



ARCHAEOLOGICAL  
SERVICES  
WYAS

**Sprotbrough Weir**  
**Sprotbrough**  
**South Yorkshire**

*Archaeological Watching Brief*

*November 2010*

*Report No. 2148*

CLIENT  
**Environment Agency**

# Sprotbrough Weir Sprotbrough South Yorkshire

## Archaeological Watching Brief

### *Summary*

*A watching brief undertaken during geotechnical works in advance of the proposed construction of a fish pass at Sprotbrough Weir has identified demolition layers and features of archaeological potential in all of the test excavations. A mill is thought to have stood on the site since at least 1705 and it is considered likely that in situ walls identified during the geotechnical investigations locate foundations of the most recent mill which was used to grind flint for use in the pottery industry and which was eventually demolished in the 1930s. The proposed development will directly impact on the remains.*



ARCHAEOLOGICAL  
SERVICES  
WYAS

## Report Information

Client: Environment Agency  
Address: Phoenix House, Global Avenue, Leeds, West Yorkshire, LS11 8PG  
Report Type: Archaeological Watching Brief  
Location: Sprotbrough Weir, Sprotbrough  
County: South Yorkshire  
Grid Reference: SE 5376 0140  
Period(s) of activity represented: Post-medieval  
Report Number: 2148  
Project Number: 3627  
Site Code: SWE10  
Planning Application No.: -  
Museum Accession No.: -  
Date of fieldwork: 25th November 2010  
Date of report: 29th November 2010  
Project Management: Alistair Webb BA MifA  
Fieldwork supervisor: Phil Weston BSc MA  
Report: Phil Weston  
Illustrations: Phil Weston  
Photography: Phil Weston

Authorisation for  
distribution: \_\_\_\_\_



© Archaeological Services WYAS 2010  
PO Box 30, Nephshaw Lane South, Morley, Leeds LS27 0UG  
Telephone: 0113 383 7500.  
Email: [admin@aswyas.com](mailto:admin@aswyas.com)



ISOQAR ISO 9001:2008  
Cert. No. 125QM8003

## Contents

Report information .....	ii
Contents.....	iii
List of Figures .....	iv
List of Plates.....	iv
Acknowledgements .....	iv
<b>1 Introduction.....</b>	<b>1</b>
Site location and topography .....	1
Soils, geology and land-use .....	1
<b>2 Archaeological and Historical Background.....</b>	<b>1</b>
<b>3 Aims and Objectives .....</b>	<b>2</b>
<b>4 Methodology .....</b>	<b>3</b>
<b>5 Results .....</b>	<b>3</b>
<b>6 Discussion .....</b>	<b>4</b>
<b>7 Conclusions.....</b>	<b>5</b>

Figures

Plates

### Appendices

Appendix 1: Inventory of primary archive

### Bibliography

### **List of Figures**

- 1 Site location (1:50000)
- 2 Site plan showing the location of the proposed fish pass, geotechnical excavations and the flint mill and cottages (1:400)

### **List of Plates**

- 1 Geotechnical Pit 1, view south-east
- 2 Geotechnical Pit 2. Freshly disturbed masonry in south-east facing section, view north
- 3 Geotechnical Pit 2. Lens of demolition material in south-west end of pit, view south-west
- 4 Trench 1. Sandstone and limestone masonry, view west-north-west
- 5 Trench 1. View north-east from the top of the riverbank batter deposit
- 6 Trench 1. View south-west revealing demolition deposit

### **Acknowledgements**

ASWYAS would like to thank Paul Scaife of the Environment Agency for commissioning the works.

## **1 Introduction**

Archaeological Services WYAS (ASWYAS) was commissioned by the Environment Agency to maintain an archaeological watching brief during geotechnical investigations at Sprotbrough Weir, Sprotbrough, South Yorkshire. The watching brief was undertaken in advance of the proposed construction of a fish pass on the southern side of the weir.

### **Site location and topography**

Sprotbrough Weir crosses the river Don between the south bank and a small island located within the river, approximately 750m to the south of the village of Sprotbrough, centred at SE 5376 0140 (Figs 1 and 2). It lies approximately 8km to the south-west of Doncaster and 6km north-west of Mexborough. The weir lies at a height of approximately 10m aOD and the land rises rapidly to the north-west and south-east.

### **Soils, geology and land-use**

The underlying solid geology within the proposed development site comprises Lower Magnesian limestone (BGS 1993), overlain by shallow, well drained calcareous fine loamy soils (Soil Survey of England and Wales 1980).

## **2 Archaeological and Historical Background**

The site has previously been the subject of a desk-top assessment (Grassam 2009). This study found that although the area has been utilised by human communities during the prehistoric and on through the Roman period and again in the medieval period, it was during the post-medieval period that the site saw most activity.

The first plan to show a weir at this location was probably drawn by 1705. It also shows two mills positioned on either side of the weir, which probably represent Mill House corn mill and what was later called Flint Mill. The 1705 plan also shows the tenterfield – where the tenter frames which held the fulled cloth to dry were placed – on the northern side of the river.

Palmer's plan of 1722 reveals that Flint Mill, which lay immediately to the south of the Sprotbrough Weir at the site of the proposed fish pass, was earlier known as 'Walk Mill'. The process known as 'walking' (also known as 'fulling') is where the cloth was trampled by foot in water to remove the grease and dirt and to allow the cloth to shrink and thicken. The cloth was then stretched across the tenter frames. Palmer's plan of 1722 shows the Sprotbrough Ferry, which lay a short distance to the south of the weir, and was in use until the Sprotbrough Bridge was built in the mid 19th century. The 1722 plan also shows 'New Cut', which may indicate that the river on the southern side of the island was deliberately cut to bypass a natural meander in the river Don.

A lease from 1756 reveals that Godfrey Copley let the mill to Solomon Holmes, a fellmonger and oil leather dresser and one of the terms of the lease included the upkeep of the weir, using wood and stone provided by Godfrey Copley.

The building appears to have been used as walk mill until the late 18th century, after which it was used as a flint mill. The flint processed here was first burnt in kilns located near the mill before being reduced to fragments by stampers. It was then ground to a powder in the mill using power provided by dual wheels. The ground flint was then mixed with potters clay.

The Warmsworth Tithe map of 1838 shows the mill as an 'L' shaped building, with the northern range appearing to lie within the river Don, although the south-eastern side of the weir is shown abutting a projected area of land. A second, rectangular building is shown to south-east of the 'L'-shaped building. The layout of the mill is largely confirmed by the 1847 Sprotbrough Tithe map. White's Directory of 1838 names the occupier of the flint mill as Joseph Green although by 1848 the flint mill was occupied by Mr Samuel Barker, the proprietor of the Don Pottery at Swinton.

The building seems to have been remodelled by 1854, now appearing as a north-west to south-east orientated rectangular building, with a north-east to south-west projecting range on the south-west side. The mill now appears to be surrounded on three sides by land. A series of small buildings, possibly representing cottages, lie to the south-east. The 1854 Ordnance Survey map labels the building as 'Old Mill' and while it is known that the mill was briefly unoccupied in the mid-19th century, the Burton family are recorded as living there in 1868. In 1872 the building was again in use as a flint mill and it was occupied by a Mr Harris, who managed the mill for a Spanish company. The flint mill was closed for the last time in the 1880's. The building is last shown on the 1903 Ordnance Survey map, after it had gone out of use being demolished sometime before 1931.

The Corn Mill, located on the island on the north side of the weir, remained in use until the 1930's. Lime extraction and processing also formed an important part of the local economy in Sprotbrough, and in the mid-18th century, a hamlet housing workers from the nearby Levitt Hagg Quarry lay in the southern end of the study area, close to the site of lime kiln. A second limestone quarry and associated kilns is shown on the Sprotbrough Tithe map of 1847 in the north-east of the study area.

### **3 Aims and Objectives**

The aim of the watching brief was to identify and record the presence/absence, extent, condition, character and date (as far as circumstances permit) of any archaeological features and deposits which are disturbed or exposed as a result of the geotechnical excavations associated with the ongoing plans to construct the fish pass.

The results of the monitoring may be used to inform the scope of any further archaeological work that may be appropriate in advance of, or during, the proposed development.

## 4 Methodology

The archaeological watching brief was carried out in accordance with recognised professional standards, specifically *Standards and Guidance for Archaeological Field Evaluation* (Institute for Archaeologists 2008), *Standards and Guidance for Archaeological Watching Briefs* (Institute for Archaeologists 2008) and *Management of Archaeological Projects* (English Heritage 1991). ASWYAS's own methodologies (ASWYAS 2009) were also adhered to.

The groundworks involved the excavation by boring machine of two boreholes, two geotechnical pits (0.6 by 2.60m) dug by a JCB fitted with a toothed bucket and a trial trench (1.5 by 22m) also excavated by the JCB but fitted with a 1.5m ditching bucket (Fig. 2).

All archaeological investigations were undertaken by hand. Artefactual evidence was collected whenever encountered and an environmental sampling strategy was in place should appropriate deposits be encountered. All archaeological features and deposits were photographed and drawn to scale as appropriate and recorded using a standardised *pro-forma* system. Feature sections were drawn at a scale of 1:10.

## 5 Results

### The boreholes (see Fig. 2)

The boreholes were excavated with a 75mm diameter coring tool. Borehole 1 identified 0.65m of topsoil overlying a demolition deposit up to 1.75m thick, thereafter, natural silts and clays were encountered.

Borehole 2 was located on top of the river bank. It identified 0.30m of topsoil overlying a made ground battering deposit laid up against the weir edge. Beneath this made ground were a series of riverine deposits.

### The geotechnical pits (see Fig. 2 and Plates 1, 2 and 3)

#### *Geotechnical Pit 1*

<b>Sample section:</b> North-east facing (0.00 = 10.10m aOD)	
<b>Orientation:</b> NW – SE	<b>Dimensions:</b> 0.6m by 2.6m
<b>Depth</b>	<b>Description</b>
0.00 – 0.35m	Topsoil
0.35 – 1.20m	Made ground. Dark reddish brown sandy silt
<b>Depth</b>	<b>Description</b>
1.20 – 1.90m+	Demolition deposit containing bricks, masonry and lime mortar



Geotechnical Pit 1 was excavated close to the north-east end of the trial trench. Groundwater was encountered at 1.9m, which caused the sides of the pit to repeatedly fall in and so excavation had to be curtailed (Plate 1). Examination of the demolition layer identified dressed limestone blocks and unfroged bricks with lime mortar adhering to their surfaces. This material likely derives from the demolition of the mill and cottages during the early 20th century.

#### *Geotechnical Pit 2*

Geotechnical Pit 2 was excavated close to the south-west end of the trial trench (Fig. 2).

<b>Sample section:</b> North-west facing (0.00 = 10.08m AOD)	
<b>Orientation:</b> NE – SW	<b>Dimensions:</b> 0.6m by 2.6m
<b>Depth</b>	<b>Description</b>
0.00 – 0.50m	Topsoil
0.50 – 2.50m+	Mid reddish brown clay with pebbles

Pit 2 revealed (and disturbed) a short section of masonry in its north-western side and was, therefore, moved 0.30m to the south-west to avoid these *in situ* remains (Plate 2). The masonry consisted of dressed limestone blocks up to 350mm x 250mm x 250mm in size. No bonding agent was apparent but closer inspection of the remains was negated by the depth of the pit. A lens of lime mortar was identified at the south-west end of the pit. Groundwater was encountered at a depth of approximately 2m.

#### **The Trial Trench** (Fig. 2; Plates 4, 5 and 6)

The Trial Trench measured 1.5m by 22m and was excavated on a north-east/south-west alignment. The south-west end of the trench revealed the top of the riverbank battering deposit. This deposit extended 5m to the north-east where it shallowed out to nothing (Plate 5). A large wall footing constructed of lime mortar bonded limestone and sandstone blocks was revealed at the break of the battered slope (Plate 4). The footing was overlaid by 0.80m of topsoil and 0.20m of the battering deposit. A short 1.8m long section of the footing was revealed on a north-north-east/south-south-west alignment. It was overlaid by the riverside battering deposit to the south-west and exited the trench along its south-east facing section.

The remainder of the trench to the north-east revealed a demolition layer consisting of masonry blocks, tiles and unfroged bricks, many with lime mortar adhering to their surfaces (Plate 6).

## **6 Discussion**

The watching brief identified features and deposits of archaeological potential in all of the geotechnical excavations. Demolition layers were identified in Borehole 1, Geotechnical Pits 1 and 2 and in Trial Trench 1. This material almost certainly derives from the demolition of

the flint mill in the early 20th century. Borehole 2 identified the anthropogenic riverbank battering deposit.

*In situ* structural remains were identified in Geotechnical Pit 2 and in the Trial Trench. As yet it is not possible to determine whether the remains relate to an earlier phase of the weir or to the various mill structures that have occupied the site over the years.

## **7 Conclusions**

The archaeological watching brief has demonstrated the proposed development will almost certainly impact on sub-surface structural remains relating to the former flint mill which is known to have stood on site from the early 18th century until the early 20th century. Remains relating to earlier phases of the weir may also be present.



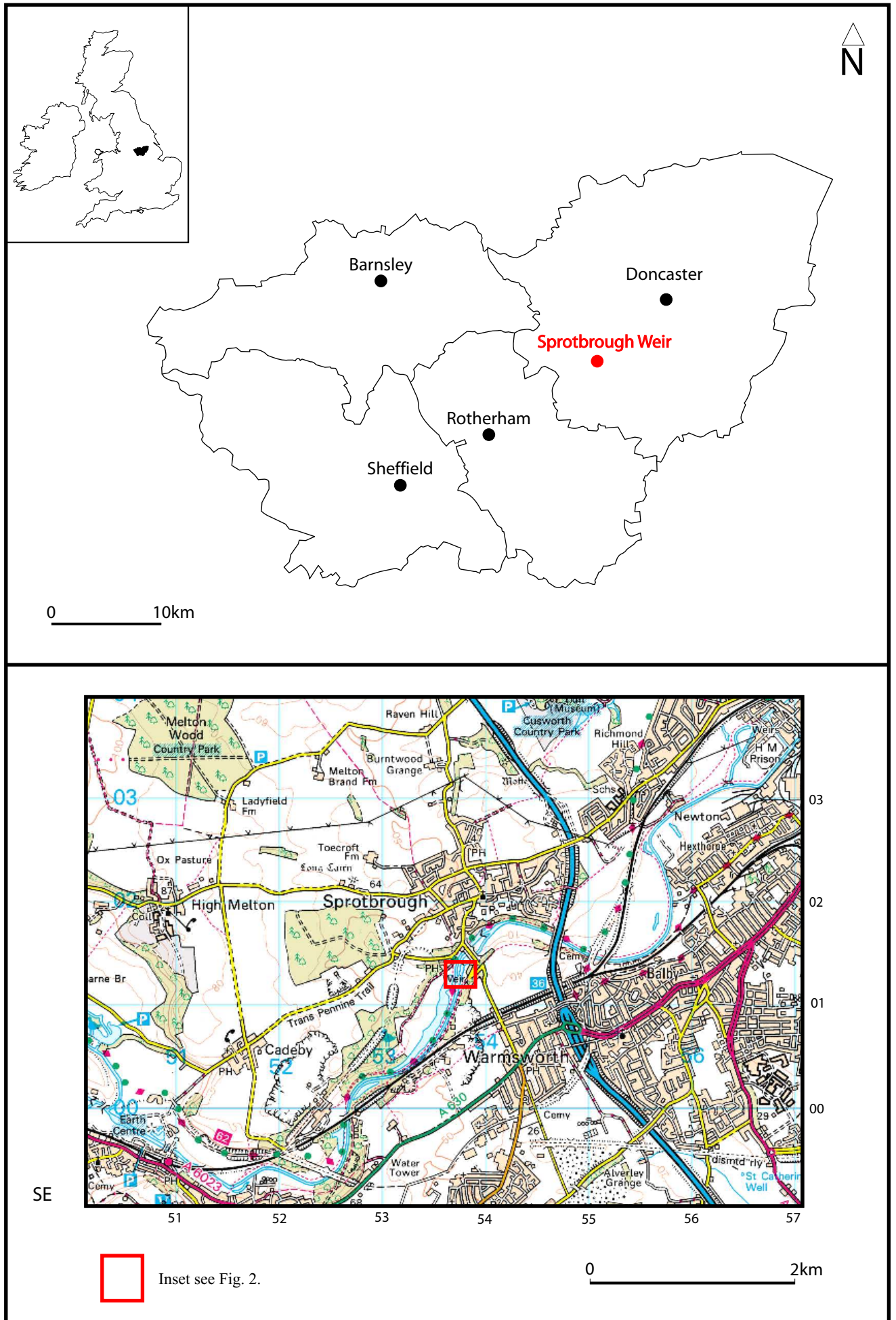
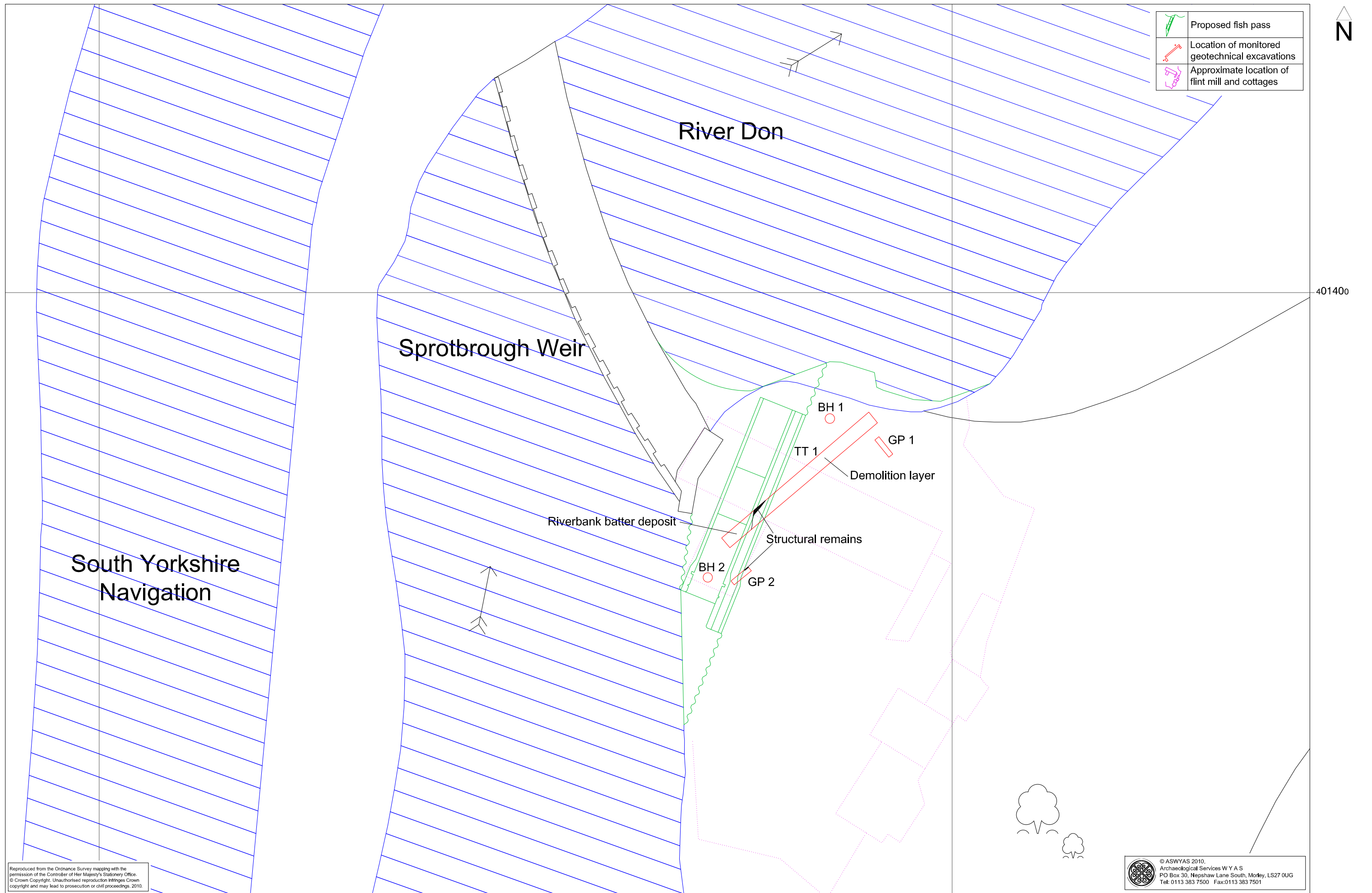


Fig. 1. Site location



Reproduced from the Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. 2010.

© ASWYAS 2010.  
 Archaeological Services W Y A S  
 PO Box 30, Nepshaw Lane South, Morley, LS27 0UG  
 Tel: 0113 383 7500 Fax: 0113 383 7501

453700 453800 401400

0 20m

Fig. 2. Site plan showing the locations of the proposed fish pass, geotechnical excavations and the flint mill and cottages (1:400 @ A3)





Plate 1: Geotechnical Pit 1, view south-east



Plate 2: Geotechnical Pit 2. Freshly disturbed masonry in south-east facing section, view north



Plate 3: Geotechnical Pit 2. Lens of demolition material in south-west end of pit, view south-west



Plate 4: Trench 1. Sandstone and limestone masonry, view west-north-west





Plate 5: Trench 1. View north-east from the top of the riverbank batter deposit



Plate 6: Trench 1. View south-west revealing demolition deposit



## Appendix 1: Inventory of primary archive

Phase	File/Box No	Description	Quantity
Evaluation	File no.1	Evaluation Report	1

## **Bibliography**

ASWYAS. 2010. Site recording manual, Archaeological Services West Yorkshire Archaeological Service.

British Geology Survey. 1993. Barnsley, Sheet 87: Solid and drift edition, 1:50 000 scale.

English Heritage. 1991. *Management of Archaeological Projects*.

Grassam. A. 2009. *Sprotbrough Weir, An Archaeological Desk-Based Assessment*. Unpubl. Client Report ASWYAS Rep. No. 1949.

Institute of Field Archaeologists. 2009. *Standards and Guidance for Archaeological Watching Brief*.

Soil Survey of England and Wales. 1980. Soils of Northern England Sheet 1.