



Stangana Compound, Haweswater Aqueduct Resilience Programme, Mansergh, Cumbria Archaeological Evaluation Report

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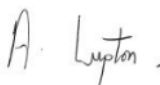
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Stangana Compound, Haweswater Aqueduct Resilience Programme, Mansergh, Cumbria

Archaeological Evaluation Report

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Summary

Oxford Archaeology (OA) North was commissioned by United Utilities to undertake a trial trench evaluation at the site of Stangana compound, part of the Haweswater Aqueduct Resilience Programme, at Mansergh, Cumbria (NGR: SD 59608 84027). The site is 4.5km to the north-west of Kirkby Lonsdale on the western side of the Lune valley, just above the limits of the enclosed landscape.

A probable prehistoric circular enclosure/ring cairn (HER 4284) has been recorded within the area of the compound. As such, the Historic Environment Officer for Cumbria County Council (CCC) required a geophysical survey to characterise the site. This was undertaken by Magnitude Surveys in September 2020 and identified several geophysical anomalies in the form of a series of linear, curvilinear and discrete anomalies in the area of the circular enclosure or ring cairn (HER 4284). The CCC Historic Environment Officer, in discussion with the client's representative, Jacobs, designed an archaeological trial trench evaluation, consisting of four trenches, to test the results of the geophysical survey and to inform a decision on any further potential archaeological works. The trial trenching was undertaken by OA North in April 2021.

Archaeological features were present in Trenches 2 and 4. Trenches 1 and 3 contained only natural deposits, with the anomalies identified apparently relating to geological variations. Trench 2 focussed on the circular enclosure or ring cairn (HER 4284) previously recorded; this was visible as a slight earthwork and showed up on the geophysical survey as a curvilinear feature. Excavation revealed this to be an earth and stone-built embanked feature. At the east end of the trench the bank (which remained unexcavated) survived as an upstanding silty layer containing large stones. At the west end of the trench, the bank appeared to have been truncated and all that remained were large stones within the infill of a shallow ditch. Within the embanked feature were two pits containing cremated material. These were revealed but not excavated; one contained charcoal, whilst the other contained charcoal and what appeared to be cremated bone. The presence of possible human cremations strongly suggests that the feature was a ring cairn of Bronze Age date. These features were cleaned and photographed in plan then protected by a plastic sheet prior to the trench being backfilled. To the north-east of the ring cairn (HER 4284), Trench 4 was placed over two small circular anomalies recorded by the geophysical survey, and revealed a pit or tree throw infilled with redeposited natural and a layer of charcoal-rich material.

Ring cairns are relatively common in upland contexts in Cumbria, but most are known only as upstanding earthworks. Where they have been excavated, they often contain human cremations, sometimes contained within ceramic burial urns. Whilst some are simple ditches with encircling banks, others are more complex and long-lived. They are believed to be family monuments serving

farming communities in a period when the climate allowed cultivation in what are now considered to be marginal upland landscapes. The ring cairn (HER 4284) has been ascribed regional significance based on its inclusion within the CCC Historic Environment Record and its potential, based on regional research priorities, to provide important information pertaining to Bronze Age ring cairns and upland funerary traditions.

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The project was managed for OA North by Paul Dunn. The fieldwork was directed by Andrew McGuire, who was supported by Liberty Bennett. Survey was carried out by Andrew and Liberty. The report was written by Helen Evans, whilst the illustrations were produced by Mark Tidmarsh.

1 INTRODUCTION

1.1 Scope of work

- 1.1.1 Oxford Archaeology (OA) North was commissioned by United Utilities to undertake a trial trench evaluation of Stangana Compound, part of the Haweswater Aqueduct Resilience Programme, Mansergh Cumbria (NGR: SD 59608 84027).
- 1.1.2 The work was undertaken to inform the Planning Authority in advance of a submission of a Planning Application. Initially, the Historic Environment Officer for Cumbria County Council (CCC) required a geophysical survey of the compound area. The geophysical survey was undertaken in September 2020 and identified several geophysical anomalies (Magnitude 2020). As such, the Historic Environment Officer for CCC, in discussion with the client's representative, Jacobs, designed an archaeological trial trench evaluation to test the results of the geophysical survey and to inform a decision on any further potential archaeological works. OA North were subsequently commissioned to produce a Written Scheme of Investigation (WSI; *Appendix A*) and undertake the archaeological fieldwork reported on here.

1.2 Location, topography and geology

- 1.2.1 The site, 4.5km to the north-west of Kirkby Lonsdale on the western side of the Lune valley, lies to the north of Old Town and north-west of Mansergh (NGR SD 59608 84027; Fig 1). The site is bounded to the east by Old Scotch Road, which forms the modern western boundary of the Yorkshire Dales National Park. The site, at c 185m AOD, sits just above the limits of the enclosed landscape and consists of unenclosed pasture and marshland (Fig 2).
- 1.2.2 The solid geology of the area is mapped as sandstone of the Kirkby Moor Formation (BGS 2021). The overlying superficial geology of the area is mapped as Devensian till across much of the area, with a band of peat running along the eastern boundary of the field containing the evaluation trenches (*ibid*). The acidic loamy and clayey soils are slowly permeable and seasonally wet (Cranfield University 2020).

1.3 Archaeological and historical background

- 1.3.1 The following summary of the archaeological and historical background is derived from information provided by Jacobs (United Utilities 2020).
- 1.3.2 Prehistoric activity in the form of the Mansergh circular enclosure/ring cairn has been recorded within the area of the site (HER 4284). In the southern portion of the site, there is also Beck Head Quarry (MYD62520) and a Post-medieval trackway (MYD64064), which extends beyond the site. Further prehistoric activity has been identified to the west of the site as Blease Hill Iron Age settlement and field system.
- 1.3.3 Post-medieval activity is recorded as Beck Head Smithy, and lynchets and boundary banks 400m south of the centre of the site, and Hazel Rigg 700m to the south-west (MYD63760, MYD64164 and 14091).
- 1.3.4 Magnitude Surveys undertook a geophysical survey of the compound area in September 2020. The survey identified archaeological activity as a series of linear,

curvilinear and discrete anomalies which correlate with the Mansergh circular enclosure or ring cairn (HER 4284; Magnitude Surveys 2020).

2 AIMS AND METHODOLOGY

2.1 Aims and objectives

- 2.1.1 The primary aim of the trial trenching is to ascertain the presence or absence of archaeological remains within defined areas of the proposed Stangana compound and to understand their potential significance. The results of the trial trenching will inform discussions with the CCC Historic Environment Officer regarding the need for, scope, and scale of any subsequent archaeological investigations.
- 2.1.2 The general objectives of the trial trenching are:
- i. to investigate the anomalies identified by the geophysical survey;
 - ii. identify the presence or absence of any buried archaeological remains;
 - iii. identify, investigate and record any such archaeological remains, including condition and extent;
 - iv. establish the state of preservation of any buried remains and provide a chronology of the archaeological remains;
 - v. determine the stratigraphic sequence, character and dating of the deposits or features identified;
 - vi. assess the significance of any archaeological remains encountered;
 - vii. analyse, conserve and store any artefacts or ecofacts recovered;
 - viii. disseminate the results through reporting, taking the Regional Research Agenda into consideration; and
 - ix. integrate the results into the wider historical and archaeological context.

2.2 Methodology

- 2.2.1 The project methodology, set out in the WSI (*Appendix A*), was adhered to in full, and was fully compliant with current guidelines and industry best practice (CIfA 2019; 2020a; 2020b; HE 2015).
- 2.2.2 The position of the trenches excavated (Fig 2) was set out by the use of dGPS (accurate to 0.02-0.03m) and service checks were undertaken by OA North. Topsoil and subsoil were removed to the natural geology or the first significant archaeological horizon by an eight ton mechanical excavator and stored immediately adjacent to the trenches at a safe distance from the trench edge.
- 2.2.3 All information identified during the evaluation was recorded stratigraphically, using a system adapted from that used by the former English Heritage Centre for Archaeology, with an accompanying pictorial record (plans, sections and digital photographs). Primary records were available for inspection at all times.
- 2.2.4 Results of all field investigations were recorded on *pro forma* context sheets. The site archive includes a photographic record, and accurate large-scales plans and sections at appropriate scales (1:50; 1:20 and 1:10).
- 2.2.5 A full professional archive was compiled in accordance with the WSI, and with current professional guidelines (CIfA 2020b; HE 2015). The archive will be offered to Kendal Museum of Natural History and Archaeology, in due course.

3 RESULTS

3.1 Introduction and presentation of results

- 3.1.1 The results of the evaluation are presented below, and include a stratigraphic description of the trenches. The full details of all trenches with dimensions and depths of all deposits can be found in *Appendix B*.

3.2 General soils and ground conditions

- 3.2.1 The soil sequence in the trenches was fairly uniform. The natural geology was encountered at approximately 0.3m below the existing ground level as a mid-yellow to orange-brown sandy clay, matched the anticipated geology as mapped by BGS (2021). This contained patches of gravel and stones in places which formed hard concreted deposits. The natural geology was overlain by a thin layer of light- to mid-brown-grey subsoil, approximately 0.1m thick, which was, in turn overlain by mid- to dark brown-grey topsoil, approximately 0.2m thick.
- 3.2.2 Ground conditions throughout the evaluation were generally good, and the site remained dry throughout. Archaeological features, where present, were easy to identify against the underlying natural geology.

3.3 General distribution of archaeological deposits

- 3.3.1 Archaeological features were present in Trenches 2 and 4 (Fig 3). Trenches 1 and 3 only contained natural geology, with the anomalies identified by the geophysical survey (Magnitude Surveys 2020; Fig 4) appearing to relate to natural geological variations.

3.4 Trench 1

- 3.4.1 Trench 1 aligned north/south, was excavated to 25m long, 1.8m wide and had an average depth of 0.29m. The trench targeted two curvilinear geophysical anomalies characterised as 'undetermined' (Fig 4). Natural geology **102**, was identified as mid-yellow brown sandy clay glacial till; there were no archaeological features identified cutting the natural geology, with the two geophysical anomalies appearing to relate to natural variations in the geology. Natural geology **102** was overlain by subsoil **101**, 0.06m thick, which was, in turn overlain by topsoil **100**, 0.23m thick.



Plate 1: Trench 1, facing north, 2x 1m scales

3.5 Trench 2

- 3.5.1 Trench 2 aligned east/west, was excavated to 25m long, 1.8m wide and had an average depth of 0.28m. The trench was targeted on the putative ring cairn feature (HER 4284), visible as a full circular earthwork and identified as separate curvilinear anomalies by the geophysical survey (Fig 4; Plate 2). Two sides of a broadly circular feature were identified within the trench.



Plate 2: Trench 2, facing east, 2x 1m scales

- 3.5.2 The eastern bank, **203**, of the putative ring cairn (HER 4284) was encountered at the eastern end of the trench (Fig 3; Plates 2 and 3) and comprised an (unexcavated) placed deposit of mid-grey silty clay, c 2m wide, containing several large irregular-shaped stones. Adjacent and to the east of the feature was a collection of around ten large irregular-shaped stones **204**; these appeared to be collapse from bank **203**, some of which were disturbed during machining. The angular and sub angular grey stones had dimensions of up to 0.3 x 0.3m. There was no evidence of a ditch related to the bank.



*Plate 3: Bank **203** and displaced stones **204**, facing west, 1m scale*

- 3.5.3 In the western end of the trench, c 13.9m to the west of bank **203**, was a north/south-aligned ditch (**207**, Plate 4; Fig 3). This was 1.06m wide, had a maximum depth of 0.35m, and it had steep sides and a flattish undulating base. It was filled by three deposits. The basal fill (**208**) was a light brownish grey clayey silt which contained frequent small stones, possibly naturally derived rather than being a deliberate backfill (Fig 3). This was overlain by a deposit of redeposited natural clay silt (**209**) which appeared to have formed naturally in a gully towards the centre of the ditch's irregular profile. The final fill of the feature, sealed by the topsoil (**200**) was a dark grey-brown silty clay (**210**). This contained a significant number of large (up to 0.3m) and smaller (up to 0.10m) angular and sub angular grey stones (**210**; Plate 5) which may have related to a collapsed bank (not identified). These were similar in nature to those forming the bank in the east end of the trench (**203**), however, there was no evidence of a bank, possibly suggesting that ditch **207** is an earlier feature than the ring cairn, based upon the upper fill of the ditch, **210**.



Plate 4: South-facing section of ditch 207, 1m scale



Plate 5: Oblique shot of ditch 207, facing south-west, 1m scale

- 3.5.4 Two discrete features were identified between bank **203** and ditch **207**, which are assumed form two sides of a circular or subcircular embanked feature. These two features were pits possibly containing cremated remains and were left *in situ*. The features were covered with plastic sheet before the trenches were backfilled.

- 3.5.5 Pit **205** was 3.8m to the west of bank **203** and was cut into the gravelly natural geology. Although the cremated deposit contained by pit **205** remained unexcavated, in plan it had a maximum diameter of 0.37m and its fill contained visible fragments of burnt bone and charcoal (Plate 6).



*Plate 6: Cremation burial **205**, 0.5m scale*

- 3.5.6 Pit **206** was positioned 4.5m to the west of pit **205** and 5.3m to the east of ditch **207** (Fig 3). The visible extents of pit **206**, which extended into the southern baulk of the trench, indicated a diameter of 0.45m, larger than **205**. Although the deposit remained unexcavated, it was observed to have a charcoal-rich fill and (unlike the deposit contained within pit **205**) there was no burnt bone visible (Plate 7).



*Plate 7: Possible cremation **206**, scale 0.5m*

3.6 Trench 3

- 3.6.1 Trench 3 aligned north/south, was excavated to 10m long, 1.8m wide and had a maximum depth of 0.55m at its southern end (Plate 8). The trench targeted a weak linear geophysical anomaly interpreted as probable archaeology north of the ring cairn (HER 4284; Fig 4). The natural geology, **302**, was a mid-orange brown clayey silt glacial till, corresponding to the BGS mapping (BGS 2021); in the northern third of the trench this included a dense concentration of small angular stones in a band across the trench. These were in the location of the linear anomaly identified by the geophysical survey, but there was no evidence in plan or section that these were anthropogenically derived. The natural geology, **302** was overlain by subsoil, 0.1m thick, which was, in turn overlain by topsoil **300**, 0.15m thick.



Plate 8: Trench 3, facing south, showing concentration of stones, 2x 1m scales

3.7 Trench 4

- 3.7.1 Trench 4, aligned west/east, was excavated to 10m long and 3.6m wide, with an average depth of 0.3m. The trench was targeted on a small circular geophysical anomaly (Fig 4). The natural geology, **402**, was a light to mid-orange brown clayey silt till, corresponding to BGS mapping (BGS 2021; Plate 9).



*Plate 9: Trench 4, facing north-east, with tree throw **403** visible in the foreground, 2x 1m scales*

- 3.7.2 Natural geology **402** was cut by tree throw **403** in the north-west corner of the trench (Plate 10; Fig 3), which was sub-circular with uneven steep sides and an irregular concave base, measuring 0.82m in diameter and was between 0.07 and 0.15m deep. The fill **404**, of tree throw **403**, was a mottled spread of friable dark orangish brown clayey silt. The location of this feature did not correspond with the anomaly identified on the geophysical survey, the anomaly appearing to relate to a concentration of stones within the natural geology. The feature was sealed by subsoil **401**, 0.1m thick, which was, in turn overlain by topsoil **400**, 0.2m thick.



*Plate 10: South-west-facing section of tree throw **403**, 0.5m scale*

3.8 Environmental and finds summary

- 3.8.1 There were no finds recovered during the evaluation, the burnt bone encountered within cremation **205** was left *in situ*. An environmental sample was taken from tree throw **403**, however, this was not processed due to the feature being of natural origin. There were no other suitable deposits to take environmental samples from, with the cremations, **205** and **206**, identified in Trench 2 remaining *in situ*.

4 DISCUSSION

4.1 Reliability of field investigation

- 4.1.1 The results of the evaluation trenching are considered to be reliable. The features were easy to identify in fine dry conditions against the clean bright orange natural, although the natural was gravelly and concreted in places.

4.2 Evaluation objectives and results

- 4.2.1 Based on the objectives as set out in *Section 2*, it is considered that the objectives of the archaeological evaluation project have been met. The investigation of anomalies identified during the geophysical survey revealed that the archaeological remains encountered in Trench 2 corresponded well, whilst the anomalies investigated in the remaining trenches appeared to relate to localised geological features (Fig 4). The character, condition and extents of the features were recorded and a broad chronology has been established based on type site characteristics.

4.3 Interpretation

- 4.3.1 Although the evidence is incomplete due to the evaluatory nature of the investigation, the feature in Trench 2 appears to be a broadly circular embanked feature (HER 4284), potentially with an internal ditch, within which are at least one cremation deposit, **205**, and possibly a second, **206**. The bank has a diameter of approximately 15.6m. Morphologically and with reference to other surveyed and excavated features in the region, it appears that the feature is a funerary ring cairn. The cremation and possible cremation deposits may be human and may be contained within decorated ceramic collared urns, although this has not been confirmed as the features have not been excavated. The burials, and the monument which contain them, are likely to date from the early to middle Bronze Age.
- 4.3.2 Classic ring cairns, characteristically between ten and 20 metres in diameter, and in the central Cumbrian uplands where most have been recorded, correlate with dense areas of cairnfield representing prehistoric upland land clearance (Evans 2008 ch6; Quartermaine and Leech 2012). They are believed to be 'family' monuments serving farming communities in a period when the climate allowed cultivation in what are now considered to be marginal upland landscapes (Evans 2008; Quartermaine and Leech 2012).
- 4.3.3 Ring cairns are relatively common in upland contexts in Cumbria, but most are known only as upstanding earthworks. Whilst some upland ring cairns appear to be relatively simple embanked structures sometimes with ditches, others are more complex and long-lived, sealing earlier features (Evans 2008). Where they have been seen excavation, they often contain urned and unurned cremations (*eg* Collingwood 1912; Railton 2018). The character of the burials shares similarities with unenclosed cremation cemeteries in lowland contexts, which are more frequently excavated as they are often in the locations of modern development (*eg* Bewley *et al* 1992; Wild 2003; Mace 2019; 2020).

- 4.3.4 Compared to the Lake District uplands, few ring carins are known in the immediate area of the Lune valley, although evidence for prehistoric upland occupation is increasingly well documented (*eg* Hardwick 2017). Casterton ring cairn (or embanked stone circle; NHLE 1007245) is 6km south-east of Mansergh and comprises a penannular bank, c 16m across, with stones up to 0.4m high arranged every 2-3m around its inner face (Waterhouse 1985). A ring cairn in Chapel le Dale (MYD37361), 16km to the south-east of Mansergh, has a diameter of c 17m and appears associated with several possible round burial cairns and embanked features. Coring of the central area of the monument identified charcoal, radiocarbon-dated to 1940-1730 cal BC, in the early Bronze Age (Batty 2011).
- 4.3.5 A little further afield in the Eden valley near Appleby, excavations of a subcircular mound or platform surrounded by a ditch and external bank on Brackenber Moor (also close to several round cairns), approximately 37km to the north-east of the site, revealed it was an enclosed cremation cemetery later covered by a cairn (Railton 2018). There was a series of charcoal-filled pits close to the centre of the monument, which had also been used as a pyre site. Five of these contained human cremations dating between 1740 and 1630 cal BC (*ibid*).

4.4 Significance

- 4.4.1 The National Planning Policy Framework (NPPF) sets out national planning policies relating to historic environment conservation (MHCLG 2019). Valued sites of archaeological or cultural heritage that merit consideration in planning decisions are grouped as 'heritage assets' and are an 'irreplaceable resource', the conservation of which can bring wider social, cultural, economic and environmental benefits (MHCLG 2019, section 16.184-5). The policy framework states that the 'significance of any heritage assets affected, including any contribution made by their setting' should be understood in order to assess the potential impact of any development (MHCLG 2019, section 16.189). In addition to standing features, heritage assets of archaeological interest can comprise sub-surface remains and, therefore, assessments should be undertaken for a site that 'includes or has the potential to include heritage assets with archaeological interest' (MHCLG 2019, section 16.189).
- 4.4.2 The NPPF draws a distinction between designated heritage assets and other remains considered to be of lesser significance; 'great weight should be given to the asset's conservation' (and the more important the asset, the greater the weight should be) (MHCLG 2019, section 16.194). 'Substantial harm to or loss of a grade II listed buildings or grade II registered parks or gardens should be exceptional; assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, Grade I and II* buildings, Grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional' (MHCLG 2019, section 16.195). Therefore, preservation in situ is the preferred course in relation to such sites, unless exceptional circumstances exist.
- 4.4.3 It is normally accepted that non-designated sites will be preserved by record, in accordance with their significance and the magnitude of the harm to/loss of the site, to minimise or avoid conflict between conservation and development proposals (MHCLG 2019, section 16.189). Non-designated heritage assets of archaeological

interest will also be subject to the policies reserved for designated heritage assets if they are of equivalent significance to scheduled monuments (MHCLG 2019, section 16.194, footnote 63).

- 4.4.4 In line with industry-standard guidelines (*eg* Highways England 2019; LA104, Revision 1; table 3.2N), mitigation recommendations are generated through consideration of the magnitude of impact of the proposed works on the significance of heritage assets. Table 1 illustrates, scaled in accordance with their relative importance, how the significance of heritage assets is identified.

Significance	Examples of Site Type
International	UNESCO World Heritage Sites and sites on the list of sites proposed for World Heritage Status.
National	Scheduled Monuments (SMs), Grade I, II* and II Listed Buildings
Regional/County	Conservation Areas, Registered Parks and Gardens (Statutory Designated Sites), Historic Environment Record/locally listed buildings/sites with a regional/county research interest
Local/Borough	Sites with a local or borough archaeological value or interest Sites that are so badly damaged that too little remains to justify inclusion into a higher grade
Low Local	Sites with a low local archaeological value Sites that are so badly damaged that too little remains to justify inclusion into a higher grade
Negligible	Sites or features with no significant archaeological value or interest

Table 1: Significance of heritage assets

- 4.4.5 The North West Regional Research Framework of 2006/7 stresses that most known ring cairns have been identified according to their external morphology and few have been excavated to modern standards (Hodgson and Brennand 2007). Very little excavation of upland examples has taken place, especially in areas outside the central and western Lakes, with chronologies of burial poorly understood. Initiative 2.47 of the 2006/7 Prehistoric research agenda (*ibid*) indicates the need for closer characterisation and dating of round funerary monuments and ring cairns in a variety of settings. Initiative PH39 of the 2020 Research Framework repeats earlier approaches to understanding the character and chronology of Bronze Age funerary traditions, suggesting targeted survey, geophysical survey and small-scale excavation to obtain material for closer dating of such features (Research Frameworks 2021).
- 4.4.6 According to Table 1, although the Mansergh ring cairn (HER 4284) is not designated as a Scheduled Monument, it is recorded on the CCC Historic Environment Record and should therefore be considered regionally significant. In addition, the feature is also considered to be of regional/county significance as investigation and close dating of ring cairns and Bronze Age funerary traditions is a regional research priority.

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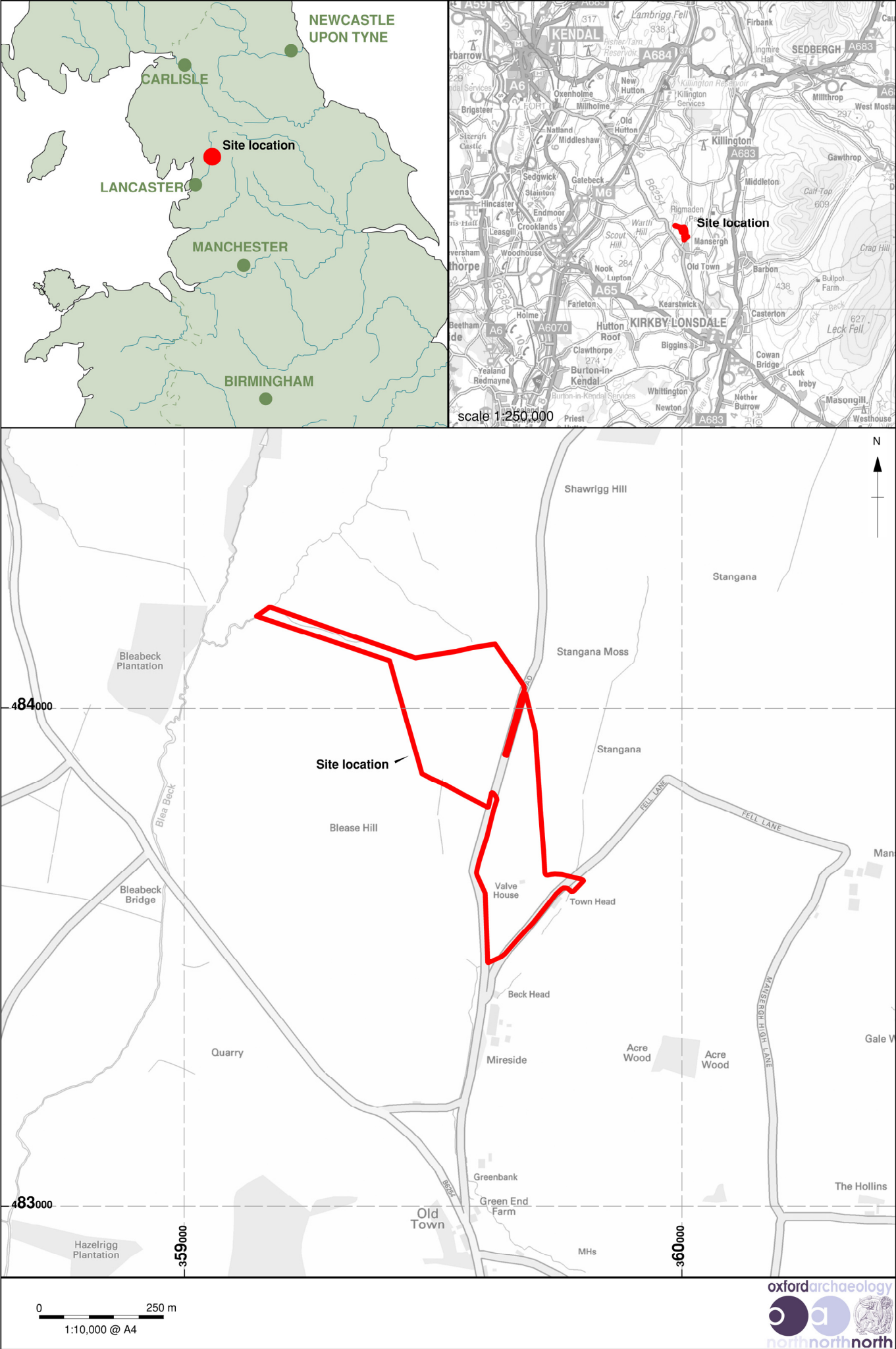


Figure 1: Site location

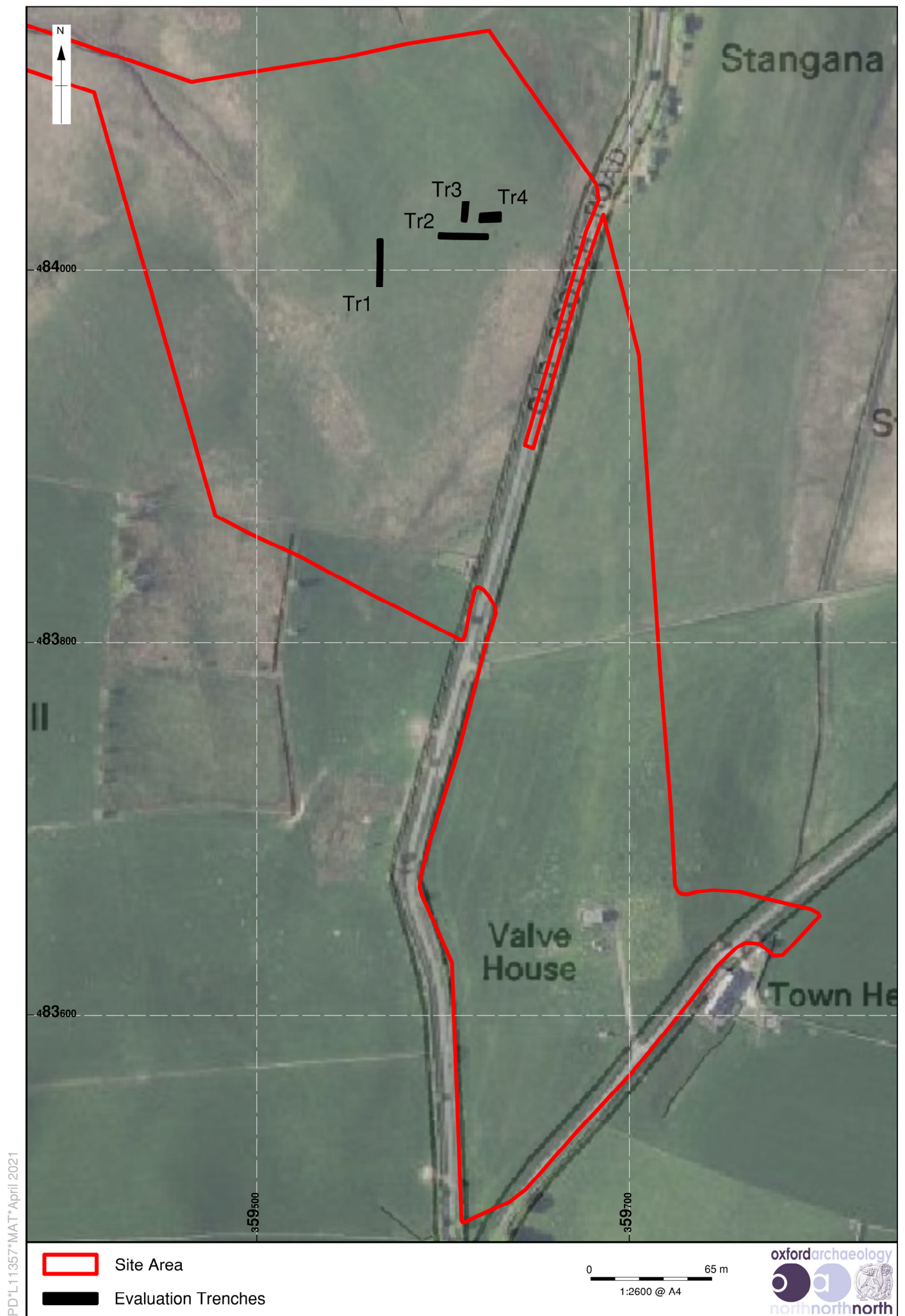


Figure 2: Location of evaluation trenches

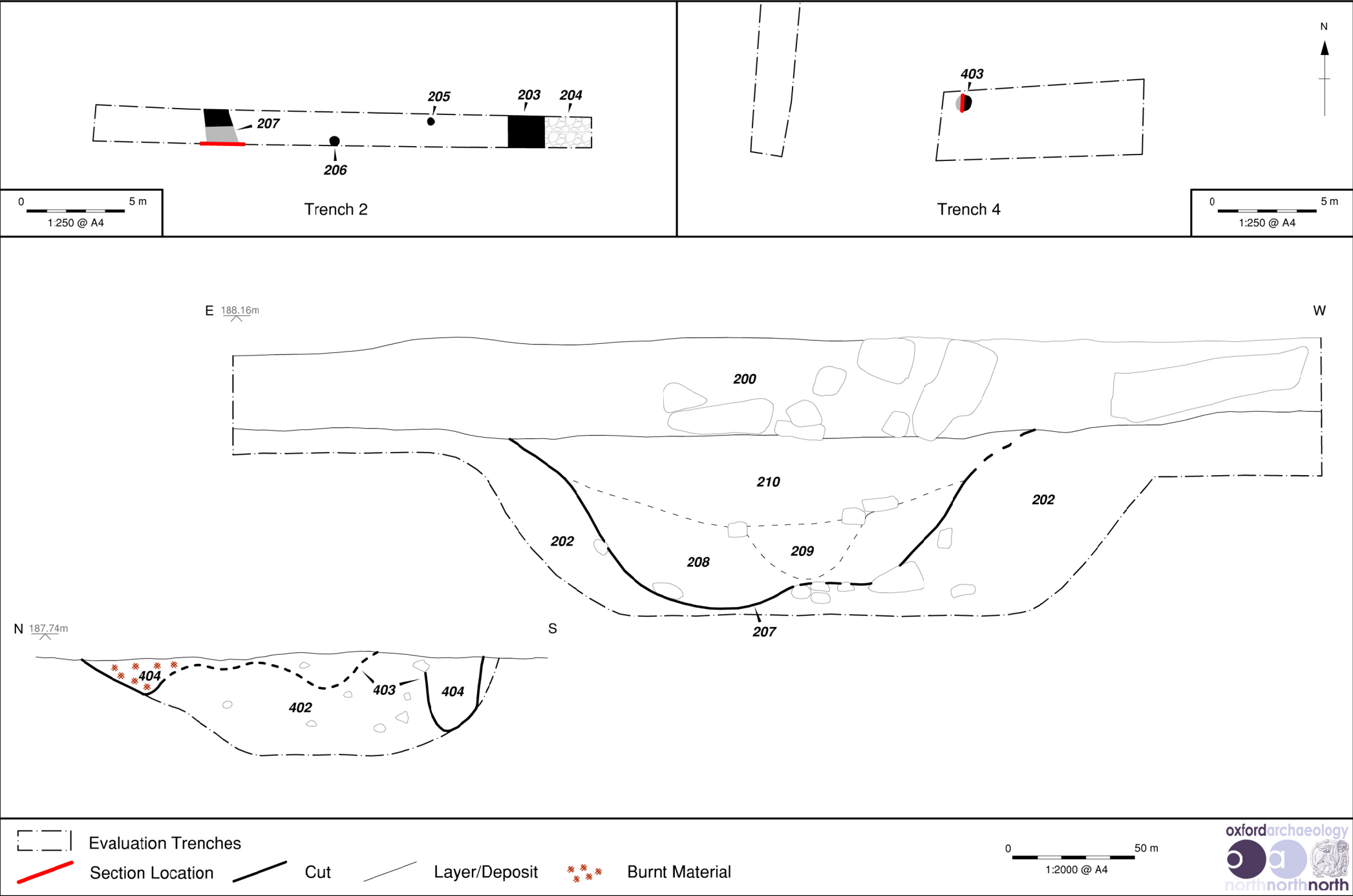


Figure 3: Plans and cross-sections of trenches 2 and 4

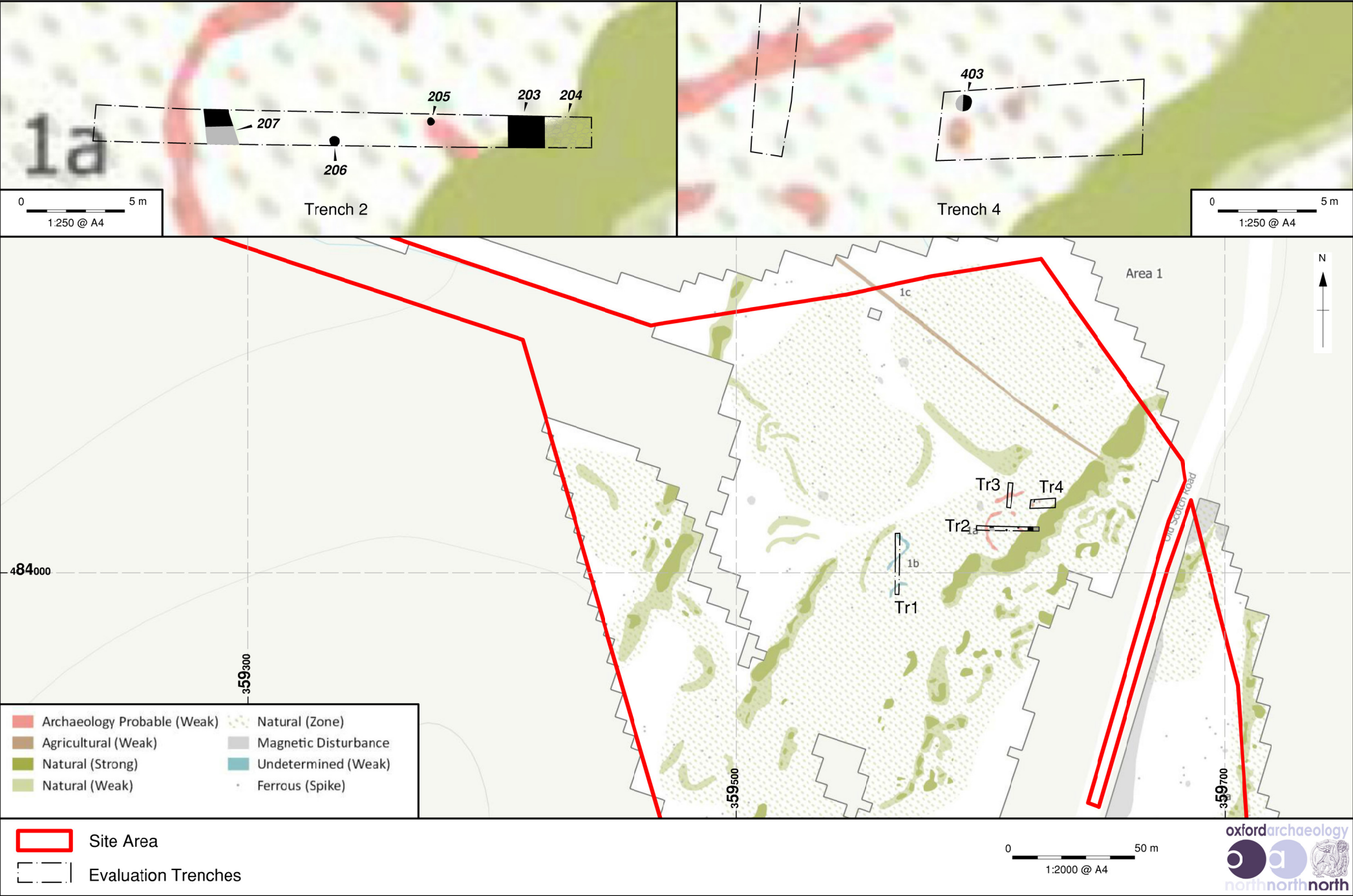


Figure 4: Evaluation trenches superimposed on the geophysical survey interpretation plot

APPENDIX A WRITTEN SCHEME OF INVESTIGATION



Haweswater Aqueduct Resilience Programme, Stangana Compound, Mansergh, Cumbria

Written Scheme of Investigation Archaeological Evaluation

April 2021

Client: United Utilities

Issue No: V. 1

NGR: SD 59608 84027



Client Name: United Utilities
Document Title: Haweswater Aqueduct Resilience Programme, Stangana Compound, Mansergh, Cumbria
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Date: April 2021
Prepared by: Paul Dunn (Senior Project Manager)
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Haweswater Aqueduct Resilience Programme, Stangana Compound, Mansergh, Cumbria

Written Scheme of Investigation for an Evaluation

Centred on SD 59608 84027

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1 INTRODUCTION

1.1 Project details

- 1.1.1 Oxford Archaeology (OA) North has been commissioned by United Utilities to undertake an archaeological trial trench evaluation of the site of a proposed compound as part of the Haweswater Aqueduct Resilience Programme, Stangana Compound, Mansergh, Cumbria (NGR: SD 59608 84027; Fig 1).
- 1.1.2 The work is being undertaken as a condition of Planning Permission and to inform the requirements for any further potential archaeological works required. Initially, the Historic Environment Officer for Cumbria County Council (CCC) required a geophysical survey of the compound area. The geophysical survey was undertaken in September 2020 and identified several geophysical anomalies. As such, the Historic Environment Officer for CCC, in discussion with the client's representative, Jacobs, designed an archaeological trial trench evaluation to test the results of the geophysical survey and to inform a decision on any further potential archaeological works. OA North were subsequently commissioned to produce this Written Scheme of Investigation and undertake the archaeological fieldwork; this document outlines how OA will implement those requirements.
- 1.1.3 All work will be undertaken in accordance with local and national planning policies (CIfA 2019; 2020a; 2020b: Historic England 2015).

1.2 Oxford Archaeology

- 1.2.1 OA North, based in Lancaster, is the northern office of Oxford Archaeology (Chartered Institute for Archaeologists (CIfA) registered organisation no 17), the leading archaeological and heritage practice in the country, employing in excess of 400 professionals across three regional offices. OA North is itself the largest archaeological contractor in north-west England. As a registered educational charity, OA is dedicated to maintaining and promoting the highest professional, academic, commercial and ethical standards and to the provision of access to archaeology for all. It has both an established reputation and a philosophical imperative in the pursuit of efficient and cost-effective fieldwork, post-excavation excellence, and high-quality publication and outreach. We pride ourselves on our delivery of accessible outreach, including open days, lectures, information panels, leaflets, *etc.*
- 1.2.2 With over 40 years of experience in commercial archaeology, OA has undertaken tens of thousands of archaeological investigations of all types, scales and periods, from desk-based assessments to major open-area excavations. OA has particular experience of working closely with principal contractors, consultants and curators to undertake high-quality archaeological works within the tight timetables and high-pressure environments of major projects.

1.3 Location, topography and geology

- 1.3.1 The site lies to the north of Old Town and the north-west of Mansergh (NGR SD 59608 84027; Fig 1) and is bounded to the east by Old Scotch Road, the north, south and west by pasture fields. The site itself consists of pasture and marshland.

- 1.3.2 The solid geology of the area is mapped as sandstone of the Kirby Moor Formation (BGS 2021). The overlying superficial geology of the area is mapped as Devensian Till across much of the area, with a band of peat running along the eastern boundary of the field containing the evaluation trenches (*ibid*). The soils consist of slowly permeable seasonally wet acid loamy and clayey soils (Cranfield 2021).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND AND POTENTIAL

2.1 Archaeological and historical background

- 2.1.1 The following summary of the archaeological and historical background is derived from information provided by Jacobs (United Utilities 2020).
- 2.1.2 Prehistoric activity in the form of the Mansergh circular enclosure/ring cairn has been recorded within the area of the site (4284). In the southern portion of the site, there is also Beck Head Quarry (MYD62520) and a post-medieval trackway (MYD64064), which extends beyond the site. Further prehistoric activity has been identified to the west of the site as Blease Hill Iron Age settlement and field system.
- 2.1.3 Post-medieval activity is recorded as Beck Head Smithy, and lynchet and boundary banks 400m south of the centre of the site, and Hazel Rigg 700m to the southwest (MYD63760, MYD64164 and 14091).
- 2.1.4 Magnitude Surveys undertook a geophysical survey of the compound area in September 2020. The survey identified archaeological activity as a series of linear, curvilinear and discrete anomalies which collocate with Mansergh circular enclosure or ring cairn (Magnitude 2020).

3 PROJECT AIMS

3.1 General

3.1.1 The primary aim of the trial trenching is to ascertain the presence or absence of archaeological remains within defined areas of the proposed Stangana compound and to understand their potential significance. The results of the trial trenching will inform discussions with the archaeological advisor to CCC regarding the need for, scope and scale of any subsequent archaeological investigations

3.1.2 The general objectives of the trial trenching are:

- i. investigate the anomalies identified during the geophysical survey;
- ii. identify the presence or absence of any buried archaeological remains;
- iii. identify, investigate and record any such archaeological remains, including condition and extent;
- iv. establish the state of preservation of any buried remains and provide a chronology of the archaeological phasing;
- v. determine the stratigraphic sequence, character and dating of the deposits or features identified;
- vi. assess the significance of any archaeological remains encountered;
- vii. analyse, conserve and store any artefacts or ecofacts recovered;
- viii. disseminate the results through reporting taking the Regional Research Agenda into consideration; and
- ix. integrate the results into the wider historical and archaeological context.

4 PROJECT SPECIFIC EXCAVATION AND RECORDING METHODOLOGY

4.1 Scope of works

- 4.1.1 The trial trench evaluation is to consist of four trenches within the proposed Stangana compound (Fig 2) and targeting anomalies identified on the geophysical survey (Magnitude 2020; Fig 3). Trenches 1 and 2 are 25m long by 1.8m wide, whilst Trenches 3 and 4 are 10m long by 1.8m and 3.6m wide. Prior to commencement of the excavation of the trenches photographs will be taken showing the condition of the site. The trenches will be excavated by a mechanical excavator fitted with a toothless ditching bucket, under direct supervision by a suitably experienced and qualified archaeologist at all times. Topsoil and subsoil will be excavated from trenches in stratigraphic order to natural geology, significant archaeological remains or a safe working depth of 1.2m, whichever is encountered first. The topsoil and subsoil will be kept separate, with topsoil being stockpiled on one side of the trench and subsoil the other, they will also be systematically checked, both by eye and metal detector, and any finds will be retained. If potentially significant archaeological remains are identified, the archaeologist will inform the client and their representative.
- 4.1.2 Upon excavation of the trenches to the required depth, they will be hand cleaned and any archaeological features will be investigated and recorded. Any finds or environmental recovered will be returned to OA North's office in Lancaster for processing and assessment. Upon completion of the recording the trenches will be backfilled by the mechanical excavator, which will reinstate the spoil in the reverse order of their extraction, i.e. subsoil first and then topsoil. The machine will compact the spoil with only the weight provided by the mechanical excavator. Once the trenches have been backfilled, photographs will be taken of the condition of the site.

4.2 Programme

- 4.2.1 It is anticipated that the fieldwork will take two days to complete, by a team consisting of a Project Supervisor, Andrew McGuire, directing up to one Project Archaeologists, under the management of Paul Dunn, Senior Project Manager.
- 4.2.2 All fieldwork undertaken by Oxford Archaeology (North) is overseen by the Operations Manager, Alan Lupton MCIfA.

4.3 Site specific methodology

- 4.3.1 A summary of OA's general approach to excavation and recording can be found in *Appendix A*. Standard methodologies for Geomatics and Survey, Environmental evidence, Artefactual evidence and Burials can also be found below (*Appendices B, C, D and E* respectively).
- 4.3.2 Site specific methodologies will be as follows:
- the evaluation trenches will be set-out using a dGPS, accurate to 0.02m. The trenches will then be scanned using a Cable Avoidance Tool (CAT) and Signal Generator (Genny), operated by a suitably qualified and experienced person, the position of any potential services will be marked. Once the location of the trenches are identified and clear, the mechanical excavation can commence;

- ii. the trenches will be excavated by mechanical excavator, fitted with a toothless ditching bucket, under direct supervision of the Project Supervisor, in even spits until significant archaeological remains, natural geology or a safe working depth of 1.2m is reached, whichever occurs first;
- iii. the topsoil and subsoil will be banded on opposite sides of the trenches a safe working distance from the edges, approximately 1m. The trenches will not exceed a safe working depth of 1.2m;
- iv. once the mechanical excavation of the trenches is completed, they will be cleaned by hand where necessary, and any archaeological features will be sampled by hand excavation. The hand excavation and recording methodology can be found in *Appendix A*;
- v. if any features of significance are identified during the evaluation, the client and their representative will be informed as soon as possible. A decision whether to continue the trench or stop at that level and record will then be made;
- vi. All information identified during the site works will be recorded stratigraphically, using a system adapted from that used by the former English Heritage Centre for Archaeology with an accompanying pictorial record (plans, sections and digital photographs). Results of all field investigations will be recorded on *pro forma* context sheets. The site archive will also include a photographic record, and accurate large-scale plans and sections at appropriate scales (1:50; 1:20 and 1:10).
- vii. once the trenches are fully recorded, they will be backfilled by mechanical excavator, in the reverse order they were excavated, i.e. subsoil first and then topsoil. The spoil will be compacted by the weight of the mechanical excavator provided and not by any other type of plant (*Appendix A*);
- viii. the ultimate release of the planning conditions will be dependent upon the successful completion of the archaeological aims and objectives, but also on the production of a complete archaeological report detailing the results of the evaluation and an interpretation of their significance.

5 PROJECT SPECIFIC REPORTING AND ARCHIVE METHODOLOGY

5.1 Programme

- 5.1.1 The final grey literature report will be produced within 4 weeks of completion of the fieldwork. An interim report will be provided within a week of completion of the fieldwork. A copy of the report in Adobe Acrobat (.pdf) format will be provided to the client and their representative, paper copies can be provided on request.

5.2 Content

- 5.2.1 The content of this report will include:

- a non-technical summary;
- introduction;
- background to the project;
- archaeological and historical background;
- methodology;
- results;
- discussion and conclusion;
- specialist assessment of any artefacts or ecofacts recovered;
- supporting illustrations, including figures and plates;
- supporting data;
- location of archive;
- bibliography

- 5.2.2 The report will also include the following reference information:

- title page;
- full site name;
- site code
- OS National Grid reference;
- author;
- organisation/contractor name;
- dates of the fieldwork;
- names of fieldwork staff;
- date report written; and
- commissioning body.

5.3 Specialist input

- 5.3.1 OA has a large pool of internal specialists, as well as a network of external specialists with whom OA have well established working relationships. A general list of these specialists is presented in *Appendix G*; in the event that additional input should be required, an updated list of specialists can be supplied.

5.4 Archive

- 5.4.1 The site archive will be deposited with Kendal Museum of Natural History and Archaeology following completion of the project. An Online Access to Index of Archaeological Investigations (OASIS) record will be established at the beginning of the project and completed upon the completion of the project. Copies of the report will also be supplied to the Historic England Archive (HEA) and a digital copy supplied to the Archaeological Data Service (ADS).
- 5.4.2 A summary of OA's general approach to documentary archiving can be found in *Appendix H*.

6 HEALTH AND SAFETY

6.1 Roles and responsibilities

- 6.1.1 The Senior Project Manager, Paul Dunn, has responsibility for ensuring that safe systems of work are adhered to on site. Elements of this responsibility will be delegated to the Project Supervisor, Andrew McGuire, who implements these on a day to day basis. Paul Dunn and Andrew McGuire are supported by OA North's Health and Safety Advisor, Fraser Brown.
- 6.1.2 The Director with responsibility for Health and Safety at OA is Dan Poore Tech IOSH (Chief Business Officer).

6.2 Method statement and risk assessment

- 6.2.1 A summary of OA's general approach to health and safety can be found in *Appendix I*. A risk assessment has also been undertaken and approved and will be kept on site, along with OA's standard Health and Safety file, which will contain all relevant health and safety documentation.
- 6.2.2 The Health and Safety file will be available to view at any time.

6.3 Monitoring of works

- 6.3.1 The Historic Environment Officer for CCC has been informed of the intended start date of the project. They will have free access to the site (subject to Health and Safety considerations) and all records to ensure the works are being carried out in accordance with this WSI and all other relevant standards.

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OA STANDARD FIELDWORK METHODOLOGY APPENDICES

The following methods and terms will apply, where appropriate, to all OA fieldwork unless varied by the accompanying detailed Written Scheme of Investigation.

Copies of all OA internal standards and guidelines referred to below are available on request.

APPENDIX A GENERAL EXCAVATION AND RECORDING METHODOLOGY

A.1 Standard methodology – summary

Mechanical excavation

- A.1.1 An appropriate mechanical excavator will be used for machine excavation. This will normally be a JCB or 360° tracked excavator with a 1.5 m to 2 m wide toothless ditching bucket. For work with restricted access or working room a mini excavator may be used.
- A.1.2 All mechanical excavation will be undertaken under direct archaeological supervision.
- A.1.3 All undifferentiated topsoil or overburden of recent origin will be removed down to the first significant archaeological horizon, in successive, level spits.
- A.1.4 Following mechanical excavation, all areas that require examination or recording will be cleaned using appropriate hand tools.
- A.1.5 Spoil heaps will be monitored in order to recover artefacts to assist in the analysis of the spatial distribution of artefacts. Modern artefacts will be noted but not retained.
- A.1.6 After recording, evaluation trenches and test pits will usually be backfilled with excavated material in reverse order of excavation, and compacted as far as is practicable with the mechanical excavator. Area excavations will not normally be backfilled.

Hand excavation

- A.1.7 All investigation of archaeological levels will usually be by hand, with cleaning, examination and recording both in plan and section.
- A.1.8 Within significant archaeological levels the minimum number and proportion of features required to meet the aims of the excavation will be hand excavated. Pits and postholes will usually be subject to a 50% sample by volume. Linear features will be sectioned as appropriate. More complex features such as those associated with funerary activity will usually be subject to 100% hand excavation.
- A.1.9 In the case of evaluations, it is not necessarily the intention that all trial trenches will be fully excavated to natural stratigraphy, but the depth of archaeological deposits across the site will be assessed. The stratigraphy of a representative sample of the evaluation trenches will be recorded even where no archaeological deposits have been identified. Any excavation, both by machine and by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits, which appear to be worthy of preservation in situ.

Recording

- A.1.10** Written descriptions will be recorded on proforma sheets comprising factual data and interpretative elements.
- A.1.11** Where stratified deposits are encountered a Harris matrix will be compiled during the course of the excavation.
- A.1.12** Plans will normally be drawn at 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Detailed plans will be at an appropriate scale. Burials will be drawn at scale 1:10 or recorded using geo-referenced digital photography.
- A.1.13** The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.
- A.1.14** A register of plans will be kept.
- A.1.15** Long sections of showing layers will be drawn at 1:50. Sections of features or short lengths of trenches will be drawn at 1:20.
- A.1.16** A register of sections will be kept.
- A.1.17** Generally, all sections will be tied in to Ordnance Datum.
- A.1.18** A full photographic record, illustrating in both detail and general context the principal features and finds discovered will be maintained. The photographic record will also include working shots to illustrate more generally the nature of the archaeological work.
- A.1.19** Photographs will be recorded on OA Photographic Record Sheets.

A.2 Relevant industry standards and guidelines

- A.2.1** The Chartered Institute for Archaeologists (CIfA) Standard and Guidance notes relevant to fieldwork are:
- Standard and guidance for archaeological field evaluation, 2014 (updated 2020)
 - Standard and guidance for archaeological excavation, 2014 (updated 2020)
 - Standard and guidance for an archaeological watching brief, 2014 (update 2020)
- A.2.2** These will be adhered to at all times.

A.3 Relevant OA manual and other supporting documentation

- A.3.1** All fieldwork will be undertaken in accordance with the requirements of the OA Field Manual (ed. D Wilkinson 1992), and the revised OA fieldwork manual (publication forthcoming).
- A.3.2** Further guidance is provided to all excavators in the form of the OA 'Fieldwork Crib Sheets - a companion guide to the Fieldwork Manual'. These have been issued ahead of formal publication of the revised Fieldwork Manual.

APPENDIX B GEOMATICS AND SURVEY

B.1 Standard methodology - summary

- B.1.1 The aim of OA methodology is to provide comprehensive survey cover of all investigation areas. Additionally, it is designed to provide coverage for any areas, beyond the original scope of the project, which arise as a result of further work. It provides digital plans of all required elements of the project and locates them within an overall grid.
- B.1.2 It also maintains all necessary survey data and ensures that the relevant information is copied into the primary record, in order to ensure the integrity of the project archive. Furthermore, it ensures that all core data is securely stored and backed up. It establishes accurate project reference systems utilising a series of control stations and permanent base lines.
- B.1.3 The survey will be conducted using a combination of Total Station Theodolite (TST) survey utilising Reflectorless Electronic Distance Measurement (REDM) where appropriate, hand-measured elements and GPS (Global Positioning System), or photogrammetry.
- B.1.4 Before the main work commences, a network of control stations will be laid out encompassing the area. Control stations will be tied in to known points or existing features using rigorous metric observation. The control network will be set in using a TST to complete a traverse or using techniques as appropriate to ensure sufficient accuracy. A GPS, or other appropriate method, will be used to orientate the control network to National Grid or other recognised coordinate system.
- B.1.5 All control stations will be checked by closed traverse and/or GPS, as appropriate. The accuracy of these control stations will be accessed on a regular basis and re-established accordingly. All stations will be recorded on Survey Control Station sheets.
- B.1.6 Each control station will be marked with a PGM (Permanent Ground Marker). Witness diagrams will include the full 3-D co-ordinates generated, a sketch diagram and measurements to at least three fixed details, written description of the mark and a photograph of the control point in its environs.
- B.1.7 Prior to entry into the field all equipment will be checked, and all pre-survey information will be logged onto the field computer and uploaded onto survey equipment as appropriate. The software in the field computer will be verified and all cabling between the GPS and/or TST and computer will be checked. Prior to conducting the survey, the site will be reconnoitred for locations for a viable control network and check the line of sight and any possible hindrance to survey. Daily record sheets will be kept to record daily tasks and conditions.
- B.1.8 All spatial data will be periodically downloaded onto a field computer, and backed up onto CD, or DVD. It will be cleaned, validated and inspected.
- B.1.9 All survey data will be documented on daily survey record sheets. Information entered on these sheets includes key set up information (Instrument height etc.) as well as daily variables and errors/comments. All survey data will be digitally recorded in a raw

format and translated during the download process this shall allow for any errors to be cross referenced with the daily survey record and corrected accordingly.

- B.1.10** A weekly summary of survey work will be produced to access development and highlight problems. This information also will be recorded on the weekly survey journal. Technical support for the survey equipment and download software shall be available at all times. In those instances, where sites are remotely operated, all digital data will be backed up regularly and a copy returned to Oxford on a weekly basis.
- B.1.11** A site plan will initially be created by a rapid survey of relevant archaeological features by mapping their extent using a combination of TST and GPS. This will form the basis for deciding excavation strategy and will be updated as the excavation clarifies the extent of, and relationships between, archaeological features.
- B.1.12** Excavated archaeological interventions and areas of complex stratigraphy will be hand drawn. At least two Drawing Points (DPs) will be set in as a baseline and measurements taken off this by tape and offset. The hand drawn plans will be referenced to the digitally captured pre-site plan by measuring in the DPs with a TST or GPS. These hand drawn elements will then be scanned in, geo-referenced using the DPs as reference points and digitised following OA's digitising protocols. For further details on hand planning procedure please refer to the fieldwork guidelines.
- B.1.13** Where appropriate photogrammetry or rectified photography may be used to record standing structures or burials. This will be carried out in line with Standard OA procedures for photogrammetry or rectified photography.
- B.1.14** Survey data recorded in the field will be downloaded using appropriate downloading software, and saved as an AutoCAD Map DWG file, or an ESRI Shapefile. These files will be regularly updated and backed up with originals being stored on an OA server in Oxford.
- B.1.15** All drawings will be composed of closed polygons, polylines or points in accordance with the requirements of GIS construction and OA Geomatics protocols. Once created, additional GIS/CAD work will normally be carried out at the local OA central office or at on-site remote locations when appropriate. Support for all GIS/CAD work will be available from OA's Oxford Office during normal office hours. The aim of the GIS/CAD work is to produce workable draft plans, which can be produced as stand-alone products, or can be readily converted to GIS format. Any hand-drawn plans will be scanned and digitised on site in the first instance. Subsequent plans will be added to the main drawing as it develops.
- B.1.16** All plan scans will be numbered according to their plan site number. Digital plans will be given a standard new plan number taken out from the site plan index.
- B.1.17** All digital data will be backed up incrementally on CD or DVD. On each Friday the entire data directory will be backed up and returned to Oxford where it will be copied onto the OA projects server. Each CAD drawing will contain an information layout which will include all the relevant details appertaining to that drawing. Information (metadata) on all other digital files will be created and stored as appropriate. At the end of the

survey all raw measurements will be made available as hard copy for archiving purposes.

B.2 Relevant industry standards and guidelines

- B.2.1 Historic England, 2017 Understanding the Archaeology of Landscapes A Guide to Good Recording Practice
- B.2.2 Historic England, 2015 Metric Survey Specifications for Cultural Heritage (3rd edn)
- B.2.3 Historic England, 2016 Understanding Historic Buildings: A Guide to Good Recording Practice
- B.2.4 Historic England, 2017 Photogrammetric Applications for Cultural Heritage: Guidance for Good Practice

B.3 Relevant OA manual and other supporting documentation

- B.3.1 OA South Metric Survey, Data Capture and Download Procedures
- B.3.2 OA South Digitising Protocols
- B.3.3 OA South GIS Protocols
- B.3.4 These will be superseded by the OA South Geomatics Manual (in progress).

APPENDIX C ENVIRONMENTAL EVIDENCE

C.1 Standard methodology – summary

- C.1.1** Different environmental and geoarchaeological sampling strategies may be employed according to established research targets and the perceived importance of the strata under investigation. Where possible an environmental specialist(s) will visit the site to advise on sampling strategies. Sampling methods will follow guidelines produced by Historic England and Oxford Archaeology. A register of samples will be kept. Specialists will be consulted where non-standard sampling is required (e.g. TL, OSL or archaeomagnetic dating) and if appropriate will be invited to visit the site and take the samples.
- C.1.2** Geoarchaeological sampling methods are site specific, and methodologies will be designed in consultation with the geoarchaeological manager on a site by site basis.
- C.1.3** Bulk soil samples, where possible of 40 litres or 100% of a deposit if less is available, will be taken from potentially datable features and layers for flotation for charred plant remains and for the recovery of small bones and artefacts. Larger soil samples (up to 100L) may be taken for the complete recovery of animal bones, marine shell and small artefacts from appropriate contexts. Smaller bulk samples (general biological samples) of 10-20 litres will be taken from any waterlogged deposits present for the recovery of macroscopic plant remains and insects. Series of incremental 2L samples may be taken through buried soils and deep feature fills for the recovery of snails and/or waterlogged plant remains, depending on the nature of the stratigraphy and of the soils and sediments. Columns will be taken from buried soils, peats and waterlogged feature fills for pollen and/or phytoliths, diatoms, ostracods and foraminifera if appropriate. Soil samples will be taken for soil investigations (particle size, organic matter, bulk chemistry, soil micromorphology etc.) and possibly for metallurgical analysis in consultation with the appropriate specialists.
- C.1.4** Bulk samples from dry deposits will be processed by standard water flotation using a modified Siraf-style machine and meshes of 0.25mm (flot) and 0.5 or 1mm depending on sediment type and like modes of preservation (residue). Heavy residues will be wet sieved, air dried and sorted. Samples taken exclusively for the recovery of bones, marine shell or artefacts will be wet sieved to 2mm. Waterlogged samples (1L sub-sample) and snail samples (2L) will be processed by hand flotation with flots and residues collected to 0.25mm (waterlogged plants) and 0.5mm (snails) respectively; these flots and residues will be sorted by the specialist. Samples specifically taken for insects, pollen, other microflora and microfauna, metallurgy and soil analysis will be submitted as whole earth to the appropriate specialists or processed following their instructions.

C.2 Relevant industry standards and guidelines

- C.2.1** Historic England, 2010 Waterlogged Wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood.

- C.2.2 Historic England, 2011 Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post excavation, (2nd ed)
- C.2.3 Historic England, 2004 Dendrochronology: Guidelines on Producing and Interpreting Dendrochronological Dates (revision due 2020).
- C.2.4 University of Bradford, 2019 Archaeomagnetism: Magnetic Moments in the Past <https://www.brad.ac.uk/archaeomagnetism/>
- C.2.5 Historic England, 2008 Luminescence Dating. Guidelines on Using Luminescence Dating in Archaeology (revision due 2020).
- C.2.6 Historic England, 2008 Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains (currently being revised).
- C.2.7 Historic England, 2015 Archaeometallurgy. Guidelines for Best Practice.
- C.2.8 Historic England, 2015 Geoarchaeology. Using Earth Sciences to Understand the Archaeological Record.
- C.2.9 Historic England, 2017 Organic Residue Analysis and Archaeology.
- C.2.10 Baker, P and Worley, F, 2019 Animal Bones and Archaeology: Recovery to Archive. Historic England

C.3 Relevant OA manual and other supporting documentation

- C.3.1 Oxford Archaeology 2017. Environmental Sampling Guidelines, 4th ed.

APPENDIX D ARTEFACTUAL EVIDENCE

D.1 Standard methodology - summary

- D.1.1 Before a site begins arrangements concerning the finds will be discussed with the Finds Team Leader. Information will be provided by the project manager about the nature of the site, the expected size and make-up of the finds assemblage and any site specific finds retrieval strategies. On-site requirements will be discussed and a conservator appointed who can be called on to make site visits if required. Special requirements regarding particular categories of material will be raised at this early stage for instance the likelihood of recovering assemblages of waterlogged material, large timbers, quantities of structural stone or ceramic building material. Specialists may be required to visit sites to discuss retrieval strategies.
- D.1.2 The project manager will supply the Finds Team Leader with contact details of the landowner of the site so that consent to deposit any finds resulting from the investigation can be sought.
- D.1.3 The on-site retrieval, lifting and short term packaging of bulk and small finds will follow the detailed guidelines set out in the OA Finds Manual (sections 2 and 3), First Aid for Finds and the UKIC conservation guidelines No.2.
- D.1.4 All finds recovered from site will be transported to an OA regional office for processing; local sites will return finds at the end of each day, away based sites at the end of each week. Special arrangements can be discussed for certain sites with the Team Leader before the start of a project. Larger long running sites may in some instances set up on-site processing units to deal with the material from a particular site.
- D.1.5 All finds qualifying as Treasure will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act (1996), and the Treasure (Designation) Order 2002. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.
- D.1.6 Each box of finds will be accompanied by a finds context checklist itemising the finds within each box. The number of bags of finds from each context and individual small find from each context will be recorded. A member of the processing team will check the list when it arrives in the department. There are separate forms for finds recovered from fieldwalking.
- D.1.7 The processing programme is reviewed on a weekly basis and priorities are worked out after discussions with the Fieldwork Team Leader and the Post-excavation Team Leader. Project managers will keep the Finds Team Leader informed of any pressing deadlines that they are aware of. All finds from evaluations are dealt with as a matter of priority.
- D.1.8 All bulk finds are washed (where appropriate), marked, bagged and boxed by the processing team according to the guidelines set out in section 4 and 5 of the OA Finds Manual, First-aid for finds and the UKIC guidelines No.2. They must also take into

account the requirements of the receiving museum. Primary data recording count and weight of fragments by material from each context is recorded on the site database.

- D.1.9 Unstable and sensitive objects are recorded onto the database and then packaged and stored in controlled environments according to their individual requirements. The advice of a conservator will be sought for sensitive objects in need of urgent conservation. All metalwork will be x-rayed prior to assessment (and to meet the requirements of most receiving museums).
- D.1.10 Finds recovered from the environmental sample processing will be incorporated into the main assemblage and added to the database.
- D.1.11 On completion of the processing and data entry a finds file for each archaeological investigation will be produced, a summary of which is available for the project manager. The assemblage is allocated an OA number for storage purposes. Bulk finds are stored on a roller racking system, metals in a secure controlled storage and organic finds are refrigerated where possible.
- D.1.12 The movement of finds in and out of the storage areas is strictly monitored and recorded. Carbon copy transit forms exist to record this information. Finds will not be removed from storage without the prior knowledge of the Finds Team Leader.
- D.1.13 Finds information summarised in the finds compendium is used to assess the finds requirements for the post excavation stages of the project. The Team Leader holds a list of all specialists used by OA (see below) both internal and external.
- D.1.14 On completion of the post excavation stage of the project the team prepares the finds assemblage for deposition with the receiving museum. Discussions will be held with the museum, the excavator and the Finds Team Leader to finalise any selection, retention or discard policy. Most museums issue strict guidelines for the preparation of archives for deposition with their individual labelling, packaging and recording requirements.

D.2 Relevant industry standards and guidelines

- D.2.1 ClfA, 2014 (updated 2020) Standard and guidance for the collection, documentation, conservation and research of archaeological materials
- D.2.2 Society of Museum Archaeologists, 1993 Selection, retention and dispersal of Archaeological Collections. Download available via <http://www.socmusarch.org.uk/publica.htm>)
- D.2.3 UKIC, 1983 Packaging and Storage of Freshly-Excavated Artefacts from Archaeological Sites. Conservation Guidelines No.2. Archaeology Section, United Kingdom Institute for Conservation.
- D.2.4 UKIC, 1988 Excavated Artefacts and Conservation: UK sites Revised Edition. Conservation Guidelines No.1. Archaeology Section, United Kingdom Institute for Conservation.
- D.2.5 Watkinson, D E & Neal, V, 1998 First Aid for Finds (3rd edition). RESCUE & UKIC

D.3 Relevant OA manual and other supporting documentation

D.3.1 Allen, L, and Cropper, C (internal publication only) Oxford Archaeology Finds Manual.

APPENDIX E HUMAN REMAINS

E.1 Standard methodology - summary

- E.1.1 Human remains will not be excavated without a relevant licence/faculty and, where applicable (for example, a post medieval cemetery), a risk assessment from the local environmental officer.
- E.1.2 All human remains will be treated with due care and regard to the sensitivities involved, and will be screened from the public throughout the course of the works.
- E.1.3 Excavation will be undertaken in accordance with ClfA (Roberts and McKinley 1993), Historic England (2018), the Advisory Panel on the Archaeology of Burials in England (APABE, 2015, 2017) and British Association of Biological Anthropology and Osteoarchaeology Code of Practice (2019) and Code of Ethics (2019). For crypts and post-medieval burials, the recommendations set out by the ClfA (Cox 2001) and by the Association of Diocesan and Cathedral Archaeologists and APABE (2010) are also relevant.
- E.1.4 In accordance with recommendations set out in the Historic England and Church of England (2005) and updated by the Advisory Panel on the Archaeology of Burials in England (2017), skeletons will not be excavated beyond the limits of the trench, unless they are deemed osteologically or archaeologically important.
- E.1.5 Where any soft tissue survives and/or materials (for example, inner coffins, mattresses and other paddings) soaked in body liquor, no excavation or handling of the remains will take place until an appropriate risk assessment has been undertaken. Relevant protocols (i.e. Cox 2001) for their excavation, recording and removal will be adhered to.
- E.1.6 OA does not excavate or remove modern burials (those less than 100 years old) and does not remove or open sealed lead coffins. Appropriate PPE (e.g. chemical suit, latex gloves) will be worn by all staff when working with lead coffins.
- E.1.7 Graves and their contents will be hand excavated in plan. Each component (for example, skeleton, grave cut, coffin (or remains of), grave fill) will be assigned a unique context number from a running sequence. A group number will also be assigned to all of these, and small finds numbers to features such as coffin nails, hobnails and other grave goods (as appropriate).
- E.1.8 Soil samples will be normally taken during the excavation of inhumations, usually from the region of the skull, chest, right hand, left hand, abdomen and pelvis, right foot and left foot. Infants (circa. less than 5 years) will normally be recovered as bulk samples. Soil samples will also be taken from graves that appear to contain no human bone.
- E.1.9 Burials (including the skeleton, cremation, coffin fittings, coffin, urn, grave goods / other) will be recorded by photographic and written record using specialised pro forma context sheets, although these records may only include schematic representations of the location and position of the skeletons, depending on the nature and circumstances of the burial.

- E.1.10 Where digital imaging is used it will be done in accordance with the British Association of Biological Anthropology and Osteoarchaeology Recommendations on the Ethical Issues Surrounding 2D and 3D Digital Images of Human Remains (2019).
- E.1.11 Where necessary, hand drawn plans (usually at 1:10, sometimes 1:5) will be made, especially of contexts where required details cannot be adequately seen using photography (for example, urned cremations; undisturbed hob nails).
- E.1.12 Levels will be taken. For inhumations this will be on the skull, pelvis and feet as a minimum.
- E.1.13 Human remains that are exhumed will be bagged and labelled according to skeletal region and carefully packed into suitable containers (for example, acid free cardboard boxes) and transported to a suitable storage location. Any associated coffins and coffin fittings will be contained with the human remains wherever possible.
- E.1.14 Urned cremations will not usually be half sectioned, but excavated in spits and/or quadrants (i.e. large deposits or spreads), or recovered as a bulk sample.
- E.1.15 Wherever possible, urned cremations will be carefully bandaged, recovered whole and will be excavated in spits in the laboratory, as per the recommendations of McKinley (2004, 2017).
- E.1.16 Unless deemed osteologically or archaeologically important disarticulated bone / chanel will be collected and reserved for re-burial if immediate re-internment as close to its original position is not practicable. In some instances, a rapid scan of this material may be undertaken by a qualified osteologist, if deemed relevant.
- E.1.17 If undisturbed, pyre sites will normally be excavated in quadrants, at the very least in 0.5 m blocks of 0.5 m spits.
- E.1.18 Pyre debris dumps will be half sectioned or quadrant and will be subject to 100% sampling.
- E.1.19 Wooden and lead coffins and any associated fittings, including fixing nails will be recorded on a pro forma coffin recording sheet. All surviving coffin fittings will be recorded by reference to Reeve and Adams (1993) and the unpublished master catalogue that is being compiled by OA. Where individual types cannot be paralleled, they will be drawn and/ or photographed and assigned a style number. Biographical details obtained from legible departum plate inscriptions will be recorded and further documentary research will be made.
- E.1.20 Funerary structures, such as brick shaft graves and/or vaults will be recorded by photogrammetry or hand-drawn at a scale of 1:10 or 1:20, as appropriate. Location, dimensions and method of construction will be noted, and the structure added to the overall trench plan.
- E.1.21 Memorials, including headstones, revealed within the areas of development will be recorded irrespective of whether they are believed to be in situ.
- E.1.22 Where required, memorials will be accorded an individual context number and will also be included as part of the grave group, if the association with a burial is clear.

E.1.23 Memorials will be recorded on pro-forma context sheets, based on and following the guidelines set out by Mytum (2002), and will include details of:

- Shape
- Dimensions
- Type of stone used
- Condition, completeness and fragmentation of stones, no longer in original positions
- Iconography (an illustration may best describe these features)
- Inscription (verbatim record of inscription; font of the lettering)
- Stylistic type

E.2 Relevant industry standards and guidelines

- E.2.1** Advisory Panel on the Archaeology of Burials in England, 2013 Science and the Dead. A guideline for the destructive sampling of archaeological human remains for scientific analysis. English Heritage Publishing.
- E.2.2** Advisory Panel on the Archaeology of Burials in England, 2017 Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England
- E.2.3** Advisory Panel on the Archaeology of Burials in England, 2015 Large Burial Grounds. Guidance on sampling in archaeological fieldwork projects
- E.2.4** Association of Diocesan and Cathedral Archaeologists and APABE, 2010 Archaeology and Burial Vaults. A guidance note for churches. Guidance Note 2
- E.2.5** British Association of Biological Anthropology and Osteoarchaeology. 2019a Code of Practice (<http://www.babao.org.uk/index/ethics-and-standards>)
- E.2.6** British Association of Biological Anthropology and Osteoarchaeology. 2019b Code of Ethics (<http://www.babao.org.uk/index/ethics-and-standards>)
- E.2.7** British Association of Biological Anthropology and Osteoarchaeology, 2019c Recommendations on the Ethical Issues Surrounding 2D and 3D Digital Images of Human Remains (<http://www.babao.org.uk/index/ethics-and-standards>)
- E.2.8** Cox, M, 2001 Crypt archaeology. An approach. ClfA Paper No. 3
- E.2.9** English Heritage, 2002 Human Bones from Archaeological Sites. Guidelines for producing assessment documents and analytical reports
- E.2.10** Historic England, 2018 The Role of the Human Osteologist in an Archaeological Fieldwork Project. Swindon, Historic England
- E.2.11** McKinley, J, and Roberts, C, 1993 Excavation and post-excavation treatment of cremated and inhumed human remains, ClfA Technical Paper No. 13

- E.2.12 McKinley, J, 2004 Compiling a skeletal inventory: cremated human bone. In Brickley, M, and McKinley, J (eds) Guidelines to the Standards for Recording Human Remains, ClfA Technical Paper No. 7. 9-13
- E.2.13 McKinley, J, 2017 Compiling a skeletal inventory: cremated human bone. In Mitchell P, and Brickley, M (eds) Updated Guidelines to the Standards for Recording Human Remains, ClfA 14-19
- E.2.14 Mitchell P, and Brickley, M (eds) Updated Guidelines to the Standards for Recording Human Remains, ClfA 2017
- E.2.15 Mytum, H, 2000 Recording and Analysing Graveyards. CBA Handbook No. 15
- E.2.16 Reeve, J, and Adams, M, 1993 The Spitalfields Project. Volume I – The Archaeology Across the Styx. CBA Research Report No. 85
- E.2.17 The Human Tissue Act 2004

E.3 Relevant OA manual and other supporting documentation

- E.3.1 Loe, L, 2008 The Treatment of Human Remains in the Care of Oxford Archaeology. Oxford Archaeology internal policy document
- E.3.2 Oxford Archaeology 2018 *Fieldwork Manual Human Remains* unpublished

APPENDIX F REPORTING

F.1 Standard methodology - summary

F.1.1 For Watching Briefs and Evaluations, the style and format of the report will be determined by OA, but will include as a minimum the following:

- A location plan of trenches and/or other fieldwork in relation to the proposed development.
- Plans and sections of features located at an appropriate scale.
- A section drawing showing depth of deposits including present ground level with Ordnance Datum, vertical and horizontal scale.
- A summary statement of the results.
- A table summarising the features, classes and numbers of artefacts contained within, spot dating of significant finds and an interpretation.
- A reconsideration of the methodology used, and a confidence rating for the results.
- An interpretation of the archaeological findings both within the site and within their wider landscape/townscape setting.

F.1.2 For Excavations, a Post-Excavation Assessment and Project Design will generally be prepared, as prescribed by Historic England Management of Research Projects in the Historic Environment (MoRPHE) 2015, Section 2.3. This will include a Project Description containing:

- A summary description and background of the project.
- A summary of the quantities and assessment of potential for analysis of the information recovered for each category of site, finds, dating and environmental data. Detailed assessment reports will be contained within appendices.
- An explicit statement of the scope of the project design and how the project relates to any other projects or work preceding, concurrent with or following on from it.
- A statement of the research aims of the fieldwork and an illustrated summary of results to date indicating to what extent the aims were fulfilled.
- A list of the project aims as revised in the light of the results of fieldwork and the current post-excavation assessment process.

F.1.3 A section on Resources and Programming will also be produced, containing:

- A list of the personnel involved indicating their qualifications for the tasks undertaken, along with an explanation of how the project team will communicate, both internally and externally.
- A list of the methods which will be used to achieve the revised research aims.

- A list of all the tasks involved in using the stated methods to achieve the aims and produce a report and research archive in the stated format, indicating the personnel and time in days involved in each task. Allowance should be made for general project-related tasks such as monitoring, management and project meetings, editorial and revision time.
- A cascade or Gantt chart indicating tasks in the sequence and relationships required to complete the project. Due allowance will be made for leave and public holidays. Time will also be allowed for the report to be read by a named academic referee as agreed with the County Archaeological Officer, and by the County Archaeological Officer.
- A report synopsis indicating publisher and report format, broken down into chapters, section headings and subheadings, with approximate word lengths and numbers and titles of illustrations per chapter. The structure of the report synopsis should explicitly reflect the research aims of the project.

F.1.4 The Project Design will be submitted to the County Archaeological Officer or equivalent for agreement.

F.1.5 Under certain circumstances (e.g. with very small mitigations), and as agreed with the County Archaeological Officer or equivalent, a formal Assessment and Project Design may not be required and either the project will continue straight to full analysis, or a simple Project Proposal (MoRPHE 2015 Section 2.1) will be produced prior to full analysis. This proposal may include:

- A summary of the background to the project
- Research aims and objectives
- Methods statement outlining how the aims and objectives will be achieved
- An outline of the stages, products and tasks
- Proposed project team
- Estimated overall timetable and budget if appropriate.

F.1.6 Once the post-excavation Project Design or Project Proposal has been accepted, the County Archaeological Officer or their appointed deputy will monitor the progress of the post-excavation project at agreed points. Any significant variation in the project design will be agreed with the County Archaeological Officer.

F.1.7 The results of the project will be published in an appropriate archaeological journal or monograph. The appropriate level of publication will be dependent on the significance of the fieldwork results and will be agreed with the County Archaeological Officer. An OASIS (Online Access to the Index of Archaeological Investigations) form will be completed for each project as per Historic England guidelines.

F.2 Relevant industry standards and guidelines

F.2.1 Oxford Archaeology (OA) adheres to the national standards in post-excavation procedure as outlined in Historic England's Management of Research Projects in the

Historic Environment (MoRPHE; HE 2015). Furthermore, all post-excavation projects take into account the appropriate regional research frameworks as well as national research agendas such as the Framework for Historic Environment Activities & Programmes in Historic England (SHAPE; EH 2008).

APPENDIX G LIST OF SPECIALISTS REGULARLY USED BY OA

G.1.1 Below are two tables, one containing 'in-house' OA specialists, and the other containing a list of external specialists who are regularly used by OA.

Internal archaeological specialists used by OA

Specialist	Specialism	Qualifications
John Cotter	Medieval and Post Medieval pottery, Clay Pipe and CBM	BA (Hons), MCIfA
Dr Alex Davies	Prehistoric Pottery	BA (Hons), MA, PhD, ACIfA
Edward Biddulph	Roman Pottery	BA (Hons), MA, MCIfA
Kate Brady	Roman Pottery	BA, ACIfA
Cynthia Poole	CBM and Fired Clay	BA (Hons), MSc
Leigh Allen	Metalwork and worked bone	BA (Hons), PGDip
Anni Byard	Metalwork, coins and glass	MSx, MCIfA
Dr Ruth Shaffrey	Worked stone artefacts	BA, PhD, MCIfA
Dr Rebecca Nicholson	Fish and Bird Bone	BA (Hons), MA, D.Phil, MCIfA, FSA Scot
Dr Mairead Rutherford	Pollen	BSc, MSc
Ian Smith	Animal Bone	BA (Hons), MSc, PCIfA
Dr Martyn Allen	Animal Bone	BA (Hons), MA, PhD
Dr Denise Druce	Charred plant remains, charcoal and pollen	BA (Hons), PhD, MCIfA
Sharon Cook	Charred plant remains	BSc, MSc, ACIfA
Elizabeth Stafford	Geoarchaeology and land snails	BA (Hons), MSc
Carl Champness	Geoarchaeology	BA (Hons), MSc, ACIfA
Nicola Scott	Archaeological archive deposition	BA (Hons Dunelm)
Mike Donnelly	Flint	BSc, MCIfA
Dr Louise Loe	Human Bone	BA PhD, MCIfA, BABAO
Helen Webb	Human Bone	BSc, MSc, MCIfA, BABAO
Mark Gibson	Human Bone	BA, MSc, ACIfA, BABAO
Dr Lauren McIntyre	Human Bone	BSc, MSc, PhD, MCIfA, BABAO
Zoe Ui Choileain	Human Bone	Pg Dip, MA, Msc, BABAO
Natasha Dodwell	Human Bone	BA, MSc, BABAO

External archaeological specialists regularly used by OA

Specialist	Specialism	Qualifications
Lynne Keys	Slag	BA (Hons)
Quita Mould	Leather	BA, MA
Penelope Walton Rogers, The Anglo Saxon Laboratory	Identification of Medieval Textiles	FSA, Dip.Acc
Dana Goodburn-Brown	Conservation	BSc (Hons), BA, MSc
Steve Allen, York Archaeological Trust	Conservation	BA, MA, MAAIS
Dr Richard Macphail	Soils, especially Micromorphology	BA (Hons), MSc, PhD
Dana Challinor	Charcoal	MA, MSc
Dr Nigel Cameron	Diatoms	BSc, MSc, PhD
Dr David Smith	Insects	BA (Hons), MA, PhD
Professor Adrian Parker	Phytoliths and pollen	BSc (Hons), D.Phil
Dr David Starley	Metalworking Slag	BSc (Hons), PhD
Wendy Carruthers	Charred and waterlogged plant remains	BA (Hons)
Dr John Whittaker	Ostracods and Foraminifera	BA (Hons), PhD
Dr John Crowther	Soil Chemistry	MA, PhD
Dr Martin Bates	Geoarchaeology	BSc, PhD
Dr Dan Miles	Dendrochronology	D.Phil, FSA
Dr Jean-Luc Schwenninger	Optically Stimulated Luminescence Dating	PhD
Dr David Higgins	Clay Pipe	BA, PhD, MCIfA
Dr Hugo Anderson- Wymark	Flint	BSc, PhD, FSA Scot, MCIfA
Dr Damian Goodburn- Brown	Ancient Woodwork	BA, PhD
Dr David Dungworth	Archaeometallurgy and Glassworking	BA (Hons), PhD

APPENDIX H DOCUMENTARY ARCHIVING

Standard methodology – summary

- H.1.1** The documentary archive constitutes all the written, drawn, photographic and digital records relating to the set-up, fieldwork and post-excavation phases of the project. This documentary archive, together with the artefactual and environmental ecofact archive collectively forms the record of the site. The report is part of the documentary archive, and the archive must provide the evidence that supports the conclusions of the report, but the archive may also include data which exceeds the limitations of research parameters set down for the report and which could be of significant value to future researchers.
- H.1.2** At the outset of the project OA Archive manager will contact the relevant local receiving museum or archive repository to notify them of the imminent start of a new fieldwork project in their collecting area. Relevant local archiving guidelines will be observed and site codes, which integrate with the receiving repository, will be agreed for labelling of archives and finds.
- H.1.3** Where there is currently no receiving museum for the project archive, although responsibility for the archive ultimately lies with the client, OA will hold the archive on their behalf for a period of up to 3 years after completion of the report, after which time (in the event that a suitable depository has not been secured) provision for further storage of the archive will be made in agreement with Oxford Archaeology, the client and the relevant planning archaeologist.
- H.1.4** During the course of the project the Archive team will assist the Project Manager in the management of the archive including the cataloguing and development technique suitable for photographic archive requirements.
- H.1.5** The hard copy site archive will be security copied by scanning to PdFA and a copy of this will be housed on the OA Archive Server. A full digital copy of the archive, including scanned hard copy and born digital data, will be deposited with and made publicly available on-line through the ADS. A further copy will be maintained on the OA server and if requested a copy on disk will also be sent to the receiving museum with the hard copy. This will act as a safeguard against the accidental loss and the long-term degeneration of paper records and photographs.
- H.1.6** Born digital data will only be printed to hard copy for the receiving museum where practical. Archive elements that need maintaining in digital form will be sent to ADS in accordance with Arches Standard and ADS guidelines. A copy will be sent to the receiving museum by CD and back-up copies will be stored on the OA digital network. In most cases a digital copy of the report will be included in the OASIS project library hosted by ADS.
- H.1.7** Prior to deposition the Archive team will contact the museum regarding the size and content of the archive and discuss any retention and dispersal policies which may be applicable in line with local and SMA Guidelines ' Selection, Retention & Dispersal of Archaeological Collections' 1993.

- H.1.8** The site archive will then be deposited with the relevant receiving museum or repository at the earliest opportunity unless further archaeological work on the site is expected. The documentary archive will include correspondence detailing landowner consent to deposit the artefacts and any copyright licences in accordance with the receiving museum guidelines. Deposition charges will be required from the client as part of the project costs, but the level of the fee is set by the receiving body and may be subject to change during the lifespan of the project. Changes to archiving charges beyond OA's control will be passed across to the client.
- H.1.9** Oxford Archaeology will retain full copyright of any commissioned reports, tender documents, or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it will provide the receiving repository or museum for the archive with a full licence for use to the client in all matters directly relating to the project as described in the Written Scheme of Investigation, and in line with the relevant receiving body guidelines.
- H.1.10** OA will advise the receiving repository or museum for the archive of 3rd party materials supplied in the course of projects which are not OA's copyright.
- H.1.11** OA undertakes to respect all requirements for confidentiality about the client's proposals provided that these are clearly stated. It is expected that such conditions shall not unreasonably impede the satisfactory performance of the services required. Archaeological findings and conclusions can be kept confidential for a limited period but will be made publicly available in line with the above procedure either after a specified time period agreed with the client at the outset of the project, or where no such period is agreed, after a reasonable period of time. It is expected that clients respect OA's general ethical obligations not to suppress significant archaeological data for an unreasonable period.

H.2 Relevant industry standards and guidelines

- H.2.1** At the end of the project the site archive will be ordered, catalogued, labelled and conserved and stored according to the following national guidelines:
- H.2.2** EAC, 2014 A Standard and Guide to Best Practice for Archaeological Archiving in Europe (EAC Guidelines 1)
- H.2.3** ClfA, 2014 (Updated 2020) Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives
- H.2.4** Brown, D, 2011 Archaeological Archives A Guide to Best Practice in Creation, Compilation, Transfer and Curation. AAF
- H.2.5** UKIC, 1990 Guidelines for the preparation of excavation archives for long-term storage
- H.2.6** SMA, 2020 Standards and Guidance in the Care of Archaeological Collections
- H.2.7** Local museum guidelines such as Museum of London Guidelines: (<http://www.museumoflondonarchaeology.org.uk/English/ArchiveResearch/DeposRe> source) will be adopted where appropriate to the archive collecting area.
- H.2.8** The site archive will be prepared to at least the minimum acceptable standard defined in Management of Archaeological Projects 2, Historic England 1991.

H.3 Relevant OA manual and other supporting documentation

H.3.1 The OA Archives Policy.

APPENDIX I HEALTH AND SAFETY

I.1 Standard Methodology - summary

- I.1.1** All work will be undertaken in accordance with the current OA Health and Safety Policy, the OA Site Safety Procedures Manual, a site-specific Risk Assessment and, if required, Safety Plan or Method Statement. Copies of the site-specific documents will be submitted to the client or their representative for approvals prior to mobilisation, and all relevant H and S documentation will be available on site at all times. The Health and Safety documentation will be read in conjunction with the project WSI.
- I.1.2** Where a project falls under the Construction (Design and Management) Regulations (2015), all work will be carried out in accordance with the Principal Contractor's Construction Phase Plan (CPP).

I.2 Relevant industry standards and guidelines

- I.2.1** All work will be carried out according to the requirements of all relevant legislation and guidance, including, but not exclusively:
- I.2.2** The Health and Safety at Work Act (1974).
- I.2.3** Management of Health and Safety at Work Regulations (1999).
- I.2.4** Manual Handling Operations Regulations 1992 (as amended).
- I.2.5** The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (2013).
- I.2.6** The Construction (Design and Management) Regulations (2015).
- I.2.7** Relevant OA manual and other supporting documentation
- I.2.8** The OA Health and Safety Policy.
- I.2.9** The OA Site Safety Procedures Manual.
- I.2.10** The OA Risk Assessment templates.
- I.2.11** The OA Method Statement template.
- I.2.12** The OA Construction Phase Plan template.



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APPENDIX B TRENCH DESCRIPTIONS AND CONTEXT INVENTORY

Trench 1						
General description					Orientation	N-S
Trench devoid of archaeology. Consists of topsoil and subsoil overlying natural geology of mid- orange-brown sandy clay glacial till					Length (m)	25
					Width (m)	1.8
					Avg. depth (m)	0.29
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
100	Layer	-	0.23	Topsoil	-	-
101	Layer	-	0.06	Subsoil	-	-
102	Layer	-	-	Natural	-	-

Trench 2						
General description					Orientation	E-W
Trench targeting the ring cairn (HER 4284) revealed both sides of a circular feature in the form of a bank 203 and a ditch 207 . Internally were two cremation pits 205 and 206 . Natural is mid orange-brown clayey silt glacial till.					Length (m)	25
					Width (m)	1.8
					Avg. depth (m)	0.28
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
200	Layer	-	0.2	Topsoil	-	-
201	Layer	-	0.06	Subsoil	-	-
202	Layer	-	-	Natural	-	-
203	Earthwork	-	-	Enclosed bank	-	-
204	Layer	1.8	0.8	Displaced stones from bank	-	-
205	Cut	0.37	-	Cremation pit	-	-
206	Cut	0.45	-	Possible cremation pit	-	-
207	Cut	1.06	0.35	Ditch cut	-	-
208	Fill	0.8	0.17	Lower fill of ditch 207	-	-
209	Fill	0.25	0.12	Redeposited natural fill of ditch 207	-	-
210	Fill	1.06	0.18	Upper fill of ditch 207 , containing a large quantity of stone	-	-

Trench 3						
General description					Orientation	N-S
Trench devoid of archaeology. Consists of topsoil and subsoil overlying natural geology of orange brown clayey silt with a concentration of small stones at the north end					Length (m)	10
					Width (m)	1.8
					Avg. depth (m)	0.55
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
300	Layer	-	0.15	Topsoil	-	-
301	Layer	-	0.1	Subsoil	-	-
302	Layer	-	-	Natural	-	-

Trench 4						
General description					Orientation	E-W
With the exception of a single pit/tree throw containing a charcoal-rich deposit the trench devoid of archaeology, consisting of topsoil and subsoil overlying natural geology of light orange brown clayey silt glacial till					Length (m)	10
					Width (m)	3.6
					Avg. depth (m)	0.30
Context No.	Type	Width (m)	Depth (m)	Description	Finds	Date
400	Layer	-	0.2	Topsoil	-	-
401	Layer	-	0.1	Subsoil	-	-
402	Layer	-	-	Natural	-	-
403	Cut	0.82	0.15	Tree throw	-	-
404	Fill	0.82	0.07	Fill of 403	-	-

APPENDIX C

SITE SUMMARY DETAILS

Site name:	Stangana Compoundm Haweswater Aqueduct Resilience Programme, Mansergh, Cumbria
Site code:	SCH21
Grid Reference	SD 59608 84027
Type:	Archaeological Evaluation
Date and duration:	12 th – 13 th April 2021; 2 days
Location of archive:	The archive is currently held at OA North, Mill 3, Moor Lane Mills, Moor Lane, Lancaster, LA1 1QD, and will be deposited with Kendal Museums of Natural History and Archaeology in due course.
Summary of Results:	<p>An evaluation of four trenches to test geophysical anomalies in the area of a recorded ring cairn (HER 4284). Archaeological features were present in Trenches 2 and 4. Trenches 1 and 3 contained only natural deposits, with the anomalies identified apparently relating to geological variations.</p> <p>Trench 2 focussed on the circular enclosure or ring cairn previously recorded (HER 4284); this was visible as a slight earthwork and showed up on the geophysical survey as a curvilinear feature. Excavation revealed this to be a stone built embanked feature. At the east end of the trench the bank (which remained unexcavated) survived as an upstanding silty layer containing large stones. At the west end of the trench, the bank appeared to have been truncated and all that remained were large stones within the infill of a shallow ditch. Inside the embanked feature were two pits containing cremated material. These were revealed but not excavated; one contained charcoal and one contained charcoal and what appeared to be cremated bone. The presence of possible human cremations strongly suggests that the feature was probably a ring cairn of Bronze Age date. These features were cleaned and photographed in plan then protected by plastic before the trench was backfilled.</p> <p>To the north-east of the ring cairn (HER 4284) Trench 4, which targeted two small circular anomalies recorded by the geophysical survey, revealed a tree throw containing redeposited natural.</p>



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