



ULVERSTON ROPE WALK, CUMBRIA

Evaluation Report



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CONTENTS

SUMMARY	3
ACKNOWLEDGEMENTS	5
1. INTRODUCTION	6
1.1 Circumstances of Project.....	6
1.2 Previous Archaeological Work.....	6
2. BACKGROUND.....	8
2.1 Location, Topography and Geology	8
2.2 Historical and Archaeological Background	8
3. METHODOLOGY.....	13
3.1 Project Design.....	13
3.2 Evaluation Trenching.....	13
3.3 Photographic Survey	14
3.4 Watching Brief.....	14
3.5 Archiving.....	14
4. RESULTS	15
4.1 Introduction	15
4.2 Trench Descriptions	15
4.3 Finds.....	20
4.4 Photographic Survey	22
4.5 Watching Brief.....	22
5. DISCUSSION.....	23
5.1 Introduction	23
5.2 Outcast Rope Works	24
6. IMPACT AND RECOMMENDATIONS.....	26
6.1 Impact.....	26
6.2 Recommendations.....	26
7. BIBLIOGRAPHY	27
APPENDIX 1: PROJECT DESIGN.....	29
APPENDIX 2: CONTEXT LIST.....	33
APPENDIX 3: FINDS LIST	34

ILLUSTRATIONS	35
Figures	35
Plates	35

SUMMARY

Cumbria County Council, propose to re-surface and enhance a footpath between Dragley Beck and Rope Walk House, Ulverston, Cumbria (SD 29060 77638 to SD 30055 77732), thus creating a greenway. Part of the route of the proposed greenway encompasses the line of a former rope walk. Following the desk-based assessment and submission to Cumbria County Council of a project design, OA North was commissioned to undertake an evaluation of the rope walk. The work was carried out in July 2005 and aimed to identify any surviving archaeological remains of the rope walk and determine whether they might be affected by the development.

The most significant feature identified during the earlier desk-based assessment was the rope walk itself. According to documentary sources it could have been in operation as early as 1749-1752 while under the ownership of William Noble. Documents indicated that the Noble family had been involved in the trade at least since the early eighteenth century; operations appear to have ceased in the mid-to late-nineteenth century, when the rope walk, by then disused, was reused as a tree-lined footpath. Rope making was an important industry in Ulverston, with clear links to the shipping trade; at its peak, around the early nineteenth century, there were at least six rope walks in the town.

In agreement with Cumbria County Council's Historic Environment Service (CCCHES), three evaluation trenches were excavated. The trenches were mechanically excavated to the top of the first significant deposit after which manual cleaning and investigation took place. The three trenches were positioned at either end of the former rope-walk, and in the centre. The western trench, Trench 1, measured 6m by 2m; while the middle trench, Trench 2, and the eastern trench, Trench 3, measured 5m by 3m.

It was hoped that the evaluation would find evidence for a rope walk surface and at the western end, in Trench 1, there was at least one surviving surface, **108**, clearly seen 0.55m below ground level, which consisted of densely-packed, deliberately-laid, small rounded stones. No dating evidence was retrieved that would inform when this surface was laid so it is unknown whether it was associated with the first incarnation of the rope walk in the early 1750s or whether it related to later activity of the mid 1800s. There may also have been a slightly later one, **104**, 0.28m below the ground level. Trench 2 did not uncover any surfaces other than recent examples, which may have been a result of work associated with a modern service dug along the northern verge.

The eastern trench, Trench 3, also demonstrated good survival of features. A densely packed, deliberately laid, surface of small rounded stones, **314**, was seen on the south side of the trench 0.2m below the ground level. A coin from the topsoil directly above it was dated to 1937 but the date of the surface remains unknown. The remains of a small wall, **307**, aligned approximately east/west and constructed of small flat stones laid at a slant, was also revealed. The cartographic sources, including the c1850 Tithe Map and the 1895 OS second edition, showed a small square building in the middle of the east end of the rope walk (denoted as Site **07**). The remains within Trench 3 could be consistent with this structure and it is suggested that it may have been a small housing for the jack

element of the rope walk. The other deposits with Trench 3 were mostly associated with the demolition of the structure and could date to the late nineteenth century.

A photographic archive was generated, which recorded the kissing gate and gate posts (Sites **10** and **11**). A watching brief undertaken over one day in August 2005 observed the relocation of one of the stone gateposts at the western end of the rope walk. It appeared that the gateposts had not been moved since they were first erected and the south gatepost had probably been left *in-situ* to prevent vehicular access when the path was widened.

In total, 39 artefacts and ecofacts were recovered from the evaluation trenches, the majority of which were fragments of pottery. As an assemblage the pottery dated to between the late eighteenth and twentieth centuries. The remainder of finds comprised brick, daub, iron objects, slag, a copper alloy coin (King George VI penny from 1937), and a fragment of animal bone. The finds were retrieved from the topsoil (**105** and **302**) and occupation or dumped deposits (**305** and **312**) in Trenches 1 and 3.

It is recommended that any work below a depth of 0.2m at the eastern end of the rope walk, or below a depth of 0.3m at the western end, should incorporate an archaeological watching brief to record any possible remains that are impacted upon.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Guy Weller of Cumbria County Council, for commissioning the project. Thanks are also due to Russ, Jez and Noel of Premier Landscaping who were carrying out the landscaping works and enabled the on site archaeological works.

The evaluation was undertaken by Dave McNicol and Vix Hughes, who also wrote the report. The watching brief was completed by Steve Clarke. Jo Dawson examined the finds and Emma Carter produced the drawings. Jamie Quartermaine managed the project and also edited the report together with Alan Lupton.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 A proposal was made by Furness Greenways to re-surface and enhance the footpath running between Dragley Beck and Rope Walk House, Ulverston, Cumbria (SD 29060 77638 to SD 30055 77732), so that it could be made into a greenway. Part of the route of the proposed greenway encompasses the line of the former rope walk (Fig 1). Guy Weller of Capita Symonds, acting on behalf of Cumbria County Council and Furness Greenways, made a request for an archaeological evaluation of the area. In response to a verbal brief from Cumbria County Council Historic Environment Service (CCCHES), OA North produced a project design outlining the work to be carried out as part of the assessment (*Appendix 1*).
- 1.1.2 The evaluation, undertaken in July 2005, comprised a total of three trenches; one located at either end of the rope walk and one in the centre. The position of the trenches would provide valuable information as to the nature of surviving archaeology within the proposed area.
- 1.1.3 This report sets out the results, including historical information and any previous archaeological interventions, together with the methodology employed during the fieldwork. The results of the evaluation are discussed in terms of their interpretation and the impact that the scheme will have on the surviving remains. In addition to this, the results of a photographic survey of two sites identified in the desk-based assessment (Sites **10** and **11**) are included.
- 1.1.4 A watching brief undertaken over one day in August 2005 observed the relocation of one of the stone gateposts at the western end of the rope walk. It appeared that the gateposts had not been moved since they were first erected and the south gatepost had probably been left *in-situ* to prevent vehicular access when the path was widened.

1.2 PREVIOUS ARCHAEOLOGICAL WORK

- 1.2.1 Oxford Archaeology North has carried out a number of archaeological interventions within Ulverston, including desk-based assessments and evaluations at Bugle Horn, Soutergate (OA North 2004a) and at Miller's Garage at The Gill (OA North 2004b), some 800m to the north-west of the current study area. A further desk-based assessment investigated the area around Dalton Gate to the north-west of the current study area, which yielded evidence of prehistoric, Roman and post-medieval activity (OA North 2004c). One of the most significant excavations was carried out at Sir John Barrow Cottage at Dragley Beck, which is located within this study area. Historical and cartographic research was undertaken, revealing that the cottage had sixteenth century origins (Elsworth and Dawson 2003). Excavations in the grounds, however, suggested a more wide-

ranging history dating back to the prehistoric with evidence of a Neolithic polished stone axe (*ibid*). Most significantly a desk based assessment was undertaken by OA North (2005) in advance of the present landscaping works to the rope walk.

2. BACKGROUND

2.1 LOCATION, TOPOGRAPHY AND GEOLOGY

- 2.1.1 The proposed development lies to the south-east of the town of Ulverston, Cumbria, which is located on the Furness Peninsula (Fig 1; SD 29060 77638 to SD 30055 77732). Prior to the reorganisation of the counties in the 1970s, Ulverston lay in the area of Lancashire known as Lancashire-north-of-the-Sands. The site itself is situated on an area of flood plain next to Dragley Beck, less than 10m above mean sea level (Ordnance Survey 1997).
- 2.1.2 This part of the Furness Peninsula is dominated by Carboniferous limestone to the south and west (Hodgkinson *et al* 2000, 34) and Bannisdale Silurian slate to the north (Moseley 1978). The solid geology is overlain by deposits of glacial origin, while the pedology is characterised by brown earths, gleys and podzols (Hodgkinson *et al* 2000, 24).

2.2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

- 2.2.1 **Introduction:** the historical and archaeological background is principally compiled through secondary sources and previous phases of archaeological investigation, and is an overview of the information detailed in the desk-based assessment (OA North 2005).
- 2.2.2 **Prehistoric Period:** prehistoric activity in Furness dates back to the Late Upper Palaeolithic period, with evidence found at Bart's Shelter, Scales, approximately 5km to the south of Dragley Beck (Young 2002, 21). Many Mesolithic flint scatters have also been recorded on Walney Island, on the west of the Furness Peninsula and approximately 12km south-west of Ulverston (*op cit*, 24). Polished stone axes are the most commonly found evidence of Neolithic activity in the area (Bradley and Edmonds 1999, 45). Part of one of these axes was recovered during excavations carried out in 2003 at Sir John Barrow Cottage, at the western end of the proposed development area (Site **01**). An axe and a flint flake were also found near Watery Lane, approximately 0.25km to the north of Dragley Beck (Site **02**).
- 2.2.3 Neolithic settlement sites are very rare in the region, and it is not until the Bronze Age period that settlement sites begin to appear in any significant numbers. Many of these are difficult to date, however, and have often not been examined in detail (Barnes 1968, 7). They include some fine examples such as Stone Walls near Urswick and Skelmore Heads, of which excavations at the latter failed to identify any reliable dating evidence (Powell 1963). A number of finds of burials and metalwork, particularly of Bronze Age date, are also known across Furness, although these too were often poorly recorded (Barnes 1968, 7). Recent work suggests the possible presence of an Iron Age hillfort at Hoad Hill to the immediate north-east of Ulverston (Elsworth 2005).

- 2.2.4 **Roman Period:** it is not clear whether the Romans arrived in force in Furness. The earliest antiquarian records mention the discovery of a section of well-built road at Mountbarrow near Ulverston (West 1805, 8-11) and the relatively large number of coins from Furness has led to the suggestion that some form of significant contact must have taken place (Shotter 1995).
- 2.2.5 **Early Medieval:** the Norse influence in the area during the ninth and tenth centuries must have been considerable since place-names of Scandinavian origin are found throughout Furness (Trescaethic 1993, 27-9). Physical evidence has also been discovered, such as the remains of a sword found at Rampside, to the south-west of Ulverston (Barnes 1968, 16).
- 2.2.6 **Medieval:** Ulverston's origins essentially lie in the late medieval period, although its name suggests a mixture of Old English and Norse (Lee 1998). The Domesday Book records Ulverston as held by Turnulph and, following the Norman Conquest, land in Furness was granted to Earl Siward from whom it passed to Ulfr, from whom the name may have come (Birkett 1949, 5-6); by 1086 it was in the hands of the King (Faull and Stinson 1986). Control of Ulverston during the eleventh century was a mixed affair, as it was held whole, or in part, at different times by the Barons of Kendal and Lancaster and by Furness Abbey (*op cit*, 15-7). The manor was also divided several times and, by the beginning of the seventeenth century, was held in part by the Neville estate and part by the crown (*op cit*, 18-20). Dragley Beck, by contrast, was part of the land held by Conishead Priory. King Edward II confirmed the grant to the priory acknowledged by William Rimbout, prior of Lancaster (1366-1369), which included the land on both sides of the road which leads from Ulverston to Bardsea, some 4km to the south (Anon c1930, 5).
- 2.2.7 **Post-Medieval:** the location of rope works near Ulverston during the seventeenth to nineteenth century (*Section 4.1*) is likely to reflect the shipping anchorages they supported. It therefore appears likely that there was a focus of shipping industry in the Greenodd area during the seventeenth and early eighteenth century, when it was supported by rope works at Arrad and Newland. Shipping then moved to Carter Pool, to the south-east of Ulverston, in the mid eighteenth century, when it was supported by the rope works at Outcast, the subject of the present study. When the Ulverston Canal was built at the end of the eighteenth century, shipping transferred there, and the rope works in Ulverston became the most convenient. With the construction of the Furness Railway by 1854 and the Ulverston and Lancaster Railway in 1857, the shipping industry declined, and with the corresponding decrease in demand for ropes, the rope-making industry suffered a major decline.
- 2.2.8 **Rope Walk History:** Britain's domination and expansion of overseas trade over the course of the eighteenth and nineteenth century relied upon vast numbers of sailing ships. The requirement for long lengths of rope for rigging precipitated a concomitant expansion in the rope making industry (White 1930, 84). For much of that time, ropes were handmade on a rope walk, which had to be straight and about 1320 feet long (Jones 1996, 314). The straight section of the Ulverston rope

walk, up to the small building at its eastern end, is 391m (1282ft) and as such is only just short of the requisite 1320ft. At each end of a rope walk was a frame and at one of them was a rotating component called a jack, which was turned by a man using a handle driven through a series of gears (*ibid*). Long strands of yarn were laid on the rope walk, attached at one end to the revolving jack and at the other to the traveller, a weighted trolley with a single revolving hook, via the block (*ibid*). The latter was a piece of hardwood with three grooves, through which each of the strands of yarn passed (*ibid*). This was held by the rope maker, who walked along the rope walk, with the rope forming between the block and the slowly advancing trolley behind, which was pulled along as the twisting shortened the yarn (*ibid*). In this manner, standard lengths of 120 fathoms (720ft) were made (*ibid*). Rope making began to be mechanised from about the late eighteenth century but examples of the traditional technique persisted into the twentieth century (Jones 1996; Roper 2005). Ropes were often made from hemp, which in Ulverston is thought to have been grown in the area named 'Hemplands' (McKeever and Layfield 2004, 86).

- 2.2.9 John Robinson's Book of Precedents records in a document dated 29th September 1752 that William Noble had '*...purchased the inheritance of a small [?parcel] of land near Outcast of said which he has now converted into a rope walk or a ropery being the length of [blank] yds or thereabouts & has since built a proper & convenient ropehouse at the east end of the said rope walk and has carried on for some time the trade or business of making of divers kinds of cables, ropes & cordage there...*' (Barnes and Hobbs 1960, 123). While the usage of terms such as 'lately' and 'for some time' in a manner which might be considered contradictory in modern dialogue precludes the determination of the exact date at which the business was set-up, it is clear from this that William Noble had set up the rope works himself.
- 2.2.10 Articles of partnership dated 29 September 1752 recite that William Noble had been operating a ropery making all kinds of '*Cables, Ropes and Cordage*' on a small parcel of land near Outcast, Ulverston, and that now James Machell, Esq, J. Backhouse, Gentleman, John Dodgson of Ulverston, Mariner, and James Fell, Mariner, were becoming joint adventurers and co-partners with Noble in the ropery and in '*buying and selling timber, deals, tarr or any other goods and merchandizes*' (*op cit*, 122). The new partners were to pay Noble each one-fifth of the '*Charge of making the [ropery] & erecting the s^d Rope House and the poles posts and o^r necessities thereupon ... £81.9, and the Tools & Materials ab^t the s^d Ropery together with the benefit of the service of an apprentice ... £34.11*'. William Noble was to act as the agent or manager of the works and trading for £25 per year." (Barnes and Hobbs 1960, 123).
- 2.2.11 A diary entry of 1799 gives useful information on the activities being carried out at the rope walk, and makes it clear that the rope works was in use at this time. It states '*We proceeded by a Road past the Rope Walk where several men were engaged on the manufacture of rope and twine, also fishing nets*' (Remington 1935, 26). A few years later, the enclosure map of 1812 shows that John Webster owned the rope walk in 1812. It is recorded that in approximately the 1820s,

'After retiring from sea, Captain Richard Storey did other work and was notably in charge of the Ulverston Rope Walk at Sandside' (White 1930, 65); the source for this information is not given. The same historian goes on to say that *'Captain Swainson, after retiring from sea, became a ship-rigger and assisted in fitting out many of the Ulverston-built vessels, working in the Rope Walk at Ulverston'* (*op cit*, 67). This appears to show a continuity from the partnership deed of 1752, when two of the four partners were mariners.

- 2.2.12 There was an obvious link between ships and rope-making, as is made clear above. Ulverston and the neighbouring villages were engaged in the manufacture of ropes, chains, sails, anchors, and hoops for ship's masts (grummets) during the period of great business in shipping and shipbuilding (White 1930, 84). In this way, every requisite for this business was locally available (*ibid*). In the 1820s, there were rope and twine makers and sail makers in Ulverston (*op cit*, 25), and in 1836, sail canvas and ropes were among the principal manufactures of the town, together with linens, checks, gingham, and hats (*op cit*, 82).
- 2.2.13 Although the construction of the Ulverston Canal, which had commenced in 1794 and been completed in 1796 (Marshall 1958, 89-90), was extremely important for the expansion of the shipping trade and, consequently, for the rope industry, there were considerable amounts of shipping in the area before that time. In 1774, for example, there were seventy ships belonging to Ulverston chiefly employed in the coasting trade (West 1805, 16). As a result of the construction of the canal, there were at one time two rope walks in what was then known as the Back Ellers (now Neville Street), one between what is now Devonshire Road and Lund Terrace, one in Back Lane, one in the town centre known as Rack Alley, between the back of Cavendish Street and the Halifax office, in addition to the one at Outcast (Ashburner 1993, 23).
- 2.2.14 These various rope manufacturing businesses can be traced using the trade directories of the time. In 1829 Charles Downward was recorded as a cordage manufacturer at Outcast (Parson and White 1829, 728), and four other rope and twine manufacturers are also listed; one of these is Philip Hartley and Co, in the Ellers (*ibid*). In 1849 the Outcast rope works no longer appears, but four other rope works within Ulverston are listed, including Philip Hartley and Co in the Ellers (Mannex 1849, 456). By 1882, the industry appears to be in decline, with only one works listed, that of Philip Hartley, rope and twine manufacturer, located in the Ellers (Mannex and Co 1882, 217, 24).
- 2.2.15 It is recorded that sometime before 1900, William Hartley *'kept the Rope Walk and Twine Walk in the Ellers, and the Low Mill'* (White 1930, 91). Unfortunately, no source is given; however, it is likely that William Hartley belonged to the same firm as Philip Hartley in the Ellers. Also, the rope walk at Low Mill almost certainly refers to the rope walk at Outcast, as Low Mill Tannery is very close to this, and it would, therefore, be a reasonable description of its location. This of course assumes that it was a rope walk that was referred to at Low Mill, since this is an interpretation of the sense of the text, and not directly stated (McKeever and Layfield 2004). However, if all this is correct, and the Outcast ropeworks was a part of the Hartley rope manufactory, it would perhaps

explain why the rope walk at Outcast was not listed in directories after 1829. The Ordnance Survey only changes the description from 'Rope Walk' in 1850 to 'Old Rope Walk' in 1890, perhaps implying it was in use until sometime before 1890.

3. METHODOLOGY

3.1 PROJECT DESIGN

- 3.1.1 OA North submitted a project design (*Appendix 1*) for an archaeological evaluation in accordance with a verbal brief from CCCHES. Following approval of the project design by CCCHES, and acceptance by the client, OA North was commissioned to undertake an archaeological evaluation. The work undertaken fully complied with the project design and with current legislation and accepted best practice, including the Code of Conduct and the relevant professional standards of the Institute of Field Archaeologists (IFA).

3.2 EVALUATION TRENCHING

- 3.2.1 The programme of trenching aimed to establish the presence or absence of any archaeological deposits, their date, nature, depth and quality of preservation. The evaluation was undertaken along the line of the former rope walk and comprised the excavation of three trenches. It was intended that each trench be 7m x 2m in size; however, it was not possible to accommodate this size, because of the limited width of the path. Instead, they were slightly reduced in length and made wider to cover the same area.
- 3.2.2 The layout of trenches was subject to the initial results of the evaluation but no adjustments were necessary and the positions allowed an appropriate investigation of the remains. The third trench at the east end was positioned to coincide with Site **07**, the location of a former building shown on the tithe map.
- 3.2.3 The trenches were excavated by a combination of mechanised and manual techniques; the topsoil and upper surface were removed by mechanical excavator, fitted with a 1.0m wide toothless bucket, and archaeological deposits/features beneath were cleaned and excavated manually. The machine excavation did not intrude into any potential archaeological stratigraphy and all machine excavation was undertaken under careful archaeological supervision. Following mechanical excavation, sensitive manual techniques enabled an assessment of the nature, date, survival and depth of deposits and features to be made. The trenches were excavated to a maximum depth of 0.75m, well within health and safety guidelines.
- 3.2.4 The trench was excavated in a stratigraphical manner, by both machine and by hand. The trench was located by tape survey from known points on Ordnance Survey mapping. Archaeological features within the trenches were planned by manual techniques.
- 3.2.5 **Recording:** all information identified in the course of the site works was recorded stratigraphically, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features.

- 3.2.6 Results of the field investigation we recorded using a paper system, adapted from that used by Centre for Archaeology of English Heritage. The archive included both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20, and 1:10). All artefacts and ecofacts were recorded using the same system, and handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

3.3 PHOTOGRAPHIC SURVEY

- 3.3.1 In conjunction with the evaluation a photographic archive was generated, which recorded the kissing gate and gate posts (Sites **10** and **11**), in the western and central parts of the greenway. It was undertaken in 35mm black and white, colour slide film and in digital format.

3.4 WATCHING BRIEF

- 3.4.1 A watching brief was undertaken during works to the gateposts (Site **11**), which were situated at the west end of the rope walk. The south gatepost was removed from the middle of the path which had been widened subsequent to its original erection, and relocated to the south side of the path.
- 3.4.2 **Recording:** the recording comprised a full description and preliminary classification of features or materials revealed, on OA North *pro forma* sheets, and their accurate location, on plan. Records were kept of all sections exposed in the course of the ground works, even if the results were negative. All areas of archaeological interest were fully photographed, both in general terms and in specific details.

3.5 ARCHIVING

- 3.5.1 The results of the fieldwork formed the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*The Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. It included summary processing and analysis of all features, finds, or palaeoenvironmental data recovered during fieldwork, which were catalogued by context. The archive is provided in a format consistent with that of the English Heritage Centre for Archaeology format and a synthesis will be included in the Cumbria Sites and Monuments Record. OA North will deposit the original record archive of projects (paper, magnetic and plastic media) with the appropriate County Record Office (Barrow), and a full copy of the record archive (microform or microfiche) together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum.

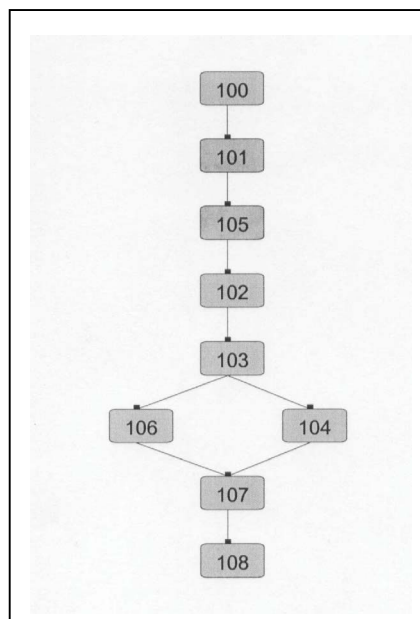
4. RESULTS

4.1 INTRODUCTION

- 4.1.1 Three trenches were excavated and recorded using OA North *pro forma* sheets. The trench locations (Fig 2) took into consideration the location of the known electricity service that ran along the northern verge of the footpath, and the position of the numerous trees along its length. The area of work was also constrained by the presence of field boundaries to the north and Dragely Beck to the south.

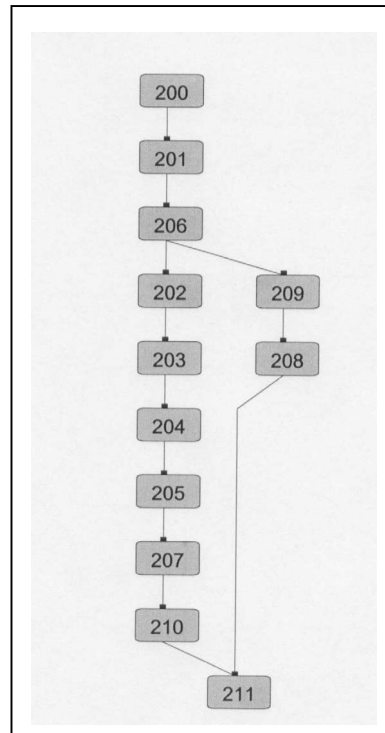
4.2 TRENCH DESCRIPTIONS

- 4.2.1 **Trench 1:** located at the west end of the rope walk, was aligned north/south and measured 5m by 3m. It was excavated to a maximum depth of 0.77m. The plan is shown in Figure 3 and the section in Figure 4. The stratigraphic sequence of events is represented below and can be seen in Plate 1.



- 4.2.2 At the top of the sequence was the current ground surface consisting of the tarmac itself. Below this was a deposit of looser black hardcore material more akin to clinker. These were grouped together as one context, **100**. The clinker material was no more than 0.1m thick and extended across the central portion of the trench only. Underneath this was a pale-brownish-grey gritty silt, **101**, comprising the levelling material for the above surface. The deposit occupied the same area as the surface **100** but was only 0.04m thick.

- 4.2.3 Being the most recent surface, **100/101** had been laid on the surrounding topsoil, **105**. The topsoil was a dark-brown sandy silt, 0.2m thick with 5% small stones and a large amount of roots within it.
- 4.2.4 Underlying the topsoil was an earlier surface, **102**, represented by a black clinker deposit 0.12m thick and extending further south than the later surface **100**. Again, coinciding with the area covered by **102** was a levelling layer, **103**, which consisted of a pale-brownish-yellow compact sand, approximately 0.1m thick.
- 4.2.5 Below the levelling layer **103**, was another earlier surface, **104**, which was 0.1m thick and consisted of a pale-brownish-grey gritty silt that contained 70% small stones. The stones were reasonably well packed and sorted but the density was somewhat uneven across the trench. The layer was located in the central part of the trench running east/west, slightly off set from surface **102** above.
- 4.2.6 Also sequentially below layer **103**, was the subsoil **106**, which had a somewhat diffuse boundary with the overlying topsoil, **105**, probably as a result of ongoing root action. The deposit was a compact dark-brown sandy silt that was 0.15m thick and seen at the northern and southern extremes of the trench.
- 4.2.7 Beneath the subsoil and extending across the entire area of the trench was a 0.3m thick layer of mid-greyish brown silty clay, **107**. The layer appeared to have accumulated gradually over time, as indicated by the fine texture and there was some suggestion that there may have been some waterlogging. This was intimated by flecks of iron staining throughout the deposit, possibly the result of standing water and initial iron pan formation.
- 4.2.8 At the base of the revealed sequence, was a layer of densely-packed small rounded stones, **108**, forming a surface that extended across the width of the trench, extending beyond the limits of the current path. The layer was a mid-greyish-brown silt with 80-90% small to medium-sized rounded stones which appeared to have been deliberately laid. This deposit may have represented the earliest rope walk surface.
- 4.2.9 **Trench 2:** Trench 2 was located in the central section of the rope walk, approximately 150m east of Trench 1, and was on the same north/south alignment. It measured 6m by 2m wide and was excavated to a maximum depth of 0.76m. The plan can be seen in Figure 3 and the section in Figure 4. The stratigraphic sequence of events is represented below and can be seen in Plate 2.



- 4.2.10 Starting at the top of the sequence, and therefore the most recent was the current ground surface consisting of the tarmac and associated hardcore. Below this was a deposit of looser black gravelly material similar to clinker, **200**. The deposit was 0.1m thick and extended across the central portion of the trench only. Underneath this was a pale-brownish-grey gritty silt, **201**, comprising the levelling material for the above surface. The deposit occupied the same area as the surface **200** and was of a similar depth, 0.1m thick. This upper surface and associated levelling layer **201** was seen as **100** and **101** in Trench 1.
- 4.2.11 Levelling layer **201** had been laid on the surrounding topsoil, **206**, which was a dark-brown sandy silt, 0.16m thick with 5% small stones and had a large amount of roots within it. The topsoil was seen only at the north and south ends of the trench.
- 4.2.12 Below the topsoil was a modern service; its fill, **209**, was a mid-yellowish-brown, compact silty sand that contained 15-20% unsorted small stones, which was essentially the natural material re-deposited as backfill. The cut for the insertion of the service, **208**, was linear, aligned east/west and located on the northern side of the trench. It was 0.5m wide but no further details were observed since the feature was left unexcavated. The service trench cut the underlying natural, **211**.
- 4.2.13 Also below the topsoil, **206**, was a series of deposits, with **202** uppermost. Deposit **202** was a pale-brownish-yellow compact sand, approximately 0.06m thick. It appeared to be the same levelling material as **103** in Trench 1 and was probably associated with surface **200**; if this was the case then it would

demonstrate a different stratigraphic sequence in this part of the rope walk from that at the western end. It is possible that, rather than being below the topsoil, it should be stratigraphically above it and that disturbance from the service trench digging had obscured the interface between northern limits of this deposit and the topsoil.

- 4.2.14 Underlying this deposit was a 0.05m thick layer of black, compact clinker material, **203**. Below this was the associated mid-yellow sand levelling layer, **204**, which was 0.04m thick and covered the same area within Trench 2 as the clinker surface **203**. This is comparable to the sequence of deposits **102** and **103** from Trench 1. A stony deposit below this **205**, was 0.08m thick and consisted of a mid-greyish-brown silt that contained less than 30% small stone throughout and was probably makeup or levelling material rather than a formative surface. It was noticeably less cohesive than layer **104** in Trench 1 and the two cannot be equated.
- 4.2.15 On the southern side of Trench 2 the various deposits comprising the more recent surfaces were seen to be cut into the subsoil, **207**. The subsoil had a somewhat diffuse boundary with the overlying topsoil, **206**, probably as a result of ongoing root action. The deposit was a compact dark-brown sandy silt that was 0.15m thick.
- 4.2.16 Below the subsoil on the southern side of the trench was a pale-brown sandy silt, **210**, which contained approximately 75% small to medium rounded stones. The deposit was quite uneven and the stones were unsorted and did not appear to be deliberately laid. The deposit could have been similar to **104** in Trench 1 but there was obvious disturbance from large tree roots throughout this part of Trench 2.
- 4.2.17 At the base of the sequence was a deposit of pale-orangey-yellow compact sand, **211**, with 5-10% small stones inclusions, scattered throughout. This deposit was over 0.4m thick and was interpreted as the natural drift geology. There was no equivalent to deposit **107** or surface **108** in Trench 2.
- 4.2.18 **Trench 3:** was positioned at the east end of the rope walk, it was aligned north/south and measured 6m by 2m. It was excavated to a maximum depth of 0.46m. The plan is seen as Figure 3 and the section as Figure 4. The stratigraphic sequence of events is represented below and the trench can be seen in Plates 3 and 4.
- 4.2.19 Uppermost in the sequence, and therefore most recent, was the present tarmac surface, **300**, with the associated looser blackout-grey gravel underneath, **301**. The tarmac was 0.02m thick and the gravel 0.14m thick; both were located in the central portion of the trench and truncated the surrounding topsoil, **302**. The 0.2m thick topsoil, **302**, was visible at the northern and southern ends of Trench 3 only.
- 4.2.20 Below the topsoil was a very thin lens of red crushed sandstone and sand, **303**; this was not seen in either of the other trenches and appeared to be a different type of levelling or makeup material. It extended further southwards than the overlying surface deposits.

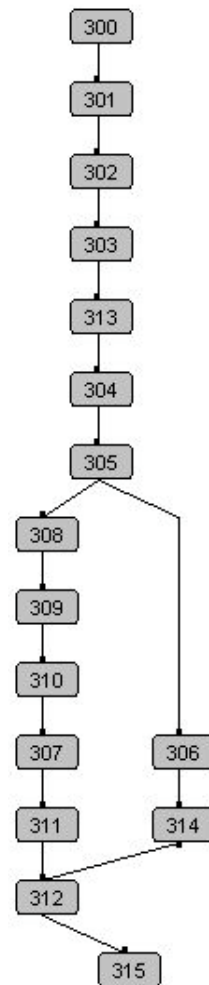
4.2.21 Underlying the red sand was another thin deposit, **313**, which was a mid-greyish-brown silt, no more than 0.04m thick. The layer only underlay the southern part of layer **303** but continued further to the south. Beneath deposit **313** was a lens of black clinker material, **304**, which extended 2.75m across the central part of the trench. This clinker layer could be an earlier surface and was possibly equivalent to **203** seen in Trench 2.

4.2.22 Approximately 1.5m south of the northern edge of Trench 3 and about 0.2m below the current ground surface and sealed by layer **304** was deposit **305**. This comprised a dark grey clayey silt that contained flecks of iron throughout, occasional angular stones, slate fragments and flecks of mortar. The deposit was about 2m wide and 0.18m thick, and was seen to be deeper in the central part of the trench. The material was interpreted as a compacted demolition material.

4.2.23 Towards the northern side of the trench were a series of three deposits which appeared to be small lenses of demolition. The uppermost lens, which lay directly below **305**, was a mid-yellow sandy deposit, **308**, with a high frequency of mortar chunks and flecks throughout. The layer was about 0.02m thick but quite extensive. Below this, and apparently tipping slightly downwards to the north, was a thin black silty layer, **309**, which contained some clinker. Then below that was a layer of grey sandy silt, **310**. These three layer overlay or abutted a linear feature, **307**.

4.2.24 The linear feature **307**, was located about 2m from the north end of Trench 3. It was aligned east/west and continued across the entire width of the trench. It was 0.34m below the present ground surface and measured 0.4m wide. Feature **307** was constructed of medium sized flat slabs of angular stone (maximum dimensions of 0.32m by 0.18m by 0.08m). The stones were not obviously worked but had been deliberately laid and formed a densely-packed linear feature, which was probably the foundation for a small wall. The stones were not laid level but were slanted slightly inwards in a V-shaped trend.

4.2.25 Approximately 1m to the south of wall foundation **307**, was a second feature, **306**, which only appeared in the west-facing section of Trench 3; this was because it appeared to have been robbed out or demolished within the area of the trench. Sequentially, the deposit was below **305**, and consisted of disturbed small, flat slabs of stone, similar to those of **307**, as well as mortar chunks. It was not possible to ascertain if the two were related, but were possibly a resulted of the demolition of a feature similar to **307**, *ie* the walls may not have been contemporary and could have belonged to different structures or the same.



- 4.2.26 Beneath the demolished feature **306**, on the southern side of Trench 3, was an earlier surface **314**. The surface was horizontal for the first 1.5m that it extended from the southern edge of the trench but the northern 0.5m was sloped downwards. Surface **314** consisted of densely-packed small rounded stones, deliberately laid in a layer 0.03m thick, which appeared to extend beyond the southern limit of excavation. The surface directly overlay deposit **312**.
- 4.2.27 Further north wall foundation **307** appeared to post-date two earlier deposits, **311** and **312**. Deposit **311** was a 0.11m thick, mid-yellow sand layer, which tipped down towards the north. The material was similar to the underlying natural **315**, and may have been re-deposited. Beneath **311** was a grey layer, **312**. This layer again appeared to tip northwards, and was anthropogenic in origin as finds were retrieved from it; it was the earliest visible deposit in the trench.
- 4.2.28 Below this was the natural drift geology, **315**, which was an orangey-yellow compact sand, with 5-10% small stones inclusions, scattered throughout and seen to be over 0.22m deep. It was equivalent to **211** in Trench 2 to the west.

4.3 FINDS

- 4.3.1 **Introduction:** in total, 39 artefacts and ecofacts were recovered from the evaluation trenches, the majority of which was fragments of pottery. The remainder comprised brick, daub, iron objects, slag, a copper alloy coin, and a fragment of animal bone. The finds were retrieved from the topsoil, **105** and **302**, and occupation or dumped deposits, **305** and **312**, in Trenches 1 and 3. A finds catalogue is presented in *Appendix 3*, and a summary is shown in Table 1, below.

	Topsoil (105 and 302)	Possible dumped deposit or compacted demolition material (305)	Activity or occupation layer (312)
Brick	1	15	
Daub			1
Pottery	3	8	1
Iron objects		5	
Slag			3
Copper alloy coin	1		
Animal bone		1	

Table 1: Finds by context

- 4.3.2 The artefacts, where they are datable, all appear to originate from the eighteenth to the twentieth century, and are discussed briefly by type below.
- 4.3.3 **Brick, iron objects, daub, and slag:** a single brick fragment was recovered from the topsoil in Trench 1, and a further 15 were recovered from possible dumped deposit/compacted demolition material **305**. All were dated broadly to the post-

medieval period, and within **305** they were associated with other building debris - slate and mortar. The pottery from this deposit suggests a date range of the mid nineteenth to early twentieth century. Iron objects were also recovered from deposit **305**, but were very corroded, and only part of a possible wall hook could be identified.

- 4.3.4 Activity or occupation layer **312** contained one fragment of daub as well as three lumps of slag, which may have been the result of iron working. These artefacts were not, in themselves, closely datable, and a single fragment of pottery recovered from the same context was similarly not closely datable (*Section 4.3.6*).
- 4.3.5 **Pottery:** of the 12 fragments of pottery recovered, four were from fineware vessels, and the rest were from coarseware jars and pancheons. Three of the fineware fragments were from the topsoil, **105**, and comprised a very small, abraded fragment of pearlware, a factory-produced slipware carinated bowl (?) rim, and a bone china hollow-ware vessel base; none of these were dated to any earlier than the late eighteenth century.
- 4.3.6 The majority of the pottery was recovered from possible compacted demolition material **305**, although much of this was coarseware and was therefore not closely dateable, being material typical of the late eighteenth to early twentieth century. A stoneware jam jar base, however, is unlikely to date to any earlier than the mid-nineteenth century. A single fragment of associated fineware was recovered - a bone china tea cup base with a blue transfer-printed pattern, possibly 'Broseley'. Activity or occupation layer **312** produced a stoneware vessel rim, which was dated broadly to the late eighteenth to twentieth century. An earlier date seems unlikely, particularly considering that the surface shows no evidence of salt-glaze.
- 4.3.7 **Copper alloy coin:** a single copper alloy coin, in good condition, was retrieved from the topsoil in Trench 3 (**302**). It was identified as a King George VI penny from 1937 (Plate 5).
- 4.3.8 **Animal bone:** a single fragment of animal bone was recovered from the possible dumped deposit/compacted demolition material **305**; it was a splinter of sheep's radius, which had been gnawed by a dog.
- 4.3.9 **Conclusion:** the assemblage recovered is very small, and includes artefacts of both an industrial and a domestic nature. Unless the stoneware rim fragment recovered from layer **312** is intrusive, the earliest deposits excavated appear to date to no earlier than the late eighteenth century and more likely later. It seems, therefore, that the layers encountered relate to the life of the rope walk and its later use as a path, but no evidence was recovered for activity associated with the construction of the rope walk in the mid-eighteenth century.

4.4 PHOTOGRAPHIC SURVEY

- 4.4.1 Site **10** was a post-medieval kissing gate, located at SD 29406 77746, near Fitz Cottages. It was identified during the walk-over survey, undertaken as part of the earlier assessment of the rope walk (OA North 2005), which showed it to be an iron kissing gate in good repair and that it lay within the proposed development

area and would suffer direct impact. The gate lay about 30m from the minor road and formed a narrow entrance into a section of the current footpath, as it would need temporary removal during the works for the proposed greenway. The gate was photographed in detail from both the east and west sides, using a measured scale. An example of the photographs is given in Plate 8.

- 4.4.2 Site **11** was a pair of gate posts, located at SD 29625 77825, at the west end of rope walk near Dragley Beck. The pair of stone gate posts were set into a stone wall with iron fittings and were post-medieval in date. The site was identified during the walk-over survey and lies within the proposed development area which will be affected. The gate posts would need temporary removal during the works for the proposed greenway. Therefore they were photographed from both the east and west sides, using a measured scale. Further photographs were taken after the vegetation had been removed from the surrounding wall. Examples of the photographs are given in Plates 9 and 10.

4.5 WATCHING BRIEF

- 4.5.1 A watching brief was undertaken during works to the gateposts (Site **11**). The south gatepost was removed from the middle of the path which had been widened subsequent to its original erection, and relocated to the south side of the path (Plate 11). The north gatepost is to be left *in-situ* butting to the end of an existing dry stone wall which runs north-west / south-east.
- 4.5.2 The gatepost was located 0.97m south of the north side of the path and was 1.18m from the south side of the path, a tree stump which was situated on the south side of the path in line with the gateposts was also removed. The gateposts were made of limestone and stood 1.17m high and 0.31m x 0.18m in width. The base below ground level was 0.40m in depth with a width of 0.40m x 0.29m. Three sides had been chiselled smooth, while one side had been left rough-hewn to aid bonding to a wall-end. The post removed was resting on a base of slate rubble approx 0.20m in depth.
- 4.5.3 It appears that the gateposts have not been moved since they were first erected and the south gatepost was probably left *in-situ* to prevent vehicular access when the path was widened.

5. DISCUSSION

5.1 ROPE MANUFACTURE

- 5.1.1 **Hemp Production:** typically hemp was grown for rope manufacture in the area around the rope manufacturing sites. In Ulverston the hemp is thought to have been grown in an area named ‘Hemplands’ (McKeever and Layfield 2004, 86) and would have provided the raw material for the local rope industry.
- 5.1.2 **Rope Making:** the making of rope was essentially linked to maritime activity but was also required for lifting or pulling and for machines driven by ropes. Since ropes were required in many industries and associated with rope drives in mills and other buildings, they are found in nearly all towns. Sometimes deliberate areas were established for them and in other cases they made use of linear areas that already existed. Until mechanisation from the 1860s onwards ropes were handmade using a rope walk. A possible earlier medieval example may be the fifteenth century rope walk at Hamble Le Rice, at Eastleigh in Hampshire (ADS). Documentary sources and the few surviving examples show that after the initial processing of the natural fibres, such as hemp, the fibres were twisted and in order to do this a straight, linear area about 1320 feet long (Jones 1996, 314) was needed to do the twisting. The straight section of the Ulverston rope walk, up to the small building at its eastern end, is 391m (1282ft) and as such is only just short of the requisite 1320ft. At each end of a rope walk was a frame and at one of them was a rotating component called a jack, which was turned manually by a handle driven through a series of gears (Jones 1996, 314). Long strands of yarn were laid on the rope walk, attached at one end to the revolving jack and at the other to the traveller, a weighted trolley with a single revolving hook, via the block (*ibid*). This arrangement allowed for the manufacture of standard lengths of 120 fathoms (720ft) (*ibid*).
- 5.1.3 There are numerous known sites of rope walks throughout Britain and there appear to be two main variations, those which were simply open areas and those which were encompassed in long sheds. The sheds obviously gave protection from the elements and demonstrate a level of wealth and investment in the process and potentially indicate that they may have been used to produce rope on a larger scale. Examples of this type are known from Dursely in Stroud, Newton Abbot in Teignbridge and Bridport in Dorset (ADS) and Chatham Docklands (Plates 6 and 7), where the sites were block-built warehouses set end on to the street.
- 5.1.4 The other type comprised simple open linear areas, and were most comparable to the Outcast rope works, although they may have had some form of housing at either end for the equipment. Very few examples have ever been archaeologically excavated, the only example that could be found was the recent work in Bristol at the harbourside. The excavation, carried out by Cotswold Archaeology (Cotswold Archaeology 2005), uncovered an open linear site with linear grooves in a clay surface that were probably the result of the movement of the traveller during the

rope making process. The site then developed into a substantial building over 300m long by about 1850; the site was unfortunately demolished in the twentieth century.

5.2 OUTCAST ROPE WORKS

- 5.2.1 There has been little archaeological investigation of the surviving remains of rope walks, rather than the numerous 'sites' known simply from documentary sources, expectations of what may be found vary. It was almost certain that some form of surface should be expected along the length of the rope walk since there would be a need to try and keep the fibres and ropes reasonably clean during the process of twisting. A surface would also facilitate the pedestrian traffic moving the materials and the traveller along the rope walk, consequently a surface of cobbles, stones or flags was expected. The work at the rope walk in Ulverston has shown that there was at least one surviving surface, **108**, clearly seen at the west end in Trench 1. There may also have been a slightly later one, **104**, seen 0.28m below the ground level. Surface **108** consisted of densely packed, deliberately laid, small rounded stones, 0.55m below the present ground level. This surface would have been sufficient for rope making unless the area had become exceptionally wet. No dating evidence was retrieved that would inform when this surface was laid so it is unknown whether it was associated with the first incarnation of the rope walk in the early 1750s or whether it related to subsequent activity of the mid 1800s.
- 5.2.2 The eastern trench, Trench 3, also demonstrated a good survival of features. A densely-packed, deliberately laid, surface of small rounded stones was seen on the south side of the trench 0.2m below the ground level, **314**. A coin from the topsoil directly above it was dated to 1937 but the date of the surface was not ascertained. The remains of a small wall, **307**, aligned approximately east/west and constructed of small flat stones laid at a slant was also revealed. The cartographic sources, including the c1850 Tithe Map and the 1895 OS second edition, showed a small square building in the middle of the east end of the rope walk (denoted as Site **07**). The remains within Trench 3 could be consistent with this structure and suggested that it may have been a small housing for the jack element of the rope walk. The other deposits with Trench 3 appeared to be mostly associated with the demolition of the structure and could date to the late nineteenth century. It is suggested that the rope walk had gone out of use by about 1900 when photographic sources show the rope walk as a tree-lined promenade (Garbutt and Marsh 1991). This was a common use of rope walks after rope making ceased; the excavated example in Bristol was also subsequently used for promenading and was associated with a formal garden.
- 5.2.3 Intriguingly the photograph of the Ulverston rope walk, from about the turn of the twentieth century, shows full grown trees, which would have taken about 20 years to reach this size. While it is probable that the trees were planted after the rope walk went out of use, it is also possible that they may have been intended to be used as canopy, providing cover for activity along the rope walk. This could have

been an alternative to a permanent built structure, however the suggestion remains as a hypothesis only.

6. IMPACT AND RECOMMENDATIONS

6.1 IMPACT

- 6.1.1 The evaluation has demonstrated that there are surviving archaeological remains associated with the rope walk at the eastern end, at a depth of only 0.35m below the present ground surface, and an early surface of the rope walk was found to survive at 0.55m below the present ground surface at the western end. While full details of the greenway scheme are unknown, it is apparent that there will only be limited below ground disturbance. In general, a depth of 0.15m will be removed from the area of the footpath and verge and then the new surfaces laid. Some areas may be taken deeper for planting.
- 6.1.1 The uppermost 0.3m of Trench 1 is modern material, the uppermost 0.4m of Trench 2 is modern material and the uppermost 0.2m in Trench 3 was confirmed as modern material. Therefore on the whole there should be little impact on surviving archaeological remains, the area around Trench 3 is the more sensitive of the three areas investigated. The evaluation retrieved finds from all classes, such as iron, ceramic, glass, all were in reasonable condition and any further work should expect similar results.
- 6.1.2 A small amount of previous impact can be seen from the insertion of the electricity service along most of the northern verge of the rope walk. The manually dug inspection hole demonstrated that it was approximately 1.1m below the present ground surface and 0.5m wide. Therefore in the areas where this has been inserted there are likely to be either severely disturbed or no extant archaeological remains.

6.2 RECOMMENDATIONS

- 6.2.1 It is recommended that any work below 0.2m at the eastern end of the rope walk, in the area where Trench 3 was positioned, should either be avoided or may require a watching brief to record any possible remains.
- 6.2.2 At the western end where Trench 1 was located, any work below 0.30m should be monitored as a watching brief in case any further remains are uncovered or more dating material forthcoming.
- 6.2.3 In the central area, around Trench 2, there did not appear to be any surviving remains but it is not known how far the area devoid of archaeological remains extended. However, as long as the below ground work do not exceed 0.3m it is anticipated that there will be no impact and therefore no need for further archaeological works.

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APPENDIX 1: PROJECT DESIGN

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

1.1.1 Oxford Archaeology (North) has been invited by Guy Weller, of Cumbria County Council, to submit a project design and costs for an archaeological evaluation on the line of a footpath, in south Ulverston, which coincides with the line of a former rope walk. The archaeological work is in accordance with a verbal brief from the Cumbria County Council Archaeological Service. The study is required to examine the potential for surviving sub-surface remains of the rope walk.

1.1.2 **Ropewalks:** ropes were once made by hand in ropewalks in standard lengths of 120 fathoms (720ft); the ropewalk had to be straight and about 1320 feet long. It is perhaps therefore not surprising that the straight section of the Ulverston ropewalk, up to the small building at its eastern end, is 391m (1282ft) and as such is only just short of the requisite 1320ft. At each end was a frame and at one of them was a rotating component called a jack, which was turned by a man with a handle driven through a series of gears. Typically the rope would have been made up of three lengths of hemp yarn. Rope making started to be mechanised from about the late eighteenth century and so it is probable that the Ulverston example predates this (Jones 1996).

1.2 OXFORD ARCHAEOLOGY NORTH

1.2.1 Oxford Archaeology North (OA North) (formerly Lancaster University Archaeological Unit) has considerable experience of the evaluation and assessment of sites of all periods, having undertaken a great number of small and large scale projects during the past 24 years. Evaluations and assessments have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. OA North has undertaken numerous archaeological assessments and studies within Cumbria and has considerable experience of researching the industrial heritage of the area. OA North undertook the earlier assessment of the site (OA North 2005).

1.2.2 OA North has the professional expertise and resource to undertake the project detailed below to a high level of quality and efficiency. OA North and all its members of staff operate subject to the Institute of Field Archaeologists (IFA) Code of Conduct, and OA North is a registered organisation with the IFA (No 17).

2. OBJECTIVES

2.1 The following programme has been designed, in accordance with a verbal brief by the Cumbria County Council Archaeological Service to provide an evaluation and topographic of the line of the rope walk in advance of improvements to the path. The required stages to achieve these ends are as follows:

2.2 PHOTOGRAPHIC SURVEY

2.2.1 To implement a photographic survey of a kissing gate and gates posts (Sites 10 and 11) at the end of the rope walk.

2.3 EVALUATION TRENCHING

2.3.1 To implement a programme of trial trenching which will entail the excavation of three trenches along the line of the path, and these will be located so as to target the ropeway and the putative rope walk structure Site 7.

2.4 WATCHING BRIEF

- 2.4.1 A watching brief will be maintained during groundworks adjacent to the beck adjacent to Site 5.

2.5 REPORT

- 2.5.1 A written report will assess the significance of the data generated by this programme within a local and regional context. It will present the evaluation and photographic survey and would make an assessment of the archaeological potential of the site.

3. METHODS STATEMENT

- 3.1 The following work programme is submitted in line with the stages and objectives of the archaeological work summarised above. The defined programme provides for both a photographic survey of selected structures, an evaluation of the rope walk and a watching brief during groundworks in the vicinity of Site 5.

3.2 PHOTOGRAPHIC SURVEY

- 3.2.1 In conjunction with the evaluation a photographic archive will be generated, which will record the kissing gate and gate posts (Sites 10 and 11). It will be undertaken in 35mm black and white, colour slide film and in digital format. It is proposed only to undertake a photographic survey, and will omit instrument recording. Ranging rods will be used to provide a scale for the photography.

3.3 EVALUATION TRENCHING

- 3.3.1 **Methods:** the programme of trenching will 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. The evaluation will be undertaken along the line of the former rope walk and will entail the excavation of three trenches, each 7m x 2m in size.
- 3.3.2 One trench will be located at the western end of the rope walk, a second in the middle and a third at the east end and, where it will coincide with Site 7, the location of a former building shown the tithe map. This layout of trenches will be subject to the initial results of the evaluation and may be adjusted to provide an appropriate investigation of sites which have a confirmed potential.
- 3.3.3 The trenches will be excavated by a combination of mechanised and manual techniques; the topsoil will be removed by mechanical excavator, fitted with a 1.8m wide toothless bucket, and archaeological deposits beneath will be first manually cleaned and then any features identified will be manually excavated. The machine excavation will not intrude into any potential archaeological stratigraphy and all machine excavation will be undertaken under careful archaeological supervision. Following mechanical excavation the floor of the trench will be cleaned by hoe and manual excavation techniques will be used to evaluate any sensitive deposits, and will enable an assessment of the nature, date, survival and depth of deposits and features. The trenches will not be excavated deeper than 1.25m to accommodate health and safety constraints; any requirements to excavate below this depth will involve recosting.
- 3.3.4 The trench will be excavated in a stratigraphical manner, whether by machine or by hand. The trench will be located by use of GPS equipment which is accurate to +/- 0.25m, altitude information will be established with respect to Ordnance Survey Datum. Archaeological features within the trenches will be planned by manual techniques.
- 3.3.5 **Sampling:** 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.
- 3.3.6 **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.

- 3.3.7 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). 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 WATCHING BRIEF

- 3.4.1 A programme of field observation will be maintained during groundworks in the area of Site 5, which is a documented site possibly associated with the crossing of the beck. The groundworks will entail excavation at the edges of the path to stabilise them where they are adjacent to the beck. The watching brief will accurately record the location, extent, and character of any surviving archaeological features within the area of groundworks. This work will comprise the observation of the process of excavation for these works, the examination of any subsoil horizons exposed during the course of works, and the recording of all archaeological features and horizons, and any artefacts, identified during observation.
- 3.4.2 During this phase of work, recording will comprise a full description and preliminary classification of features or materials revealed, and their accurate location (either on plan and/or section, and as grid coordinates where appropriate). All archaeological information collected in the course of fieldwork will be recorded in standardised form, and will include accurate national grid references. Features will be planned accurately at appropriate scales and annotated on to a large scale plan. A photographic record will be undertaken simultaneously.
- 3.4.3 It is assumed that OA North will have the authority to stop works for up to one hour to enable the recording of important deposits, and to call in additional archaeological support if a find of particular importance is identified. This would only be called into effect in agreement with the client and the Assistant Archaeologist or his representative and will require a variation to costing. In normal circumstances, field recording will also include a continual process of analysis, evaluation, and interpretation of the data, in order to establish the necessity for any further more detailed recording that may prove essential.

3.5 REPORT

- 3.5.1 **Archive:** the results of the fieldwork will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*The Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. It will include summary processing and analysis of all features, finds, or palaeoenvironmental data recovered during fieldwork, which will be catalogued by context. This archive can be provided in the English Heritage Centre for Archaeology format and a synthesis will be included in the Cumbria Sites and Monuments Record. A copy of the archive can also be made available for deposition with the National Archaeological Record. OA North practice is to deposit the original record archive of projects (paper, magnetic and plastic media) with the appropriate County Record Office, and a full copy of the record archive (microform or microfiche) together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum.
- 3.5.2 **Report:** one bound and one unbound copy of a written synthetic report will be submitted to the client, and a further two copies will be submitted to the Cumbria SMR. The report will include a copy of this project design, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above and present an assessment of the sites history; the report will include photographs of any significant features. The report will also include a complete bibliography of sources from which data has been derived, and a list of further sources identified during the programme of work, but not examined in detail. The report will include a description of the methodology and the results; it will also include a list of the finds, and a description of the collective assemblage.

3.5.3 The report will have a summary and a methodological statement, and it will define any variations to the defined programme. It will include recommendations for further work.

3.5.4 Illustrative material will include a location map, site map, a trench location map, trench plans, survey maps, and also pertinent photographs. It can be tailored to the specific requests of the client (e.g. particular scales etc), subject to discussion.

3.6 OTHER MATTERS

3.6.1 **Health and Safety:** OA North conforms to all health and safety guidelines as contained in the OA Manual of Health and Safety and the safety manual compiled by the Standing Conference of Archaeological Unit Managers. The work will be in accordance with Health and Safety at Work Act (1974), the Council for British Archaeology Handbook No. 6, *Safety in Archaeological Fieldwork* (1989).

3.6.2 Full regard will, of course, be given to all constraints (services etc) during the watching brief and fabric survey, as well as to all Health and Safety considerations. OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. A risk assessment will be completed in advance of the project's commencement. If there is a requirement to excavate trenches deeper than 1.25m the trenches will be stepped out to minimise section collapse. As a matter of course the Unit uses a U-Scan device prior to any excavation to test for services. It is assumed that the client will provide any available information regarding services within the study area, if available.

3.6.3 **Insurance:** the insurance in respect of claims for personal injury to or the death of any person under a contract of service with the unit and arising out of an in the course of such person's employment shall comply with the employers' liability (Compulsory Insurance) Act 1969 and any statutory orders made there under. For all other claims to cover the liability of OA North, in respect of personal injury or damage to property by negligence of OA North or any of its employees, there applies the insurance cover of £2m for any one occurrence or series of occurrences arising out of one event.

3.6.4 **Confidentiality:** the report is designed as a document for the specific use of the Client, for the particular purpose as defined in the 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.

3.6.5 **Project Monitoring:** OA North will consult with the client regarding access to the site. Whilst the work is undertaken for the client, the County Archaeologist will be kept fully informed of the work and its results. Any proposed changes to the project design will be agreed with the Cumbria County Council Assistant Archaeologist in consultation with the Client.

APPENDIX 2: CONTEXT LIST

Context Number	Trench	Description
100	1	Tarmac and hardcore
101	1	Levelling layer
102	1	Clinker surface
103	1	Levelling layer
104	1	Possible earlier stone surface
105	1	Topsoil
106	1	Subsoil
107	1	Layer
108	1	Stone surface
200	2	Tarmac and hardcore
201	2	Levelling layer
202	2	Levelling layer
203	2	Clinker surface
204	2	Levelling layer
205	2	Levelling layer
206	2	Topsoil
207	2	Subsoil
208	2	Cut for modern service
209	2	Backfill for modern service
210	2	Subsoil
211	2	Natural drift geology
300	3	Tarmac
301	3	Hardcore
302	3	Topsoil
303	3	Red sand layer
304	3	Clinker surface
305	3	Grey layer
306	3	Demolished wall
307	3	Wall foundation ?
308	3	Yellow debris layer
309	3	Black silt layer
310	3	Grey lens
311	3	Yellow redeposited natural
312	3	Greyish brown layer
313	3	Gravel layer
314	3	Stone surface
315	3	Natural drift geology

APPENDIX 3: FINDS LIST

Tr = Trench; Cxt = Context; OR = Object Record; Q = Quantity

Tr	Cxt	OR	Q	Material	Description	Date range
1	105	1000	1	Ceramic	Pearlware fragment, very small and abraded	Late eighteenth - early nineteenth century
1	105	1000	1	Ceramic	Self-glazed buff-coloured earthenware factory-produced slipware carinated bowl (?) rim with dark brown slip stripes	Late eighteenth - early twentieth century
1	105	1000	1	Ceramic	Bone china hollow-ware vessel base	Late eighteenth - twentieth century
1	105	1001	1	Ceramic	Red earthenware brick fragment	Post-medieval
3	302	1002	1	Copper alloy	King George VI penny ('GEORGIVS VI D: BR: OMN: REX F:D:IND: IMP.' on one side, with head of King George VI, 'ONE PENNY / 1937' on the other side, with Britannia)	1937
3	305	1003	1	Ceramic	Self-glazed buff-coloured stoneware jam jar base with vertical ribs near base	Mid nineteenth - early twentieth century
3	305	1003	3	Ceramic	Red earthenware with white slip-coated interior, from pancheons or similar vessels	Late eighteenth - early twentieth century
3	305	1003	1	Ceramic	Bone china tea cup base with blue transfer-printed pattern - 'Broseley'?	Late eighteenth - nineteenth century
3	305	1003	1	Ceramic	Black-glazed red earthenware near to rim of pancheon (?)	Late seventeenth - early twentieth century
3	305	1003	1	Ceramic	Brown-glazed red earthenware body fragment	Late seventeenth - early twentieth century
3	305	1003	1	Ceramic	Self-glazed buff-coloured earthenware body fragment with areas of brown staining, possibly from red slip	Late eighteenth - early twentieth century
3	305	1004	15	Ceramic	Red earthenware brick fragments	Post-medieval
3	305	1005	5	Iron	Very corroded objects, including possible wall hook	Not closely datable
3	305	1009	1	Bone	Sheep radius fragment, gnawed up by a dog	Not closely datable
3	312	1006	1	Ceramic	Brown-glazed grey stoneware hollow-ware vessel rim	Late eighteenth - twentieth century
3	312	1007	1	Ceramic	Lump of daub, pale orange and powdery	Not closely datable
3	312	1008	3	Slag	Lumps - from iron-working?	Not closely datable

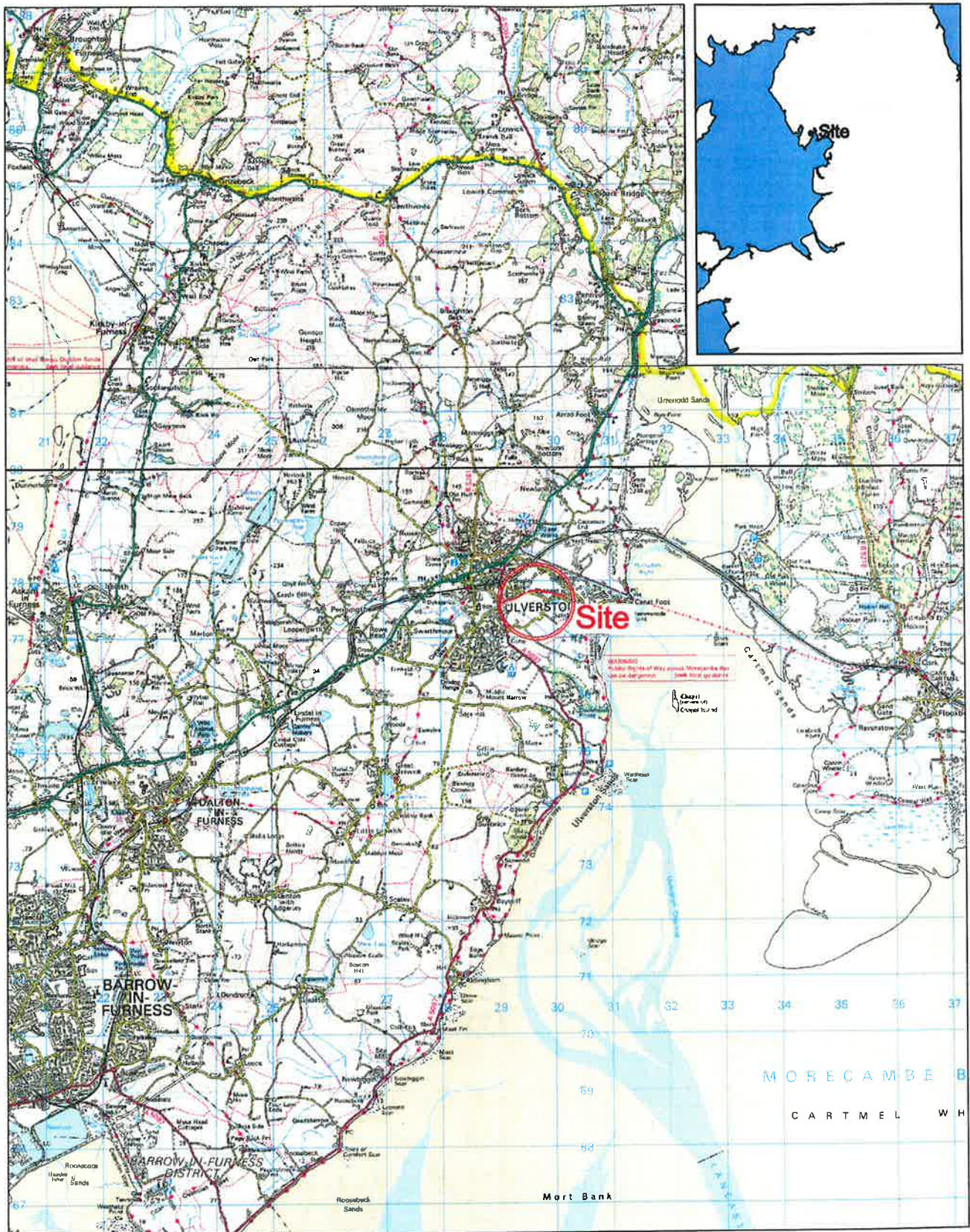
ILLUSTRATIONS

FIGURES

- Figure 1: Location Map
Figure 2: Location Plan of Trenches and Sites
Figure 3: Plans of Trenches 1, 2 and 3
Figure 4: Sections of Trenches 1, 2 and 3

PLATES

- Plate 1: Trench 1, east-facing section
Plate 2: Trench 2, east-facing section
Plate 3: Trench 3, looking north
Plate 4: Trench 3, west-facing section
Plate 5: The 1937 penny found in Trench 3
Plate 6: The Ropery at Chatham Dockland, Kent
Plate 7: An example of the jack element of rope making / twisting
Plate 8: Site **10**, kissing gate
Plate 9: Site **11**, pair of gate posts, prior to vegetation removal
Plate 10: Site **11**, pair of gate posts, after vegetation removal
Plate 11: Site **11**, gateposts during the watching brief



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0 1000 2000
metres

Figure 1: Location Map

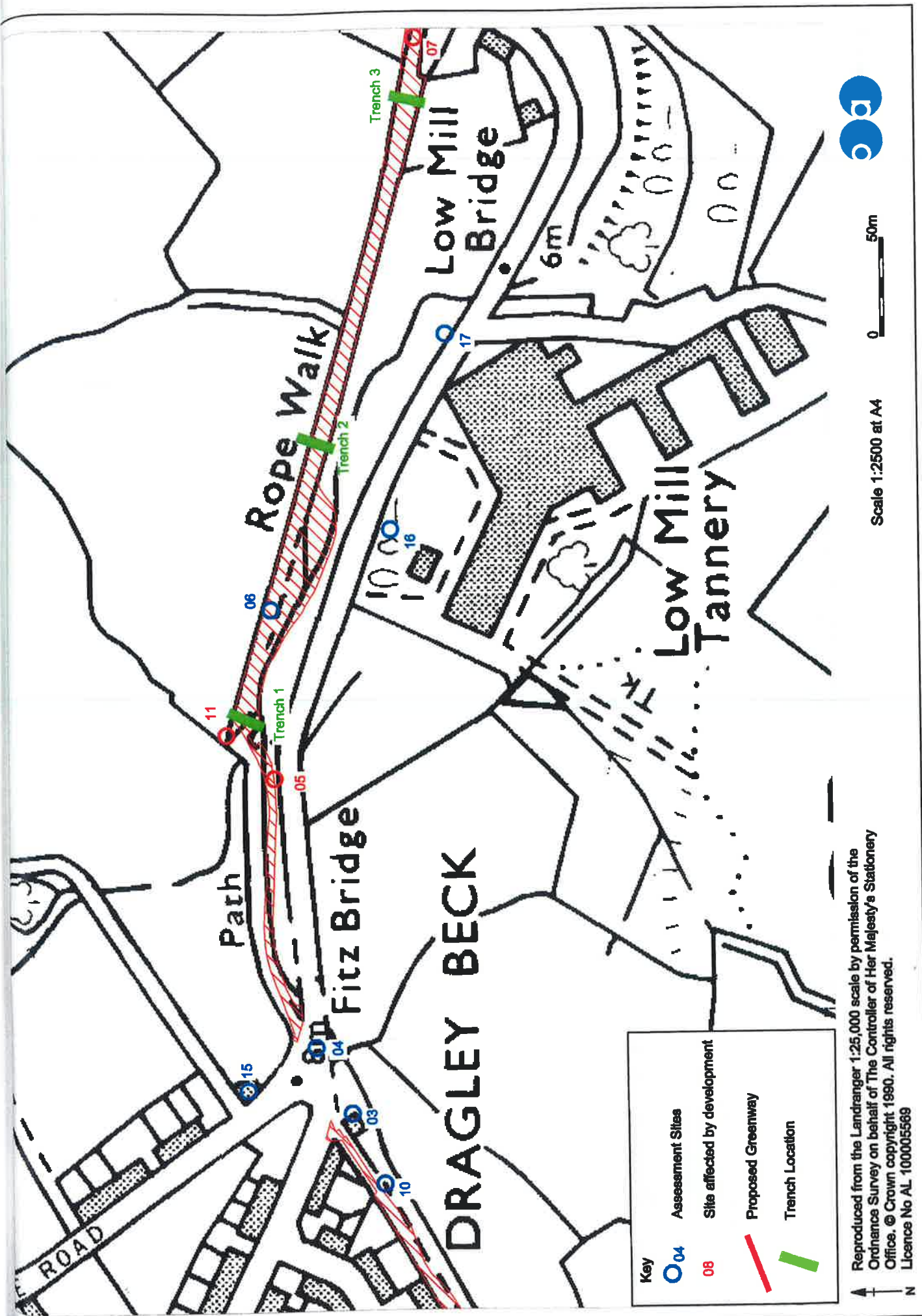


Figure 2: Location Plan of Trenches and Sites

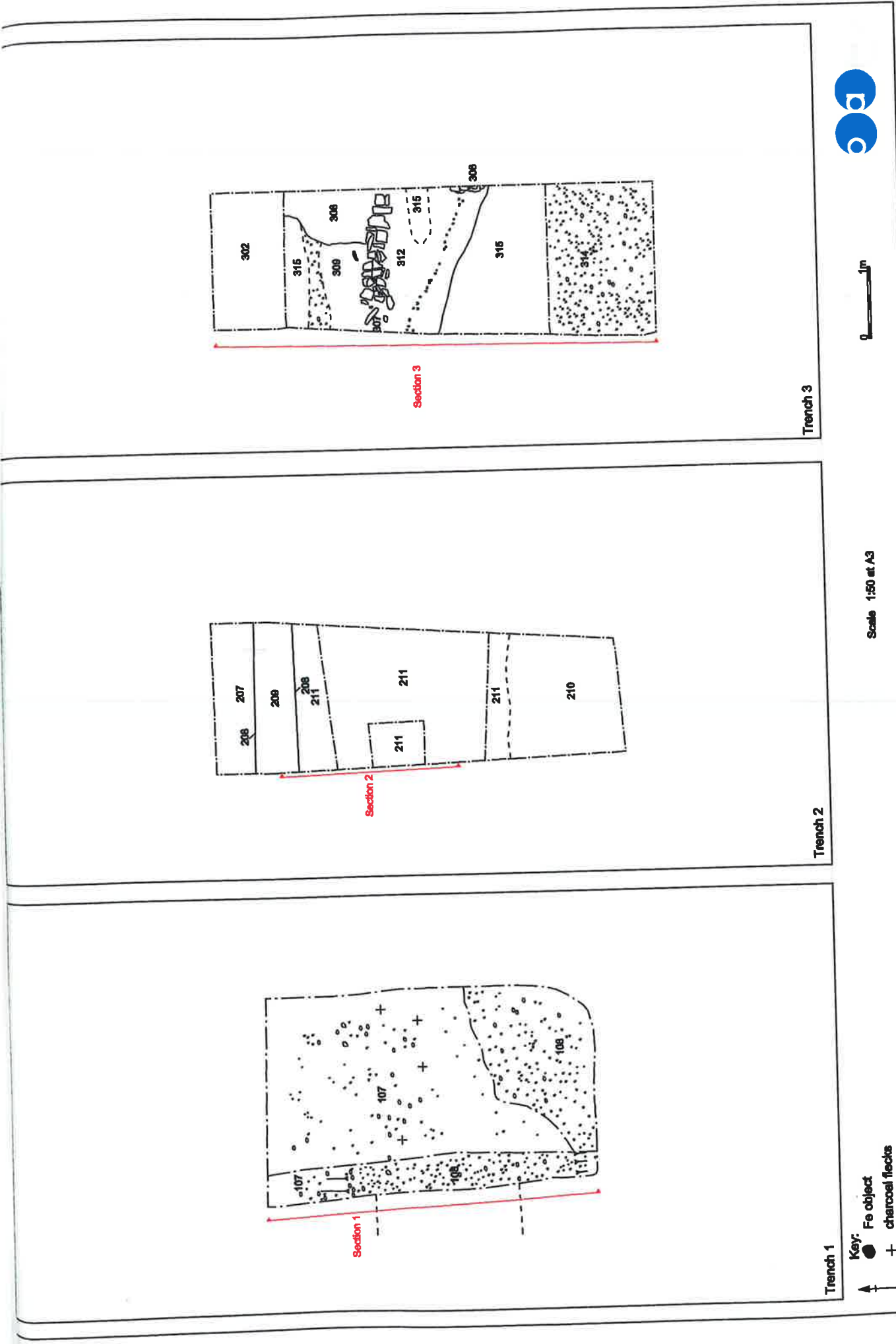
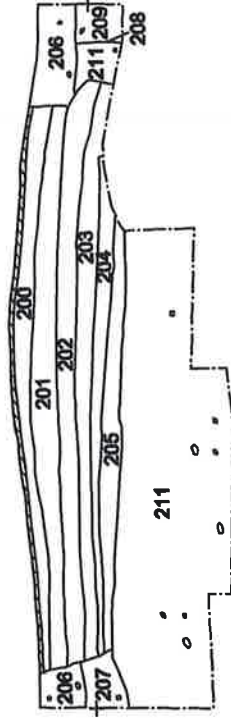


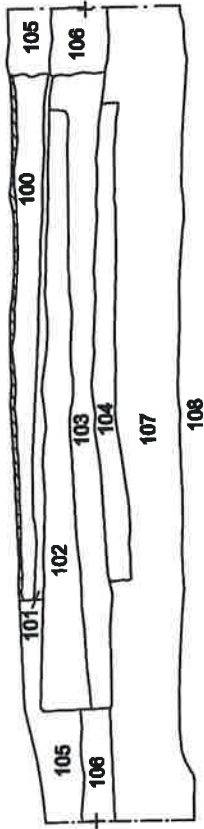
Figure 3: Plans of Trenches 1, 2 and 3

Section 2



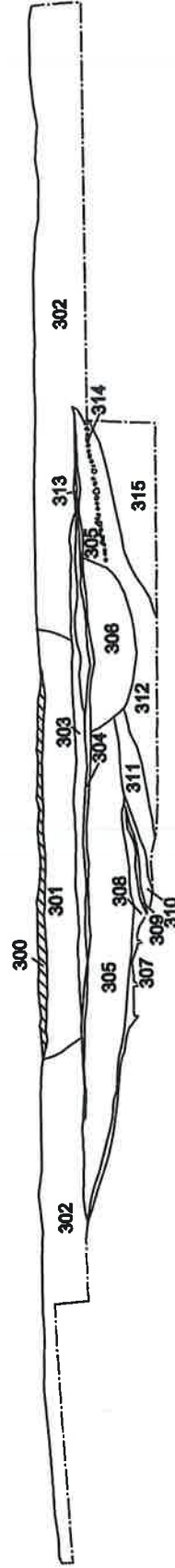
East-Facing Section of Trench 2

Section 1



East-Facing Section of Trench 1

Section 3



West-Facing Section of Trench 3

Key:



Scale 1:20 at A3



Figure 4: Sections of Trenches 1, 2 and 3



Plate 1: Trench 1, east-facing section



Plate 2: Trench 2, east-facing section



Plate 3: Trench 3, looking north



Plate 4: Trench 3, west-facing section



Plate 5: The 1937 penny found in Trench 3,
(the obverse is on the left the reverse on the right)



Plate 6: The Ropery at Chatham Dockland, Kent



Plate 7: An example of the jack element of rope making / twisting



Plate 8: Site 10, kissing gate



Plate 9: Site **11**, pair of gate posts, prior to vegetation removal



Plate 10: Site **11**, pair of gate posts, after vegetation removal



Plate 11: Site **11**, gateposts during the watching brief