.
- 2.2.2 ***Environmental Assessment and Planning Advice:*** OA has had long experience of dealing with large-scale developments such as major housing and commercial developments, large-scale infrastructure projects, and mineral extraction schemes, both within the EA procedures and as planning proposals.
- 2.2.3 OA has been extensively involved in EAs for major transport infrastructure projects, including the specialist assessment of the cultural heritage effects of the Channel Tunnel Rail Link project for Union Railways Ltd. This has involved the development of an integrated approach to the assessment of the cultural heritage in relation to other environmental factors in both urban and rural settings. We have also undertaken the cultural heritage study for improvements to Birmingham International Airport.
- 2.2.4 In 1990 OA were commissioned to act as sub-consultants on the cultural heritage for a DTp study led by Chris Blandford Associates for *The Good Roads Guide* (1992) a manual on good practice standards for the design of rural road schemes. This work also involved consideration of good practice standards for EA's of road schemes, guidelines for preparation of EA's, and a study of the issues raised by motorway widening. We have also contributed specialist cultural heritage studies and expert evidence at public inquiries for various road schemes, including the Birmingham Northern Relief Road for Midland Expressway Ltd. and the A27 Worthing-Lancing Improvements for Acer Consultants.
- 2.2.5 OA has also conducted several EA projects for the water industry, including the first stage strategic desk-based baseline assessment of the Thames floodplain around Oxford for Thames Region of the NRA (now Environment Agency) and the first stage historical and cultural desk study and non-intrusive field surveys for the environmental assessment of the South West Oxford Reservoir Development Scheme for Thames Water. OA has recently completed the cultural heritage study for a strategic environmental assessment considering reservoir and water transfer proposals in Norfolk and Suffolk.
- 2.2.6 Other EA projects include major commercial business parks, holiday villages, golf course schemes, superstores, motorway service areas on the M3, M6, M40, and M20, rowing courses at Dorney for Eton College and near Cambridge for the Cambridge Rowing Trust. OA have also undertaken EA specialist studies for mineral extraction and waste disposal schemes in the

- Thames and Nene Valleys, Berkshire, Gloucestershire, Norfolk, Kent, Durham, Dorset, Hereford and Worcester and Cambridgeshire. In 1996 we contributed to the EA of the largest forestry proposal in southern England, near Dorchester, Dorset.
- 2.2.7 Apart from our work on EAs we contribute very regularly to planning applications for a very wide range of development proposals. We also have experience of providing expert witnesses evidence for public inquiries dealing with local plans, planning applications, Scheduled Monument Consents, road schemes, and rights of way disputes.
- 2.2.8 **Archaeological Field Evaluation:** OA has been among the pioneers of the recent trend towards assessments and evaluations of archaeological remains to assist more rational decisions to be taken about preservation, building design and excavation.
- 2.2.9 OA has carried out assessments, surveys and excavations in most counties across England, and are familiar with many museums and County Sites and Monuments records. OA provides a service of ensuring that project designs meet the requirements of the relevant County Archaeological Officer prior to work being carried out, and will make suitable arrangements, subject to landowners agreement, to deposit the archive and finds with the relevant museum at the earliest opportunity.
- 2.2.10 OA's field evaluations include surface collection, geophysical and earthwork surveys using computerised plotting of results from integrated databases. Excavation trenching is carried out efficiently with careful recording of all key information. OA's field evaluations are often integrated into Environmental Assessments or Planning Applications, and cover developments of all types and sizes, from small building extensions in sensitive areas to major extensive developments, especially mineral extraction schemes, in some cases covering tens, and in some cases over a hundred hectares, or for pipelines roads and railways, many kilometres long.
- 2.2.11 **Excavations and Research:** OA has wide experience of excavations and monitoring of a wide variety of infrastructure and development proposals. These include major road schemes such as 40 sites and a watching brief on the Swindon to Gloucester A417/A419 DBFO road scheme, and major pipelines for Thames Water.
- 2.2.12 Since its foundation OA has undertaken investigations and urban studies in many cities and towns in Britain and Ireland including projects in London, Birmingham, Belfast, Kilkenny, Cirencester, Dover, Exeter, Leicester, Reading, Southampton, Maidstone, Stafford, Swansea, Towcester, Worcester, Wolverhampton, Gloucester, Kings Lynn and Newport (Isle of Wight). In 2000 we undertook a review of urban archaeology for the Irish government, and followed this up with a revised strategy for evaluation techniques in urban settings. The acquisition of Oxford Archaeology North has further added to our urban experience, with our northern office having undertaken projects in *inter alia* Berwick, Blackburn, Carlisle, Chester, Cockermouth, Gateshead, Kendal, Lancaster, Leeds, Liverpool, Manchester, Middlesbrough, Newcastle, Ormskirk, Penrith and Preston.
- 2.2.13 OA has a policy of ensuring that all its major projects reflect national and local research priorities. It has been in the forefront of some research including analysis of prehistoric, Roman and Saxon society, settlement pattern and economy, and of the archaeology of river floodplains and on early prehistoric ceremonial complexes. Current and recent major excavation and post-excavation projects include the Paradise Street Development Area centred on the Old Dock in Liverpool and Saxon and a large-scale excavation of Saxon and medieval deposits within the core urban centre of Winchester.
- 2.2.14 **Linear and Transport Schemes:** OA has unparalleled experience in providing the archaeological fieldwork input for linear and transport-related project in the UK, particularly road schemes. Details of such projects are given below in *Section 5*. Outside the UK, OA has been involved with a number of linear or transport Schemes such as Montserrat Airport, the Zeugma Dam Project in Turkey and pipelines in Greece and Oman.
- 2.2.15 **Building Survey and Recording:** OA has a long-standing experience in building recording projects, both as archaeological studies of standing buildings, and non-destructive surveys. OA is archaeological consultant to Historic Royal Palaces, dealing with some of Britain's most spectacular historic buildings, including the Tower of London, Hampton Court and Kensington Palace. Recent OA projects have included a wide range of public buildings, country houses, churches and farm buildings, of all periods across the country ranging from Newcastle to

- Chatham Dockyard. International work has included a major building recording and excavation project at the Château of Mayenne in the Pays de Loire, on one of the earliest castles in Europe.
- 2.2.16 **Conservation of the Heritage:** ever since its foundation the company has been involved in conservation of the heritage. Senior staff have been in the forefront of developing national conservation policy through national bodies such as the Council for British Archaeology and the National Trust. OA frequently provides advice to farmers on conservation of the heritage.
- 2.2.17 In 1993 English Heritage commissioned OA and Cobham Resource Consultants to set up and manage a series of pilot studies to develop a national approach to the identification description and evaluation of landscapes of historic importance. More recently OA has been providing specialist input to the Countryside Commission's landscape character mapping of England and has undertaken an assessment of the historic character of the Hampshire landscape and is undertaking a similar study in Kent.
- 2.2.18 Previous studies undertaken by OA have also included examination of the effects of different cultivation techniques on archaeological remains funded by DoE; input to the Countryside Commission Demonstration Farms Scheme with Cobham Resource Consultants; and major research projects aimed at improving the protection, management and presentation of major national monuments at the Rollright Stones and the Uffington White Horse and Hillfort. OA is currently involved with a historic landscape assessment of the Avebury world heritage site and its surroundings as part of the development of the Avebury WHS management plan for English Heritage and the National Trust. In addition, OA has recently carried out a major landscape and archaeological surveys of the Ridgeway National Path (from Avebury to Ivinghoe Beacon) for English Heritage and the Countryside Commission and is currently undertaking a UAD survey of the archaeology of Central Oxford for English Heritage and Oxford City Council. In recent years OA have also assessed the planning implications of several developments affecting a number of historic parks and gardens across the country.
- 2.2.19 **Industrial Archaeology:** OA has also been heavily involved in developing policies for the conservation, reuse and interpretation of industrial landscapes of national importance at, for instance, the former iron works at Tonddu near Aberdare, and also the Newland, Backbarrow, and Maryport iron works all in Cumbria. It has also played an important role in the regeneration of the Woolwich Arsenal site in London, entailing the detailed excavation of the site and leading to imaginative interpretation schemes.
- 2.2.20 Following the merger with the former Lancaster University Archaeological Unit in 2001, OA has established itself as one of the country's leading practitioners in the field of industrial archaeology. It has wide-ranging experience of former industrial sites, most notably major conservation-led projects, funded by English Heritage, undertaken at the Pilkington's Sheet Glass Works in St Helens and the Derwentcote Steel Furnace in County Durham. OA North has a proven track record in the investigation of large and complex industrial sites and structures within the north of England, such as the on-going Murray's Mills Major Repairs Project in Manchester, Macintosh Mill, also in Manchester, and Calprina print and dye works in Stalybridge. The southern office has also undertaken work at a series of significant industrial sites, including Combe Down mines in Bath and the Historic Dockyard at Chatham
- 2.2.21 Building assessment and recording has always formed a substantial part of OA/OA North's work and industrial buildings have constituted a major part of the work carried out in this field. OA has extensive experience in the recording of industrial buildings by means of instrument survey techniques and, most recently, laser scanning, and also the recording of landscapes by means of aerial photography and GPS survey.
- 2.3 QUALITY ASSURANCE**
- 2.3.1 OA is a Registered Archaeological Organisation with the **Institute of Field Archaeologists (no 17)**. OA is not at present ISO certified but operates an internal QA system governed by standards and guidelines outlined by English Heritage and the Institute of Field Archaeologists.
- 2.3.2 **Standards:** it is OA's stated policy to adhere to current professional standards set by IFA, English Heritage, Association of Local Government Archaeological Officers, Museums Organisations. OA helps the profession to develop and establish standards by serving on

national working parties (eg recently on archives), and conforms with current legislation and national and local policy standards for archaeology health and safety and other relevant matters.

- 2.3.3 OA has established technical manuals, procedures and policies which control its work covering field recording, finds retention and discard, finds storage and handling, environmental sampling and processing, archiving and post-excavation. These have been developed to conform with best professional practice.
- 2.3.4 **Staff:** OA ensures that its staff are fairly recruited, fairly employed, and properly qualified for their work whether by formal qualification or by established and verifiable experience. OA have established terms and conditions of employment and a system of staff representation to ensure regular consultation on employment matters.
- 2.3.5 OA ensures that staff remain committed and enhance their abilities using annual staff appraisals, supporting formal and informal training and educational courses.
- 2.3.6 **Procurement of services and materials:** OA procures subcontracted work on the basis of value for money, considering quality, track record and service, as well as cost. OA regularly reviews quality of subcontracted work and uses tendering procedures for major sub-contracts.
- 2.3.7 Procurement of materials is on the basis of quality and availability, as well as cost, especially in respect of long-term storage of archives (OA adheres to archive quality photographic materials and processes, archive quality boxes etc).
- 2.3.8 **Working Practices:** management procedures ensure that all work conducted within the Company and all end product reports to clients are monitored and evaluated whilst they are in progress, during compilation, and after completion.
- 2.3.9 **Data Acquisition and Security:** for fieldwork projects OA always removes records and finds from site every day, and ensures equipment is secured.
- 2.3.10 **Experience:** OA North has considerable experience of sites of all periods, having undertaken a great number of small and large scale projects throughout Northern England during the past 24 years. Evaluations, assessments, watching briefs and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables.

2.4 KEY STAGES IN QA PROCEDURES

- 2.4.1 The following procedures cover technical aspects of OA's work:
- critical review of previous work;
 - analysis of how archaeological issues are dealt with in the brief, including consideration of uncertainty and risk, and consideration of whether different approach would be more cost-effective;
 - development of method statements (Project Designs/Written Schemes of Investigations);
 - detailed consideration and documentation of logistical aspects, including H + S procedures, plant logistics, staff logistics;
 - compilation of Briefing Document for site director/supervisor to include all relevant background data and information, procedures, technical specifications and logistics;
 - execution of field work guided by technical Manual, incorporating unique site codes and numbering systems;
 - recording systems on *pro formas* cross-referenced and identified to individuals dealing with descriptions, finds, samples, drawings, photographs;
 - finds system designed to track where objects are, and to establish museum destination and legal ownership of finds;
 - PX Assessment procedures to establish exactly how much work needs to be done to achieve academic objectives within budget;
 - no automatic writing of interminable PX reports: tasks and methods focussed on aims and objectives;

- constant review and monitoring to ensure objectives are being met, with the flexibility to reassign priorities in light of important discoveries;
- monitoring of progress of PX projects by members of staff not directly involved, as well as project manager.

2. OBJECTIVES

- 2.1 The following programme has been designed to identify and evaluate the nature, survival and extent of any archaeological deposits or features to be affected or impacted by the proposed flood alleviation scheme. More specifically, to determine the stratigraphic sequence and dating of deposits or features identified, and establish any ecofactual or environmental potential. The resultant information will enable an appropriate mitigation strategy to be proposed in line with the assessment of the impact of the proposed scheme. The information will be finally disseminated through the deposition of the archive at a local museum, and report at the Sites and Monuments Record, and possibly at publication level. The work will be carried out in line with current IFA guidelines and in line with the IFA Code of Conduct.
- 2.2 **Archaeological Trial Trenching:** a series of trenches should determine the quality, extent, nature, survival and significance of any archaeological deposits. The positions of these have been identified by the client in order to;
- Derby Road: to investigate the cropmarks identified in the client's desk-based assessment as Sites 29 and 30.
 - Meadow Lane: to investigate the existence of the Roman road in this area and, consequently, record the remains.
- 2.3 **Report:** the results of the fieldwork and any post-excavation assessment will culminate in a final report to be submitted as a draft within two weeks of completion of the fieldwork (subject to any specialist reports outstanding).
- 2.4 **Archive:** a site archive will be produced to English Heritage guidelines (MAP 2 (1991)).

3. METHOD STATEMENT

3.1 HEALTH AND SAFETY

- 3.1.1 A full health and safety project plan has been provided to accompany this project design, and also includes an outline risk assessment. However, for brevity a summary is provided below.
- 3.1.2 **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 liaise 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.
- 3.1.3 All project staff will be CSCS qualified. Archaeological contractors have not yet been recognised for the receipt of CSCS cards. However, proof of qualification can be provided.
- 3.1.4 **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. As a matter of course the Unit uses a Cable Avoidance Tool (CAT) prior to any excavation to test for services. However, this is not infallible and **it is assumed that the client will provide any available information held regarding services within the defined area** prior to the work commencing on site.
- 3.1.5 **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.
- 3.1.6 **Fencing requirements:** the trenches will be protected with netlon-style fencing whilst open, and adequate and appropriate signage. Unless significant archaeological deposits are uncovered, it is intended to backfill the trenches immediately as soon as they have been opened and archaeologically recorded for reasons of public health and safety.

3.2 TRIAL TRENCHING

- 3.2.1 **Introduction:** the programme of archaeological evaluation will involve trial trenching to determine the presence or absence of any previously unsuspected archaeological deposits and, if established, will then aim to mitigate the impact of the proposed scheme. The WSI has established the location and size of the trenches following the results of the client's desk-based assessment;
- Trenches 1-4, 6, 8-11 = 30m x 2m
 - Trenches 5 and 7 = 20m x 2m
- 3.2.2 **Methodology:** the topsoil will be subject to careful mechanical excavation (with a toothless ditching bucket on a 360° excavator) down to the depth of the first significant archaeological deposits or natural subsoils, depending on whichever is encountered first. This will be carried out under constant archaeological supervision, by a member of OA North staff experienced in such work.
- 3.2.3 The deposits will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. Thereafter, all excavation would proceed by hand in a stratigraphic manner.
- 3.2.4 The trenches will be excavated to a depth sufficient to achieve the objectives of the evaluation. The maximum depth of unsupported trenches will be 1.2m (observing health and safety constraints). For depths beyond this the trench sides will require support.
- 3.2.5 **Trench location:** trenches will be located by use of either GPS equipment which is accurate to +/- 0.25m, or by total station to within an accuracy of 0.5m, and tied into the Ordnance Survey (OS) grid. Altitude information will be established with respect to OS Datum. The trench locations will be based on site plans provided by the client containing OS information and no variation in their location will be made without prior written approval of the client.
- 3.2.6 Should any obstacles on site prevent the exact trench positioning, the nearest available and suitable position will be adopted in consultation with the client.
- 3.2.7 **Feature/deposit excavation:** any investigation of intact archaeological deposits will be exclusively manual. 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. It is hoped that in terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.
- 3.2.8 **Recording:** all information identified in the course of the site works will be recorded stratigraphically, using a system, adapted from that used by Centre for Archaeology Service of English Heritage.
- 3.2.9 A sufficient pictorial record will be undertaken (plans, sections and both monochrome photographs (prints and negatives) and colour transparencies) to identify and illustrate individual features, as well as maintaining a record of general working shots/progress using a digital camera. Photographs will include a scale and header board showing site code and context/feature number.
- 3.2.10 The stratigraphy of each trench will be recorded, regardless of the presence of any archaeological features or deposits, and as a minimum, one long section will be recorded for each trench (WSI para 4.11.6). Primary records will be available for inspection at all times.
- 3.2.11 Results of all field investigations will be recorded on *pro forma* context sheets. The site archive will include both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20 and 1:10; in accordance with WSI para 4.11.18). A complete post-excavation plan for each trench will be prepared, and will include co-ordinate data and spot heights.
- 3.2.12 All artefacts and ecofacts will be recorded using the same system, and finds and features will be located in 3D within the trenches. The location of any samples will be recorded as appropriate.

- 3.2.13 Levels will be recorded and reduced to their OD heights, with all benchmark and TBMS to be shown.
- 3.2.14 **Reinstatement:** it is understood that there will be no requirement for reinstatement of the ground beyond backfilling. As a health and safety precaution, all trenches will be backfilled immediately on completion of excavation and recording, unless there are significant deposits.
- 3.2.15 The excavated material will be stored alongside each trench, with topsoil and subsoil stored separately in order to avoid contamination for the purposes of backfilling. Any spoil from the excavation of features will be stored on the subsoil. The ground will be backfilled so that the topsoil is laid on the top, and the ground will be roughly graded with the machine. Should there be a requirement by the client other than that stated this will involve recosting or a variation.
- 3.2.16 **Contingency plan:** a contingency costing may also be employed for unseen delays caused by prolonged periods of bad weather, vandalism, discovery of unforeseen complex deposits and/or artefacts which require specialist removal, use of shoring to excavate important features close to the excavation sections etc. This would be in agreement with the client.
- 3.2.17 The evaluation will provide a predictive model of surviving archaeological remains detailing zones of relative importance against known development proposals. In this way, any mitigation requirements can be proposed, and a strategy provided.

3.3 GENERAL PROCEDURES

- 3.3.1 **Environmental Sampling:** environmental samples (bulk samples of 30 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 (see WSI para 4.11.15) by trained staff. These will be returned to OA North's offices regularly for processing.
- 3.3.2 Deposits of particular interest may incur additional sampling, on advice from the appropriate specialist (see WSI para 4.11.15).
- 3.3.3 The WSI provides guidelines with regards to deposits selected for sampling (para 4.11.14). This will be adhered to during excavation.
- 3.3.4 The location of all samples will be recorded on drawings and sections with heights OD etc.
- 3.3.5 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.
- 3.3.6 The methodology would follow that detailed in WSI paras 4.11.16-17.
- 3.3.7 In order to achieve the aims of the evaluation, it may be required to obtain dating evidence through radiocarbon dating, dendrochronological or other such techniques (WSI para 5.1.2).
- 3.3.8 **Faunal remains:** if there is found to be the potential for discovery of bones of fish and small mammals a sieving programme will be carried out. These will be assessed as appropriate by OA north's specialist in faunal remains, and subject to the results, there may be a requirement for more detailed analysis.
- 3.3.9 **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.

- 3.3.10 **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.
- 3.3.11 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, or else through an external specialist Alison Walster of Aardvark Conservation Services.
- 3.3.12 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.
- 3.3.13 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.
- 3.3.14 Finds will be processed and administered at regular intervals (on a daily basis) and removed from the site. 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.
- 3.3.15 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.
- 3.3.16 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.
- 3.3.17 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 **Interim reports:** regular weekly progress reports will be produced for the client, and submitted by email before noon on Monday of each week. This will include as a minimum:
- a table setting out staff and resources used on the project during the relevant period.
 - staff time according to grade/role and task

- short free text summary of archaeological tasks undertaken and results. As appropriate, spot-dates will be provided and any initial processing/ assessment of finds/environmental samples.
- photographs and any plans at request of client.

3.4.2 The summary of work will also be copied to the curator.

3.4.3 **Final Report:** following the completion of the fieldwork a draft report will be submitted to the client within two weeks, for approval. This will follow the specific client requirements set out within the WSI, paragraphs 5.1.3, 5.1.4, 5.1.6-5.1.8.

3.4.4 A copy of the draft report should be returned to OA North with comments, and any amendments will be rectified within five days. The finalised report will include six bound copies, one unbound copy, and a digital copy.

3.4.5 **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 **Museum contact:** before commencement of the fieldwork, the relevant museum will be contacted to inform them of the intended work and obtain agreement for the acceptance of the archive. This will also allow for the identification of the museum's policies and requirements (WSI para 6.1).

3.5.2 **Content:** 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.

3.5.3 All primary field records need to be copied in digital, fiche or microfiche to create security copies.

3.5.4 This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the appropriate SMR/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 the appropriate museum.

3.5.5 **Publication:** the results may warrant publication of a summary report in an appropriate academic journal. Such a proposal will be included in the evaluation report but will not be completed until instruction from the client.

4 OTHER MATTERS

4.1 **Project Monitoring:** whilst the work is undertaken for the client, monitoring will also be undertaken by the County Curator. Although notification is required two weeks prior to commence of the fieldwork, the client requests that site work begins within seven days of commission. Therefore, as much notice as possible will be provided to the curator.

4.2 Monitoring visits will be allowed to the client or representatives, including the curator, who will be afforded access to the on site records.

4.3 **Access:** site access for all elements of the fieldwork will be arranged by the client for OA North. However, following receipt of information from the client, the relevant landowners will be contacted the day before OA North enters their land. It is understood that there will be access for both pedestrian and plant traffic to the site via the approved access routes. This will allow any arrangements to be made regarding access routes, should an approved route not be in place.

4.4 **Condition survey:** a condition survey will be completed before any work commences for each plot of land as per the WSI specifications (para 4.7). This will be maintained during the field

work.. A copy of the written records and two sets of photographs will be supplied to the client within one week of completion of the fieldwork.

4.5 If during the time of undertaking the condition survey there are obvious factors that may cause unavoidable damage (except within the footprint of the excavation, storage area or approved access routes), the client will be contacted immediately (in accordance with paragraph 4.8 of the WSI).

4.6 **Site Welfare Facilities:** health and safety regulations require access to adequate handwashing facilities to be provided for the duration of the fieldwork. Therefore, a portable toilet has been included, and a site office for the laying out of plans and the secure storage of tools.

5 WORK TIMETABLE

5.1 **Archaeological Trial Trenching:** this element is expected to take between approximately six days.

5.2 **Report:** the draft client report will be completed within approximately two weeks following completion of the fieldwork, subject to any outstanding specialist reports.

5.3 **Archive:** the archive will be deposited within six months.

6 STAFFING

6.1 THE PROJECT TEAM

6.1.1 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. She will provide strategic project management, financial and resource management, with the aid of OA North's Operations Manager **Alan Lupton**, and will co-ordinate the provision of specialist input, liaising externally with sub-contractors and internally with OA staff and managers. Forms A-C in *Appendix 2* provide organograms of OA North's management structure for undertaking the project.

6.1.2 It will be the SPM's responsibility to manage the project from design and delivery of the fieldwork component through to report production. The OA North Director, **Rachel Newman**, will provide an academic overview.

6.1.3 Day to day fieldwork will be managed on-site by a Senior Project Officer, **Vix Hughes**. She will be responsible for all aspects of staff and resource logistics, ensuring the smooth running of the project programme. She will liaise with the Client with regard to progress on individual sites and will maintain relationships with other contractors, etc. In addition, she will act as the nominated Site Safety Representative during the course of the fieldwork.

6.1.4 The site teams will be supported by specialist staff based both on site and at offices in Oxford and Lancaster. Finds management will be undertaken by **Christine Howard-Davis** who will also provide specialist input on certain finds categories. The Finds team includes specialists from OA (both Oxford and Lancaster based) and externals (see below). A supervisor will co-ordinate on-site and off-site finds processing, finds data entry and data feedback to the site teams. Any necessary advice on finds conservation will be sought from Alison Walster.

6.1.5 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.

6.1.6 IT support will be supplied by OA North's IT co-ordinator **Jo Cook**. Once the site archive has been prepared by the relevant field staff, any further requirement for long term storage and/or deposition will be undertaken by OA North's in house archives co-ordinator, **Joanne Levey**.

6.2 INTERNAL SPECIALISTS

Specialist	Subject
Christine Howard-Davis	Metalwork
Alistair Barclay	Prehistoric pottery
Paul Booth	Roman pottery
Ian Miller	Medieval pottery
Jo Dawson	Post-medieval pottery
Alistair Barclay	Daub and other building materials
Christine Howard-Davis	Tile (Roman and medieval)
Christine Howard-Davis	Glass
Dan Elsworth	Lithic analysis
Julian Munby	Worked Stone/Post-Medieval Materials
Andrew Bates	Animal Bone
Kerry Boston	Osteoarchaeologist
Christine Howard-Davis	Worked wood
Elizabeth Huckerby	Pollen analysis/charred and waterlogged plant remains
Liz Stafford	Geoarchaeology
Joanne Levey	Archives

6.3 EXTERNAL SPECIALISTS USED BY OA

Specialist	Subject
SURRC/Kiel	C14 dating
Alison Walster (Aardvark Conservation Services)	EH Conservator
Dr Nigel Cameron (UCL)	Diatoms
Quita Mould	Leather
Mark Robinson (Oxford University Museum of Natural History)	Molluscs
Dr Mark Robinson (Oxford University Museum of Natural History)	Insect remains
Dr Gerry McDonnell (Bradford University)	Slag and industrial residues
Dr Richard Macphail (UCL)	Soil micromorphologist

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English Heritage, 1991 *The Management of Archaeological Projects*, 2nd edn, London

Institute of Field Archaeologists (IFA), 1992 *Guidelines for data collection and compilation*

SCAUM (Standing Conference of Archaeological Unit Managers), 1997 *Health and Safety Manual*, Poole

United Kingdom Institute for Conservation (UKIC), 1990 *Guidelines for the preparation of archives for long-term storage*

United Kingdom Institute for Conservation (UKIC), 1998 *First Aid for Finds* London

APPENDIX 2: CONTEXT INDEX

Context	Trench	Description	Max. Depth
100	1	Mid-brown friable silty 30%-sand 70%. Topsoil	0.40m
101	1	Mixed mid-dark brown with light brown and black lenses silty 25%- sand 75%, with 30% dumped rubbish. Dumped deposit	1.18m
102	1	Mid grey-brown moderately loose silty-sand. Alluvium	0.9m
103	1	Orange moderately loose pea grit and sand. Natural	
200	2	Dark brown friable silty 40%-sand 60%. Topsoil	0.3m
201	2	Mid orange-brown moderately loose silty 15%- sand 85%. Natural	
300	3	Dark brown loose to friable silty 60%-sand 40%. Topsoil	0.35m
301	3	Light yellowish-orange loose sand. Natural	
400	4	Mid brown friable, silty 40%- sand 60%. Topsoil	0.44m
401	4	Mid-light orange-brown moderately loose sand. Natural	
500	5	Mid greyish-brown friable silty-sand. Topsoil	0.4m
501	5	Orangey-brown, loose sandy-gravel. Natural	
600	6	Mid greyish-brown friable silty-sand. Topsoil	0.4m
601	6	Brown-grey loose sandy-silt. Subsoil	0.25m
602	6	Yellow-grey loose sandy-silt. Fill of furrow 603	0.12m
603	6	Cut of north/south aligned furrow. Filled by 602	0.12m
604	6	Mid brownish-grey moderately compact sandy-silt with 25% pebbles. Fill of ditch 605	0.5m
605	6	Cut of north/south aligned ditch. Filled by 604	0.5m
606	6	Dark buff-grey moderately loose sand. Upper fill of ditch 607	0.3m
607	6	Cut of north/south aligned ditch. Filled by 606 and 610	0.39m
608	6	Light yellowish-grey friable sandy-silt. Fill of furrow 609	0.1m
609	6	Cut of north/south aligned furrow. Filled by 608	0.1m
610	6	Pale grey, moderately compact sand with 10% gravels. Lower fill of furrow 607	0.14m
611	6	Yellowish-orange/mid-buff, moderately loose sand. Natural	

700	7	Dark brown friable sandy 45%-silt 55%. Topsoil	0.27
701	7	Dark orangey-brown moderately loose silty 25%- sand 75%. Subsoil	0.19m
702	7	Orange-brown moderately loose sand with frequent 75% small rounded pebbles and pea grit. Natural	
800	8	Dark brown moderately loose/friable silty-sand. Topsoil	0.25m
801	8	Mid brown compact silty-sand. Subsoil	0.2m
802	8	Yellowish-orange/dark buff compact sand. Natural	
803	8	Wooden stake	0.26m
804	8	Cut of stake hole. Filled by 803	0.26m
805	8	Light grey friable silty-sand. Fill of ditch 806	0.3m
806	8	Cut of north/south aligned ditch. Filled by 805	0.3m
900	9	Mid blackish-grey loose silty-sand. Topsoil	0.3m
901	9	Brownish-grey friable sandy-clay. Subsoil	0.21m
902	9	Brownish-grey compact clay. Natural	
903	9	Stone bank north/south aligned. Structure	0.15m
1000	10	Mid-blackish-grey loose silty-sand. Topsoil	0.2m
1001	10	Brown-grey firm clay. Subsoil	0.2m
1002	10	Greyish-brown compact clay. Natural	
1100	11	Greyish-black friable silty-sand. Topsoil	0.15m
1101	11	Orangey-red friable mixed clay with 10-20% rubble. Made ground	0.2m
1102	11	Mixed black-grey compact silty-sand with 90% dumped material. Dumped deposit	
1103	11	Brown-grey compact sandy gravel with clay patches. Natural	

APPENDIX 3: FINDS SUMMARY

Cxt = Context, OR No = Object Record number, US = unstratified

Cxt	OR No	Material	Category	No frags	Description	Date
101	8	Ceramic	vessel	2	Non-joining fragment very hard-fired fabric with thick translucent beige external glaze.	Twentieth century or later
101	8	Ceramic	vessel	2	Plain white earthenware saucer rim.	Twentieth century or later
101	3	Glass	vessel	1	Dark brown half-pint beer bottle. Mould-blown with no makers or other marks. Top seated for crown	Mid-late twentieth century or later
200	12	Ceramic	vessel	1	Cream fabric, self glaze. Jug, probably kitchen ware.	Late nineteenth - twentieth century
200	12	Ceramic	vessel	1	Hard white porcelain. Miniature jug, base 16 mm, surviving height 23 mm.	Late nineteenth - twentieth century
200	12	Ceramic	vessel	1	Hard white fabric with white glaze.	Late nineteenth - twentieth century
300	13	Ceramic	vessel	1	Large redware bowl with white internal slip and self glaze.	Nineteenth-early twentieth century
300	13	Ceramic	vessel	1	Hard white fabric with white glaze.	Late nineteenth - twentieth century
300	13	Ceramic	vessel	1	Plate rim fragment blue and white underglaze transfer printed earthenware.	Late eighteenth century or later
300	11	Glass	vessel	1	Body fragment bluish mould-blown bottle, seams visible.	Late nineteenth century or later
300	11	Glass	window	1	Small mid-pane fragment colourless window	Twentieth century or later
400	18	Ceramic	vessel	1	Small fragment underglaze transfer-printed	Late eighteenth century or later
500	9	Ceramic	vessel	1	Fragment of hollow ware base, small vessel, Cream fabric, white slipper interior.	Nineteenth century or later.
500	10	Ceramic	drain	1	Small fragment of sand-cast field drain.	Late nineteenth century or later
700	19	Ceramic	vessel	1	Brown stoneware: base of ink bottle	Late nineteenth – early twentieth century
700	19	Ceramic	vessel	1	Creamware teacup	Late eighteenth – early nineteenth century
700	19	Ceramic	vessel	1	White earthenware body fragment, olive green outer glaze.	Twentieth century?
700	19	Ceramic	vessel	1	Poor quality hard white porcelain. Foot of egg cup.	Twentieth century?
800	16	Ceramic	vessel	1	Coarse cream Fabric, self glaze bowl?	Late nineteenth century or later
800	16	Ceramic	vessel	1	Body fragment blue and white underglaze transfer	Late eighteenth century or later

					printed	
800	16	Ceramic	vessel	1	Rim fragment late white stoneware straight-sided jar.	Late nineteenth century or later
803	20	Wood	Stake	1	Stake: now dry and disintegrating, with all original surfaced lost. Probably originally a four-facet point on otherwise unmodified timber.	Not dated
805	15	bone	animal	1	Sheep-sized rib, slightly gnawed?	Not dated
805	14	Ceramic	vessel	2	Non-joining fragments of black-glazed redware tankard base.	Mid eighteenth century?
805	14	Ceramic	vessel	1	Body fragment coarse cream-pink fabric with brown under-glaze slip.	Eighteenth century
805	17	Iron	nail	1	Slightly corroded nail, shaft possibly with rectangular section, c 130 mm long.	Twentieth century or later
900	6	Plastic	tobacco pipe	1	Part of pipe stem, top with internal screw thread for addition of mouthpiece.	Twentieth century or later
903	5	Ceramic	vessel	1	Hard, gritty cream fabric, unglazed.	Medieval. Possibly mid twelfth to mid-fourteenth century
903	7	Ceramic	drain	1	Small fragment of sand-cast field drain.	Late nineteenth century or later
1102	1	Ceramic	floor tile	2	Small square quarry tiles (100 mm x 100 mm and 17 mm thick). Rear impressed with design incorporating double crow.	Late nineteenth century or later
1102	1	Ceramic	floor tile	1	Large square quarry tiles (148 mm x 148 mm and 22 mm thick). Rear impressed with design incorporating a rope know and the word IRON.	Late nineteenth century or later
1102	4	Iron	holdfast	1	Slightly corroded iron holdfast or spike, c 135 mm long..	Twentieth century or later
1102	4	Iron	holdfast	1	Slightly corroded iron holdfast or spike, c 140 mm long.	Twentieth century or later
US	21	Ceramic	Brick	1	Machine-made brick with black mortar on side. Stamped NCB A D BURY	Twentieth century

APPENDIX 4: PRIMARY ARCHIVE INVENTORY

- 1.0 Final Report
- 2.0 Admin and Correspondence
 - 2.1 Project Design
 - 2.2 Written Scheme of Investigation
 - 2.3 Health and Safety
 - 2.4 Correspondence
- 3.0 Fieldwork
 - 3.1 Maps
 - 3.2 Site Notes
 - 3.3 Trench Records
 - 3.4 Condition Survey
 - 3.5 Context Records
 - 3.6 Environmental Sample Register
 - 3.7 Matrix
 - 3.8 Section/plan Index
 - 3.9 Sections and Plans
- 4.0 Photographic Record
 - 4.1 Photographic Record
 - 4.2 Monochrome
 - 4.3 Colour Prints
 - 4.4 Colour Slides
- 5.0 Electronic Media