



HAYESWATER CONTRACT III, POOLEY BRIDGE TO DACRE TO PENRUDDOCK, CUMBRIA

Archaeological Desk- based Assessment and Walkover Survey



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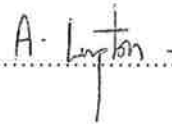
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SUMMARY

The general area in the vicinity of the proposed new United Utilities pipeline between Pooley Bridge and Penruddock, via Dacre, in Cumbria has numerous known sites of archaeological interest including an early medieval monastery, the sites of two possible stone circles, several Romano-British or late prehistoric settlement sites and a medieval Pele House (SM 23757). Because of this the Lake District National Park Authority (LDNPA) archaeologist recommended a programme of archaeological work including a desk-based assessment and walkover survey, prior to the excavation of evaluation trenches.

The desk-based assessment identified 35 sites of archaeological interest, 18 of which were already recorded in the LDNPA Historic Environment Record (HER). These included numerous post-medieval lime kilns (Sites **23-24**, **29** and **37**) and quarries (Sites **34-36**), Dacre Pele House (Site **21**), a church (Site **22**), a possible medieval park (Site **15**) and field-systems (Sites **1**, **27** and **31**), and a possible Roman road (Site **18**).

The walkover survey identified 11 sites, although five of these were already recorded by the HER or identified during the desk-based assessment. These largely consisted of undateable earthworks such as banks and ditches (Sites **10-12**) and quarries, although features relating to Dacre Pele House were also identified.

The combined results of the desk-based assessment and walkover survey identified a total of 41 sites of archaeological interest. Of these 15 (Sites **5**, **6**, **8**, **10-13**, **15-18**, **25**, **31**, **33** and **37**) were considered likely to be affected by the proposed development. Recommendations for further mitigation work were proposed, including the evaluation and/or topographic survey of seven of these sites (Sites **5**, **10**, **12**, **16-18**, **25**, **31**, **33** and **37**).

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Oxford Archaeology North would like to thank United Utilities for commissioning and supporting the project. Further thanks are due to Eleanor Kingston the Lake District National Park Authority Historic Environment Officer for her help and information, and the staff of the Carlisle and Kendal Record Offices.

Paul Clark undertook the walkover survey, and co-wrote the report. Daniel Elsworth undertook the desk-based assessment and co-wrote the report. The drawings were created by Mark Tidmarsh. Alison Plummer managed the project and edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 United Utilities proposed to carry out the installation of a pipeline from Pooley Bridge (NY 4791 2505) to Penruddock (NY 4311 2754) via Dacre (NY 5485 2654), as part of a major infrastructure project in the Hayeswater area. The initial phases of this, the Hayeswater pipeline, have already begun, including the phase linking to the south-east end of this pipeline (OA North 2003).
- 1.1.2 In response to this a project brief for a programme of archaeological work comprising a desk-based assessment, walkover survey and programme of evaluation along the pipeline was provided by the Lake District National Park (LDNPA) archaeologist (*Appendix 1*). Oxford Archaeology North (OA North) produced a Project Design in response to this (*Appendix 2*). Following the acceptance of the Project Design by United Utilities and the LDNPA Archaeologist, OA North was commissioned by United Utilities to undertake the work.
- 1.1.3 The walkover survey and desk-based assessment were carried out in June and July 2004.

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design (*Appendix 1*) was produced in response to a brief produced by the Lake District National Park Authority (LDNPA) archaeologist (*Appendix 2*). Once this was approved by the LDNPA archaeologist and accepted by United Utilities the desk-based assessment and walkover survey were carried out by OA North in June and July 2004. The programme of evaluation will be undertaken at a later date, and will be subject to a further report.

2.2 DESK-BASED ASSESSMENT

2.2.1 Several sources of information were consulted, in accordance with the project design (*Appendix 2*). The study area consisted of a corridor 1km wide along the line of the proposed route, which is slightly less than 6km in length. The principal source of information, given the nature of the study area, was maps and plans, in particular early Ordnance Survey maps, enclosure maps and Tithe Maps. These allow the historical development of the landscape to be studied through a process known as map regression analysis.

2.2.2 **Lake District National Park Authority (*Historic Environment Record*) (LDNPA (HER))**: the LDNPA holds a digital record of all sites of archaeological interest recorded within the national park. This was consulted and a detailed list of all the sites situated along the route of the pipeline was obtained. In each case this consisted of a location and a short description with relevant references. Aerial photographs covering the study area were also consulted at the LDNPA.

2.2.3 **County Record Office, Carlisle (CRO (C))**: a number of primary sources were examined, principally early maps, but also other original documents relating to the study area. Secondary sources such as local histories and journals were also consulted.

2.2.4 **County Record Office, Kendal CRO (K)**: as the south-east end of the study area falls within the former county of Westmorland a small number of plans was also examined at the record office in Kendal.

2.2.5 **OA North Archive**: OA North has carried out a number of projects in the general area and produced various of client reports. These were consulted, as were further secondary sources, including a number from the author's own collection.

2.3 WALKOVER SURVEY

2.3.1 Following the desk-based assessment a level I walkover survey (*Appendix 1*) was undertaken to relate the existing landscape to research findings. This

encompassed a one hundred metre corridor along either side of the pipeline, walked in a systematic fashion. Archaeological features identified within the landscape were recorded using the relevant OA North pro forma, and the features accurately positioned with the use of either a GPS, which can achieve an accuracy of $\pm 0.1\text{m}$ with respect to the OS national grid, or by manual survey techniques which tied in new features to features already shown on the relevant OS map.

2.4 ARCHIVE

- 2.4.1 A full archive has been produced to a professional standard in accordance with current English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited with the Cumbria County Record Office (Carlisle). A copy of the report will be deposited with the Cumbria SMR in Kendal.

3. BACKGROUND

3.1 INTRODUCTION

- 3.1.1 The background to the study area was produced primarily through reference to secondary sources and information held in the LDNPA Historic Environment Record. Wherever possible sites of archaeological interest identified within the study area is of relevance are referred to in the historical background.

3.2 GEOLOGY AND TOPOGRAPHY

- 3.2.1 The solid geology of the immediate area is dominated by carboniferous limestone (Moseley (ed) 1978), hence the large numbers of quarries and lime kilns (*Appendix 3*). The solid landscape has been extensively modified by the action of the last glaciation, which has not only formed the typical U-shaped valleys of the higher fells, but has left thick deposits of boulder clay (Countryside Commission 1998, 33). These deposits have in turn formed Cambic stagnogley soils of the Cegin and Brickfield 2 associations (Ordnance Survey 1983).
- 3.2.2 The study area is between 6 and 8km south-west of Penrith, bounded by the A66 to the north (although it partially crosses this) and Ullswater to the south. Its position on the edge of the Cumbrian mountains means that it is at a relatively high position above sea level, varying between 170m OD at the south-east end and 270m OD at the north-west (Ordnance Survey 1995).
- 3.2.3 The topography in this region is typified by rugged mountains and steep glacial valleys, with exposed outcrops of rock and areas of peat (Countryside Commission 1998, 31). The study area, which is on the edge of the mountainous area is generally less extreme, with more gentle sloping valleys and flat valley floors incorporating more improved ground (*op cit*, 32).

3.3 HISTORY AND ARCHAEOLOGY

- 3.3.1 **Introduction:** the background history has been compiled from secondary sources and information recorded in the HER for the wider area. Where possible it specifically references sites identified within the study area.
- 3.3.2 **Prehistory:** although evidence for immediately post-glacial activity in the area is severely lacking, sites dating to the Late Mesolithic are known from the Cumbrian west coast, Eden Valley and Shap area (Cherry and Cherry 2002) suggesting that further discoveries are likely to be made in other areas. Similarly, discoveries of Late Upper Palaeolithic sites in the south-west of the county demonstrate that the area was not deserted at that time (Young 2002). Evidence for Neolithic and Bronze Age activity is far more common in Cumbria, although settlement sites that can be identified with any certainty are rare (Hodgkinson *et al* 2000, 111). Finds such as stone axes and metal objects

- are, however, relatively common across the county. Some structural remains such as the possible stone circle (Site 40) do exist. There is also a possible stone circle at Yamonside (SMR 2934), and the nationally important Neolithic and Bronze Age henges of Mayburgh and King Arthur's Round Table are only 5km to the north-east.
- 3.3.3 Sites considered likely to be settlements probably dating to the later prehistoric period have been identified in a number of places in the general area. These include the hillfort at Dunmallard (SMR 1164) and another, known as Maiden Castle, on Soulby Fell. A number of sites identified in aerial photographs are also likely to date to this period, although they may have been used into and beyond the Roman period (Higham and Jones 1975). A number of these are situated within the study area (Sites 09, 27, 28 and 30) although the exact nature of all of these is unknown as little investigative work has ever been carried out.
- 3.3.4 While the general area can therefore be seen to be rich in prehistoric remains, particularly of the later periods, these are understood in little detail. Many of these sites have survived in areas where there has been little disturbance from agriculture or building and there is a great deal of potential for further discoveries to be made and further information to be gained.
- 3.3.5 **Romano-British:** as has already been mentioned, a number of the sites of possible prehistoric date have been described as 'Romano-British' (Higham and Jones 1975), and it is likely that many were occupied through various different periods. The Roman influence on the area is, however, notable. The area is within a few kilometres of a fort at Brougham to the north-east and camps at Troutbeck to the north-west. Two major Roman roads are situated either side of the study area (north and south), one running parallel to part of the line of the current A66, the other (High Street) crossing the fells to the south (Margary 1973, 387-93). A further possible road, which could potentially be of Roman date, was identified within the study area (Site 18); a Roman *sesterius* of Trajan (AD 103-111) was found near Dacre church in 1993 (Shotter 1996, 30), perhaps adding further weight to the idea of a Roman presence in the area. A few artefacts of Roman date were also recovered from the excavations, also near the church, at Dacre (Newman and Leech forthcoming). Details of how the native population and the Roman military forces interacted in this area are not clear, and little work has been done in detail examining the period. Recent survey and excavation around the south-west end of Ullswater has revealed extensive settlement and clear evidence of the native population acquiring Roman artefacts (Loney and Hoan 2000, pers comm; Hoan and Loney 2003).
- 3.3.6 Again it is evident that the area was a focus of considerable activity during the Roman period, although detailed study of this is still at an early stage. There is, however, a high potential for further discoveries to be made.
- 3.3.7 **Early Medieval:** while much of the area has little evidence for activity in the early medieval period the study area is fortunate in having one large, and significant site dating to this period within it (Site 22). Bede refers to a monastic site at Dacre as early as the eighth century AD (Newman and Leech

forthcoming, 2). Fragments of several pieces of carved early medieval cross have been found in the area around the church and castle in the nineteenth and early twentieth centuries (Collingwood 1912; Bailey and Cramp 1988). Excavations in the late 1920s near to the church revealed a large stone-built drain or culvert, apparently reusing dressed blocks from a large stone building (Hudleston 1932). Excavations in the early 1980s in land adjoining the church uncovered over 200 burials and other structures probably relating to the monastic site. Indeed, Dacre also has evidence of Anglian and Anglo-Scandinavian crosses (Bailey 1977). Metal artefacts and coins recovered from the site demonstrate an early medieval date of origin, although there are also possible prehistoric remains (Newman and Leech forthcoming). It is noticeable that the site of the monastery lies adjacent to the possible Roman road identified during the desk-based assessment (Site 18), perhaps suggesting that an existing road was an obvious point on which to position such a site.

3.3.8 Elsewhere in the study area there is less conclusive evidence for early medieval activity. A number of place-names in the area do, however, suggest a mix of influences including native Britons, Old English and Norse (Armstrong *et al* 1950). Finds of numerous silver brooches from Flusco (c2km north of Dacre) have been recorded since the eighteenth century (Whellan 1860, 529; Richardson 1996, 36), and more recent examples have been shown to be Norse in style and probably ninth century in date (Richardson 1996, 42). These too give a tantalising clue as to the presence of further early medieval settlement in the area. The identification of such a large and significant early medieval site at Dacre might suggest that other sites, probably smaller and less significant, exist in the surrounding area. The proximity of the proposed pipeline to the monastic site at Dacre might suggest that some of these could be affected.

3.3.9 **Medieval:** as has already been outlined the area was relatively well-inhabited throughout the late prehistoric, the Roman and the early medieval periods. The place-names of most of the settlements in the general area suggest at least medieval origins, if not earlier (*ibid*). Dacre and Hutton John are known to have been associated with major landed families from the post-Conquest period onwards (Nicolson and Burn 1777, 377-81; Whellan 1860, 528-31). The villages of Dacre (Site 16) and Penruddock are considered to have a medieval form (SMR 6775 and 6761 respectively), and it is probable that Soulby does too. A number of fortified sites are present within the general area, including a moated site and pele tower at Hutton John (SMR 1142 and 3785 respectively). Within the study area there is a substantial castle with a chapel at Dacre (Sites 21 and 20) as well as the church of St Andrews (Site 22). All of these sites are known to have been or are likely to have been extensively modified during their lifetimes, but their origins lie in the medieval period. Other sites of medieval origin within the study area include mills (Sites 02 and 03) and possibly field systems (Sites 01 and 15). Other undateable features may also belong to this period (Sites 10 and 12 both bank and ditch sites).

3.3.10 **Post-medieval:** during the post-medieval period the general area remained rural and relatively undeveloped. The population of most of the villages in or

around the study area is recorded as less than a few hundred in most cases, and as low as 61 in Soulby (Whellan 1860). The Industrial Revolution would appear to have had little affect on the area, although limestone quarrying and burning was evidently a major industry (*ibid*, 529). There are a large number related sites within the study area (23-4, 29, 34 and probably 35-7) and this was undoubtedly a significant factor in the post-medieval development of the landscape. The coming of the railway to the area, linking Penrith to Cockermouth via Keswick in 1864 (Marshall and Davies-Shiel 1969, 187 and 190; Site 41) would have allowed greater access to the area, although most of the villages in and around the study area were not directly connected to it.

4. DESK-BASED ASSESSMENT RESULTS

4.1 INTRODUCTION

4.1.1 A number of sources of information were consulted, as outlined in *Section 2.2*. A total of 32 sites were identified within the study area. These are outlined in Table 1 below and listed in detail in the gazetteer (*Appendix 3*). A wide variety of sites was identified from a number of periods, including possible prehistoric or Romano-British settlements, medieval field systems, guide posts and a number of features related to lime quarrying.

| <i>Type of Site</i> | <i>Site Numbers</i> | <i>Periods</i> |
|---------------------|-------------------------------|------------------------------|
| Field systems | 01, 15, 16, 31 | Medieval |
| Mills | 02, 03, 14 | Medieval – post-medieval |
| Buildings | 04, 13, 17, 38 | Post-medieval |
| Markers | 08, 26, 32 | Post-medieval |
| Settlements | 09, 27, 30 | Prehistoric – Romano-British |
| Transport routes | 18, 41 | Roman(?) and post-medieval |
| Castle | 21 | Medieval |
| Religious structure | 20, 22, 28, 40 | Prehistoric and Medieval |
| Industrial | 23, 24, 29, 34, 36, 37, 39 | Post-medieval |
| Unknown | 25 | - |

Table 1: Sites identified during the desk-based assessment

4.2 HISTORIC ENVIRONMENT RECORD

4.2.1 In total, 18 sites were already recorded in the LDNPA Historic Environment Record (Sites 1-3, 9, 14, 20-24, 27-30, 34, 38-40). One of these (21) is also a Scheduled Monument (SM 23757)

4.2.2 Aerial photos covering the study area held at the LDNPA were also consulted. A further two sites (18 and 25) were identified through examination of aerial photographs. Site 16 was partially identified in aerial photographs and confirmed through reference to early maps (see below).

4.3 CUMBRIA RECORD OFFICE (CARLISLE)

- 4.3.1 A number of documents were consulted, primarily early maps of the area. This identified a further 10 sites (**08**, **13**, **15-17**, **26**, **31-32** and **36-37**). Other maps were consulted (DRC/8/79 1842; QRE/1/38 1775) but these did not show enough or any detail of the study area. An early county map (Hodgkinson and Donald 1774) was also consulted but this did not reveal any additional information.
- 4.3.2 *Dacre and Soulby Enclosure Map 1808 (QRE/1/46)*: buildings (Sites **13** and **17**), the area of the park (Site **15**) and the extent of crofts (Site **16**) were identified by reference to this early map.
- 4.3.3 *Hutton Soil Tithe Map 1841 (DRC/8/99 1841)*: this early map was consulted and two sites of possible archaeological interest were identified. Site **31**, a field named 'Stainah Butts' – possibly a reference to ridge and furrow, and Site **37**, a possible kiln site.
- 4.3.4 *Ordnance Survey 1867 and 1900*: all of the remaining sites were identified on the Ordnance Survey maps. These consist entirely of guide posts (Sites **08**, **26**, **32** and **36**), with the exception of the line of the Cockermouth, Keswick and Penrith railway (Site **41**). Other sites already recorded in the HER or on earlier maps were also examined to determine whether they were still present or had changed over time (Plates 2 and 3).

4.4 CUMBRIA RECORD OFFICE (KENDAL)

- 4.4.1 Only a single site (**04**), a former school at Barton Hall, was identified at the Record Office in Kendal. This was present on the Tithe map of 1838 (WDRC/8/80) and the Ordnance Survey map of 1863 (Plate 1).

5. WALKOVER SURVEY RESULTS

5.1 WALKOVER SURVEY

- 5.1.1 The area surveyed was predominantly agricultural land, with a mixture of arable and pastoral farming. Visibility was generally best in the land used for pastoral farming as grazing meant that there was significantly less vegetation cover. Conversely, within some of the arable fields crops of up to 0.5m in height were encountered, reducing visibility of landscape features dramatically.
- 5.1.2 The walkover survey identified a total of 11 sites of archaeological interest, of which eight were new and the other four were previously recorded in the HER or desk-based assessment.
- 5.1.3 The newly identified sites included a drain (possibly associated with a pond (Site 05), a pair of gateposts (Site 06), a wall (Site 07), two banks and ditches (Sites 10 and 12), a marker stone (Site 11), a clearance cairn (Site 33) and a quarry (Site 35).
- 5.1.4 The majority of the sites (Sites 05, 07, 10, 12 and 33) remain undated, with the rest probably dating to the post-medieval period (Sites 06, 11 and 35).
- 5.1.5 The most archaeologically significant sites are those relating to Dacre Castle (Site 21), namely the moat and associated earthwork and the possible gatehouse structure. The moat (Plate 4) remains a significant landscape feature, still holding water, and with an external earthwork bank of up to 2m in height. The walls interpreted as the remains of a possible gatehouse (Plate 5) are also well preserved, with a distinctive outline visible.
- 5.1.6 The banks and ditches (Sites 10 and 11) observed forming the boundaries of Lodge Wood are also perhaps of archaeological significance, and may represent boundaries of some antiquity, probably relating to Dacre park (Site 15). The stretch of wall (Site 07) identified appeared to be a remnant of a stone-built field boundary, the rest of which has been replaced by fencing. The ditch observed on Mill Moor (Site 05) appears to represent a relatively recent drainage feature.

6. IMPACT AND RECOMMENDATIONS

6.1 IMPACT

6.1.1 The results of the desk-based assessment and walkover survey identified a total of 41 sites. Of these 15 are likely to be affected by the proposed development (see Table 2 below). However, of these 15 not all are likely to have a great deal of archaeological potential due to the nature of the site, the condition of the ground, recent disturbance and so forth. These considerations, as well as the recommended mitigation, are outlined in Table 2.

6.2 RECOMMENDATIONS

6.2.1 The type of sites and the probable nature of the ground conditions suggest a number of possible forms of mitigation. The recommendations outlined in Table 2 are tailored to be specific to each site. The archaeological potential of each site is judged by the nature of the site and its intrinsic value or significance and the condition of the ground upon which it is situated, and the amount of likely disturbance.

| <i>Site number</i> | <i>Type</i> | <i>Archaeological potential</i> | <i>Recommended mitigation</i> |
|--------------------|--------------------|---------------------------------|-----------------------------------|
| 05 | Drain/pond | Low | Topographic survey/watching brief |
| 06 | Gateposts | Low | Avoid during work |
| 08 | Site of Guide post | Low | Watching brief |
| 10 | Bank and ditch | Medium | Topographic survey/evaluation |
| 11 | Boundary stone | Low | Avoid during work |
| 12 | Bank and ditch | Medium | Topographic survey/evaluation |
| 13 | Buildings | Medium | Watching brief |
| 15 | Park | Medium | Watching brief |
| 16 | Crofts | High | Evaluation |
| 17 | Building | Medium | Evaluation |
| 18 | Road | High | Evaluation |

| | | | |
|-----------|------------------|--------|-----------------------------------|
| 25 | Circular feature | Medium | Evaluation |
| 31 | Ridge and furrow | Medium | Watching brief/topographic survey |
| 33 | Cairn | Medium | Topographic survey/evaluation |
| 37 | Kiln site | High | Evaluation |

Table 2: Sites likely to be affected by the proposed development

- 6.2.2 It is recommended that the programme of evaluation specified in the brief issued by the LDNPA archaeologist should be targeted in such a way as to allow for the investigation of the sites listed above.
- 6.2.3 The distribution of sites within the study area that are unlikely to be affected by the development suggests a number of areas which might also be of some archaeological significance. The area to the north of the group of sites at Highgate Farm for example (NY 4442 2765) and the area of probable crofts within the area of Dacre Village (centred on NY 5478 2627; Site **15**; SMR 6775; Plate 3). If these areas are to remain undisturbed by the pipeline then no work is recommended.
- 6.2.4 The large number of sites of archaeological interest identified within the study area demonstrate the potential across the entire area. It is therefore additionally recommended that a permanent presence watching brief be maintained along the entire route of the pipeline during all ground works until archaeologically sterile levels are reached.

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8. ILLUSTRATIONS

FIGURES

Figure 1: Site location

Figure 2: Plan of gazetteer sites

Figure 3: Extract from the Ordnance Survey map of 1863, showing Barton Grammar School (Site 4)

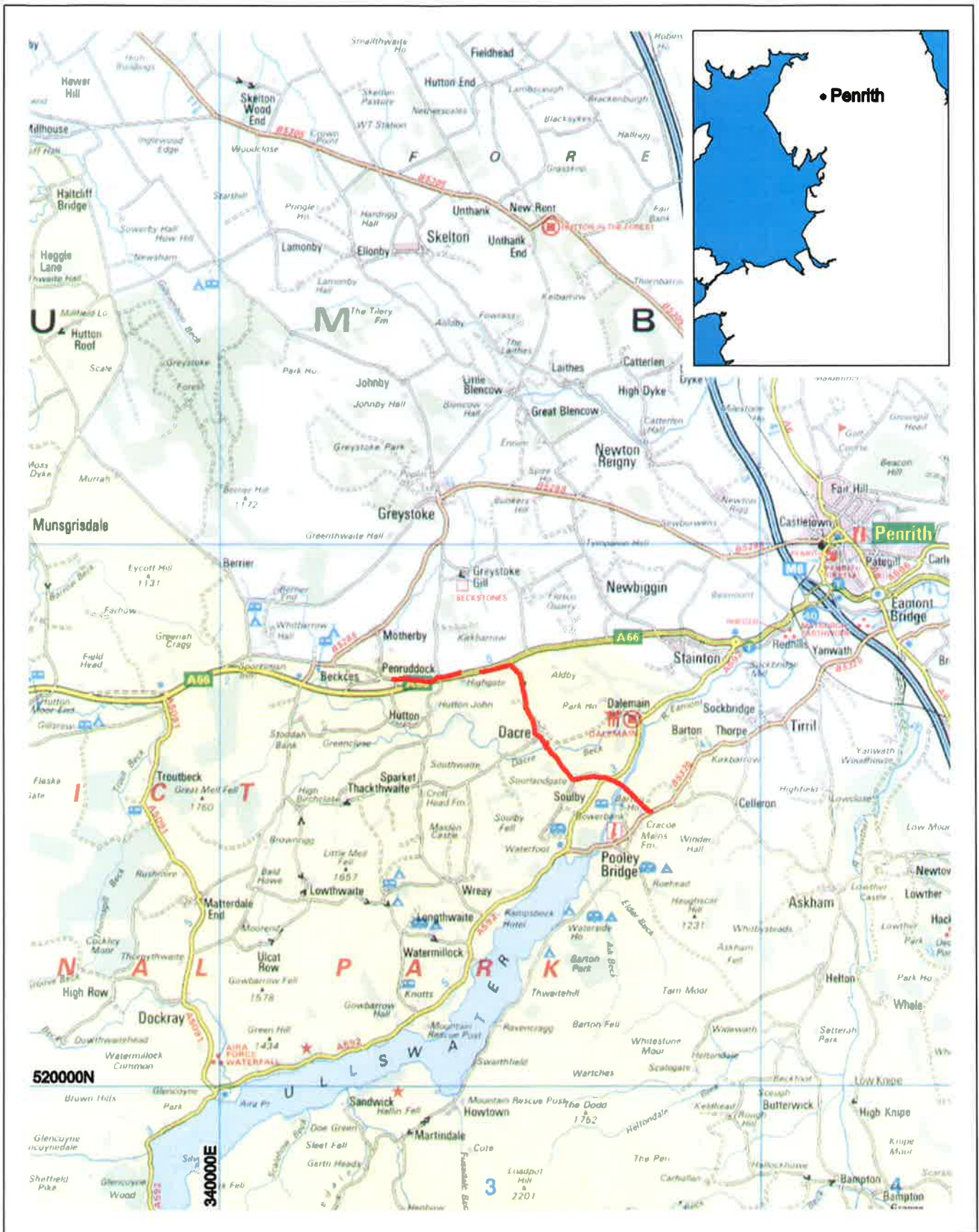
Figure 4: Extract from the Ordnance Survey map of 1900 showing quarries and an 'old lime kiln' (Site 24)

PLATES

Plate 1: Part of the Ordnance Survey map of 1867, showing Dacre

Plate 2: Part of the Plate 4: Moat, Site 21, north-east-facing

Plate 3: Gatehouse, Site 21, south-facing



based upon the Ordnance Survey 1:100,000
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Figure 1: Location Map

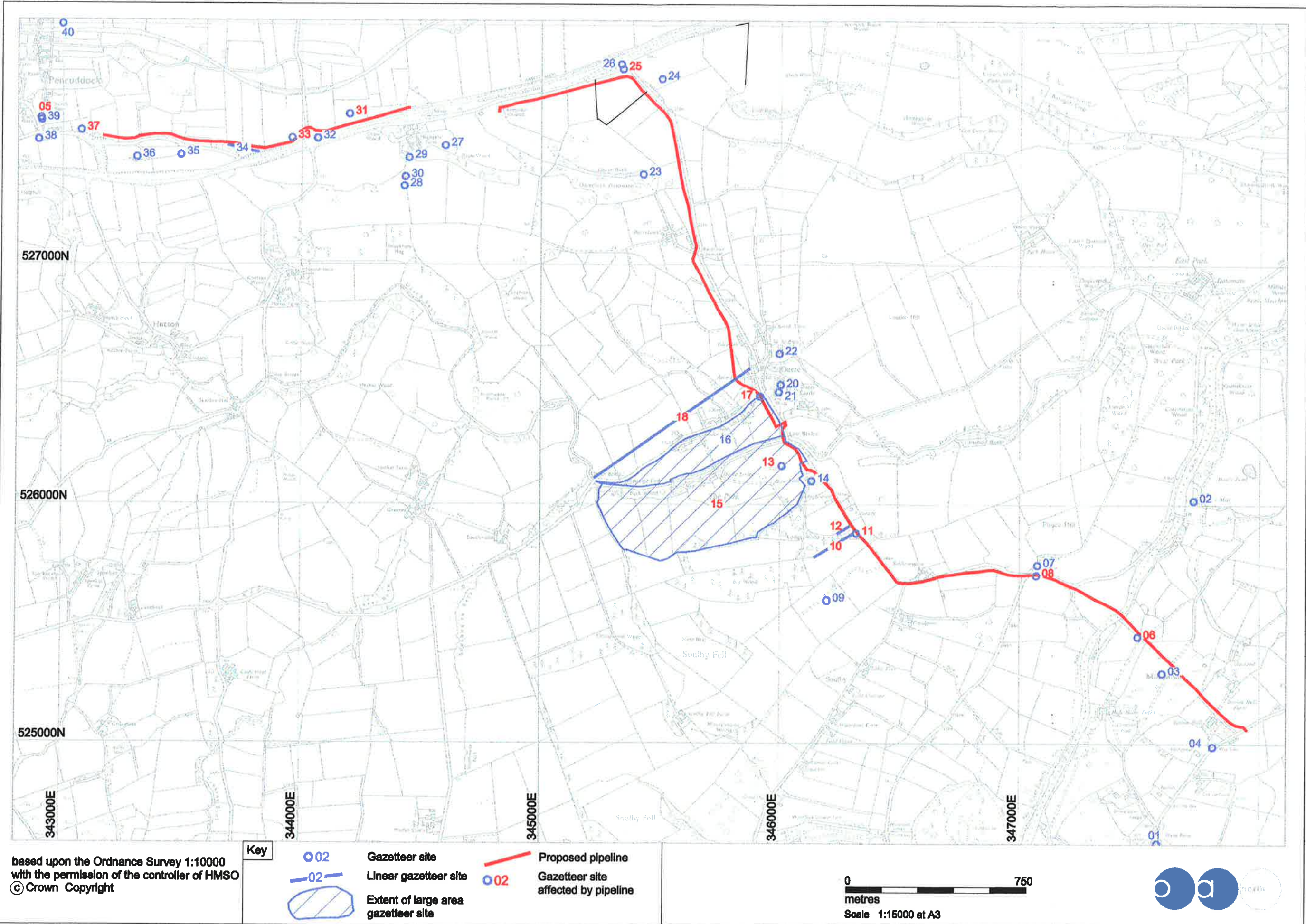


Figure 2: Plan of gazetteer sites



Figure 3: Extract from the Ordnance Survey map of 1863, showing Barton Grammar School (site 04)

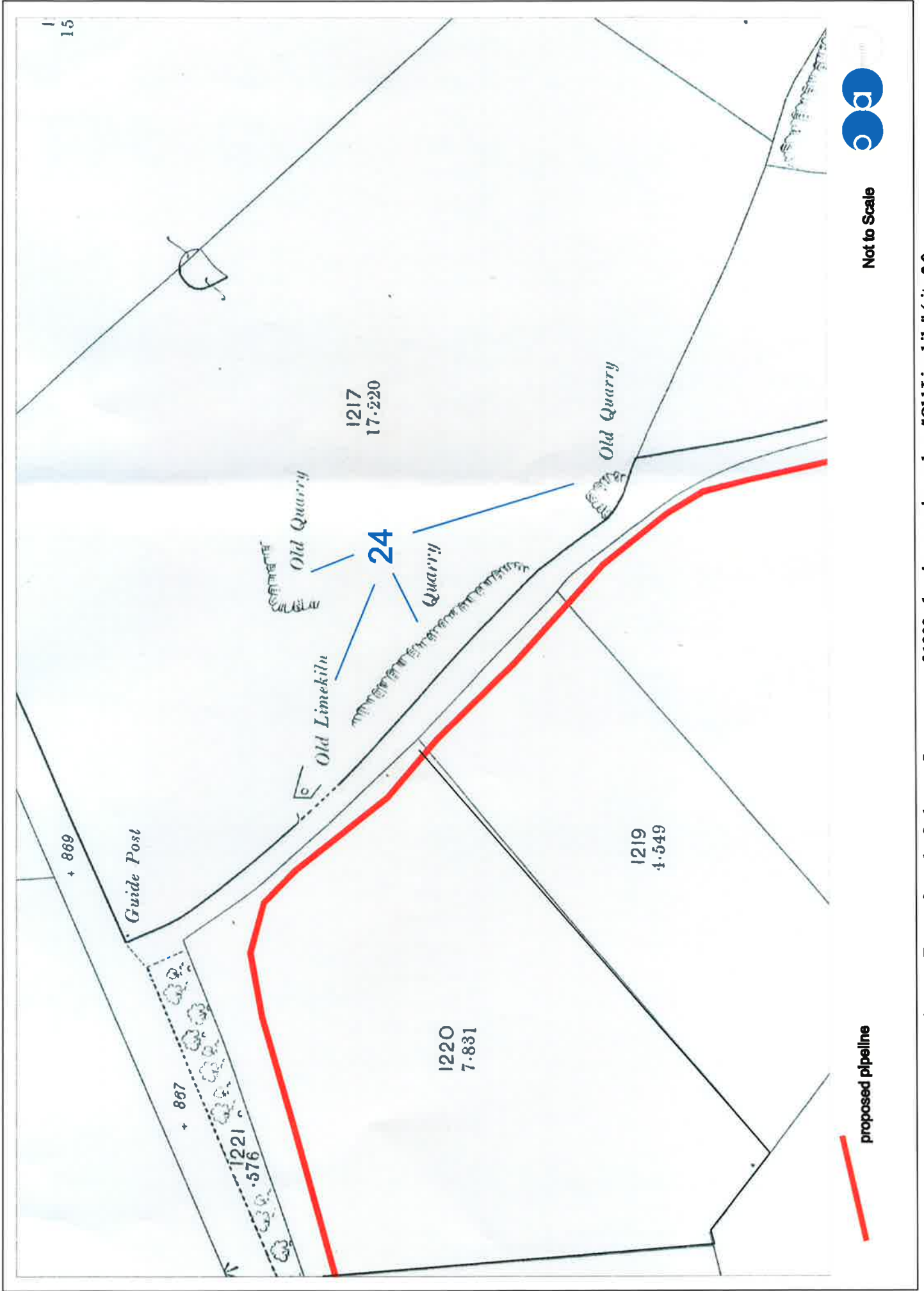


Figure 4: Extract from the Ordnance Survey map of 1900, showing quarries and an "Old Limekiln" (site 24)



Plate 2: Moat, Site 21, north-east facing



Plate 3: Gatehouse, Site 21, south facing

APPENDIX 1: PROJECT BRIEF



Lake District
National Park Authority

ARCHAEOLOGICAL BRIEF

Hayeswater Contract 3 Pooley Bridge to Dacre To Penruddock

May 2004

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BRIEF FOR A PROGRAMME OF ARCHAEOLOGICAL WORKS ON HAYESWATER CONTRACT 3 POOLEY BRIDGE TO DACRE AND DACRE TO PENRUDDOCK

SUMMARY

As part of a major scheme to improve the water supply in the Penrith area, United Utilities are installing a new pipeline from Pooley Bridge to Dacre and from Dacre to Penruddock. As the pipeline is a major piece of infrastructure work on previously undisturbed ground, the Lake District National Park Authority has recommended it be proceeded by a programme of archaeological work. This brief constitutes an initial phase of assessment and evaluation of the pipeline route which will determine whether any further works are required during or prior to the construction of the pipeline.

It is possible that some archaeological deposits of interest may be disturbed or exposed by the development. The Lake District National Park Authority (LDNPA) has therefore recommended that before the development commences, United Utilities should secure the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted to and approved by the National Park Planning Authority. This is in line with government advice as set out in the DoE Planning Policy Guidance on Archaeology and Planning (PPG 16). This brief sets out the requirements for that programme of archaeological works.

1. BACKGROUND

- 1.1 The LDNPA has been consulted by United Utilities over works for a new pipeline from Pooley Bridge to Dacre and from Dacre to Penruddock, in the Lake District National Park.
- 1.2 The development affects previously undisturbed ground and there is considerable potential for sites of archaeological significance to be disturbed during the course of works.
- 1.3 The LDNPA Archaeologist has therefore advised United Utilities that a programme of archaeological assessment and recording is required before the work begins. This recommendation is based on policies in the Joint LDNPA and Cumbria County Council Structure Plan, the LDNPA Local Plan and is also in line with government guidance given in Planning Policy Guidance Note 16 (Archaeology and Planning). It is also in line with advice contained in the Water Act 1991 Code of Practice on Conservation, Access and Recreation 2000 and Article 1 (5) of Circular 04/99.

2. SCOPE OF THE ARCHAEOLOGICAL WORKS

- 2.1 The development would severely damage or destroy any archaeological remains that may be present on site. The LDNPA has therefore

recommended that United Utilities should secure the implementation of a programme of archaeological work in accordance with a written scheme of investigation that has been submitted to and approved by the LDNPA.

- 2.2 The principle aim of the work is to identify any archaeological remains on the route of the pipeline and to investigate and record a 10% sample of the overall route of the pipeline.
- 2.3 The following work will be required in advance of topsoil stripping and any engineering works on the route of the pipeline:
 - a) A desk based assessment must first be carried out, to include collation of all relevant material from the Lake District National Park Historic Environment Record (HER) and examination of any available maps (printed and manuscript), aerial photographs and other relevant background material;
 - b) A walkover survey of the route of the pipeline prior to any works taking place;
 - c) The investigation, through trial trenching, of 10% of the overall route of the pipeline prior to any topsoil stripping or any engineering works taking place.
 - d) The targeting of trenches on any features of archaeological significance identified during the desk based assessment and walkover survey. The trench locations are to be agreed with the LDNPA Archaeologist in advance following the completion of the desk based assessment and walkover survey.
- 2.4 Once the trial trenching has been completed an assessment of the impact of the works on the archaeological resource will be made in order to determine if any further archaeological recording or sampling work will be required before or during the pipeline construction.

3. PROJECT DESIGN

- 3.1 Before the work commences a detailed proposal should be prepared by potential contractors and submitted to the LDNPA Archaeologist for approval on behalf of the Authority and United Utilities.
- 3.2 Proposals to meet this Brief should take the form of a detailed project design prepared in accordance with the recommendations of the *Management of Archaeological Projects 2nd Ed.* (1991) and must include:
 - A description of the proposed methods of observation and recording system;
 - An explanation of the sampling strategy to be used. This should include sampling of appropriate materials for environmental and/or other scientific analysis. Special attention should be paid to any waterlogged deposits encountered.

- A projected timetable for work on site including staff structure and numbers;
- A projected timetable for all post excavation work (through to final publication of results), including staff numbers and specialist sub-contractors;
- Any significant variations to the proposal must be agreed by the LDNPA Archaeologist in advance.

4. SITE MONITORING

- 4.1 The LDNPA Archaeologist will be responsible for monitoring the archaeological work. A minimum of one week's notice of the commencement of fieldwork must be given to the LDNPA so that arrangements for monitoring can be made. Ideally, this will entail an on site meeting prior to work starting, a meeting during the excavation of the trenches and a final meeting on site to discuss future requirements. Further visits can be made as required or requested by the LDNPA Archaeologist.

5. REPORTING REQUIREMENTS

- 5.1 The archaeological work should result in a report including a description of the methodology employed; plans and sections at an appropriate scale showing location and position of deposits and finds located; a list of and spot date for any finds recovered and a description and interpretation of the deposits identified.
- 5.2 The objective account of the archaeological evidence recovered should be clearly distinguished from the interpretation of those features. The methodology used should be critically reviewed.
- 5.3 **A site diary must be kept and incorporated in the report, to include a record of all time spent on site and all locations worked.**
- 5.4 **A summary report should be submitted to a suitable regional or national archaeological journal within one year of completion of fieldwork. If archaeological remains of significance are identified, one or more full reports should be published in a suitable journal or other publication and should include an account of any structures located and full details of significant finds, illustrated as appropriate.**
- 5.5 4 copies of the report should be deposited with the LDNPA on the understanding that it will be made available as a public document.
- 5.6 The Lake District Historic Environment Record (LDHER) supports the Online Access to Index of Archaeological Investigations (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The archaeological contractor must therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>. Contractors are advised to contact the LDHER prior to completing the form. Once a report has become a public

document by submission to or incorporation into the HER, the LDHER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the archaeological officer at the LDHER.

6. DEPOSITION OF ARCHIVE AND FINDS

- 6.1 The archaeological archive arising from the recording should be deposited in an appropriate local institution, in a format to be agreed with that institution. The LDNPA must be notified of the arrangements made. Any finds of archaeological interest should be appropriately conserved and deposited in an appropriate institution: any finds that cannot be so deposited should be fully analysed and published.

APPENDIX 2: PROJECT DESIGN

**Oxford
Archaeology
North**

June 2004

**HAYESWATER CONTRACT III,
LAKE DISTRICT NATIONAL PARK,
ARCHAEOLOGICAL DESK-BASED ASSESSMENT,
WALKOVER SURVEY AND EVALUATION**

Proposals

The following project design is offered in response to a request from United Utilities, for an archaeological desk-based assessment, walkover survey and evaluation of the route of the proposed Hayeswater III Pipeline.

1. INTRODUCTION

- 1.1 United Utilities (hereafter the client) propose to undertake the construction of a new pipeline from Pooley Bridge to Penruddock, Cumbria. The site lies within the Lake District National Park, in an area of undisturbed ground.
- 1.2 As a result the LDNPA Archaeologist has issued a brief for a desk-based assessment, walkover survey and evaluation to be undertaken for the proposed development. The following document represents a project design for this task.
- 1.3 Oxford Archaeology North (OA North) has considerable experience of the assessment and excavation of sites of all periods, having undertaken a great number of small and large scale projects during the past 20 years. Evaluations and assessment have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency.
- 1.4 OA North is an Institute of Field Archaeologists (IFA) registered organisation, registration number 17, and all its members of staff operate subject to the IFA Code of Conduct.

2. OBJECTIVES

- 2.1 The following programme has been designed to provide an accurate archaeological assessment of the designated area within its broader context. The required stages to achieve these ends are as follows:
- 2.2 ***Desk-Based Assessment***
The first stage will involve a desk-based assessment of a 0.5km study area centred on the route of the pipeline.
- 2.3 ***Walkover Survey***
The second stage will be the undertaking of a walkover survey of all parts of the route that are not within the existing highway.
- 2.4 ***Evaluation***
A programme of trial trenching will be undertaken for the off road sections of the pipeline.
- 2.5 ***Assessment Report***
A written assessment report will assess the significance of the data generated by this programme within a local and regional context. The report will appraise the archaeological impact of the development proposal.

3. METHODS STATEMENT

- 3.1 The following work programme is submitted in line with the stages and objectives of the archaeological work summarised above.

3.2 DESK-BASED ASSESSMENT

3.2.1 The following outline assessment will be undertaken as appropriate, depending on the availability of source material.

3.2.2 **Documentary and cartographic Material:** this will rapidly appraise the data in the LDNPA Historic Environment Record (HER). Cartographic sources held in the Kendal Record office will also be consulted. Early maps (printed and manuscript), and such primary documentation (tithe and estate plans etc.) as may be reasonably available will be inspected. Particular attention will be paid to field and place names recorded on early cartographic sources relating to estate and parish boundaries, field boundaries, woodlands and routes, as these often provide important evidence of archaeological activity and transformation of the historic landscape. All available published and unpublished documentary sources will also be examined and assessed. The relevant local studies library will be consulted as appropriate.

3.2.3 **Aerial Photography:** any relevant photographic material held by the LDNPA will be studied. This may indicate the range and survival of archaeological and structural features in the designated area no longer visible at ground level.

3.2.4 **Physical Environment:** a rapid desk-based compilation of geological (both solid and drift), pedological, topographical and palaeoenvironmental information will be undertaken. This will not only set the archaeological features in context, but also serves to provide predictive data that will increase the efficiency of the field visit. Any engineering and/or borehole data relating to the site will also be examined.

3.3 WALKOVER SURVEY

3.3.1 Following the desk-based assessment a level I walkover survey (*Appendix 1*) will be undertaken to relate the existing landscape to research findings. This will encompass a one hundred metre corridor along either side of the pipeline, walked in a systematic fashion. Archaeological features identified within the landscape will be recorded using the relevant OA North pro forma, and the features accurately positioned with the use of either a GPS, which can achieve accuracies of $\pm 0.1\text{m}$ with respect to the OS national grid, or by manual survey techniques which will tie in new features to features already shown on the relevant OS map.

3.4 EVALUATION

3.4.1 The programme of evaluation will require trenching to establish the presence or absence of any previously unsuspected archaeological deposits and, if established, will then test their date, nature, depth and quality of preservation. In this way, it will adequately sample the threatened available area

3.4.2 The evaluation is required to evaluate a minimum of 5% of the off-road sections of the easement for the pipeline. This is likely to take the form of thirty linear trenches 50m x 1.6m or the equivalent, dependent upon the

topographical conditions and the results of the desk-based assessment and walkover survey.

- 3.4.3 The topsoil will be removed by machine (fitted with a toothless ditching bucket, approximately 1.6m in width) under archaeological supervision to the surface of the first significant archaeological deposit. This deposit will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. All features of archaeological interest must be investigated and recorded unless otherwise agreed by the County Archaeology Service. The trenches will not be excavated deeper than 1.20m to accommodate health and safety constraints; any requirements to excavate below this depth will involve recosting.
- 3.4.4 All trenches will be excavated in a stratigraphical manner, whether by machine or by hand. Any investigation of intact archaeological deposits will be exclusively manual. A minimum sample of 50% of archaeological features must be examined by excavation. Selected pits and postholes will normally only be half-sectioned, linear features will be subject to no less than a 25% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal. It is hoped that in terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.
- 3.4.5 **Environmental Sampling:** environmental samples (bulk samples of 30 litres volume, to be sub-sampled at a later stage) will be collected from stratified undisturbed deposits and will particularly target negative features (gullies, pits and ditches). Subject to the results of the evaluation an assessment of any environmental samples will be undertaken by the in-house palaeoecological specialist, who will examine the potential for further analysis. The assessment would examine the potential for macrofossil, arthropod, palynological and general biological analysis. The costs for the palaeoecological assessment are defined as a contingency and will only be called into effect if good waterlogged deposits are identified, and will be subject to the agreement of the LDNPA Archaeologist and the Client.
- 3.4.6 Samples will also be collected for technological, pedological and chronological analysis as appropriate. If necessary, access to conservation advice and facilities can be made available. OA North maintains close relationships with Ancient Monuments Laboratory staff at the Universities of Durham and York and, in addition, employs artefact and palaeozoological specialists with considerable expertise in the investigation, excavation and finds management of sites of all periods and types, who are readily available for consultation.
- 3.4.7 **Human Remains:** any human remains uncovered will be left *in situ*, covered and protected. No further investigation will continue beyond that required to establish the date and character of the burial. LDNPA Archaeologist and the local Coroner will be informed immediately. If removal is essential the exhumation of any funerary remains will require the provision of a Home

Office license, under section 25 of the Burial Act of 1857. An application will be made by OA North for the study area on discovery of any such remains and the removal will be carried out with due care and sensitivity under the environmental health regulations, and if appropriate, in compliance with the 'Disused Burial Grounds (Amendment) Act, 1981.

- 3.4.8 **Recording:** all information identified in the course of the site works will be recorded stratigraphically, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.
- 3.4.9 Results of the field investigation will be recorded using a paper system, adapted from that used by Centre for Archaeology of English Heritage. The archive will include both a photographic record and accurate large-scale plans and sections at an appropriate scale (1:50, 1:20, and 1:10). Levels will be tied into the Ordnance Datum. All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.
- 3.4.10 **Treatment of finds:** all finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the recipient museum's guidelines.
- 3.4.11 **Treasure:** any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft.
- 3.4.12 All identified finds and artefacts will be retained, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained on advice from the recipient museum's archive curator.
- 3.4.13 **Contingency plan:** in the event of significant archaeological features being encountered during the evaluation, discussions will take place with the Archaeological Officer, as to the extent of further works to be carried out, and in agreement with the Client. All further works would be subject to a variation to this project design. In addition, a contingency costing may also be employed for unseen delays caused by prolonged periods of bad weather, vandalism, discovery of unforeseen complex deposits and/or artefacts which require specialist removal, use of shoring to excavate important features close to the excavation sections etc. This has been included in the costing and would be in agreement with the client.

3.5 ASSESSMENT REPORT

- 3.5.1 **Archive:** the results of Stage 3.2 to 3.4 will form the basis of a full archive to professional standards, in accordance with current English Heritage

guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct.

- 3.5.2 This archive can be provided in the English Heritage Centre for Archaeology Service format, both as a printed document and on computer disks as ASCII files (as appropriate), and a synthesis (in the form of the index to the archive and the report) will be deposited with the LDNPA (HER) the original record archive of projects (paper, magnetic, and plastic media) with the appropriate County Record Office, and, where appropriate the material archive (artefacts, ecofacts, and samples) with the County Museums Service. In this instance, the record archive will be sent to the LDNPA.
- 3.5.3 **Collation of data:** the data generated by 3.2 will be collated and analysed in order to provide an assessment of the nature and significance of the known surface and subsurface remains within the designated area. It will also serve as a guide to the archaeological potential of the area to be investigated, and the basis for the formulation of any detailed field programme and associated sampling strategy, should these be required in the future.
- 3.5.4 **Assessment Report:** two copies of a written synthetic report will be submitted to the Client, and four copies to the LDNPA. The final report will include:
- 1 a concise, non-technical summary of the project results
 - 2 an introduction to the circumstances of the project and the aims and objectives of the study
 - 3 a summary of the methodology and an indication of any departure from the agreed project design
 - 4 a copy of the agreed project design
 - 5 an outline of past and present land-use
 - 6 a summary of the archaeological/historical background
 - 7 a plan and gazetteer of areas of known or potential archaeological significance within the study area
 - 8 an assessment of the likely archaeological implications of the proposed development
 - 9 appropriate figures and plates
 - 10 a full list of references to and bibliography of primary and secondary sources consulted and a list of any further sources identified but not consulted
 - 11 an index of the project archive.
- 3.5.5 The report will be in the same basic format as this project design; a copy of the report can be provided on CDROM.
- 3.5.6 **Proposals:** recommendations for any further evaluation of the identified archaeological resource will, if required, be presented in the report.

- 3.5.7 **Confidentiality:** the assessment report is designed as a document for the specific use of the client, for the particular purpose as defined in the project brief and this project design, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.
- 3.5.8 **Publication:** a summary report will be submitted to a suitable regional or national archaeological journal within twelve months of completion of the fieldwork.

4. OUTLINE RESOURCES

- 4.1 The project will be under the management of **Alison Plummer** (OA North Senior Project Manager) to whom all correspondence should be addressed.
- 4.2 Present timetabling constraints preclude detailing exactly who will be carrying out the fieldwork, but all elements of the project are likely to be supervised by an OA North project supervisor experienced in this type of project. All OA North supervisors are experienced field archaeologists capable of carrying out projects of all sizes.

5. PROJECT MONITORING

- 5.1 The project will be monitored by the LDNPA Archaeologist, or his representative.

APPENDIX 1: LEVEL 1 SURVEY

The survey outlined is based on survey levels defined by the Royal Commission on the Historical Monuments of England (RCHM(E)) and are in accordance with stages of evaluation defined by the Association of County Archaeological Curators (ACAO 1993).

Level 1 Survey (Assessment)

This is a rapid level of survey (Site Inspection in project design) typically undertaken alongside a desk top study as part of the site assessment (ACAO 1993, 14). It is an initial site inspection, which helps the local planning authority to consider fully the archaeological implications of a planning proposal and also serves as the basis for undertaking and planning further archaeological work on the site.

The Level 1 survey represents the minimum standard of record and is appropriate to exploratory survey aimed at the discovery of previously unrecorded sites. Its aim is to record the existence, location and extent of an archaeological site. The emphasis for the recording is on the written description, which should record type and period and would not normally exceed c. 50 words.

The location and extent of the sites is typically shown on 1:2,500 or 1:10,000 OS maps as requested by the client. The extent of a site is only defined for sites greater than 50m in size and smaller sites are shown with a cross.

There are two alternative techniques (Levels 1a and 1b), which provide different accuracy levels and have different applications:

Level 1a

The sites are located by manual distance measurement techniques (eg pacing) with respect to field boundaries and provide an accuracy of +/- 10m (8 figure grid ref.). The loss of accuracy is offset by the slightly reduced costs; however, it is only appropriate for enclosed land, because of the paucity of usable topographic detail.

Level 1b

The sites are located using Global Positioning System (GPS) techniques, which uses electronic distance measurements along radio frequencies to satellites to enable a fix in Latitude and Longitude, which can be converted mathematically to Ordnance Survey National Grid. As long as differential GPS techniques are employed then it is possible to achieve accuracies of better than +/- 1m. There is a slightly increased cost implication by comparison with Level 1a survey, but it can be undertaken in most terrains, even some woodland.

APPENDIX 3: GAZETTEER SITES

| | |
|--------------------|---|
| Site number | 01 |
| Site name | Mains Farm, Barton |
| NGR | NY 4758 2458 |
| Site type | Field system/place-name |
| Period | Medieval |
| SMR No | 15318 |
| Sources | HER |
| Description | Mains farm provides circumstantial evidence for the location of Pooley Bridge Demense Lands. |
| Assessment | The site lies outside of the easement of the proposed route and is unlikely to be affected by it. |

| | |
|--------------------|---|
| Site number | 02 |
| Site name | Pooley Mill, Barton |
| NGR | NY 4773 2602 |
| Site type | Mill |
| Period | Post-medieval |
| SMR No | 15321 |
| Sources | HER |
| Description | Pooley Mill lies beside the River Eamont north-north-east of Pooley Bridge. It was owned by the Crown at one time and sold into private ownership in 1608. It had a long weir at NGR NY 47460 25665 – 47550 25750. From the last grid reference the head race led to the mill. It re-entered the river at NY 47720 26100. Pooley Mill is referred to in documents from 1578. It is no longer used as a mill. The buildings on the site appear to be nineteenth century and later. |
| Assessment | The site lies outside of the easement of the proposed route and is unlikely to be affected by it. |

| | |
|--------------------|---|
| Site number | 03 |
| Site name | Mill Moor |
| NGR | NY 4760 2530 |
| Site type | Mill |
| Period | Medieval |
| SMR No | 15313 |
| Sources | HER |
| Description | The name 'Mill Moor' suggests that a mill lay nearby. It appears as Milnemore in a rental of 1588 and seems to have been named from the molendium de Barton mentioned in documents from 1184. It probably refers to Pooley Mill, nearby to the north. |
| Assessment | The site lies within the easement of the proposed route but is unlikely to be affected by it. |

| | |
|--------------------|--|
| Site number | 04 |
| Site name | Barton Hall school |
| NGR | NY 4781 2499 |
| Site type | School |
| Period | Post-medieval |
| SMR No | - |
| Sources | WDRC/8/80 1838; Ordnance Survey 1863a |
| Description | A small building named 'Barton School' is shown here on the Tithe Map of 1838, albeit on the other side of the road. This is still present in 1863 but named 'Grammar School (endowed)'. The building appears to still be present today. |
| Assessment | The site lies outside of the easement of the proposed route and is unlikely to be affected by it. |

| | |
|--------------------|--|
| Site number | 05 |
| Site name | Mill Moor |
| NGR | NY 4291 2760 |
| Site type | Pond and drain |
| Period | Unknown |
| SMR No | - |
| Sources | Ordnance Survey 1863; walkover survey |
| Description | A pond is shown in this position on the Ordnance Survey map of 1863. The walkover survey identified a ditch, aligned north-west/south-east, 2m wide and 0.4m deep and visible for approximately 100m, probably a relatively recent drainage ditch. It is probable that the pond and ditch are related to each other. |
| Assessment | The site lies within the easement of the proposed route and is likely to be affected by it. |

| | |
|--------------------|--|
| Site number | 06 |
| Site name | Hole House Farm |
| NGR | NY 4750 2545 |
| Site type | Gateposts |
| Period | Unknown |
| SMR No | |
| Sources | Walkover Survey |
| Description | A pair of red sandstone gateposts measuring 1.4m high, 0.35m wide and 0.35m thick. These are presumably not in their original positions as they are only 0.8m apart from each other. |
| Assessment | This site lies within the easement of the proposed pipeline route and may be affected by the proposed development. |

| | |
|--------------------|---|
| Site number | 07 |
| Site name | South of Flusco Hill |
| NGR | NY 4708 2575 |
| Site type | Wall |
| Period | Post-medieval |
| SMR No | |
| Sources | Walkover Survey |
| Description | An 8m length of wall, aligned NNE/SSW, presumably a remnant of a stone-built field boundary, was observed crossing a 2.5m wide, 0.7m deep ditch, aligned WNW/ESE. |
| Assessment | The site lies to the north-east of the proposed route and is unlikely to be affected by the proposed development. |

| | |
|--------------------|---|
| Site number | 08 |
| Site name | South of Flusco Hill |
| NGR | NY 4707 2571 |
| Site type | Guide post |
| Period | Post-medieval |
| SMR No | - |
| Sources | Ordnance Survey 1867 |
| Description | A guide post is shown in this position on the Ordnance Survey 1 st edn of 1867. |
| Assessment | The site lies within the easement of the proposed route and is likely to be affected by it. |

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|--------------------|---|
| Site number | 09 |
| Site name | Soulandgate Dacre, Settlement Enclosure |
| NGR | NY 4620 2560 |
| Site type | Enclosure |

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|--------------------|--|
| Period | Romano-British |
| SMR No | 5470 |
| Sources | HER; Higham and Jones 1975 |
| Description | An possibly Romano-British settlement situated on a hill top at Sourland identified in aerial photographs. There are no apparent surface features visible. |
| Assessment | The site lies outside of the easement of the proposed route and is unlikely to be affected by it. |

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|--------------------|--|
| Site number | 10 |
| Site name | Lodge Wood |
| NGR | NY 4631 2588 – 4614 2578 |
| Site type | Bank and Ditch |
| Period | Unknown |
| SMR No | |
| Sources | Walkover Survey |
| Description | A drainage ditch runs along the south-eastern boundary of Lodge Wood, with a bank on the inside (north-western) side of it. The bank is somewhat ephemeral in places although can be traced for over 100m. |
| Assessment | The site lies within the easement of the proposed route and might well be affected by it. |

| | |
|--------------------|---|
| Site number | 11 |
| Site name | Dacre and Soulby Township Stone |
| NGR | NY 4632 2588 |
| Site type | Township Stone |
| Period | Unknown |
| SMR No | |
| Sources | OS 1:10000, Walkover Survey |
| Description | A roadside township marker boundary, measuring 0.7m x 0.4m x 0.3m. The stone is inscribed with 'Township of Dacre' on the north-eastern side of the stone and 'Township of Soulby' on the south-western side. |
| Assessment | The stone lies within the easement for the proposed route and is likely to be affected by it. |

| | |
|--------------------|---|
| Site number | 12 |
| Site name | Lodge Wood |
| NGR | NY 4629 2591 – 4624 2588 |
| Site type | Bank and Ditch |
| Period | Unknown |
| SMR No | |
| Sources | Walkover Survey |
| Description | A drainage ditch runs along the north-western boundary of Lodge Wood, with a bank on the inside (south-eastern) of it. A further ditch was located on the inside of the bank. The bank is far more substantial than that seen on the south-eastern side of the wood (Site 04), with the distance from the base of the external ditch to the top of the bank measuring <i>c</i> 1.75m. |
| Assessment | The site lies within the easement of the proposed route and would be affected by it. |

| | |
|--------------------|-------------------------------------|
| Site number | 13 |
| Site name | Dacre park, buildings |
| NGR | NY 4601 2616 |
| Site type | Buildings |
| Period | Post-medieval |
| SMR No | - |
| Sources | QRE/1/46 1808; Ordnance Survey 1867 |

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| Description | Two buildings are shown on the enclosure map of 1808, the larger is L-shaped and the smaller square. It is not clear what function these have. They are still on the 1 st edn Ordnance Survey map of 1867. |
| Assessment | The site lies close to the easement of the proposed route and may be affected by it. |

| | |
|--------------------|--|
| Site number | 14 |
| Site name | Dacre Saw Mill |
| NGR | NY 4613 2610 |
| Site type | Saw mill |
| Period | Post-medieval |
| SMR No | 11881 |
| Sources | HER; Ordnance Survey 1867a, 1900 |
| Description | An old saw mill, the original buildings no longer exist. M. Davies-Shiel suggests that this water powered saw mill was disused from 1858 and is marked as such on the Ordnance Survey 2 nd edn. There is now a house on the site called 'Brow Foot' which may incorporate elements of the saw mill buildings. |
| Assessment | The site lies close to the easement of the proposed route but is unlikely to be affected by it. |

| | |
|--------------------|---|
| Site number | 15 |
| Site name | Dacre Park |
| NGR | NY 4569 2599 |
| Site type | Park |
| Period | Medieval – post-medieval |
| SMR No | - |
| Sources | QRE/1/46 1808; Ordnance Survey 1867 |
| Description | The enclosure map of 1808 (QRE/1/46) shows a large area already enclosed to the south-west of the village of Dacre. By the time of the Ordnance Survey 1 st edn this has shrunk but is shown as a park. It is still named 'The Park' on modern maps and has a lodge on the north side. This is presumably a park relating to Dacre Castle although it is not clear how it relates to SMR 9778. |
| Assessment | Part of the site lies within the easement of the proposed route and is likely to be affected by it. |

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|--------------------|--|
| Site number | 16 |
| Site name | Dacre, crofts |
| NGR | NY 4582 2629 (centre) |
| Site type | Crofts |
| Period | Medieval |
| SMR No | (6775) |
| Sources | Ordnance Survey 1867; 1970, QRE/1/46 1808 |
| Description | The remains of strip fields are visible on an aerial photograph (Ordnance Survey 1970). These are marked on the enclosure map of 1808 and the first edition Ordnance Survey map (1867). These probably represent the remains of deserted crofts represented by the hazard area for the medieval village of Dacre (SMR 6775). |
| Assessment | Part of the site lies within the easement of the proposed route and is likely to be affected by it. |

| | |
|--------------------|-----------------|
| Site number | 17 |
| Site name | Building, Dacre |
| NGR | NY 4592 2645 |
| Site type | Building |
| Period | Post-medieval |
| SMR No | - |
| Sources | QRE/1/46 1808 |

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|--------------------|--|
| Description | A long building is shown positioned against the road on the enclosure map of 1808. It does not appear to be present on later maps. |
| Assessment | The site lies within the easement of the proposed route and is likely to be affected by it. |

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|--------------------|--|
| Site number | 18 |
| Site name | Dacre, road |
| NGR | NY 4587 2657 – 4523 2611 |
| Site type | Road |
| Period | Roman? |
| SMR No | - |
| Sources | Ordnance Survey 1970 |
| Description | A faint linear feature is visible on the 1970 aerial photography running between the west side of the centre of Dacre and High Bridge. Although not clear it appears to show two parallel lines as parch marks. Its position, linking a footpath to the east and the road beyond High Bridge to the west, as well as its orientation towards Penrith and potential proximity to the early medieval monastery at Dacre suggest that it may be a Roman Road. |
| Assessment | Part of the site lies within the easement of the proposed route and is likely to be affected by it. |

| | |
|--------------------|---|
| Site number | 20 |
| Site name | Dacre Castle Chapel |
| NGR | NY 4600 2650 |
| Site type | Chapel |
| Period | Medieval |
| SMR No | 4203 |
| Sources | HER; Curwen 1913; Pevsner 1967 |
| Description | In 1354 Margaret de Dacre had a license from Bishop Gilbert Welton to have a chapel within Dacre Castle, and for Robert de Kirkby to be her chaplain and confessor. |
| Assessment | The site lies outside of the easement of the proposed route and is unlikely to be affected by it. |

| | |
|--------------------|---|
| Site number | 21 |
| Site name | Moated site of Dacre Castle |
| NGR | NY 4600 2647 |
| Site type | Castle |
| Period | Medieval |
| SMR No | 2949, SM 23757 |
| Sources | HER; Curwen 1913; Clare 1982; Perriam and Robinson 1998; Salter 1998; walkover survey |
| Description | Fortified tower house. Fourteenth century with seventeenth and nineteenth century alterations. It has an extremely thick wall of dressed mixed sandstone with offsets, on a chamfered plinth and the roof hidden behind battlemented parapets. It has a two-storey regular tower over a vaulted basement, with angle turrets. The entrance façade has an off-centre doorway with a stone surround and an L-shaped stone staircase. There is a central seventeenth century coat of arms above of the Earl of Sussex. There is an irregular fenestration of large seventeenth century cross-mullioned windows and smaller loops and two-light windows in the turrets. The right and rear left turrets are larger and square, compared with those opposing. The rear larger turret houses the original entrance point with a newel staircase. The interior has many original features such as fireplaces, an oven recess, mural chambers and garderobes. The partially filled in moat has a fishpond along the south side The Scheduled Monument area includes the outer banks, moat and moated island upon which Dacre Castle stands. The island is surrounded on all sides except the |

east by a partially waterlogged moat 9-15m wide and up to 4.5m deep. On the west and south sides an earthen bank up to 9m wide by 1m flanks the outside of the moat, and on the south-west and south sides there is a second and parallel outer bank of similar size with dry ditch separating the two banks. Dacre Castle was built soon after the licence to crenellate was granted to William de Dacre in 1307. It has been suggested that the castle was constructed within an earlier moated site, but this has not been confirmed and the surrounding moat may be contemporary with the castle. Documentary sources of 1354 indicate Margaret de Dacre, daughter-in-law to William, lived in the castle. They also indicate that the east tower was built at some time before 1485 by Humphrey de Dacre. By the latter half of the seventeenth century the castle was derelict but soon after it was made habitable by Thomas Lennard, Earl of Sussex. Buck's engraving of 1739 suggests that the castle may have again become run down. This view is enhanced by Gilpin in 1786 who depicts the castle as a roofless ruin. Three years later Clark describes it as 'an old tower, though pretty entire'. Alterations were made in the nineteenth and twentieth centuries.

A substantial moat associated with Dacre Castle was identified during the walkover survey to the south-west of the castle building. The moat was about 6m wide and was surrounded on the outside by a substantial bank, to a maximum of 10m wide and 2m high. A further 7m long stretch of wall, 1m wide and well covered with turf, aligned broadly north/south was seen 3m east of a parallel stretch of wall, which was harder to define the limits of as it was more heavily under vegetation. There was the suggestion of an end wall joining the two at their southern ends, but this too was buried. The eastern wall was at the top of the slope for the moat, and given its position approximately 10m from the causeway across the moat it seems possible that these walls are part of a gatehouse structure associated with the castle.

Assessment

The site lies outside of the easement of the proposed route and is unlikely to be affected by it.

| | |
|--------------------|---|
| Site number | 22 |
| Site name | St Andrews Church, Dacre |
| NGR | NY 4600 2663 |
| Site type | Church |
| Period | Early Medieval – post-medieval |
| SMR No | 1157 |
| Sources | HER; Newman and Leech forthcoming; Collingwood 1912, 1923; Hudleston 1932; Leech and Newman 1985; Youngs <i>et al</i> 1985, 1986; Newman 1985; 1989 |
| Description | Parish church, twelfth century with thirteenth century additions and restorations of 1810 and 1875. It is red sandstone rubble with a string course, the aisles of the longer blocks are of pink sandstone with buttresses and nineteenth century red sandstone battlemented parapets. It has a graduated greenslate roof with coped gables and cross finial. There is a three-storey west tower, a three-bay nave and three-bay chancel which north vestry. The tower has the inscription 'Steeple rebuilt 1810' and names of church wardens over the entrance. Over the west door is a reused head of a thirteenth century two-light window. There are two-light bell openings under the battlemented parapet with angled spouts. The nave has two-light clerestory windows. The south isle has a thirteenth century doorway at the left, the engaged columns have been removed and stonework above shows the porch recess. There are nineteenth century restored segmental-headed two-light windows. The north aisle has a blocked thirteenth century window and nineteenth century restored two-light windows. The chancel retains all of its twelfth century narrow round-headed windows and priest's doorway; one thirteenth century inserted window. The nineteenth century vestry has reused medieval stonework in tracery of its two-light window. The interior has a plain twelfth century round-headed tower arch. The four-bay aisles have pointed arches on octagonal and round piers. The roof is seventeenth century, open and plain. The aisles have various nineteenth century brass and white marble wall plaques. The door lock on the nineteenth century south door is inscribed and dated 1671 (given by Anne, |

Countess of Pembroke). There is a nineteenth century chancel arch. On a window sill there is a fragment of a zigzag archstone, presumably from the original chancel arch. The chancel has a twelfth century piscina. There are eighteenth and nineteenth century wall plaques to members of the Hasell family of Dalemain; one of Edward Hasell by Chantrey 1830, a mourning female figure beside and urn. There is also a red sandstone effigy of a knight, thought to be one of the lords of Dacre. The step to the vestry is a reused medieval grave slab. Fragment of ninth and tenth century carved cross shafts are thought to have come from the nearby monastery mentioned by Bede and excavated in 1982-5. A further fragment of eighth century cross fragment was found near the church. The excavations nearby revealed evidence for activity in the Anglo-Saxon period including a massive drain reusing large dressed blocks.

Assessment The site lies outside of the easement of the proposed route and is unlikely to be affected by it.

Site number 23
Site name Dacre Bank Lime Kiln
NGR NY 4543 2738
Site type Lime kiln
Period Post-medieval
SMR No 11878
Sources HER; Ordnance Survey 1867
Description A disused lime kiln, no longer marked by the Ordnance Survey
Assessment The site lies outside of the easement of the proposed route and is unlikely to be affected by it.

Site number 24
Site name Hall Bank Lime Kiln
NGR NY 4550 2778
Site type Lime kiln
Period Post-medieval
SMR No 11877
Sources HER; Ordnance Survey 1867, 1900; walkover survey
Description A disused lime kiln, no longer marked by the Ordnance Survey. There are a number of associated quarries, which appear to extend along the side of the road. The quarries appear to still be present although they are covered by vegetation.
Assessment The site lies outside of the easement of the proposed route and is unlikely to be affected by it.

Site number 25
Site name North of Dacre Bank
NGR NY 4534 2782
Site type Circular feature
Period Unknown
SMR No -
Sources Aerial Photography Unit 1988
Description A circular feature of unknown function is shown in aerial photographs (1988). It is not clear what this represents or how old it is.
Assessment The site lies within the easement of the proposed route and is likely to be affected by it.

Site number 26
Site name West of Hall Bank
NGR NY 4533 2784
Site type Guide post
Period Post-medieval

SMR No -
Sources Ordnance Survey 1867
Description A guide post is shown in this position on the Ordnance Survey 1st edn of 1867.
Assessment The site lies within the easement of the proposed route and is likely to be affected by it.

Site number 27
Site name Settlement site east of Highgate Farm, Hutton
NGR NY 4460 2750
Site type Field system
Period Romano-British
SMR No 3415
Sources HER; Higham and Jones 1975
Description A platform, enclosure and ridge and furrow identified in aerial photographs. Classed as Romano-British by Barri Jones.
Assessment The site lies outside of the easement of the proposed route and is unlikely to be affected by it.

Site number 28
Site name Standing Stone south-west of Brow Wood, Hutton
NGR NY 4443 2733
Site type Standing stone
Period Prehistoric
SMR No 6694
Sources HER
Description A standing stone, now partially fallen although now re-erected by the farmer and possibly set deeper than it was originally. There are two or possibly three standing stones in the area, and there is some confusion which this refers to. The one at the above grid reference is 0.8m high and in an upright position. Another at NY 4447 2736 is included within the settlement site, SMR 3414. That stone remains partially fallen. Another stone at NY 4492 2715, to the south, also appears to be a standing stone and is 1m high.
Assessment The site lies outside of the easement of the proposed route and is unlikely to be affected by it.

Site number 29
Site name Highgate Lime Kiln, Hutton
NGR NY 4445 2745
Site type Lime kiln
Period Post-medieval
SMR No 11847
Sources HER
Description Site of a lime kiln, no longer marked by the Ordnance Survey. A farm built kiln with a brick lined oval pot which is filled in. It has a round arch and a brick draw eye. There is a large quarry behind. The kiln was built in 1845 by Max Huddleston, using bricks from Luccocks at Maryport. It is built into a boundary wall.
Assessment The site lies outside of the easement of the proposed route and is unlikely to be affected by it.

Site number 30
Site name Settlement site south-west of Highgate Farm, Hutton
NGR NY 44438 2737
Site type Settlement
Period Prehistoric -- Romano-British
SMR No 3414

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| Sources | HER; Higham and Jones 1975 |
| Description | A probable Romano-British settlement site. There is a standing stone within the boundary of the site (see SMR 3415). On the crest of the hill overlooking Dacre Beck and including an enclosure c60m-80m to the modern fence boundary on its western side. It appears to be sub-oval on the ground but is more sub-rectangular in shape in the aerial photographs. There also appears to be some internal detail surviving, although the site has apparently been partially quarried. The enclosure appears to extend westward beyond the modern fence for c20m. |
| Assessment | The site lies outside of the easement of the proposed route and is unlikely to be affected by it. |

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|--------------------|---|
| Site number | 31 |
| Site name | North of Highgate |
| NGR | NY 4420 2763 |
| Site type | Ridge and furrow? |
| Period | Medieval – post-medieval |
| SMR No | - |
| Sources | DRC/8/80 1841 |
| Description | The field is named ‘Stainah butts’, suggesting there was ridge and furrow here. |
| Assessment | Part of the site lies within the easement of the proposed route and is likely to be affected by it. |

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|--------------------|---|
| Site number | 32 |
| Site name | West of Highgate Farm |
| NGR | NY 4407 2753 |
| Site type | Fold and guide post |
| Period | Post-medieval |
| SMR No | - |
| Sources | Ordnance Survey 1900a |
| Description | A small fold is shown on the Ordnance Survey 2 nd edn, with a guide post adjacent. |
| Assessment | The site lies close to the easement of the proposed route but is unlikely to be affected by it. |

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|--------------------|---|
| Site number | 33 |
| Site name | East of Penruddock |
| NGR | NY 4396 2753 |
| Site type | Clearance Cairn |
| Period | ?Post-Medieval |
| SMR No | |
| Sources | Walkover Survey |
| Description | A linear earth-fast mound, measuring 7m x 2m and aligned north/south, containing a number of substantial stones, up to 1m x 0.7m x greater than 0.3m. |
| Assessment | The site lies within the easement of the proposed route and is likely to be affected by it. |

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|--------------------|---|
| Site number | 34 |
| Site name | Penruddock Lime Kiln and Quarry, Hutton |
| NGR | NY 4369 2750 – 4382 2747 |
| Site type | Lime kiln |
| Period | Post-medieval |
| SMR No | 11846 |
| Sources | HER; DRC/8/99 1841; Ordnance Survey 1867; walk-over survey |
| Description | Site of a lime kiln, no longer marked by the Ordnance Survey. The Tithe Map of 1841 names the field ‘Gospel Howe’ and shows a small square building, probably the lime kiln. It has an exposed vertical bedrock face facing south for a length of 120m. The rock face was a maximum of 4m high, and face was heavily weathered. |

Assessment The site lies close to the easement of the proposed route but is unlikely to be affected by it.

Site number 35
Site name East of Penruddock
NGR NY 4350 2746
Site type Quarry
Period Unknown
SMR No
Sources Walkover Survey
Description This site consists of a semi-circular quarry, 8m in diameter, and a maximum of 2.5m high.
Assessment The site lies to the south of the proposed pipeline easement and is unlikely to be affected by the proposed route.

Site number 36
Site name Penruddock old quarries
NGR NY 4331 2745
Site type Site of quarries
Period Post-medieval
SMR No -
Sources Ordnance Survey 1900a
Description The Ordnance Survey 2nd edn of 1900 shows 'old quarries' in this position.
Assessment The site lies close to the easement of the proposed route but is unlikely to be affected by it.

Site number 37
Site name Kiln Howe, Penruddock
NGR NY 4308 2756
Site type Kiln site
Period medieval – post-medieval
SMR No -
Sources DRC/8/99 1841
Description A field named Kiln Howe is marked on the Tithe map of 1841. There are other fields with 'Kiln' names in the adjacent fields, suggesting that a kiln of some sort was once present here.
Assessment Part of the site lies within the easement of the proposed route and is likely to be affected by it. The exact location of this site is, however, not clear so its impact is difficult to assess.

Site number 38
Site name Farmstead at Penruddock, Hutton
NGR NY 4290 2752
Site type Farmstead
Period Medieval – post-medieval
SMR No 6302
Sources HER, Ordnance Survey 1867
Description According to T Clare a farmstead was once twice as long as at present. On the southern gable end of the building the roofline of a former building is visible.
Assessment The site lies outside of the easement of the proposed route and is unlikely to be affected by it.

Site number 39
Site name Penruddock Smithy, Hutton
NGR NY 4291 2760

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|--------------------|--|
| Site type | Smithy |
| Period | Post-medieval |
| SMR No | 11849 |
| Sources | HER, Ordnance Survey 1867 |
| Description | The site of a smithy, no longer marked the Ordnance Survey. Opposite the entrance to Smithy House, a dwelling with an attached barn, is a small stone building, now empty, that would appear to be the smithy. |
| Assessment | The site lies outside of the easement of the proposed route and is unlikely to be affected by it. |

| | |
|--------------------|---|
| Site number | 40 |
| Site name | Motherby bone finds/stone circle |
| NGR | NY 4300 2800 |
| Site type | Stone circle? |
| Period | Prehistoric |
| SMR No | 2932 |
| Sources | HER, Hutchinson 1794; Jefferson 1840; Collingwood 1923; Collingwood 1933 |
| Description | A 'stone circle' c5m in diameter was dug in the eighteenth century and a large quantity of bones was discovered. The site has been inferred from this to be a stone circle |
| Assessment | The site lies outside of the easement of the proposed route and is unlikely to be affected by it. Its exact position is not known, however, so the impact is difficult to assess. |

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|--------------------|--|
| Site number | 41 |
| Site name | Cockermouth, Keswick and Penrith Railway |
| NGR | NY 4573 2886 – 4265 2797 |
| Site type | Railway |
| Period | Post-medieval |
| SMR No | - |
| Sources | Ordnance Survey 1867; Marshall and Davies-Sheil 1969 |
| Description | The Cockermouth, Keswick and Penrith Railway was opened in 1864 and is first shown on the Ordnance Survey map of 1867. It is now disused and survives only as an embankment. |
| Assessment | The site lies outside of the easement of the proposed route and is unlikely to be affected by it. |
