

SELBY FLOOD ALLEVIATION SCHEME, SELBY, YORKSHIRE

Watching Brief



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SUMMARY

As part of a feasibility study for the construction of a flood defence system for the town of Selby, the Environment Agency proposed to conduct a programme of field observation to examine and record any surviving archaeological and palaeoenvironmental features between Selby Dam and Barlby Lane Toll Bridge (area centred on SD 323618), prior to construction. This followed on from a desk-based assessment by Northern Archaeological Associates (NAA) in October 1999 and geotechnical test pits excavated by machine in August 1999, which were archaeologically monitored (NAA). Following submission of a project design, which was approved by the Environment Agency, Oxford Archaeology North (OA North) were commissioned by the Environment Agency (EA) to undertake a watching brief whilst percussion borehole drilling was taking place alongside the River Ouse and at Selby Dam.

The watching brief took place between 23rd May 2006 and 31st May 2006. The programme of field observation examined the sediments from six percussion drilled boreholes. Two boreholes were drilled in the Memorial Gardens, two on the quay at Westmill Foods and two alongside Selby Dam, a tributary of the Ouse. All boreholes were hand-dug to a maximum safe depth of 1.2m prior to the commencement of drilling.

The two boreholes from the Memorial Gardens (BH 1 5m deep, BH 2 5m deep) and the two boreholes on the quay at Westmill Foods (BH 5 3.5m deep, BH 6 5m deep) revealed building rubble overlying alluvial sediments. The two deeper boreholes (BH 10 20m deep, BH 11 10m deep) alongside Selby Dam extended down through mortar and cement, through clayey silts, clay and dry sand. No goearchaeology or peat deposits were recorded in any of the boreholes.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Charles Forman and Anthony Myatt of the Environment Agency for co-ordinating, commissioning and funding the work. Thanks are also due to Martin Jones and his colleagues of Volker Stevin, and to the Geotechnical Engineer and the drillers from Fugro Engineering Services for their co-operation and assistance on site.

The watching brief was undertaken by Sandra Bonsall who also wrote the report, together with advice from Elizabeth Huckerby. The illustrations were compiled by Mark Tidmarsh. The project was managed by Elizabeth Huckerby and Alan Lupton, who edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Prior to installing a new flood defence system for Selby, Yorkshire centred on NGR SE 616325, the Environment Agency (EA) contacted Oxford Archaeology North (OA North) to conduct a programme of field observation during percussion borehole drilling along the River Ouse and its tributary Selby Dam. The EA Archaeologist identified the potential presence of archaeological deposits within the development area, and accordingly EA issued a brief (*Appendix 1*) for a programme of archaeological monitoring to be conducted during the drilling works on the site. The watching brief was conducted between 23rd May 2006 and 31st May 2006 and this report sets out the results followed by a brief discussion.

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 The methodology for the recording of six boreholes at Selby (*Appendix 1*), was approved by EA, was adhered to in full and the work was consistent with the relevant standards and the procedures of the Institute of Field Archaeologists and generally accepted best practice.

2.2 WATCHING BRIEF

- 2.2.1 Close liaison was maintained between OA North staff and the site contractors during the watching brief. The programme of field observation accurately recorded the location, extent and character of any surviving archaeological and palaeoenvironmental features. The work comprised of the observation during the drilling, the examination of any horizons exposed and the recovery, processing and storage of artefacts according to current standard practice based on guidelines set by the Institute of Field Archaeologists.

2.3 BOREHOLE MONITORING AND SEDIMENT DESCRIPTION

- 2.3.1 In addition to the field observations, an OA North environmental archaeologist liaised with the Fugro Geotechnical Engineer in order to produce a record of the sediments from the six boreholes drilled during field investigations. This involved daily monitoring on site whilst drilling was taking place.

2.4 ARCHIVE

- 2.4.1 A full archive of the work undertaken has been produced to a professional standard in accordance with English Heritage guidelines (English Heritage 1991). The archive will be deposited in the North Yorkshire County Record Office and a copy of the report, along with an index to the archive will be forwarded to the North Yorkshire Sites and Monuments Record.

3. BACKGROUND

3.1 LOCATION AND TOPOGRAPHY

- 3.1.1 The site (centred on SE 61 6325) occupies a location on the south-west bank of the River Ouse (Fig 1). Two boreholes were drilled in the Memorial Gardens to the west of Barlby Lane Toll Bridge, either side of a building known as “The Nook” (BH 1 and BH 2). Two boreholes were drilled on the quayside of Westmill Foods in front of a brick-built garage fronting the river (BH 5 and BH 6). The two boreholes on the quay of Westmill Foods are located on the downriver side of a partially upstanding masonry listed building incorporated into a later brick-built warehouse. Two boreholes were drilled along the north-western side of the tributary of the River Ouse, Selby Dam (BH 10 and BH 11). See Figure 2 for the positions of the boreholes.

3.2 GEOLOGY

- 3.2.1 Very little is known about the geology of the Selby area, previous boreholes have revealed firm clay/silt to a depth of 13m depth over firm laminated clay (Black & Veatch 2006). The area is underlain by Sherwood Mudstone (Charles Forman, Environment Agency *pers comm*).

3.3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 3.3.1 ***Medieval and post-medieval period:*** The area between Selby Dam and the Swing Bridge in particular is considered to have high archaeological potential for features and deposits of medieval date (NAA 2002). The sites of the boreholes are between the historical heart of Selby and the River Ouse, in an area recorded as the location of medieval wharves, jetties and associated warehouse buildings. The precise location of the waterfront in the medieval period is not recorded although maps of 18th century date indicate that the river was not significantly different to its present course. No previous archaeological investigation has taken place along this length of the river. Northern Archaeological Associates (2002) state that “no significant archaeological remains are recorded within the study area outside the historic core of Selby”(NAA, 2002:9).

4. RESULTS

4.1 INTRODUCTION

- 4.1.1 In total, six percussion boreholes were monitored during the watching brief. The results are shown in Table 1 and the core positions on Figure 2.

4.2 BOREHOLE/SEDIMENT DESCRIPTIONS

- 4.2.1 **Borehole 1:** was located south-east of 'The Nook' and was hand dug to a depth of 1.2m through topsoil which included building rubble and a couple of pieces of mammal bone. The sediments became silty but still incorporated building rubble to a depth of 2.4m, where an oyster shell was found. The silts below this depth became redder in colour and incorporated more gravel, below this was a layer of grey silty clay to a depth of 5m where the borehole terminated.
- 4.2.2 **Borehole 2:** was located north-west of 'The Nook' and was hand dug to a depth of 1.2m through topsoil which included building rubble and roof tiles. This material continued down to a depth of 4m where black organic silt was found down to the depth of 5m, where the borehole terminated.
- 4.2.3 **Borehole 5:** was located north-west of The Memorial Gardens on the quay of Westmill Foods and was hand drilled with a pneumatic drill to a depth of 1.2m through concrete and building rubble. The building rubble was present to 2m and included a fragment of mammal bone. From 2-3m there were mixed brown and grey silts. Below this was a mid-brown silty clay to a depth of 5m, where the borehole terminated.
- 4.2.4 **Borehole 6:** was located north-west of The Memorial Gardens on the Quay of Westmill Foods and was hand drilled with a pneumatic drill to a depth of 1.2m through tarmac overlaying concrete and building rubble to a depth of 1.2m. During the initial hand digging the remains of a brick wall was located in the downriver side of the pit associated with the surrounding building rubble. A piece of thick glass was found amongst the building rubble (dating to the 17th-18th century) the glass could be residual and does not necessarily date the rubble. Below this to a depth of 1.50m was a dark brown clayey silt. This overlaid a fine dark silty clay to a depth of 5m, where the borehole terminated.
- 4.2.5 **Borehole 10:** was centred on SE 617325 the north-western side of the Selby Dam tributary of the River Ouse and had been mechanically topstripped prior to the commencement of the drilling. The area to be drilled was hand dug to a depth of 1.2m through sand, which contained mortar and cement. Below this were layers of brown clayey silts becoming increasingly darker down to a depth of 7m. Layers of clays in various colours of brown and grey extended down to a depth of 19.5m where this overlaid dry sand to a depth of 20m where the borehole terminated.

- 4.2.6 **Borehole 11:** was centred on SE 617325 and was on the north western side of the Selby Dam tributary of the River Ouse and was hand drilled with a pneumatic drill to a depth of 1.2m through compacted gravel overlaying cement and building rubble. A dark brown clayey silt with brick and gravel extended from 1.2 -3m with a dark brown clayey silt to 4.5m. From 4.5-10m was a firm brown silty clay.

BOREHOLE NUMBER	DEPTH 1	DEPTH 2	DESCRIPTION
BH 1	0	0.01	Topsoil
BH1	0.01	1	Topsoil mixed with building rubble/few mammal bones
BH 1	1	1.4	Brown silt mixed with building rubble
BH 1	1.4	2.4	Brown silt and gravel mixed with building rubble/oyster shell
BH 1	2.4	3	Reddish and dark brown silt and poorly sorted gravel
BH 1	3	5	Grey silty clay
BH 2	0	0.5	Topsoil
BH 2	0.5	2.5	Building rubble bricks and tiles
BH 2	2.5	4	Building rubble bricks and tiles
BH 2	4	5	Black organic silt
BH 5	0	0.75	Concrete (hand-drilled)
BH 5	0.75	2	Building rubble /mammal bone
BH 5	2	3	Brown and dark grey clayey silt
BH 5	3	3.5	Mid-brown silty clay
BH 6	0	0.1	Tarmac (hand-drilled)
BH 6	0.1	0.2	Concrete(hand drilled)
BH 6	0.2	1.2	Building rubble tile,brick and thick glass/brick wall in downriver side of hand dug pit
BH 6	1.2	1.5	Dark brown clayey silt
BH 6	2	5	Fine dark silty clay
BH 10			Surface mechanically topstripped
BH 10	0.3	1.25	Sand, clay, cement and mortar
BH 10	1.25	3.7	Light brown clayey silt
BH 10	3.7	7	Dark grey clayey silt
BH 10	7	12	Mixed brown and grey clay
BH 10	12	15	Mid-grey firm clay
BH 10	15	15.3	Brownish grey mottled clay/very firm
BH 10	15.3	19.5	Brownish grey mottled clay/very wet
BH 10	19.5	20	Dry sand
BH 11	0	0.75	Compacted gravel, rubble and cement
BH 11	0.75	1	Brown silty topsoil with brick gravel and tile
BH 11	1	3	Dark brown silt with brick and gravel
BH 11	3	4.5	Dark brown clayey silt
BH 11	4.5	10	Firm mid-brown silty clay

Table 1: Summary of sediment descriptions from monitored boreholes BH 1- BH 2, Selby FAS.

5. DISCUSSION

5.1 CONCLUSION

- 5.1.1 The results of the watching brief within the Memorial Gardens and the quay area of Westmill Foods revealed building rubble overlaying alluvial sediments comprising various silts and clays. The building rubble was probably from buildings built closer to the river than at present in line with the 'The Nook', the sides of which bear scars from previously attached buildings.
- 5.1.2 Due to the limited nature of the data from six boreholes it was not possible to assess the extent of buildings on the land where the Memorial Gardens are now or along the quayside at Westmill Foods. Apart from a few pieces of mammal bone and an oyster shell, no other organic remains were found except a black organic layer recorded in borehole 2. No definite archaeological features were recorded in the boreholes examined as part of the watching brief for the Selby FAS. It is recommended that in future investigations to record both archaeological and geoarchaeological data it is necessary to extend the borehole excavations beyond the engineering impact level to record meaningful archaeological data. Additional coring or test pit data is needed at Selby to assess the high archaeological potential of the land between Selby Dam and the Barlby Lane Swing Bridge highlighted by Northern Archaeological Associated (2002) in their report.
- 5.1.3 If waterlogged archaeological remains are preserved they are likely to be found at a depth beneath the fluvial deposits. Boreholes 1, 2, 5 and 6 are in the area of greatest potential for such remains but were terminated at 5m (except BH 5 which was terminated at 3.5m) in either silty or black organic silt. It is likely that any such water logged remains would be found beneath these.

5.2 IMPACT

- 5.2.1 Any proposed flood defences will undoubtedly impact on the archaeological potential of this stretch of the bank of the River Ouse. At present very little is known about the nature of activity which would have undoubtedly taken place along the river bank. It is likely that any further archaeological work in this area would help our understanding of these issues.

6. BIBLIOGRAPHY

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

Northern Archaeological Associates, 2002 *Selby Tidal Defences Feasibility Study archaeological Appraisal*. Unpublished client report for the Environment Agency.

7. ILLUSTRATIONS

7.1 FIGURES

Figure 1: Site location map and watching brief location plan.

Figure 2: Borehole location plan.

7.2 TABLES

Table 1: Summary of sediment descriptions from monitored boteholes BH 1-BH11, Selby FAS

APPENDIX 1

METHODOLOGY FOR THE RECORDING OF SIX BOREHOLES AT SELBY

A programme of field observation will examine and record the extent and character of any surviving archaeological and palaeoenvironmental features, horizons and/or deposits revealed during the course of ground investigations.

An OA North Environmental Specialist will carry out observations during the field investigations. It is anticipated that the retrieval of sediments may vary between and within boreholes, and it is possible that a combination of both bulk samples and cores will be extracted. Where possible, the OA North specialist will record and monitor the sediment sequences on site, however, should the nature of retrieval make visual inspection difficult then it is possible that some recording will need to be carried at the soil engineers offices.

The sediment descriptions of each borehole will be logged in a field notebook, and the lithological data will be entered into an excell spreadsheet. Should any significant organic remains be identified within the deposits then recommendations will be put forward to the Client for an assessment of their palaeoenvironmental potential.

In the event of significant archaeological features or human remains being encountered during the investigations, discussions will take place with the Planning Archaeologist, as to the extent of further works to be carried out, and in agreement with the Client. All further works would be subject to a variation to this project design.

The results of the field investigations will be presented as a written report along with appropriate diagrams and any further recommendations.



Figure 1: Site Location



Figure 2: Borehole location plan