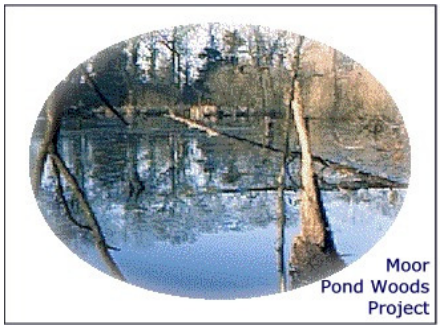

Title	**Archaeological Project Report** **Moor Pond Woods, The Dam Banks Ponds**
Author(s)	**Stephen Walker**
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MPW project code	**DBES_phase2**
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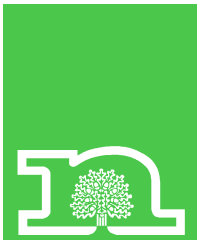
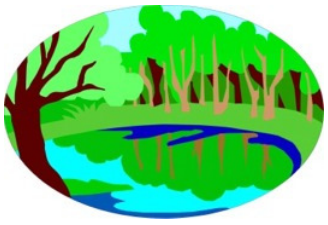
File name/location	MPWproject_Report_DBES_phase2_ v2_20141114.docx





Contents

Abstract

This report was originally compiled in November 2008, but was revised in November 2014 to include new mapping, references to the project archive and to present it in the house style of Moor Pond Woods Project reports.

The site lies to the north of the Dam Banks South Sluice and bridge, west of Moor Road and between Papplewick Lane and Linby Lane. The OS reference for the site is centred at SK 547 507.

The water system for the Robinson Mills appears to have been constructed between 1778 and 1830, although there may have been a mill (or mills) on this site before that. Evidence of the 1835 map and 1847 estate map, combined with observations onsite, suggest that there may have been several sluices within the Dam Banks section of the Project Area. An investigation during July 2005 established the location and extent of the Dam Banks East Sluice (Walker, 2005). The investigation drew attention to the lower areas lying immediately to the west and east of the East Sluice, and its embankments. The purpose of this study, carried out during October 2008, was to find out more about the water storage capacity of Dam Banks.

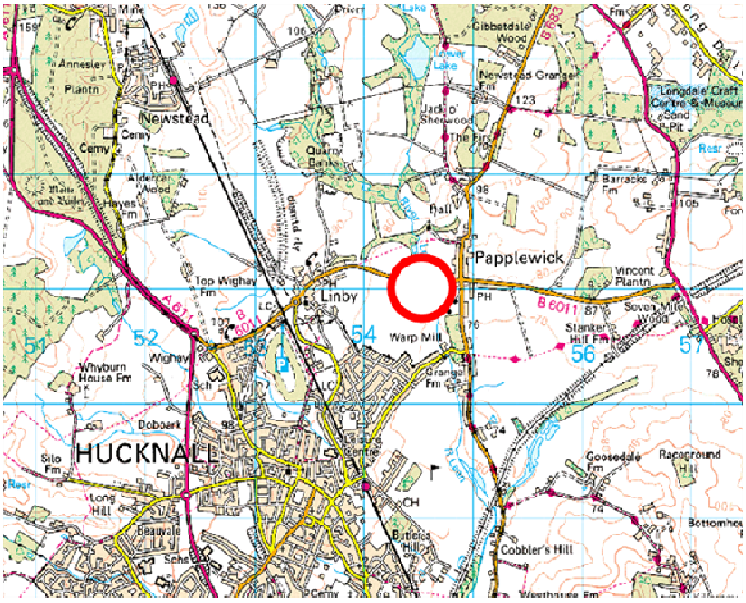
This project was a community archaeology study supervised by professional archaeologists from the Nottinghamshire Archaeology Service, and carried out by year 10 pupils from the Holgate School in Hucknall. Funding was made available through a grant from the Heritage Lottery Initiative.

Historical Context

George Robinson and sons probably took over the lease on the **Walk Mill** in the 1770s. Over the following 50 years the family built a series of water-powered cotton spinning mills fed by a complex water system. In 1778 they constructed the **Grange Mill** which used water from Walk Mill Pond. In 1782 they commissioned **Top Mill**, with its own reservoir (known as Papplewick Dam) fed from a header known as Top Upper Dam. Water from Top Upper Dam could also be used to supplement the supply at Grange Mill via a leat which follows the eastern shore of Papplewick Dam and passes southwards through Dam Banks. The **Middle Mill** was also built at this time and had a small pond which was probably fed by water transferred via the leat system from Top Upper Dam. **Forge Mill** dates from 1787. It had a pond fed from the Leen. A second Grange Mill was built in 1791 (this became known as **New Mill** to differentiate it from the existing **Old Mill** at the Grange). This mill seems to have used the water from Top Upper Dam. The final mill to be developed, in 1794, was the **Forest Mill** at Bulwell. It also had a mill pond fed by the river Leen. The Robinson family relinquished control of the mills in 1820 and in 1830 cotton-spinning ceased. It is known that Top Mill and Forge Mill were converted to be used for alternative purposes, and therefore parts of the water system remained operational until the mid-twentieth century.

The primary focus of the archaeological exploration in the Moor Pond Woods Project area is to gain understanding of the operation of the complex water system. What probably began in the 1780s as a fairly simple system of water control and storage would, of necessity, have had to have been altered and adjusted as additional demands were placed upon it. The water system is assumed to have reached its maximum extent by 1830. It continued to supply water to the two surviving mills but it is not known when specific sections of the system fell into disuse.

Location of the Moor Pond Woods Project Area



The Moor Pond Woods Project is a community environmental and archaeological project in the valley of the river Leen, near the village of Papplewick, Nottinghamshire.

The project area comprises four components:

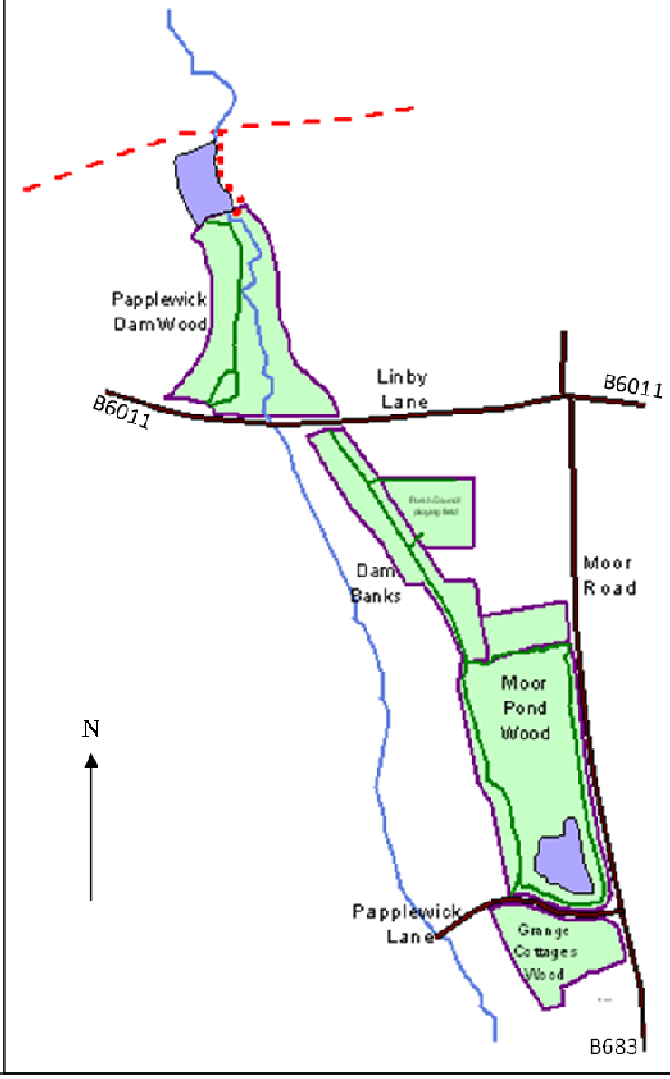
Papplewick Dam Wood – the site of a former reservoir, north of Linby Lane (B6011)

Moor Pond Wood – also the site of a reservoir between Moor Road (B683) and Papplewick Lane

Dam Banks – a strip of woodland along the line of a leat joining Linby Lane to Moor Pond Wood

Grange Cottages Wood – bounded by Papplewick Lane and Moor Road (B683)

Within this area are the remains of some of the ponds and leats that transferred water to the Robinson cotton mills.



Introduction

Much of the evidence for the water system in Moor Pond Woods relies on interpretation of two cartographic sources, the Sanderson map of 1835 and the Montagu Estate map of 1847. A problem with this evidence is that the mills had ceased operation before 1835. As far as we can tell, the mill and buildings were not demolished until the 1850s but the system may not have been serviceable.

At this scale, Sanderson is not very clear but he appears to show that north of Moor Pond is a smaller pond, joined to the leat/pond feature that runs southwards through Dam Banks. (See figure 1)

There is a bit more detail on the 1847 estate map, seen in figure 2. The shape of the features is delineated more clearly and the positions of the channels and ponds are in similar positions. This adds weight to the value of the Sanderson map as a fairly accurate source. Of particular interest is the pond/leat area that carried water southwards into Moor Pond and linked the East and South Sluices. The 2005 Dam Banks East Sluice investigation concluded that water was allowed to pass east-west and vice versa between the leat/pond feature and the small pond north of Moor Pond. So a subsidiary question is about how and where water travelled from there?

Table 1: Relevant previous archaeological excavation in Moor Pond Woods, between 2001-2008

Dates	Location	Summary of work carried out	Products
Nov 2002 and Mar 2005	Dam Banks South Sluice. SK 5475 5075	Two complex trenches to investigate sluice features.	(1) Extensive stonework excavated. (2) Recorded & reported (**Sheppard, 2003**) (3) Conserved and left on display.
July 2005	Dam Banks East Sluice. SK 54768 50792	Exploration of a sluice feature.	(1) Stonework excavated. (2) Recorded & reported. **(Walker, 2005)** (3) Remains reburied and landscaped.

Based on these sources and the location of the South and East Sluices, confirmed by field investigation in 2003 and 2005, it was agreed to undertake further exploration at the site. The field work consisted of morphological mapping of the area around the sluices, combined with excavation of test pits. The fieldwork was supervised by members of Nottinghamshire County Council Archaeological Service, whilst the work was carried out by the Leen Valley Conservation Volunteers (LVCV) assisted by pupils and staff from the Holgate School in Hucknall. The work took place on a day in October 2008. This project was seen as an opportunity to build capacity for the Moor Pond Woods Project by giving school pupils an insight into archaeological field work, and the opportunity to participate in a community activity.

Aims and objectives

1. To investigate the morphological evidence for the leat/pond feature shown on the 1835 and 1847 maps.
2. To investigate evidence for the origin of the terrace feature running through the pond/leat site. Is the terrace a remnant of the original ground surface, above which the embankments have been constructed or has the leat/pond feature been excavated through the old surface ?
3. To gather evidence within the site of a possible water channel between the north pond and South Sluice.
4. To offer an opportunity and encouragement to young people who may work with the project in future.
5. To raise the profile of the Friends of Moor Pond Woods and the Moor Pond Woods Project within the local community.

Methodology.

1. Two test pits of one square metre were excavated. The first was on the terrace feature a few metres north-west of the East Sluice (T1400). The other was in the low-lying area between the assumed site of the north pond and the channels leading to the South Sluice (T1500). (See figure 3).
2. The exposures were reburied and landscaped.
3. By observation and measurement, the slope units around the site were surveyed and recorded. A tree survey had already been undertaken using a laser distance measure and a sighting compass, relating the position of each tree to a known datum at the end of the bridge. The trees were then used as markers to plot the unit boundaries.

Results

1. The test pits.
    a. Test Pit T1400 was excavated on the terrace a few metres north-west of the East Sluice at OS Grid Ref SK 54759.637 50801.064 ; See figures 3 and 4.
        i. Under the thin humus layer, was context 101 - reddish-brown clay/silt loam subsoil, containing few pebbles. This continued to a depth of 15cm.
        ii. Below 15 cm was context 102 - an indurated gravel layer with yellow sandy matrix. At its surface was a layer that contained pebbles up to 3cm in length.
    b. Test Pit T1500 was located on the low lying area between the channel leading to the South Sluice and the boggy area thought to have been the subsidiary pond at OS Grid Ref SK 54782.787 50753.873 ; See figures 3 and 6.
        i. At the surface there were only a couple of centimetres of dry, humus-rich topsoil, with fine roots.
        ii. Beneath the topsoil was context 201 - a 10cm layer of a friable, grey-coloured sandy/silt loam.
        iii. Only 10-12cm beneath the surface were numerous pieces of flaggy yellow-grey Magnesian limestone set into the grey sandy subsoil. By observation the stone more closely resembled Mansfield stone than Linby stone (which is generally orange/cream coloured).
        iv. The biggest slabs were in the range 20-35cm length. They were all lying in the same plane.
        v. No attempt was made to lift the stones, nor to dig through them.
2. The morphological survey.
    a. The area between the embankments, to the west of the Dam Banks East Sluice is seen to contain a north-south channel and, to the east, a raised terrace. It was onto the surface of this terrace that test pit T1400 was excavated. This is seen in figure 5. The terrace level is broken by a channel linking the East Sluice to the main channel.
    b. At the time of the survey there was no levelling data available to compare the actual (or relative heights) of the features.
    c. To the east of the main embankment is the area marked on the 1847 map as a subsidiary pond.

The finds

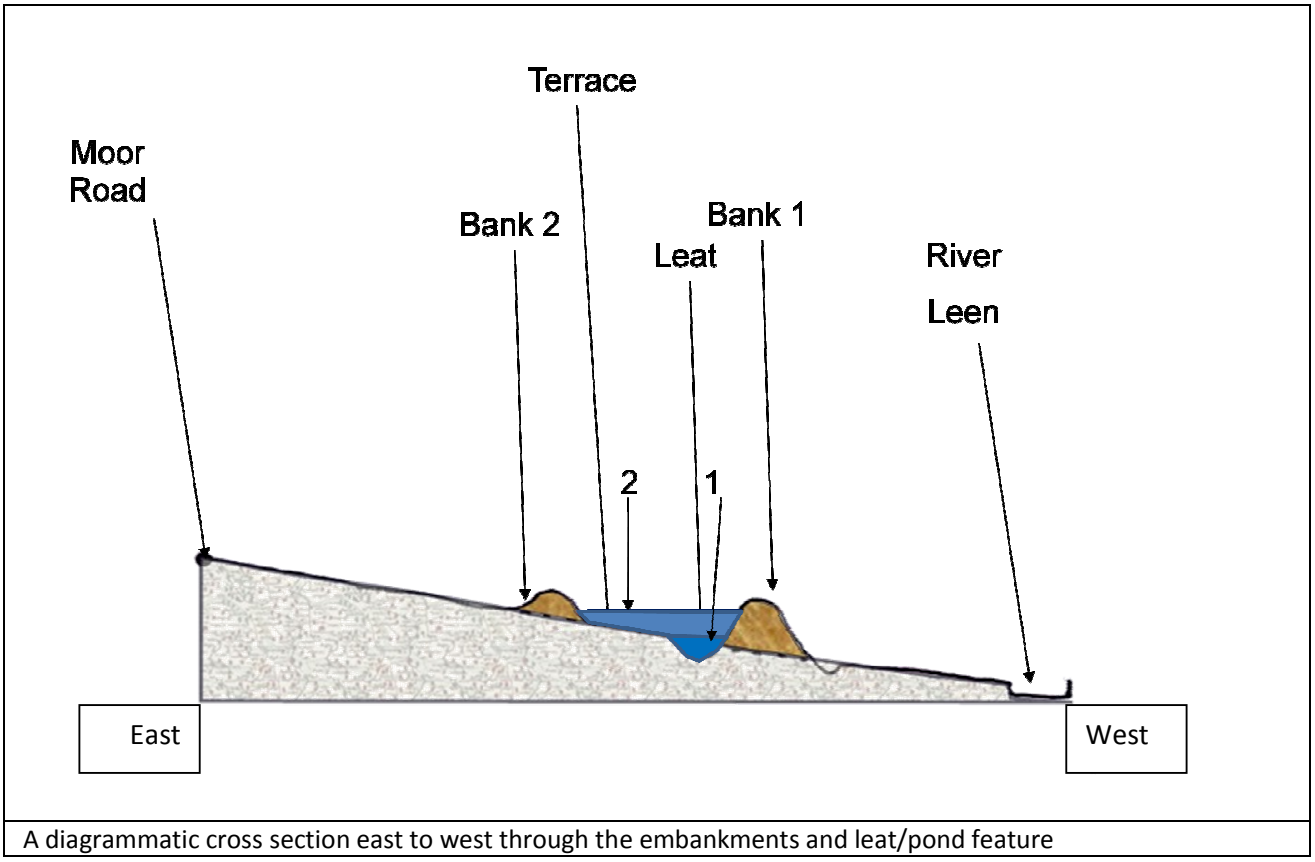
There were no finds in this excavation

Environmental

No samples were retained for environmental testing

Conclusions

1. Morphological features of the site



A diagrammatic cross section east to west through the embankments and leat/pond feature

a. It was observed, and confirmed by crude measurements in the field, that the level of the terrace feature approximates to the level of the land on either side. This may indicate that the embankments were raised to contain the water rather than the pond being excavated.

b. It seems likely that at times of low capacity the channel would continue to fulfil the functions of a leat, transferring water towards Moor Pond (Level '1' on the diagram). The water would be constrained by the west embankment (Bank 1 on the diagram) and the edge of the terrace.

   At time of higher water levels, closing the sluice gates at Dam Banks South Sluice would create a small pond by allowing water to spill over onto the terrace to a depth signified by level '2' on the diagram. At this time, opening the East Sluice would have allowed some of this water to flow eastwards into the low-lying area north of Moor Pond.

c. This seems to be the situation which is portrayed on Sanderson's map (see figure 1)

2. The test pits

a. The structures observed in T1400, the test pit on the terrace feature, are consistent with an interpretation that the terrace was periodically flooded, (rather than containing flowing water that would have been more likely to deposit coarse-grained material), and for the context 102 to represent the former land surface.

b. The structures in T1500 are possible indications that this was the site of a channel linking a possible north pond to the bridging structure at the South Sluice.
The stones may be remnants of a channel lining.
Alternatively they may be remnants of a demolition phase, perhaps marking the site of a stone dump where useful material was stored and/ or sorted. The stones that were exposed were angular and showed no sign of being shaped to form parts of a wall. There was no mortar debris in the fill.

3. Suggestions for future activities

a. Interpretation of the terrace levels will become possible with detailed transect data of the relative heights of the land to the west and east of the site. These fields are thought likely to represent the former profile of the slope, before the water system was constructed. The only existing data is the line of transect (profile J on figures 2 and 7, Sheppard (2005) does not cut through the terrace at its widest point, nor show the surface nearer the centre of the 'north pond'.
A priority for the future will be to collect, or commission collection of, detailed leveled data across several transects of the site.

b. The sediments on the terrace may reveal more evidence if samples were subject to laboratory analysis to investigate the sediment size, degree of sorting, organic content etc.

c. The evidence in test pit T1500 suggests that there may have been a channel at this position. To be more certain, there would need to be more intensive exploration of the site.
(1) To examine the area between the site of T1500 and the South Sluice, perhaps by means of a shallow trench. We would need to know if there is more shallowly buried stone along this line, and whether the walls revealed in the 2005 exploration of South Sluice continue further toward the east.
(2) To undertake a more detailed examination of the embankment lines, to attempt to make sense of the pattern.
(3)This could be combined with a bigger programme of exploration that tries to establish the profile of a channel at depth, and to extract samples for detailed sediment analysis.

d. So far no work has been undertaken to try to establish the chronology of the embankments and leats in the area.
    i. The point where the pond/leat feature widens out (SK 54727 50868) where the 1880 OS map shows multiple channels.
    ii. Whether there is evidence of multiple channels (at different) at the South Sluice.
    iii. Whether the various embankments are constructed of similar materials.

Archive

1. Plans

1. Ref: DBES_phase2_plan1

2. Sections

There were no sections drawn for this project.

4. Archived images

Image number	Description	Date	Direction of camera	Related plans and drawings	Photographer
MPW_20081010_040	DBSS_T1500 starting excavation	10/10/2008	S	DBES_phase2_plan1	SW
MPW_20081010_044	DBES_T1400 starting excavation	10/10/2008	S	DBES_phase2_plan1	SW
MPW_20081010_058	DBSS_T1500 during excavation	10/10/2008	SE	DBES_phase2_plan1	SW
MPW_20081010_060	DBES_T1400 during excavation	10/10/2008	S	DBES_phase2_plan1	SW
MPW_20081010_069	DBSS_T1500 complete	10/10/2008	S	DBES_phase2_plan1	SW
MPW_20081010_070	DBES_T1400 complete	10/10/2008	E	DBES_phase2_plan1	SW

5. Artifacts

There were no finds in this excavation

Acknowledgements

The cost of this work was funded by grant aid from the Lottery Heritage Initiative, and the group is grateful for this support. Members of the Nottinghamshire Archaeological Service supervised the event. Particular thanks are offered to Emily Gillott who co-ordinated their work. The Leen Valley Conservation Volunteers, led by Lee Scudder, offered invaluable assistance with the excavation.

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Greatrex N, (1987); ***'The Robinson enterprises at Papplewick, Nottinghamshire. part 2'***, Industrial Archaeology Review IX, 2, Spring 1987.

Sheppard R, (2001); ***'Moor Pond Wood, Papplewick, An archaeological desk-top study'***. Report by Trent & Peak Archaeological Unit.

Sheppard R, (2003); ***'Moor Pond Wood, An archaeological site survey and some trial excavations',*** Report by Trent & Peak Archaeological Unit.

Walker S, (2005, revised 2014); ***'Moor Pond Woods; Dam Banks East Sluice'***, Report by the Friends of Moor Pond Woods

Illustrations

Figure 1 : Extract from the 1835 Sanderson map

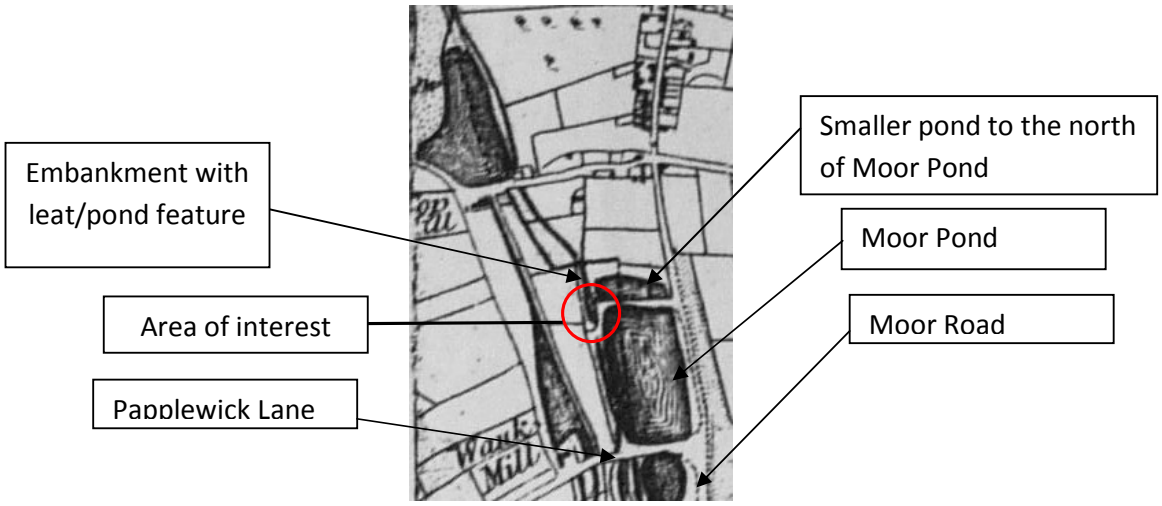

Figure 2: Extract from the Montagu estate map of 1847

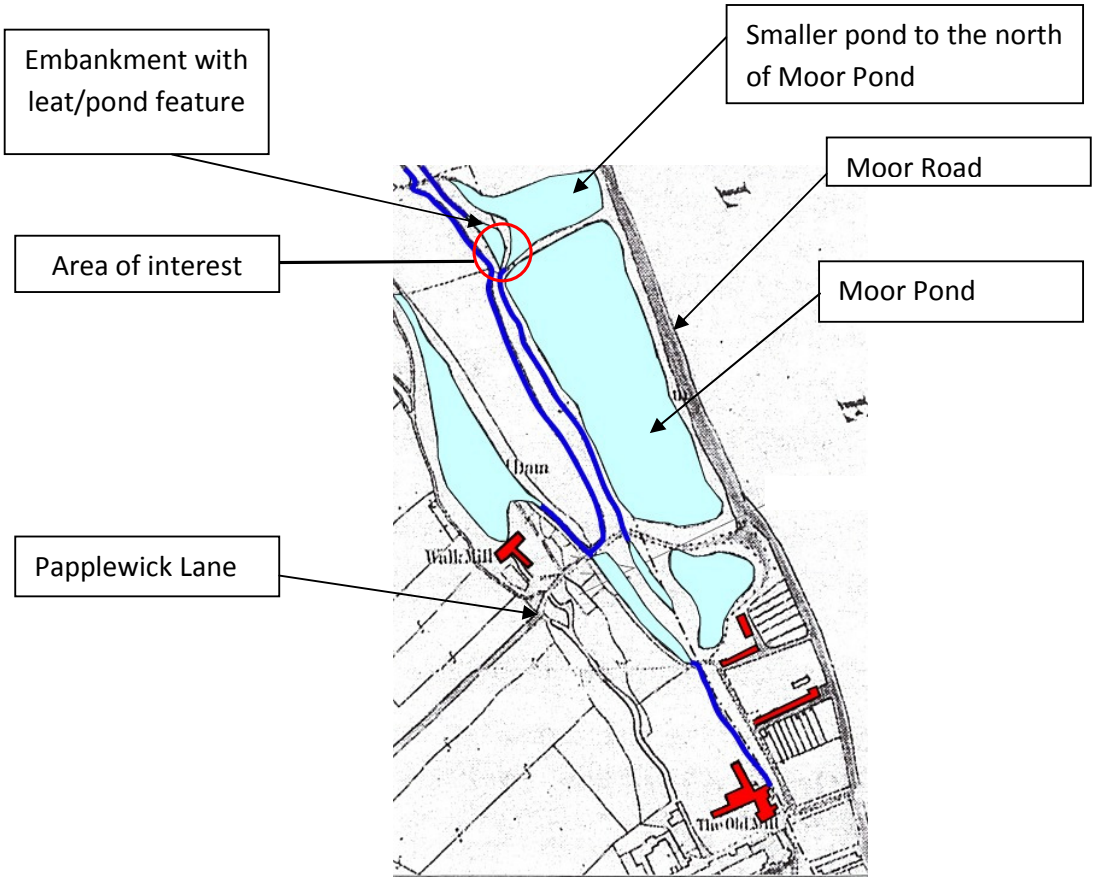

Figure 3: Map of the site of the sluices (extract from Sheppard (2003), figure 7)

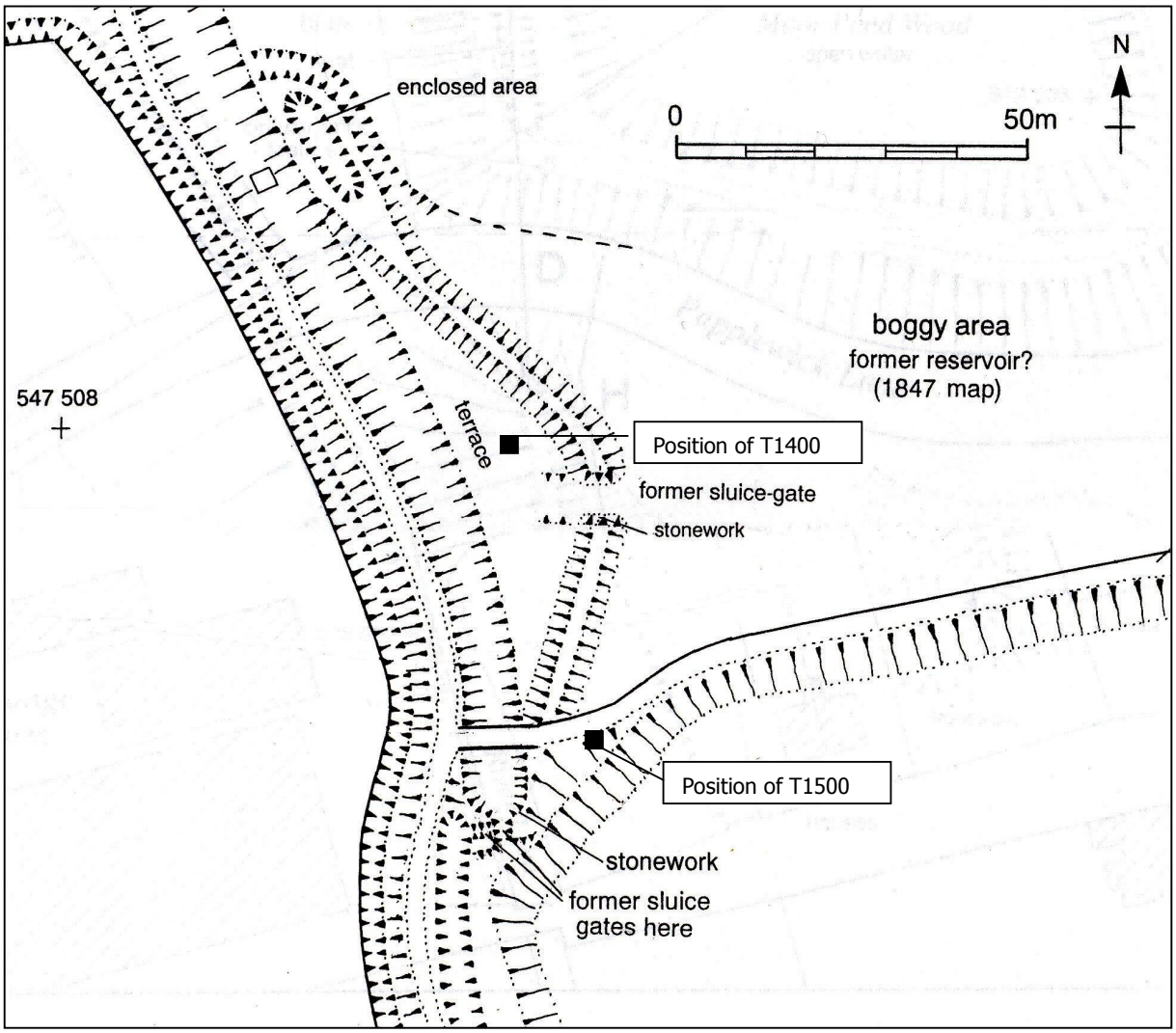

Figure 4: Test pit T1400, on the terrace NW of the East Sluice

Moor Pond Woods Project
Dam Banks South Sluice, test pit T1400

0 1

metres

Excavated and recorded 10th Oct 2008
S Walker

Figure 5: View south across the site of T1400

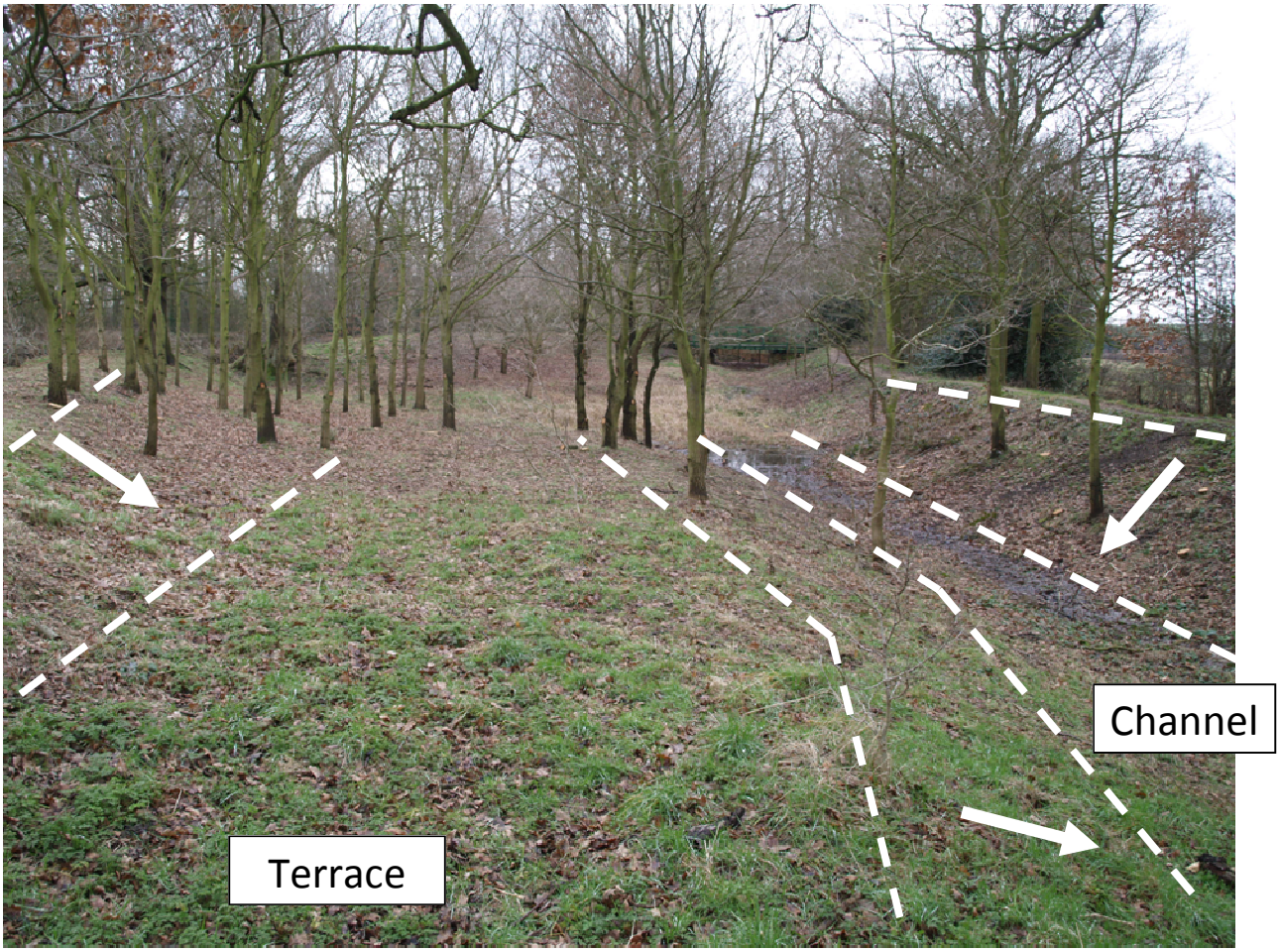

Figure 6: Test pit T1500, between the subsidiary pond and the South Sluice

Moor Pond Woods Project
Dam Banks South Sluice, test pit T1500

0 1

metres

Excavated and recorded 10th Oct 2008
S Walker

0 1

metres