

# The Possible Roman Road at Kirkhaugh, South Tyne Valley

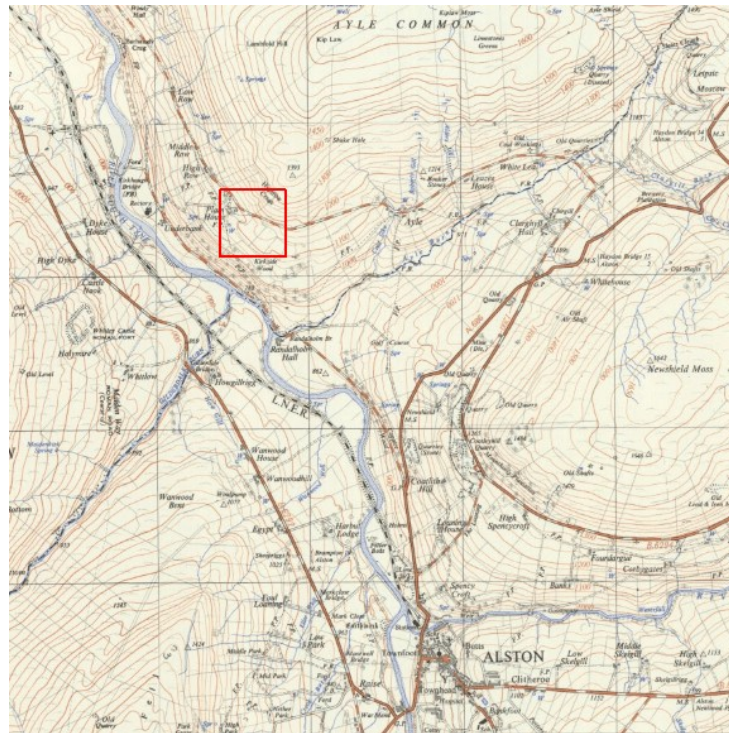
## *Archaeological Project Design*



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Document compiled by Martin Green, including material provided by Stephen Eastmead (eastmead.com). Version 1.3 (21 May 2021)



Site location: NY70664930, in South Tyne valley, Northumberland, 700m east of Kirkhaugh church. The site is on private farm-land with no public access. OS map (1951) shown above.

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# 1 SUMMARY

This is a Project Design for the investigation of a possible section of Roman road at Kirkhaugh in the South Tyne valley, part of a predicted Roman road between the Roman forts at Corbridge and Whitley Castle (Epiacum, 3km north-west of Alston in the South Tyne valley). The road journey between the two forts was possible by travelling west from Corbridge using the Stanegate, then south down the South Tyne valley using the Maiden Way. However, antiquarians in previous centuries have suggested that there was a *direct* Roman road between the forts, running to the south of Hexham, then crossing the East and West Allen Valleys before passing over high ground and dropping into South Tyne valley.

The project will involve members of **Altogether Archaeology (AA)**, a community archaeology group for the North Pennines and surrounding area. This group takes its name from a previous North Pennine AONB Partnership archaeology project, but is an independent group. It is a Registered Charitable Incorporated Organisation (Number 1188483) run by volunteers and with about 100 members. Information about AA is given at <https://altogetherarchaeology.org>, where reports of all previous surveys and excavations are available on the Reports page. It is financed by members subscriptions and donations, and has received small grants for some of its projects.

Around 2015, lidar images (aerial laser scans), of much of England became available without cost, supplied by the Environment Agency. Lidar shows subtle variations in the land surface and is an ideal way of locating structures, such as old roads, that produce small, sometimes imperceptible to the eye, changes in the surface of fields. As a result, part of the course of the road was located by members of Altogether Archaeology, and an excavation in 2016 of two sections to the south of Hexham confirmed that it was probably a Roman road.

At the time of the 2016 excavation, the course of the road further to the west was still uncertain (and hence there was doubt that it had ever been completed throughout). However, members of the Roman Roads Research Association published an article in 2017 giving evidence (largely from lidar data) of more sections of the road further west. These included a section near Catton where the road descended to the East Allen and a stretch along the hillside at Kirkhaugh, parallel to the modern minor road through Ayle. The Roman road, it is suggested, then descended to cross the South Tyne, where stone bridge abutments can still be seen, before climbing to reach Whitley castle.

At Kirkhaugh, lidar shows a straight ridge running for 400m in a west-north-west direction across fields about 70m to the south of a minor road leading to Ayle. The ridge is about 6m wide, with (in places) possible road-side ditches, giving a total width of the feature of up to 9m. This is the size and configuration expected for a Roman road, but proof that it really is a Roman road can only be gained by excavation.

Included in this document are the reasons, strategy and methodology for undertaking possible further work, including excavation. This Project Design is also intended to function as an introduction to the site and the project for participants.



## 2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

### 2.1 Antiquarians

This is a brief summary of the historic background. Fuller details are given in the reports on the 2016 excavation of the section of the road near Hexham (Green 2016, Green and Finch 2017).

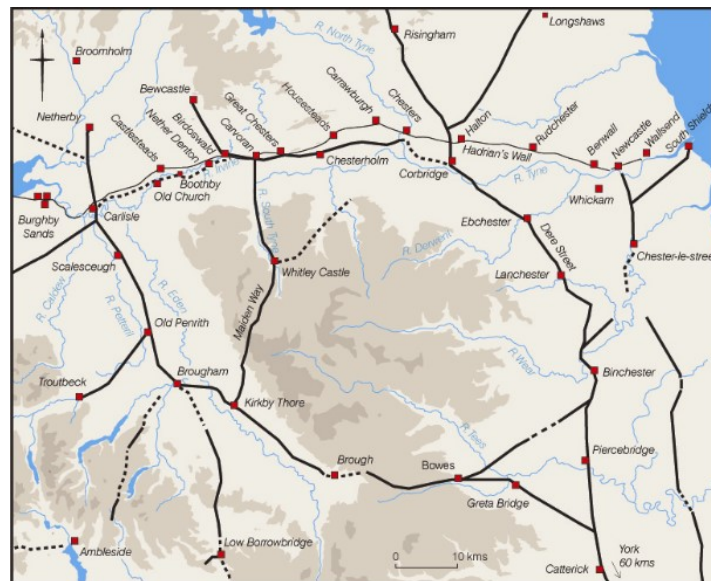


Figure 1: Roman road network map of Northern England (Historic England).

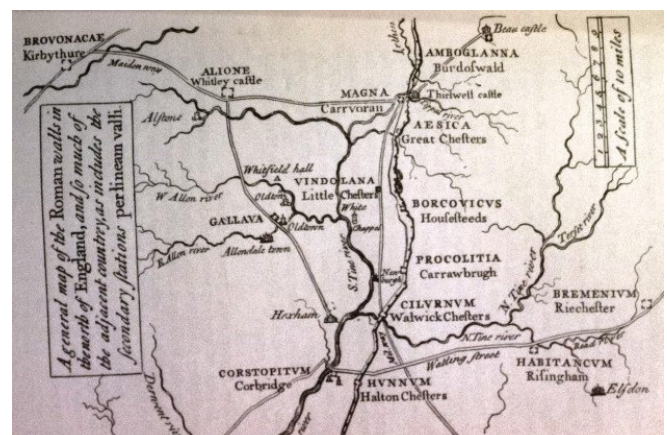


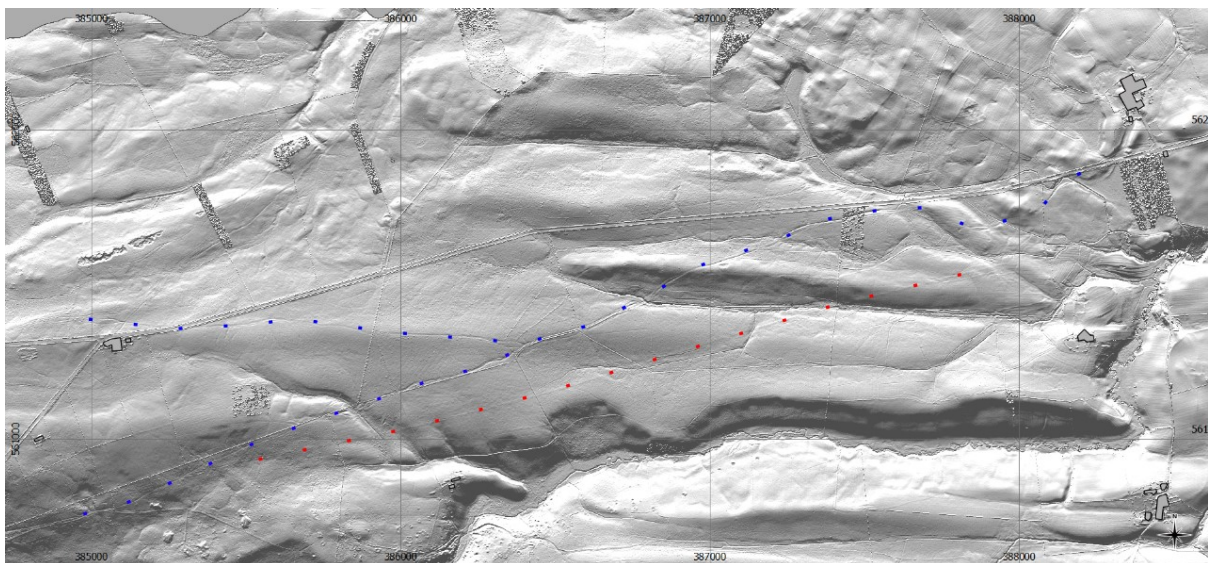
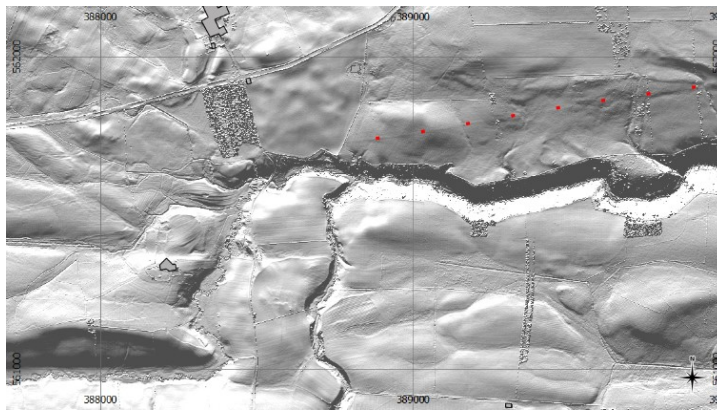
Figure 2: Old maps. On left: Collingwood Bruce (1851). On right: Horsley (1732) with north to right.

Figure 1 shows the generally accepted map of the Roman road network of Northern England, before recent discoveries. Part of the Corbridge to Whitley Castle road is shown, but as a dotted line as it was unconfirmed. Older antiquarians were confident enough to produce maps with the road's course marked in full, as shown in Figure 2, despite there being no surviving stretches above ground.



## 2.2 Lidar information

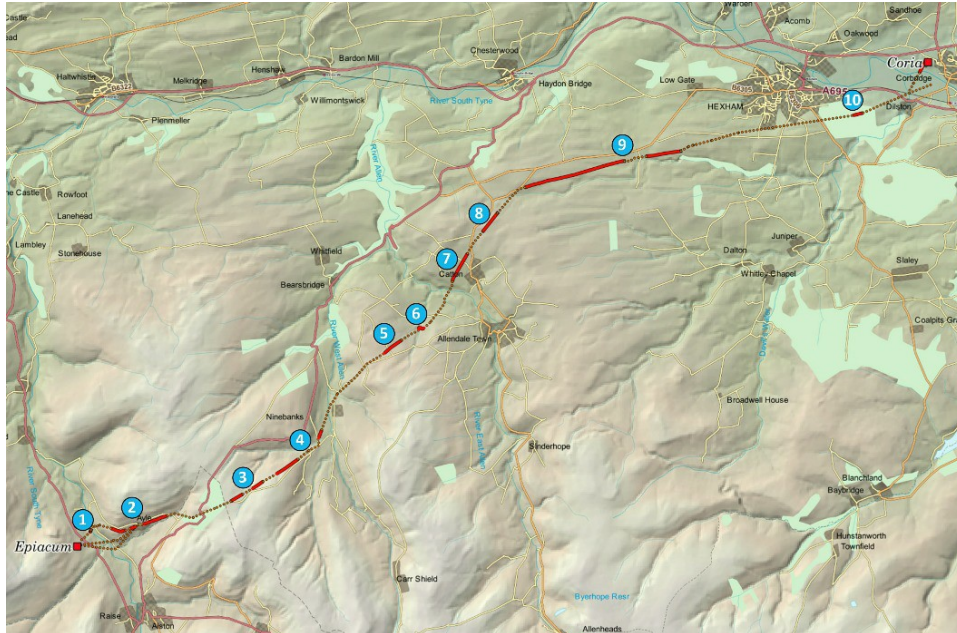
English Heritage carried out a survey of the area around Alston (Went and Ainsworth 2009). This survey used specially commissioned lidar data as one method for examining the landscape. The possibility of a Roman road crossing the South Tyne valley to Whitley Castle was recognised but no evidence for it was found in the survey area. A later community-based lidar survey (Ainsworth 2016) looked at the Allen Valleys but found no Roman roads, although its coverage area didn't include the section of the road later identified south of Hexham. This was discovered when members of AA investigated the rural landscape between Allendale and Hexham, although not looking for Roman features in particular. They used the free-of-charge Environment Agency lidar data which had recently become available.



**Figure 3: The sections of the road to the south-west of Hexham, Roman road marked by red dots. and OS grid shown. At top: Eastern section. On right: Western section.**

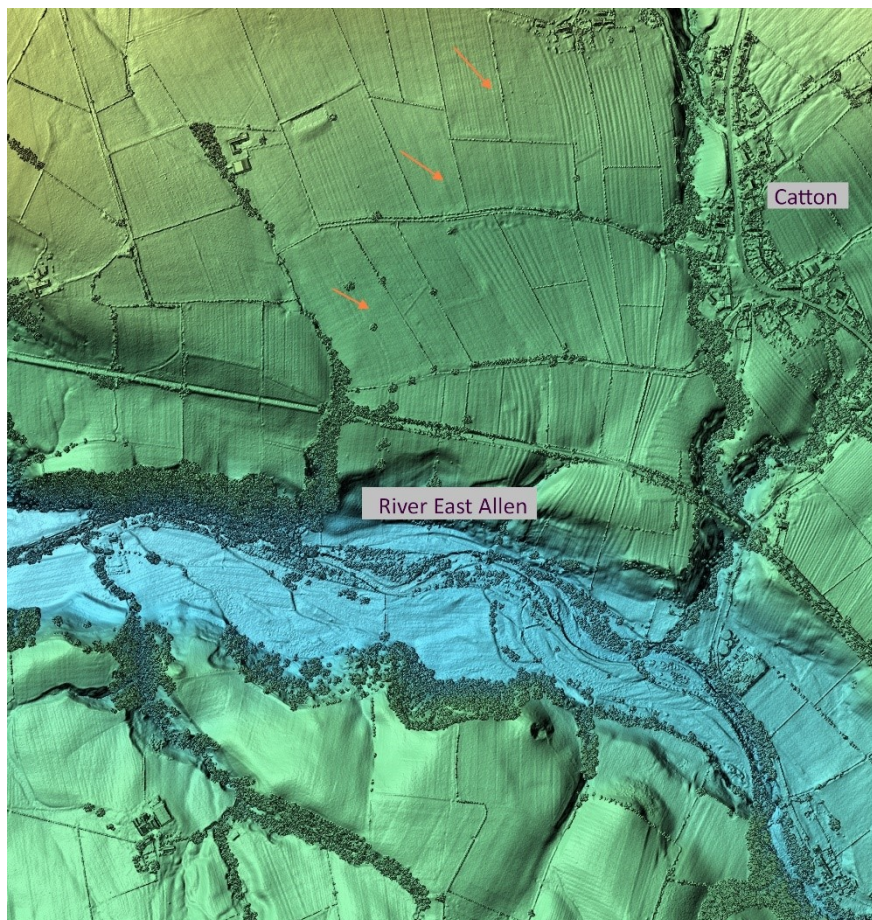
Subsequently the Roman Road Research Association (RRRA) published a paper indicating that more sections of the road could be seen further south-west on suitably processed lidar images (Toller and Haken 2017). Their map of the possible road sections is shown in Figure 4.





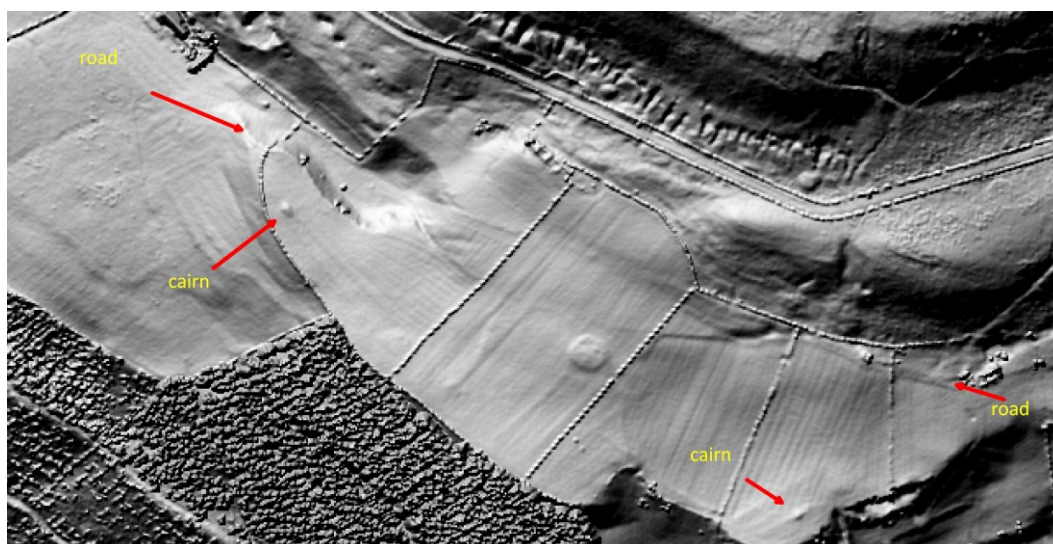
**Figure 4: The map of the Roman road by the RRRA (Toller and Haken 2017).  
The AA 2016 excavation examined the two sections labelled “9”. The Kirkhaugh section is “2”.**

The sections marked on this map are of varying degrees of certainty, but some, such as that near Catton “7” (see below) and at Kirkhaugh, show well on lidar, see Figure 5 (below).



**Figure 5: Lidar image of the section of possible Roman road near Catton (orange arrows).  
Lidar DSM elevation mode. Image by Stephen Eastmead.**





**Figure 6: Lidar image of the section of possible Roman road near Kirkhaugh.**

Lidar local-relief mode. Image by Stephen Eastmead.

The lidar image of the Kirkhaugh section shows it running along a level terrace on the hillside above Kirkhaugh, which is in the bottom of the South Tyne valley. This section is about 400m long, of which the eastern half is beside or under field walls. Also shown on the lidar image are the Bronze Age cairns and the minor modern road to Ayle, running between stone walls 70m north of the Roman road. At the top of the image a line of pits runs along the hillside: These are labelled on the first edition (1860) Ordnance Survey map as coal pits, but on the second (1895) as lead workings. It is probable that they were in fact coal pits as they run along a horizontal seam, outcropping on the hillside. Nearby at Ayle, coal-mining continued into the 21<sup>st</sup> century.

The road, seen on lidar, is in general a ridge approximately 6m wide, sometimes with roadside ditches. This ridge is the “agger”, the causeway which provided the base for the road. The details of Roman road construction varied between sites, at least partly depending on local availability of building materials: this is discussed in more detail in the 2016 excavation report (Green 2016).

### **2.3 A bridge over the South Tyne?**

There are ruined masonry bridge abutments by the South Tyne at Kirkhaugh. at NY69964925. Birley (1950) writes that his attention was drawn to them twenty years previously by R.C. Bosanquet. These are a scheduled monument (Pastscape monument number 13735, NMR number NY64NE3). The Pastscape description notes that no evidence has been found of a medieval or later bridge at that location and that the abutments are on the line of the suspected Roman road. The English Heritage survey of Whitley Castle (Went and Ainsworth 2009) comments: *“The mound of crude stonework stranded by the movement of the South Tyne to the north-east of the fort is clearly the abutment of a medieval or later packhorse bridge rather than a Roman crossing, but the rest of the supposed Roman road less easy to dismiss”*.

There are zig-zag tracks down to the location (Birley 1950, Toller and Haken 2017), making it likely that there was a bridge or ford there, but still leaving the dating of the abutments unclear. Even if the abutments are post-Roman, it doesn’t exclude the possibility that there was a previous Roman bridge at that location, especially since even after destruction by a flood, a bridge would be rebuilt in the same place to avoid building new access tracks. Of course, if there were a Roman bridge there, it still doesn’t prove the existence of the Roman road onwards to Corbridge, a bridge may just have been built to access the resources (agricultural? lead mines?) on the opposite side of the South Tyne.



One difficulty is that English Heritage's Whitley Castle survey, and the subsequent Miner-Farmer landscape survey of the area around Whitley Castle and Alston (Oakey, Radford and Knight 2012), both failed to find any evidence on of a road running eastwards from the fort across the South Tyne valley. This was despite use of aerial photographs, lidar images and geophysics. The road may not have led directly to the fort, but have joined the Maiden Way to the north (or south) of it, thus not appearing on the limited geophysics available.

## **2.4 Other archaeology of area**

The Miner-Farmer survey showed that the area is rich in archaeological features, including a series of Iron Age / Romano-British settlements and field systems. In particular, about 100m south of the line of the possible Roman road at Kirkhaugh, are three cairns (Pastscape 15072, NMR NY74NW6). Excavation in the 1930s, and re-excavation recently, shows that they are early Bronze Age burial cairns (Maryon 1936, Fitzpatrick 2015). They are sited prominently on the edge of the natural terrace. There are no other known archaeological features from the Bronze Age (or earlier) nearby. The proximity to the Roman road seems a co-incidence as they were already 2,000 years old when the Roman army arrived, so their significance would have been long-forgotten.

About 500m to the north-west are the earthwork remains of a field system on the hillside (Pastscape 1536956, NMR NY74NW273). This system is undated, but probably was in existence in the Iron Age, and remained in use into the Roman period. In this area of the South Tyne Valley, the Miner-Farmer survey suggested that the much of the land up to 400m altitude was already in agricultural use by the start of the Roman occupation, with farmers living in small farmsteads along each side of the valley.

## **2.5 Geology**

The bedrock in South Tynedale is entirely Carboniferous, formed, as in most of the North Pennines and Yorkshire Dales, of alternating beds of sandstones, limestones, shale, and coal. The differing hardness of these horizontal strata gives rise to the natural terracing of the hillsides. The supposed Roman road at Kirkhaugh runs along a bench formed by the Great Limestone, a thick layer of massive limestone at the bottom of the Middle Carboniferous sequence of rock. The excavations of the nearby cairns confirmed that they rested on limestone bedrock. The old coal diggings just higher on the hillside will have exploited the seam of coal often found just above the Great Limestone. More information can be found at the British Geological Survey [www.bgs.ac.uk](http://www.bgs.ac.uk).

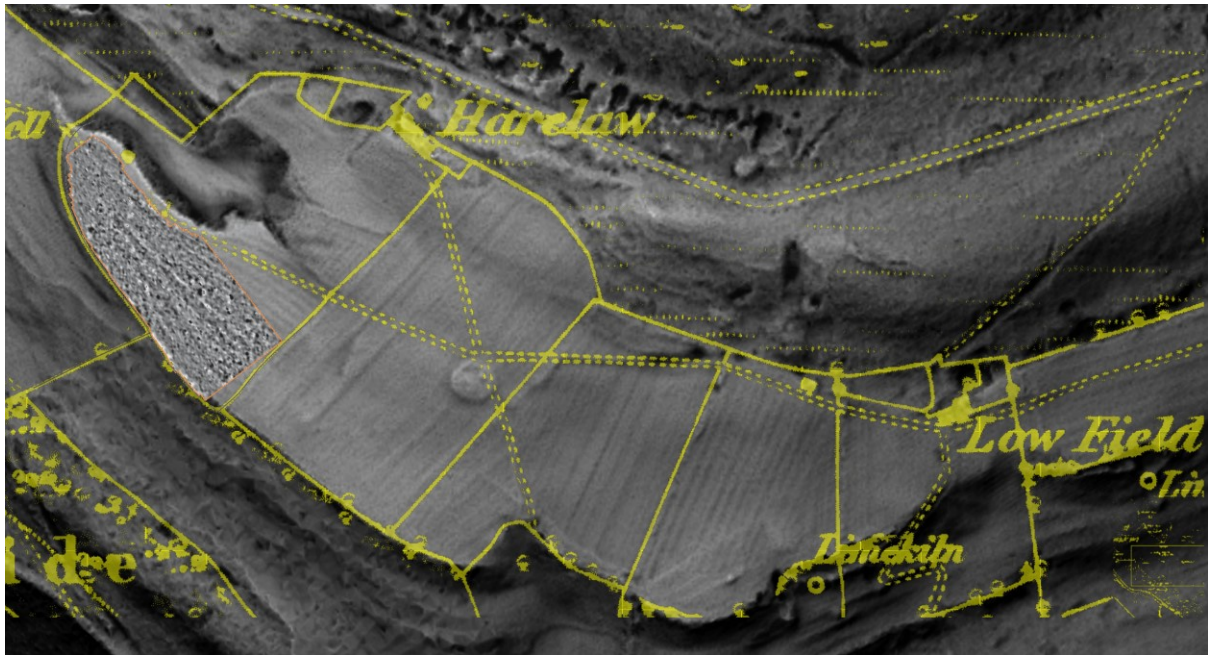
## **2.6 Old maps and geophysics**

The first edition Ordnance Survey map (1860) shows a landscape little different to that of the present day. The field boundaries are similar to the modern ones, and there is nothing marked on the line of the Roman road, nor are the cairns marked. The second edition (1895) is similar.

As part of the recent re-excavation of the nearby cairn, a geophysical survey was carried out of the area around the cairn (ASDU 2014). This survey was not extensive enough to include the line of the road and did not suggest there were any Roman features near the cairn.

The plan below shows the first edition OS map and the geophysics magnetometry data (bounded by a thin orange line) superimposed on the same lidar image used in Figure 6.





**Figure 7: Geophysics survey (outlined in orange) and the first edition OS map (in yellow) superimposed on lidar image (same image as in Figure 6).**

### 3 DISCUSSION AND PROJECT AIMS

The information available, as outlined above, leaves doubt as to whether the ridge seen on lidar is in fact the Roman road suggested to have run between Corbridge and Whitley Castle Roman forts. Previous research by AA and the RRRA has located probable sections of this road, running south of Hexham, across the Allen valleys, then over high ground before descending into the South Tyne valley at Kirkhaugh close to Whitley castle. However only one part of the road has been excavated, and further excavation is desirable. The section at Kirkhaugh is an obvious location for this to be carried out being a clear linear feature on lidar, and hence probably only buried shallowly. The Kirkhaugh section also has the advantage of easy accessibility from the nearby road, being on level ground so unlikely to be affected by soil-creep, and is (in part) on rough pasture so not ploughed in recent times. The section close to Catton would be another possible excavation site, being well-defined on lidar and clearly underneath later ridging; but it does have the disadvantage of being in area that has been extensively ploughed.

The excavation of the road south of Hexham (Green 2016) consisted of five trenches, each 2m wide, across a 250m stretch of the road. An additional two trenches were excavated across another section of the road 3km further east. The road was immediately under about 200mm of topsoil. The road surface consisted simply of cobble-stones placed directly on the subsoil (presumably after the topsoil had been cleared from the course of the road). No gravel, flagstones, or other surface material was found over the cobble-stones, so the road surface may have been simply topsoil rammed back onto the cobble-stones. In some trenches there was evidence of larger stones acting as kerbstones along the edge of the 6m wide road surface. In Trench 1 only 4m of the gap between the kerbstones had been cobbled, perhaps indicating that the road construction was incomplete: see Figure 8 below.



**Figure 8: Two of the trenches of the 2016 excavations (from Green 2016). A vertical and oblique photogrammetry view is shown for each trench. Photogrammetry by Stephen Eastmead.**

Roman roads vary in method of construction, partly because of availability of building material, but also can change for no apparent reasons over short distances (see Green 2016 for discussion of this). For the ground surface to be altered (and hence visible on lidar images), then there must be something to be found by excavation (but not necessarily a Roman road!). Alternative processes producing a ridge visible on lidar include: a ruined field-wall, a back-filled pipeline trench, a plough headland (where ploughs drop soil as they turn at the edge of a field), an old road (but not Roman), dumping of quarry spoil.

Studies of the Roman road system of England have previously concentrated on the major roads; it is only recently with the availability of lidar data, that it has become possible to investigate the network of minor roads that must have existed to transport agricultural and other goods in all parts of the country. To what extent the road system was adapted from pre-existing Iron Age roads, or newly built, remains unclear. In the Iron Age, carts were in common use and goods traded widely, so roads certainly existed before the Roman army arrived. One item of the Research Agenda of the North Pennines Archaeological Research Framework (Frodsham 2017) is to clarify the existence and nature of Roman roads in the North Pennines.



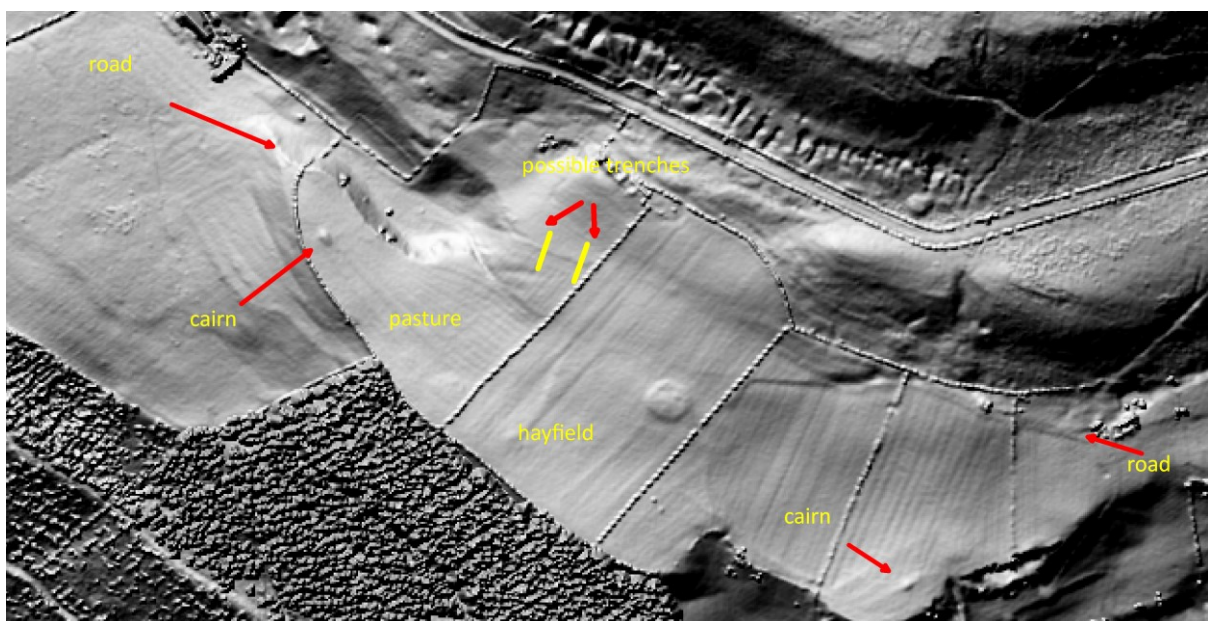
The aims of the investigation of this section of the road are therefore:

- To ground-truth the lidar data which suggest, but do not prove, the presence of a Roman road
- To determine the structure of the Roman road (if present) so that it can be compared with the section already excavated and other excavated road sections in Northern England
- To collect finds and samples to determine the date of construction and usage of the road

## 4 PROPOSED EXCAVATION

### 4.1 Aim and extent of excavation

Only limited excavation is planned, of two trenches each 11m long (across the predicted position of the road) and up to 3m wide (along the line of the road). Thus, less than 2% of this section of the road will be excavated, totalling about 66 square metres. At the usual rate of progress achieved in AA projects, this will take about 4 days (depending on weather and if complex structures are found). To avoid rushing the work, it is suggested that the excavation should run over 5 days (plus a half-day initially to lay out the site and erect tents. This allows time for digging the trenches, cleaning any road structure found, partially removing it to look for underlying structures, recording the results, then back-filling and re-turfing.



**Figure 9: Proposed trench locations, shown on same lidar image as previous figures.**

*Lidar local-relief mode. Image by Stephen Eastmead*

The suggested location of the trenches is shown in the Figure above. Both are in rough pasture at the western end of this section of the road. Other locations would be unsuitable as they lie under field walls, are in good quality hayfields, or are inconvenient for access from the road.

The excavation will be carried out in accordance with the guidance given in the Institute for Archaeologist's *Standard and Guidance for Archaeological Excavation* (IfA 2008), and will be completed according to relevant professional standards and guidelines.



The excavation will be undertaken by Altogether Archaeology members, who will receive training and on-site guidance and supervision. They will be briefed on (and agree to) health and safety precautions before being allowed to take part. Risk assessment documents (generic AA and site-specific) will be circulated to them before the dig (see Section 6 below).

Timing of the excavation will be on the advice of the farmers to avoid inconvenience to them, scheduling work when cattle are not in the field. The excavation areas will be defined by Netlon fencing (if necessary) to prevent animals such as sheep from entering the area when the site is unattended. The depth of the excavations is expected to be less than 1m. Advice will be taken from professional archaeologists, if necessary, as to precautions needed for deep excavation.

The trench positions will be established by surveying, using the lidar image for reference. This can be achieved by tape-measurements along the field walls to find the point at which the road crosses them on lidar. This allows the line of the road to be established and trenches laid out across it. The trench positions will be confirmed by GPS readings. Excavation will be by hand. Turf, stones, and soil will be stored separately on site. After the completion of the excavation, the original ground surface will be restored and the area re-turfed to return it to its original state. Metal detection will be used to ensure no metal artefacts are missed.

All excavated archaeological deposits will be recorded stratigraphically by context using a paper recording system, as in previous Altogether Archaeology excavations. The trenches will be recorded by vertical drone photography and/or photogrammetry to give isometric views as well as 3-D models. Important sections will be hand-drawn at 1:10 scale.

A photographic record will be maintained, using colour digital photography, of all significant features, finds, deposits and general site working. The photographic record will illustrate both the detail and the general context of the principal features and finds excavated, and the site as a whole. A site notebook and loose-leaf folder will be maintained to record the volunteers present, work done, photography, plans, sections, levels, contexts and significant finds.

## **4.2 Finds, environmental sampling and human remains**

**Very few (if any) Roman objects are normally found during excavations of Roman roads:** the 2016 AA excavation found only Victorian-era or later artefacts. If there are any artefacts found, then they will be retained, except those of obviously modern date in the topsoil. The context and position of selected finds (e.g. metal finds, carved or shaped stones, and unusual potsherds) will be recorded; other artefacts will be recorded by context only. All retained artefacts will be washed, weighed, counted, marked (as necessary), identified, and bagged or boxed in suitable containers. Finds will be kept in a secure location overnight. Any artefacts requiring conservation or specific storage conditions will be dealt with in line with *First Aid for Finds* (Watkinson and Neal 2001), by agreement of the owner and after taking expert advice.

**All artefacts recovered during the excavation remain the property of the landowner.** If material is recovered that is considered to be covered by the **Treasure Act of 1996** all information required by the Act will be reported and the Finds Liaison Officer for Northumberland informed.

Sealed deposits suitable for paleo-environmental examination and dating may be found during this excavation. Such samples will be taken, stored, and processed according to accepted procedures. Durham University has arranged training of volunteers in geoarchaeology and process sampling and has provided lab resources. Durham University is already assisting AA with the analysis of ceramic finds from other sites. Radiocarbon dates from samples taken in 2018 have been processed at Queens University Belfast and Edinburgh University.



It is extremely unlikely that human remains will be discovered during this small-scale excavation. If any are discovered then the advice of AA's professional archaeologist advisor will be taken regarding recording, excavation and removal from the site, subject to compliance with the appropriate legislation and guidance. Leaving the remains in situ may be the preferred option. All excavation and post-excavation treatment of remains will be in accordance with the standards set out by the Institute for Archaeologists (McKinley and Roberts 1993).

### **4.3 Report**

Specialists will be called on as necessary from Durham University and elsewhere to assess finds, process samples taken, and advise on archaeological findings. A comprehensive project archive will be prepared and a final project report issued, intelligible to the interested non-specialist, which will include:

- Introduction and background to the project, using updated and expanded extracts from this Project Design
- A site location plan, with trenches marked, notated with the OS grid
- A concise description of the dates of the project, methods used, and results obtained
- Drawn and photogrammetric plans and sections of the archaeological deposits
- A list of significant finds with any specialist reports on these
- A report on any environmental and dating work undertaken, giving results

Copies of the report will be supplied to the landowner, the farmers, and the County Archaeology Service. An electronic copy of the report will be, in keeping with previous practice, posted on the AA website for public access: <http://www.altogetherarchaeology.org>. The report will be made available via the ADS/OASIS archive

## **5 COMMUNICATION**

In accordance with standard Altogether Archaeology practice, this project will be overseen by a Project Team. The team will be in daily contact during the excavation. All volunteers taking part are required to be paid-up members of AA and to specifically register giving days of attendance. The number of volunteers will be limited each day to no more than 20; the number of days allocated to each volunteer may need to be reduced. Publicity about the project will be emailed to all members of AA.

Volunteers' contact details and those of their emergency contact will be recorded, and they will be given the contact details of the fieldwork co-ordinator and archaeological director. Volunteers should contact the fieldwork co-ordinator if concerned that excavation may not take place due to adverse weather or other factors, or if unable to attend as planned. Emergency contact details will not be retained by AA after the excavation has finished.

## **6 SITE ACCESS, HEALTH AND SAFETY, INSURANCE, AND WELFARE**

Only limited parking is available on and near the site, so car-sharing will be arranged from a suitable location (e.g. Alston or the wide roadside verges near Randalholme). A portable toilet may be provided (to be discussed with the farmer).

The farmers' advice will be followed regarding restrictions in access. Full consideration will be given to matters of health and safety. In accordance with standard AA practice, all work will be subject to



the generic AA Risk Assessment and also to a specific risk assessment, covering all potential hazards associated with this particular site. A comprehensive health and safety induction will be given to all volunteers at project start-up and will be emailed to them to read before participation. They will be asked to sign a register, confirming that they understand the risk assessment. An appropriate first aid kit will be on site at all times while fieldwork is in progress. Antiseptic gel and wipes will be available on site. In 2018 AA arranged a day course in First Aid to enhance members' abilities in this area. If restrictions due to the **Covid pandemic** are still in place, specific guidance will be issued to conform to official advice at that time.

The site is normally in mobile phone coverage in case of emergencies. Altogether Archaeology pays for insurance to cover volunteer activities, including excavation.

## 7 REFERENCES

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