

GEOPHYSICAL SURVEY AND ARCHAEOLOGICAL
EVALUATION OF A SECTION OF
OLD LONDON ROAD
TOWTON, NORTH YORKSHIRE



DRAFT

T L Sutherland

June 2016

*Carried out as a part of the
Towton Battlefield Archaeology Project*

*Sponsored by the
Heritage Lottery Fund*

SUMMARY

Between 23rd and 26th June 2016 an archaeological excavation and geophysical survey were carried out across a section of *Old London Road* in an attempt to assess the period of its construction. It is considered possible that it might be either early medieval or Roman in date. The area of investigation of the road lies several hundred metres to the northwest of the village of Towton, North Yorkshire.

A buried road with a metalled surface was uncovered just below the surface, which was presumed to date to approximately the early eighteenth century due to map-related evidence. Below this was a fill of a hollow feature, a potential hollow way, although no road surface was located associated with this feature. A silted up ditch was found below the hollow feature which was seen to cross the linear direction of the road. This suggests that it existed prior to the construction of any road or track otherwise it would have impeded access along it.

The small archaeologically investigated sample of this road did not provide evidence that this was a Roman Road. Current evidence still suggests that it is at least medieval in date. The excavation has shown that at least one formal road lies in this location but no definitive evidence for a date when this took place was recovered.

The former presence of important stone quarries near to this crossing point of the River Cock could provide a reason why a track or road might have traversed this location although the steepness of its southern route would suggest this was not used to transport stone. It might, however, have transported a work force to and from local settlements such as Towton, Stutton and Tadcaster.

TABLE OF CONTENTS		Page
1	INTRODUCTION	1
2	AIMS	1
3	OBJECTIVES	2
4	GEOLOGY AND TOPOGRAPHY	2
5	LAND USE	4
4	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	4
5	MAP-RELATED EVIDENCE	4
6	METHODS	7
6.1	Method	7
6.3	Survey Grid	7
6.3	Excavation	7
7	RESULTS	8
7.1	Geophysical Survey	8
7.2	Excavation	10
7.2.1	Artefacts	12
8	DISCUSSION & INTERPRETATION	13
9	CONCLUSIONS	14
10	FUTURE WORK	15
10	ACKNOWLEDGEMENTS	15
11	BIBLIOGRAPHY	16

LIST OF FIGURES

Cover photograph: Pre-excavation view along *Old London Road*, looking northwest

1	The site location	1
2	Detailed site location map	2
3	Part of the 1894 Ordnance Survey map of Yorkshire CCV.NW (Towton) showing Old London Road running in a NW SE direction across the centre	3
4	Geological map of area of investigation	3
5	Part of the 1675 Ogilby map of the route between Sherburn in Elmet and Tadcaster	5
6	A portion of John Warburton's 1720 map of Yorkshire highlighting the Towton battlefield with an illustration of a sword and the main road located to the west of Sutton	6
7	Part of Thomas Jeffrey's 1771 map of Yorkshire	6
8	Locations of the geophysical survey grid and the excavation trench	7
9	Results of the electrical earth resistance survey of the area across Old London Road, Towton	8
10	Results of geophysical survey shown superimposed over an aerial photograph	9
11	Electrical earth resistance survey of the area across Old London Road, indicating location of excavation trench	9
12	The previously buried and worn former road surface	10
13	Plan of the excavated features	11
14	Plan of the features within archaeological intervention	11
15	Northwest-facing section of the archaeological intervention through the track	12
16	Profile of the ground surface prior to excavation	12

GEOPHYSICAL SURVEY AND ARCHAEOLOGICAL EVALUATION OF *OLD LONDON ROAD*, TOWTON, NORTH YORKSHIRE

1 INTRODUCTION

Between 23rd and 26th June 2016 archaeologists in association with a group of volunteers (see acknowledgments) carried out an archaeological excavation and geophysical survey across a section of *Old London Road*, a generally un-metalled track, which lies several hundred metres to the northwest of the village of Towton, North Yorkshire (53°51'5.33"N; 1°16'11.52"W). Figures 1 and 2 show site location.

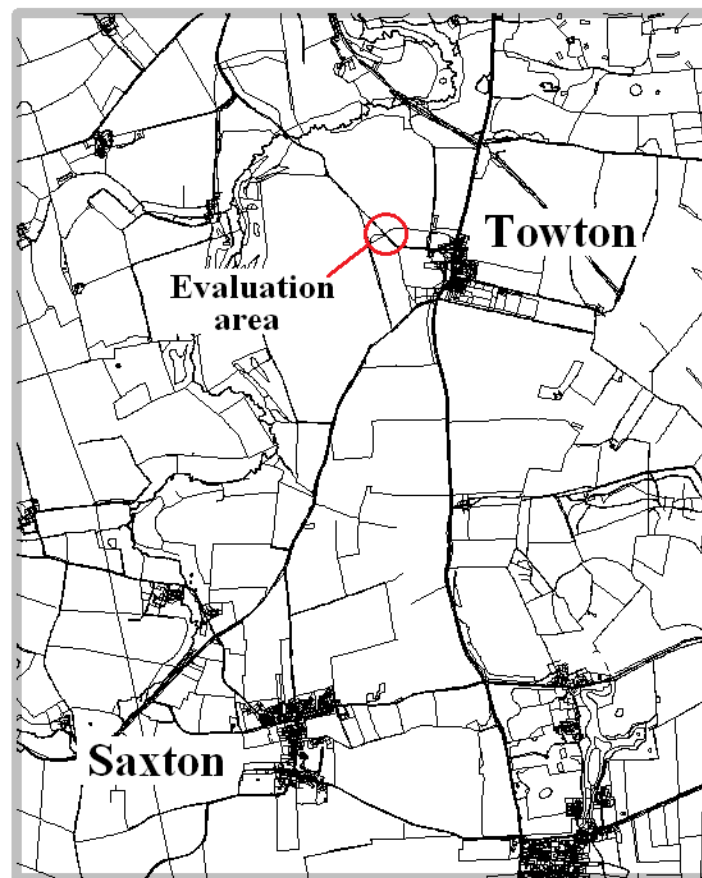


Figure 1 The site location

2 AIMS

The aim of the geophysical survey was

- To ascertain if there were any traces of parallel ditches on either side of the road as might be expected if it dated from the Roman period

The aims of the excavation were,

- to ascertain if Old London Road had at least one or more intentionally laid metalled surfaces
- to ascertain a date when such a surface or surfaces (if existing) were laid down

2 OBJECTIVES

The objectives of the excavation were to investigate by archaeological geophysical survey and excavation whether or not a formal road once ran along the same alignment, and in approximately the same location, as the track that is now called *Old London Road*. If so, then a date of this formal road would be sought to see if it might possibly relate to the Roman period. The reason for this hypothesis is that the field boundaries which butt the present track appear to do so in a manner that is often termed an inverted 's' shape (Fig.3). This is generally accepted as relating to the way in which such field boundaries were established; as a part of the turning requirements of teams of oxen or horses that were once used to plough medieval strip fields (Rackham 1986). If medieval strip fields terminated at the boundary, on which Old London Road is aligned, then that boundary must have existed at the time when these boundaries were set out. This suggests that this boundary is either early medieval or pre-medieval in date.

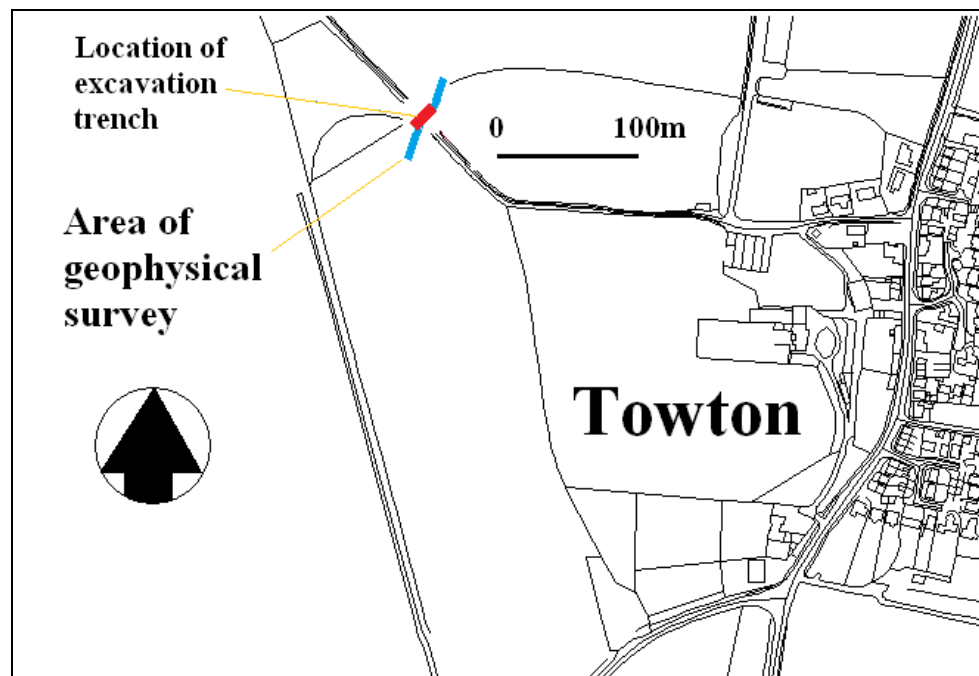


Figure 2 *Detailed site location map*

2 GEOLOGY AND TOPOGRAPHY

The underlying solid geology is Upper Magnesian Limestone resulting in a covering of fine, brown calcareous loamy soil (aF) of the Aberford Series (Fig.4; Dunham 1974; Osmond 1968). Very old hollow features have been found to be filled with a very hard light orangey-brown sandy, silty clay (Sutherland - experience obtained during many excavations carried out during the Towton Battlefield Archaeology Project). The site lies at 40m OD on rising ground from east to west, on the edge of the Vale of York which lies to the east.

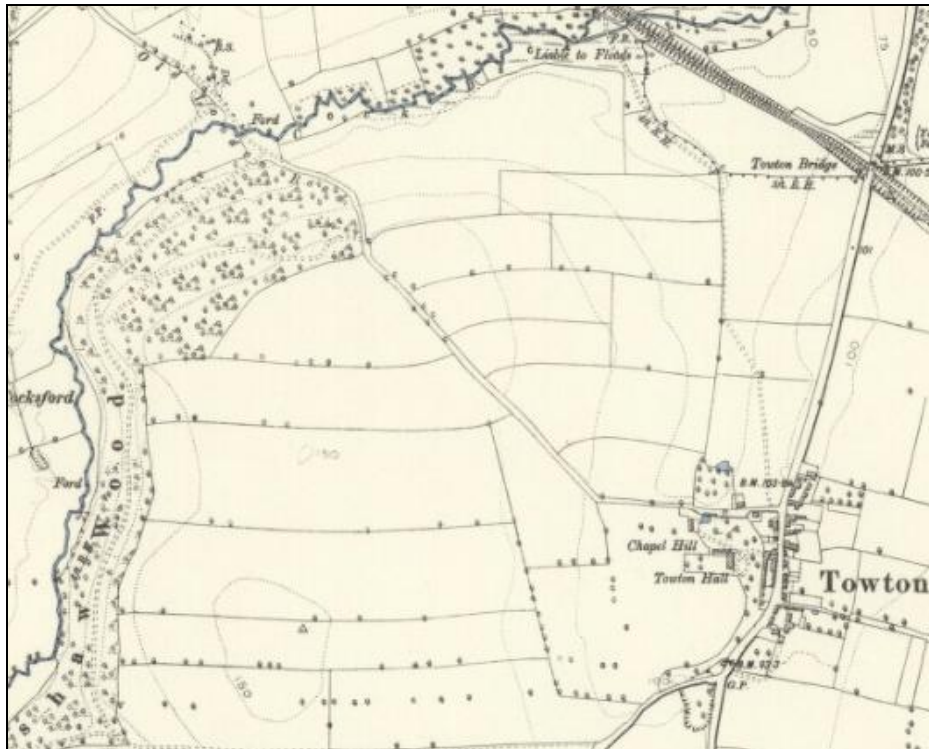


Figure 3 Part of the Ordnance Survey map of Yorkshire CCV.NW (Towton) Surveyed: 1890
Published: 1894 showing Old London Road running in a NW SE direction across the centre
(North to top)

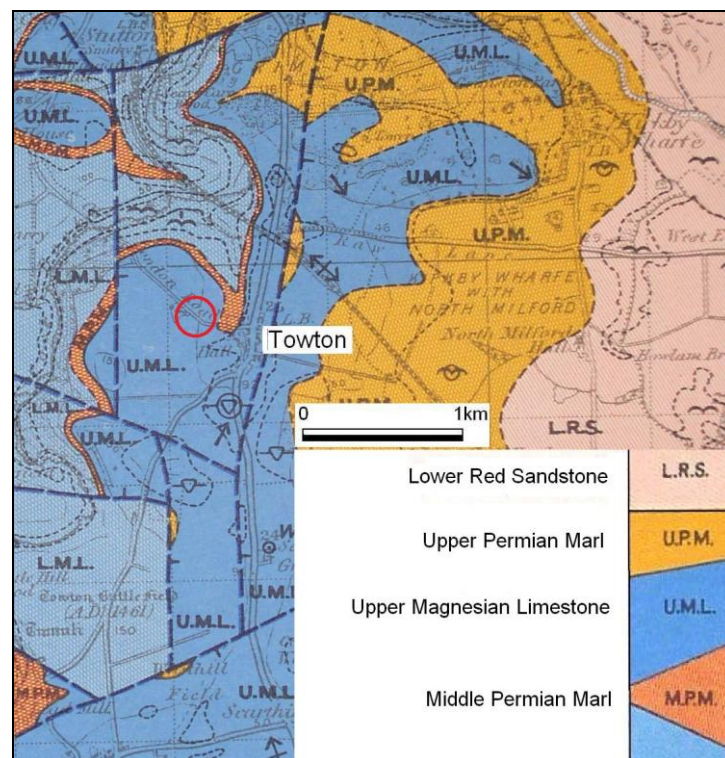


Figure 4 Geological map of area with site highlighted by circle (After Dunham 1974)

3 LAND USE

Old London Road is a footpath and bridle way and also services the adjacent fields which bound each side. The land, which borders the site is under arable cultivation.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The village of Towton is best known for having given its name to what is generally considered to be the largest battle ever fought on British soil, on Palm Sunday, 29th March 1461. The battlefield is noted as such in the Historic England register of Historic Battlefields (English Heritage 1995) and the evaluation area is part of one of its northern boundaries.

A mass grave from the Battle of Towton, which contained the remains of approximately fifty individuals, was discovered within the village next to Towton Hall in July 1996. These were found to have suffered from traumatic head wounds, consistent with those received in a medieval conflict, and were subsequently radiocarbon dated to the period of the battle (Fiorato et al 2000).

Existing ridge and furrow field systems, possibly dating to the medieval period, can be seen in the meadow to the south of the hall. Part of the same meadow to the west of the hall, known as Chapel Hill, was thought to contain the remains of a chapel, commissioned by Richard III to commemorate the fallen from the battle of Towton. Excavations on the top of the hill, however, failed to find traces of any such remains (Sutherland 1999). It is now thought that the remains of the chapel lie closer to and under the present hall, possibly in its rear garden.

The North Yorkshire County Council Heritage Environment Record contains no reference to Old London Road and it is not covered by any heritage protection.

No known archaeological investigations have previously been carried out on Old London Road or any archaeological geophysical surveys undertaken.

The author is currently carrying out archaeological landscape and geophysical survey as part of a long-term assessment of Towton village and the battlefield area. This aims to quantify the archaeological information available for the battle of Towton and compare the results with historical interpretations of the conflict. This report forms a part of this research.

5 MAP-RELATED EVIDENCE

The Ogilby map of 1675 does not show a junction or a direction to elsewhere at the location where *Old London Road* now joins the present main road (arrow in Fig.5). The main road is also shown as that which runs north from Towton to Tadcaster, as it does today. This suggests that *Old London Road* was not the main road from Towton to Tadcaster at the time that it was drawn, if indeed it was present at all.

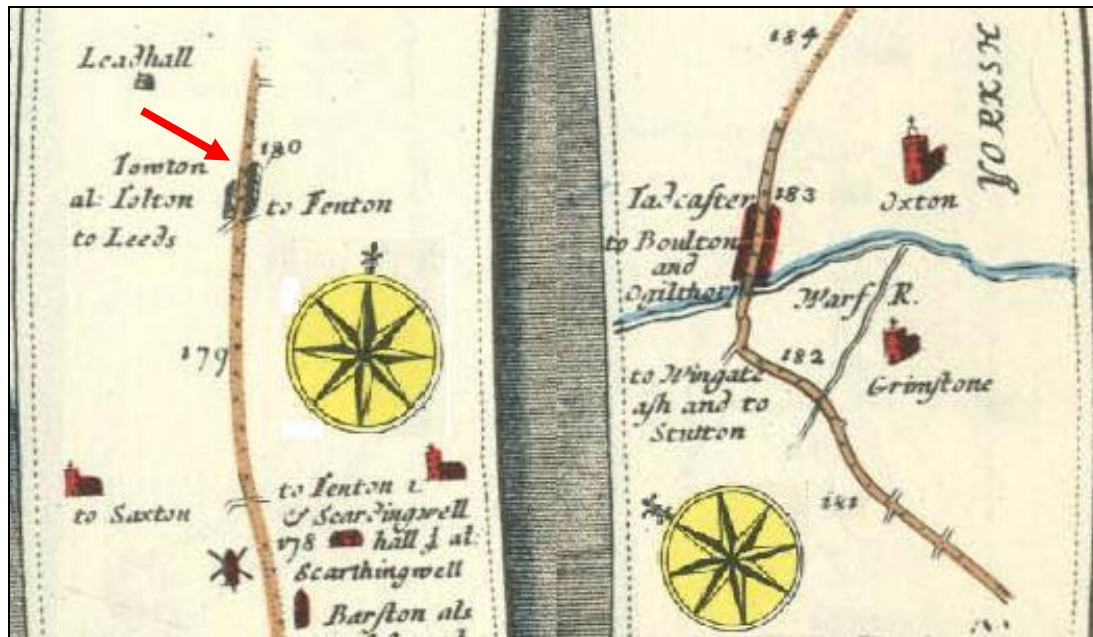


Figure 5 Part of the 1675 Ogilby map of the route between Sherburn in Elmet and Tadcaster. Note author's arrow where Old London Road (absent) should join the main road

The earliest map showing, what is presumed to be, *Old London Road* is John Warburton's 1720 map of Yorkshire (Fig.6). This depiction might be taken to represent *Old London Road* as it crosses the Cock River and traverses the western side of the village of Sutton (sic) even though the road appears to travel north out of Towton (sic). On the earlier Ogilby map the road from Stutton appears at a junction on the western side of the main road just after it passes Grimston, on the right, and then crosses the Cock River west of Tadcaster (Fig.5). Warburton's map might, however, be indicating the crossing point of the Cock River at Cocksford and not at the *Old London Road* crossing. It is also possible that the crossing might be as far west as Lead Hall as this is the location shown close to the crossing point on all early maps. This confusion is compounded by the location of Lead Hall on the Ogilby map which clearly shows it to the northwest of Towton, suggesting a tentative location of a crossing point the same as at the present *Old London Road*. It is possible that Warburton's map contains a slight error as a close inspection of his depiction of more easterly road to the southeast of the River Cock clearly shows a road with exactly the same shape as that of *Old London Road*, except that his road from Towton goes straight to the river crossing instead of meeting the road by the annotation 7/9.3 as this road should, in fact, be closer to Scarthingwell (sic) than to Saxton.

Another map, the 1771 map by Jeffrey, shows a route along what is now *Old London Road* and also indicates this as the main road due to the presence of mile stones (Fig.7). It can thus be shown that the main road between Towton and Tadcaster has changed over time. In reality it is probable that both roads were used at different times of the year as the waters of the River Wharf made travel more difficult when the flooding of the Wharf valley occurred.



Figure 6 A portion of John Warburton's 1720 map of Yorkshire highlighting the Towton battlefield with an illustration of a sword and the main road located to the west of Sutton (sic) (Not to scale; North to top)



Figure 7 Part of Thomas Jeffrey's 1771 map of Yorkshire (Not to scale; north to top)

6 METHODS

6.1 Location

The excavation trench was located across *Old London Road* in an area where it would not unduly hinder access along the current track. A geophysical survey was also undertaken with the same location in order that the results of the excavation could be directly associated with any hidden sub-surface archaeological features, namely potential road side ditches (Figs.2,4 &6).

6.2 Survey Grid

In order to locate the geophysical survey grid a location peg was placed in the already positioned southern corner of the excavated rectangular trench. A base line was then taken north-northeast of this point for thirty metres. The same baseline was also extended south-southeast for twenty metres to produce a total baseline length fifty metres long (Fig.8). Three ten metre by ten metre grid squares were then fixed to and parallel with the eastern and northern-most part of the baseline and two ten metre by ten metre squares fixed to and parallel with the western-most part of the baseline (Fig.8). By so doing a survey area traversed the road at an angle of approximately 45 degrees. This orientation was set out in order that any linear features observed in the survey results which lay parallel to the road would not lie on the similar orientation to the survey grid and thus become unclear if and when the data was potentially processed at a later date.



Figure 8 Locations of the geophysical survey grid and the excavation trench

6.3 Excavation

The topsoil was removed by hand using spades and shovels and cleaned up using trowels and hand shovels.

During the excavation several members of the team sieved approximately ten percent of the excavated soil using one-quarter inch (6mm) mesh sieves to look for small artefacts and bone missed during excavation.

7 RESULTS

7.1 Geophysical Survey

Five, ten metre squares were surveyed using Electrical Earth Resistance (Figs.9&10). The 'central' square contained linear anomalies representing high resistance material. This would be expected if a buried road lay within the survey area. The present road, however, was located slightly further to the northeast than these survey results indicated, suggesting that an older buried road lay beneath the current one. What appears to be an abrupt terminal of these high resistivity readings is due to the presence of the excavation trench in that location where the stones for the road had been removed (Fig.11). The trench was excavated prior to the survey due to time constraints. The black 'spots' on the survey relate to false readings due to imperfect contact of the probes with the soil. This is usually due to the presence of a stone in that location.

A linear feature can be observed running parallel to the buried road. If this was a low resistance anomaly it might relate to a roadside ditch. The fact that it is higher resistance than the other 'background' material suggests that this might relate to a former bank. A discussion with the local farm manager Paul Saxton was informative. He stated that the field boundary was once further into the field and that modern ploughing by external contractors as reduced the kerb between field and road. This feature might relate to a former unploughed strip of land and therefore firmer ground. The current field edge has a similar strip today, shown by the darker green band the aerial photograph (Fig.11). It might however, relate to a former road side ditch that has been filled with harder material. It should be noted that as the underlying geological material is limestone then digging ditches into this material would not have been an easy undertaking. A lack of or thinner or harder topsoil along the field boundary might cause this feature. It was not excavated due to a lack of time.

It should be noted that earth resistance surveys are not always successful at recording the presence of small negative features, for example ditches, in this type of geological subsoil.

No other obvious features were noted within the survey area.

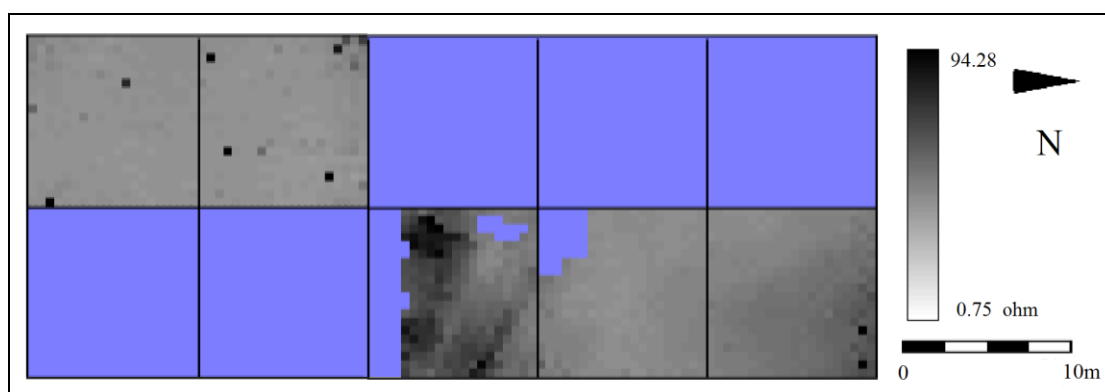


Figure 9 Results of the electrical earth resistance survey of the area across Old London Road, Towton



Figure 10 Results of geophysical survey shown superimposed over an aerial photograph (north to top)



Figure 11 Electrical earth resistance survey of the area across Old London Road, indicating location of excavation trench (north to top)

7.2 Excavation

Removal of the generally less than 0.10m thick layer of grass and light brown clay silt topsoil (Context 1001) exposed a layer of small stones (1004; Fig.12) across the middle of the trench. These mainly exhibited a flatter and smother surface on their upper faces, suggesting wear.



Figure 12 *The previously buried and worn former road surface (Context 1004)*

The layer was approximately 0.2 metres deep at the thickest part although it tapered away to less than 0.05m deep on its east edge (the only side fully excavated),(Fig.14).

On either side of the layer of stones (1004) there were areas of topsoil (1002), similar to layer 1001 but which contained fewer roots and organic matter. A very large tree route was recorded in Context 1002, which had grown just below but parallel to the ground surface.

To the northeast of the layer of stones (1004) there was a layer (1003) of material which was very similar to the topsoil but which contained slightly more small angular stones and a very few larger stones randomly spread throughout the layer. To the southwest of the layer of stones (1004) there was a very similar layer (1005) of material but which contained many more small angular stones and a many larger angular stones, the latter remarkable so, with the stones being located more centrally within the context. There was a definite linearity to contexts 1003 and 1005, running in the same alignment with that of the track. Although these stones were nearly all limestone there were one or two fragments of concrete among them.

Below contexts 1002-1005, there was a deep (approximately 0.4 metres) deposit of very hard light orangey-brown sandy, silty clay (Context 1006). This contained very few fragments of stone and no artefacts.

Below context 1006 was a deposit of very hard light orangey-brown sandy, silty clay (Context 1008), which contained very few stones besides those that lay near the base of the context. No artefacts were recovered from this context.

Context 1008 lay within a steep-sided cut (1007) or double cut, which had been excavated into the natural limestone to a depth of more than 0.4 metres. The sides were relatively smooth at angles of about forty degrees, but undulated along their length (Fig.15). The cut or cuts (1007) traversed the trench in an approximate east-west direction.

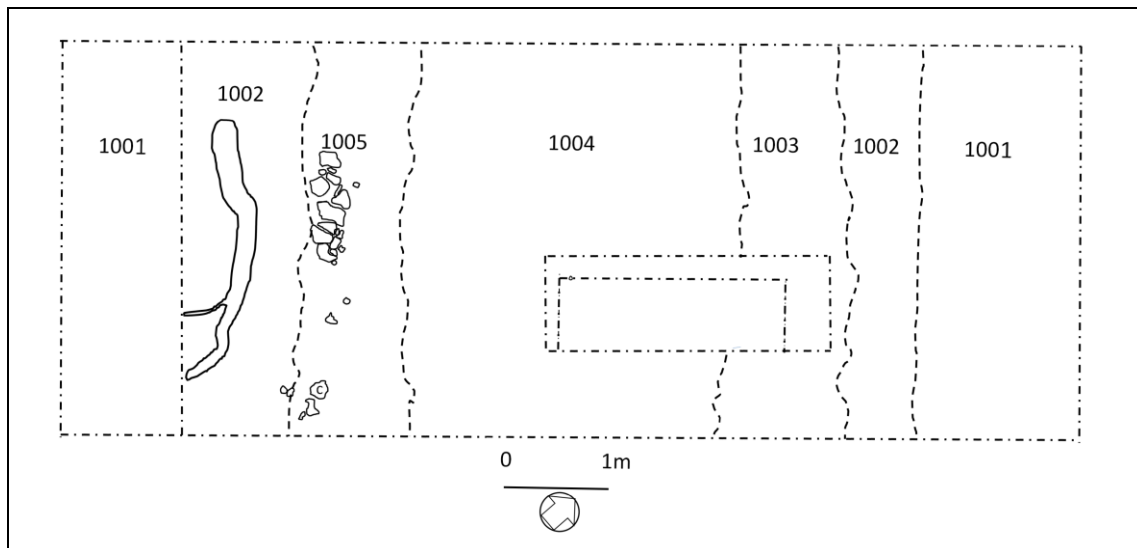


Figure 13 *Post excavation plan of the features*

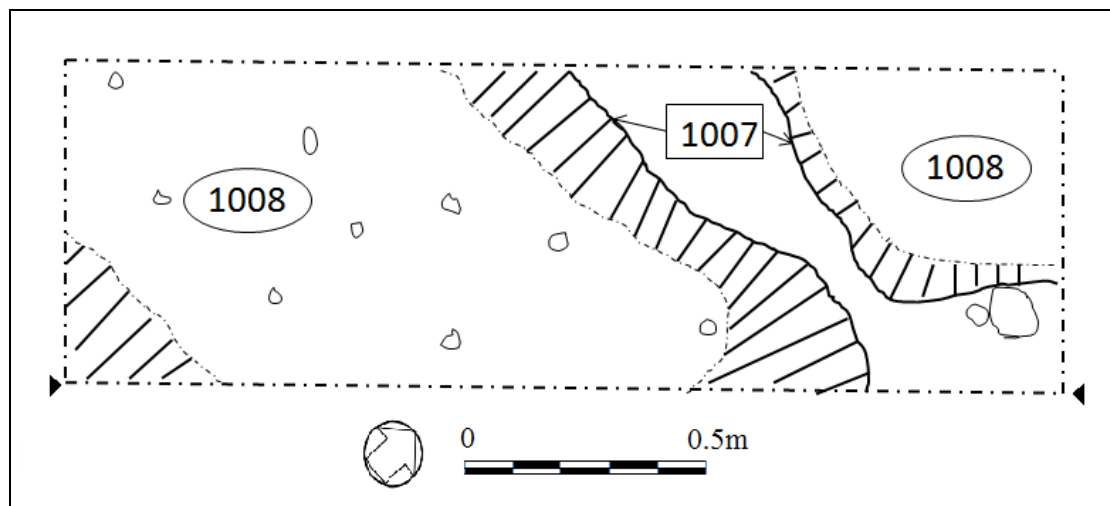


Figure 14 *Plan of the features within archaeological intervention (inner rectangle shown in figure 13)*

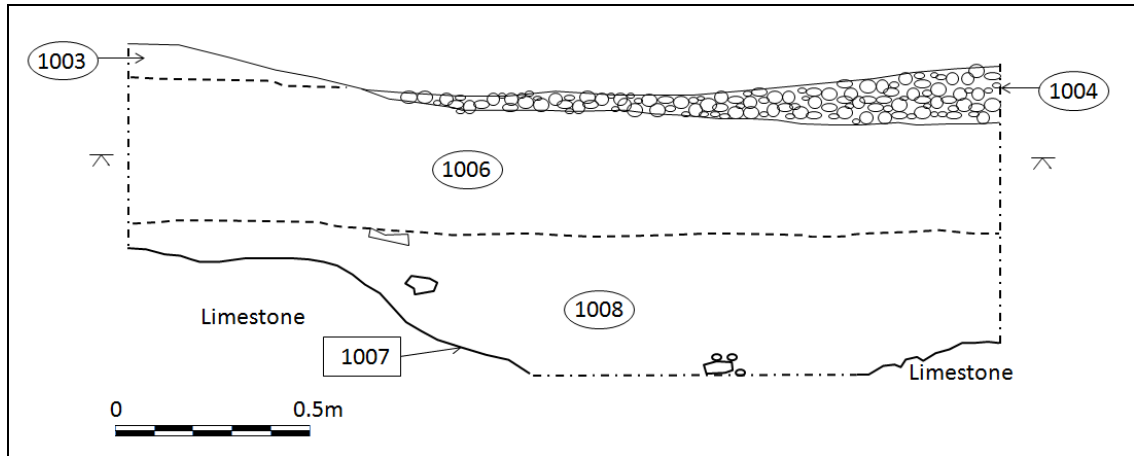


Figure 15 Northwest-facing section of the archaeological intervention through the track

7.2.1 Artefacts

No artefacts were recovered from sealed stratified contexts. All pottery and artefacts recovered from the excavation dated to later than the eighteenth century.

It is worth noting that during the excavation the site was frequented by re-enactors dressed in medieval costume, who helped visitors understand the excavation in the context of the Towton battlefield. One of the excavation team subsequently found a new copper-alloy lace end by the side of, but in the excavated area. This loss was recorded and the lace end retained. It helps to explain that re-enactors on any archaeological site are a ‘double-edged sword’ in terms of helping to interpret history but also potentially depositing what, in a few years after corrosion having taken place, might be regarded as being an original medieval artefact.

7.3 Road Profile

A micro topographic survey was undertaken along the ground surface at the edge of the excavation trench. This shows the hollow nature of the road topography, the location of the present track and the location of the buried road.

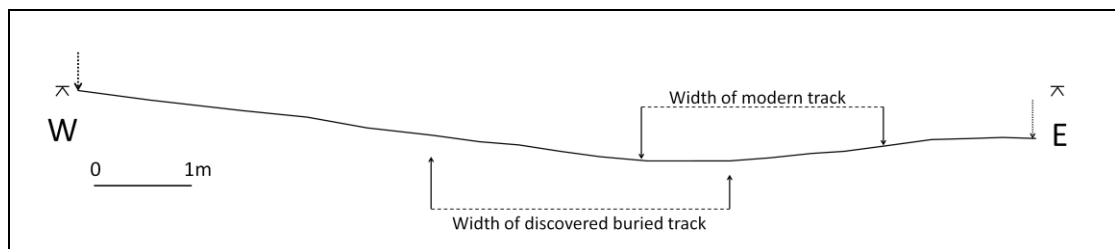


Figure 16 Profile of the ground surface across the road prior to excavation

8 DISCUSSION & INTERPRETATION

The results of the excavation provided interesting information about the site.

The cut of what appears to be at least one or possibly two phases of a ditch (1007) ran in approximately an east to west direction across the excavated area. This ditch is aligned in a similar direction to both the modern field boundaries and what appear to be medieval field system. It is not currently considered necessary that the local medieval fields required ditches for field boundaries due to the porous nature of the underlying geology. Other excavations in the general area (Sutherland 2002) suggest that some ditches were cut as major boundaries in the prehistoric and Romano-British periods. The uniform fill of the ditch (1008) suggests that it silted up naturally rather than being deliberately back-filled. The fact that this ditch crosses the route of the track infers that it was already filled when at least this section of the track was first used.

The layer of material above the ditch fill (1006) also appears to be a natural fill or layer due to its fine content. This should therefore be regarded as the fill of a feature rather than an arbitrary subsoil layer as the limestone in this area is generally covered with thin topsoil that has generally been ploughed or tilled for centuries. The presence of this fill therefore indicates that there was a depression or hollow in which the fill could settle. This could be a natural feature and therefore it might be a coincidence that it is present on the alignment of the road. The concept that such a depression might be a former track or 'hollow way' worn into the natural limestone by prolonged traffic along it should at least be considered. If this were the case then it appears that this erosion was punctuated by a period of disuse allowing it time to silt up quite considerably.

The tree root that had grown just below the surface in context 1002 was orientated in the same alignment as the road. The fact that this root had been restricted in the direction and depth of its growth suggests that either the limestone or another very hard surface lies much closer to the surface in this area, as would be expected under natural circumstances or a ditch with softer soil existed in this location.

At some time after the silting up of a potential track or feature, another road was constructed along the same alignment. This involved the removal of material, presumably topsoil, along its length which was then apparently placed along, at least one side, possibly two sides, to form small earthen embankments (1003 & 1005). The earthen bank on the southwest side (1005) appears to have been more substantial as it contained much larger stones, although these might have been added later. After the roadway was cleared of topsoil a substantial layer of small sub-rounded stones was laid down as a metalled surface (1004). Although no definitive dating evidence was obtained within this material it can be considered reasonable to assign this to some time in the late seventeenth, but more likely the early eighteenth, century when this routeway is acknowledged on contemporary maps as the main road. These maps show the locations of associated mile markers to guide travellers to York and London. The fact that this surface lies just below the current trackway suggests that it was relatively recently laid down, rather than it being much earlier, for example, from the Roman period. As an earlier track might never have been a main thoroughfare it would be reasonable to conclude that it might never have had another metalled surface before the later one.

The concept should not be ruled out that the linear boundaries, which butt up to the road, were laid out in the post-medieval period and the first track dates to a similar period. This would mean

that, what appear to be medieval field boundaries are in fact more modern, in which case the single metalled surface might relate to this event. As the first map to definitely show this road is that of Jeffrey's (1771) then it dates to at least this time.

9 CONCLUSIONS

As the map evidence, regarding the medieval field system, suggests, it does appear that there was an early boundary of some form running along what is now *Old London Road*, possibly dating to the medieval period, if not earlier. Whether or not this was a road or a wide field boundary has not been determined by this limited excavation. The almost perfectly straight linearity of Old London Road does suggest that it was either a substantial boundary or headland to the field system, or, more likely, a road or track of some form. As the field boundaries butt this feature rather than run along it, it suggests that it had no reason to deviate from its original alignment, as it might have done if the field system ran parallel to it. It can be seen in other boundaries of that type that these too would generally reflect an inverted 'S' shape when allowed to do so (Rackham, 1986). If this area does relate to the terminals of medieval fields then some form of headland would be expected in this location.

It is possible that this potential track suffered extensive wear as water moving downhill along it washed material away forming a hollow way, as is common on many sloping early tracks and roads. The track then potentially went out of general use until approximately the early eighteenth century when the topsoil was cleared or smoothed over to form one or two small side banks with metalling laid down to form a formal road. If map evidence is correct in suggesting that this is a main road then this might have been so for approximately a hundred years, after the beginning of the eighteenth century, thereby confirming the validity of the initial investment for its construction. As the main road to Tadcaster from Towton returned to its original, its current course, then *Old London Road* became a secondary track. This reuse of the main road can be tied into the construction of the New Bridge Inn, next to a new bridge across the River Cock in the early to mid nineteenth century (OS 1849 map).

The small archaeologically investigated sample of this road did not provide evidence that this was once a Roman Road. Current evidence still suggests that it is at least medieval in date. The excavation has shown that at least one formal road lies in this location but no definitive evidence for a date when this took place was recovered.

The former presence of important stone quarries near to this crossing point of the River Cock could provide a reason why a track or road might have traversed this location although the steepness of its southern route would suggest this was not used to transport stone. It might, however, have transported a work force to and from local settlements such as Towton, Stutton and Tadcaster.

10 FUTURE WORK

The excavation has provided some information regarding *Old London Road*. It is still far from certain how old this particular route is. It might therefore be desirable to carry out further geophysical survey and another excavation on another part of the current track in order to hopefully answer this question.

It would be interesting to discover if traces of milestones still exist along the Old London Road, as shown on several maps. Some may still lie buried and undiscovered, buried by the sides of the road. If any could be identified then it might be possible to provide a date for their manufacture. If at least one could be found to remain on the road leading up to and on either side of Towton, then the correct distance could be measured back to where a mile marker might still be found along *Old London Road*.

11 ACKNOWLEDGEMENTS

The author would like to thank the following people,

- Mrs. Elizabeth Verity and the J E Hartley estate for permission to carry out work upon their land
- Mr. Paul Saxon, Farm manager for his cooperation during the excavation
- Mr Richard Bayston for permission to carry out work upon his land
- The Heritage Lottery Fund for sponsoring this excavation and for funding the resurfacing of Old London Road
- Graham Webb who applied for and obtained the funding for all the work undertaken at Towton and who administered the project on a non-archaeological level on behalf of Towton Parish Council
- Rachel Wood who supervised and coordinated the excavation volunteers and the general running of the archaeological work
- Tadcaster & Rural Community Interest Company Ltd for help with logistics.
- The volunteers who assisted with this excavation, geophysical survey, and preparation included (in alphabetical order):
Holly Brown, Richard Combs, Diana Combs, Helen Cox Doggett, Michael Doggett, Paul Durdin, John Firth, Gil Firth, Richard Gibson, Lynne Gray, Paul Harris, Ann Harris, James Hodgson, Magda Hosova, Scott Marmion, Janet Marshall, Jack Myers, Alison Mason, Su Morgan, Tony Morgan, Wesley Perriman, Jane Shilleto, Jonathan Standen, Felix Standen, Graham Webb, Linda Webb

11 BIBLIOGRAPHY

- Dunham 1974 *Geological map of Leeds area 1:50,000, (Solid)*. Ref. 1500/74
- English Heritage, 1995 *English Heritage Battlefield Report; Towton 1461*. English Heritage, London
- Fiorato, V., Boylston, A., and Knüsel, C., 2000. *Blood Red Roses: The Archaeology of a Mass Grave from the Battle of Towton AD1461*. Oxbow, Oxford
- Jeffrey, T. 1771 *Thomas Jeffrey 1771 map of Yorkshire*
(<http://archiveshop.northyorks.gov.uk/latest-products/ZDU.html>) accessed 19/12/2016
- Ogilby, J. 1675 John Ogilby's *Britannia 1675. The continuation of the road from London to Barwick*. <https://www.fulltable.com/vts/m/map/ogilby/b/SH956.jpg> (accessed 13/12/2016)
- Ordnance Survey map of Yorkshire 1894 Yorkshire CCV.NW (includes: Grimston; Kirkby Wharfe and North Milford; Lead; Saxton with Scarthingwell; Stutton with Hazlewood; Towton) Surveyed: 1890 Published: 1894 <http://maps.nls.uk/view/100946627> (accessed 13/12/2016)
- Ordnance Survey map of Yorkshire 1849 Yorkshire 190 (includes: Bilbrough; Bolton Percy; Catterton; Healaugh; Oxtun; Steeton; Tadcaster East.) Surveyed: 1846 to 1847 Published: 1849 (<http://maps.nls.uk/view/102344872> (accessed 13/12/2016))
- Osmond 1968 *Geological map of Leeds area 1:50,000, (Drift)*. Ref. 1500/74
- Rackham, O. 1986 *The History of the Countryside*. London: Weidenfeld & Nicolson
- Sutherland, T.L. 1999 *Archaeological Excavations on Chapel Hill, Towton*. Unpublished archaeological report
- Sutherland, T.L. 2002 *Geophysical Survey and Archaeological Evaluation of a Prehistoric Enclosure Ditch, Towton, North Yorkshire*. Unpublished archaeological report
https://www.academia.edu/23566947/Geophysical_Survey_and_Archaeological_Evaluation_of_a_Prehistoric_Enclosure_Ditch_Towton_North_Yorkshire (accessed 13/12/2016)
- Warburton, J. 1720 *John Warburton's 1720 map of Yorkshire*